REQUEST FOR PROPOSAL NUMBER 77
HAZARDOUS MATERIALS CONSULTING SERVICES FOR GROUP 10, 11, & 12
MODERNIZATION, IHU, AND DEFERRED MAINTENANCE PROJECTS
APRIL 30, 2010

INTRODUCTION

1) Pursuant to the Master Agreement for Asbestos, Lead and Hazardous Materials Consulting Services between the District and your firm ("Master Agreement") and amendments thereto, if any, the District invites you to submit a proposal to perform the scope of work stated in the Master Agreement ("Scope of Work") for the modernization construction at Group 10 (Cole, Cypress, & Highland-Pacific), Group 11 (Barton, Burbank, Emmerton, & Lankershim), and Group 12 (Pacific, San Andreas, & Sierra) school sites listed herein.

PROPOSAL REQUIREMENTS

2) Your proposal shall include the following:

   a) Section 1 – Statement of Availability and Ability to Perform. Statement of your availability and ability to perform and complete the scope of work described in the Master Agreement throughout the stated duration of the projects listed herein.

   b) Section 2 – Statement of Ability to Deliver. Statement of your ability to timely deliver the deliverables described in the Master Agreement throughout the stated duration of the projects listed herein.

   c) Section 3 – Statement of Costs for Each School Site Identified Herein
      i) Statement of the total fixed price for performing the Scope of Work at ***each school site***. This requirement enables the District to report school site specific project expenditures to the Office of Public School Construction ("OPSC") pursuant to OPSC regulations; and
      ii) Statement showing your calculations of the total fixed price for completing the Scope of Work; and

   d) Section 4 – Fees and Costs
      i) Hourly rate for each employee or sub-consultant who will perform the Scope of Work.
      ii) Statement of each reimbursable cost, if any, related to your estimated cost of completing the scope of work. If there will be no reimbursable costs, your proposal shall so state; and

   e) Section 5 – Resumes. Resume for each employee or sub-consultant who will perform the Scope of Work

   Proposals that do not comply with the above format will be deemed non-responsive by the District.

You may add sections to your proposal that you deem appropriate commencing with Section 6.

SCHOOL SITES IDENTIFIED

	GROUP 10 – School Sites	OPSC Grant Construction Amount	Est. Work Start Date	Est. Haz. Mat. Remediation Amount	Haz. Mat. Remediation Survey Report & Spec.
1	Modernization Cole Elementary School 1331 Cole Avenue; Highland, CA 92346	$2,538,614	07/01/10	$57,200	See Attachment
2	Modernization Cypress Elementary School 26825 Cypress Street; Highland, CA 92346	$3,826,181	07/01/10	$39,050	See Attachment
3	Modernization Highland-Pacific Elementary School 3340 Pacific Street; Highland, CA 92346	$1,684,270	07/01/10	$51,040	See Attachment
	GROUP 07 – TOTAL	**$8,049,065**		**$147,290**	

	GROUP 11 – School Sites	OPSC Grant Construction Amount	Est. Work Start Date	Est. Haz. Mat. Remediation Amount	Haz. Mat. Remediation Survey Report & Spec.
1	Modernization Barton Elementary School 2214 Pumalo Street; San Bernardino, CA 92404	$609,872	05/03/10	$26,400	See Attachment
2	Modernization Burbank Elementary School 198 West Mill Street, San Bernardino, CA 92408	$1,733,713	05/03/10	$50,710	See Attachment
3	Modernization, Interim Housing & Deferred Maintenance Emmerton Elementary School 1888 Arden Avenue; San Bernardino, CA 92404	$3,597,984	05/03/10	$115,500	See Attachment
4	Modernization & Interim Housing Lankershim Elementary School 7499 Lankershim Avenue, Highland, CA 92346	$3,320,867	05/03/10	$51,645	See Attachment
	GROUP 11 – TOTAL	**$9,262,436**		**$244,255**	

	GROUP 12 – School Sites	OPSC Grant Construction Amount	Est. Work Start Date	Est. Haz. Mat. Remediation Amount	Haz. Mat. Remediation Survey Report & Spec.
1	Modernization Pacific High School 1020 Pacific Street, San Bernardino, CA 92404	$3,349,399	07/01/10	$505,725	See Attachment
2	Modernization San Andreas High School 3232 Pacific Street, Highland, CA 92346	$743,591	07/01/10	$90,640	See Attachment
3	Modernization Sierra High School 570 East 9th Street, San Bernardino, CA 92410	$441,752	07/01/10	$140,470	See Attachment
	GROUP 12 – TOTAL	**$4,534,742**		**$736,835**	

SCOPE OF WORK and deliverables

The Master Agreement, Exhibit A – Draft Scope of Services is the basis for the Scope of Work and the deliverables.

Pre-Construction Conference

Consultant shall meet with the abatement contractor and confirm that contractor has submitted proper paper work and certifications.

Consultant shall review the proposed work plan and preparation to do abatement work and approve prior to start.

CONSTRUCTION PHASE

During the course of construction, monitor abatement work to ensure compliance with the contract requirements and completion of the work by the abatement contractor. During construction, perform the following tasks:

- Attend all necessary construction meetings during the course of abatement work
- Review abatement contractor submittals as necessary
- Provide on-site inspections with daily reports and photos of abatement work
- Maintain on-site records and perform monitoring during all abatement work
- Monitor abatement contractor's compliance with the plans, specifications and any regulations including but not limited to certification of abatement workers, ensuring proper containments, and confirmation of the removal of all asbestos, lead and hazardous materials.
- Confirm contractor's compliance with public agencies regulations, for example, not limited to EPA and AQMD.
- Assist the District with problem resolutions associated with abatement work
- Keep District informed of abatement contractor's performance

CLOSE-OUT PHASE

Verify the Uniform Hazardous Waste Manifest, when required, has been submitted and reviewed by OEHS for completeness a minimum of 48-hours prior to the date the waste is to be removed from the site. Consultant shall provide waste specific information for inclusion on the manifest. No hazardous waste may be transported away from a District site without a manifest. Submit all original paper work required to be maintained by the contract documents, this agreement, and by law to the District.

Upon completion of the abatement work, prepare a Closeout Abatement Report that documents all the activities performed, including copies of all sampling forms with results, daily reports, progress photos, correspondence and any regulatory compliance forms.

SELECTION

A District Selection Committee will review and rate each proposal. The selection of the firm will be based on the responsive proposal submitted by a responsive that shows the lowest fixed price.

ADMINISTRATION AND COORDINATION

Proposal Due: May 14, 2010, 3:00 P.M.

Notice to Proceed: The Notice to Proceed will be issued to the selected consultant by the District's Project Manager.

Delivery of Proposal: Your proposal consisting of two (2) hard copies and an electronic copy on a compact disc ("CD") shall be delivered to the District by way of U.S. Postal Service or courier at no cost to the District. Your proposal and CD shall be delivered in a sealed envelope addressed as follows:

Facilities Management Department
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT
956 W. 9th Street
San Bernardino, CA 92411
Attn: Raquel Torres, Document Control
Phone: 909.388-6100
Email: raquel.torres@sbcusd.com

The delivery envelope shall contain a transmittal, the hard copy of your proposal, and the electronic copy of your proposal on CD. The transmittal shall clearly show the following in bold letters: ***Proposal - RFP #77 Groups 10, 11, & 12, MOD, IHU, & Deferred Maintenance – Haz Mat***

The CD containing the electronic copy of your proposal shall be labeled: ***Proposal - RFP #77 Groups 10, 11, & 12, MOD, IHU, & Deferred Maintenance – Haz Mat***

Requests for Information: Requests for information ("RFI") shall be in writing and submitted electronically to the following District representative (No Exceptions):

Charlotte Clement
charlotte.clement@sbcusd.k12.ca.us
cc: Raquel Torres, Documents Control; raquel.torres@sbcusd.com

The RFI shall be identified in the subject line as:
Proposal -- RFP #77 Groups 10, 11, & 12, MOD, IHU, & Deferred Maintenance – Haz Mat

REVIEWED AND APPROVED

Charlotte Clement — April 30, 2010

Charlotte Clement, Owner's Representative (Date)

Pacific Environmental Company

Limited Asbestos and Lead Survey Report

Cole Elementary School Modernization Project
1331 Cole Avenue
Highland, California 92346

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 20, 2009

Project Number: 09017

Limited Asbestos and Lead Survey Report

Cole Elementary School Modernization Project
1331 Cole Avenue
Highland, California 92346

Executive Summary

Pacific Environmental Company conducted a limited asbestos and lead survey in anticipation of modernizations at Cole Elementary School, which is located at 1331 Cole Avenue in Highland, California. All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

This executive summary is not to be utilized as a stand-alone document. The report shall be read in its entirety. The reader must review the detailed information provided in the accompanying text. Any interpretation, use, or conclusions resulting from the data contained in this report is the responsibility of the reader. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations.

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos as determined by PLM, however, the California Department of Occupational Safety and Health (CalOSHA) classifies any material as having greater than one tenth of one percent asbestos as asbestos-containing construction material (ACCM).

Asbestos-containing construction materials that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Window Putty	Buildings A, B, C, D and E	1,200 SF	ACCM, 200 Windows
Exterior Stucco	Building H	Exterior Walls	ACCM

Current EPA regulations require that the asbestos-containing building materials be removed prior to demolition or renovation, if they are going to be impacted. If any of the identified asbestos-containing construction materials are to be impacted by the renovations, then they must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

A licensed and certified asbestos abatement contractor must perform any asbestos abatement that takes place at the subject property. Waste generated from the asbestos abatement must be properly transported and disposed of.

Lead components that are likely to be impacted by the modernizations identified at the subject site during our inspection include the following:

Location		Lead-Containing Components
A Building	Interior	Ceramic Wall Tile and Ceramic Baseboard Tile Finishes
B Building	Exterior	Doors
E Building	Interior	Ceramic Wall Tile in Restrooms
	Exterior	Window Frames
H Building	Interior	Ceramic Wall Tile in Restrooms
K Building (Admin)	Interior	Metal Window Frames and Ceramic Baseboard Tile in Nurses Office Restroom

The lead-based paint and tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and DTSC guidelines.

Pacific Environmental recommends that all future renovation, demolition, construction or abatement activities with the potential for disturbing the identified ACM or lead-laden components, be performed by properly trained and qualified personnel. These activities should employ state-of-the-art techniques, and be conducted in accordance with all applicable local, State and Federal laws and regulations.

Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition or renovation activities, please call us and we will sample and analyze accordingly. This survey was limited to the materials that are going to be impacted by the modernization activities, as detailed in the provided plans.

The presence of the identified hazardous materials should be brought to the attention of contractors and personnel involved in the project at the subject site. Specifications have been prepared for the removal and handling of specific hazardous materials, such as those containing asbestos and lead.

Any employees, visitors, or contractors entering this building should be notified of the presence and condition of the asbestos-containing materials, lead-based paints, and other hazardous materials (including those listed under Proposition 65), in accordance with applicable regulations.

Table of Contents

Introduction	1
Quality Control Procedures	2
Site Description	2
Asbestos Inspection and Sampling Procedures	3
Asbestos Inspection Results	5
Summary and Recommendations for Asbestos-Containing Materials	5
Lead Inspection and Sampling Procedures	6
Lead Inspection Results	7
Lead Summary and Recommendations	7
Other Hazardous Materials	7
Limitations	8
References	9

Appendix A	Site Plans
Appendix B	Bulk Sample Summary Table
Appendix C	Asbestos Sample Analysis Reports and Chain of Custody
Appendix D	XRF Sampling Results
Appendix E	DHS Form 8552
Appendix F	XRF Performance Characteristics Sheet

Limited Asbestos and Lead Survey Report

Cole Elementary School Modernization Project
1331 Cole Avenue
Highland, California 92346

Introduction

Pacific Environmental Company was retained by the San Bernardino City Unified School District to conduct a limited investigation to identify the presence of asbestos-containing materials, lead-based paints and other lead laden components that will require abatement or treatment, in conjunction with the school modernizations at Cole Elementary School, which is located at 1331 Cole Avenue in Highland, California.

All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

Field Services for the inspection were conducted on January 15, 2009. The project team included David Tillema, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Raed Sahawneh, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Thomas Gannon, a Cal/OSHA Certified Site Surveillance Technician, and Michael Lyssy, a State Certified Asbestos Consultant and Registered Environmental Assessor.

The scope of work for this project included the following key elements:

- Review, verification and incorporation of the original AHERA inspection and re-inspection data and any subsequent reports detailing the results of prior asbestos and lead testing at the School into this report.
- Inspection and assessment of asbestos-containing materials, lead-based paints, lead glazed ceramics and PCB light ballasts
- Preparation of a final report that is suitable for inclusion in the District's specifications for abatement of hazardous building materials.

Prior to our asbestos assessments, we evaluated the site conditions and demolition plans provided by HMC Architects in order to developed our sampling strategy to ensure identification of all asbestos-containing materials that are going to be affected by the modernization work. Representative sampling of homogeneous materials in areas that are being impacted by the project was conducted per SCAQMD guidelines, and all identifiable suspect materials were sampled. Asbestos analysis was performed by an independent, State Certified, NVLAP Accredited Laboratory. Bulk samples were analyzed by polarized light microscopy (PLM), EPA Method 600/R-93/116. This report details the specific site conditions and estimated quantities of Asbestos Containing Material (ACM) for the project. Areas affected by destructive sampling were repaired so as not to cause hazards to school personnel, survey crew, visitors and the general public.

Testing for lead-based paint was performed using an EDAX Map-4 portable X-ray fluorescence (XRF) spectrum analyzer. Testing was modeled after the protocol outlined in the Department of Housing and Urban Developments document titled

Lead-Based Paint: Interim Guidelines For Hazard Identification and Abatement in Public and Indian Housing (1997 Revision).

Quality Control Procedures

Pacific Environmental Company's integrated resources, technologies, discipline, and expertise combine to ensure that the inspection and analysis for each project is conducted based on the following principles:

- All applicable regulations are addressed in order to ensure that our field inspectors and lab personnel meet their responsibilities, do so cost-effectively, and are equipped with the practical knowledge they need in order to understand and comply with regulations that affect them.
- Care is taken to make certain that the information provided and actions recommended are practical and cost effective in achieving regulatory compliance.

The 'management' approach utilized for this project assured that all work was performed using the highest standard of quality. All project results, reports and recommendations are reviewed for accuracy, content and quality prior to presentation. We recognize that, for each assignment we undertake, the information we develop and the conclusions and advice we provide, will be used to support important management decisions.

Pacific Environmental Company's Quality Assurance Program requires that all personnel:

- Provide specific objectives so that project activities can be evaluated with regard to precision, accuracy, reproducibility, completeness, and comparability.
- Provide specific guidance on the proper methodology for all activities.
- Be provided with ongoing training to enhance their technical skills.
- Be trained in QA/QC procedures and QC activities.
- Review all reports until they are acceptable in terms of technical and editorial quality, and all quality assurance activities have been successfully performed.

Site Description

Cole Elementary School consists of several classroom buildings. The buildings that are being impacted by the planned modernization work per the HMC Architect's plans include the A, B, C, D, E and F buildings.

Interior finishes that are likely to be impacted by the modernization work include carpet and vinyl floorings, ceiling tiles, covebase, drywall, window components and stucco.

The school was occupied at the time of our assessment and we worked after hours in an effort to characterize the site conditions. If any additional suspect materials are identified during the modernizations, please contact us to perform supplemental sampling.

Asbestos Inspection and Sampling Procedures

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos, as determined by polarized light microscopy (PLM). Title 8, Section 1529, of the California Code of Regulations, however, defines asbestos-containing construction material (ACCM) as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight.

We reviewed the District's asbestos records on file and the demolition plans prepared by HMC in order to formulate our sampling strategy. The only documentation on file for the site was an inventory from Power Master's original AHERA survey which was on file at the M&O Offices. This inventory has been utilized for reinspection purposes over the years and indicates that the floorings were assumed to be ACM. The demolition plans indicate that the scope of the demolition at this site will include removal of floorings, removal of sinks and casework, removal of several doors and windows and the removal of portions of walls. We collected additional samples to confirm the original AHERA findings and to characterize materials that were not originally tested.

Subsequent to our review of the prior report, a visual assessment of the suspect building materials located throughout the subject facility was completed prior to the collection of samples. During the visual assessment, the building materials suspected of containing asbestos were categorized by homogeneous areas. Materials are classified as homogenous when they appear uniform, have a consistent texture, and appear to have been installed at the same time.

The laboratory testing for the bulk samples was conducted in accordance with the recommended EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993).

The field investigation began with an initial site walk-through and identification of homogenous building materials suspected of containing asbestos. Samples were collected based on building layout, structural features, and mechanical and plumbing systems. Pacific Environmental then performed the following tasks:

- Evaluated whether materials suspected of containing asbestos were present at the site.
- Collected bulk samples, as required, to adequately characterize the suspect materials.
- Identified approximate sample locations and locations of identified ACM on field drawings or with photographs.
- Estimated the amount of ACM, where access allowed.
- Assessed the condition of the suspected and known ACMs.

At the time of inspection, suspect materials are assessed to be in good, damaged, or significantly damaged condition based on the following criteria:

> Good Condition - No or very limited visible damage or deterioration observed.
>
> Damaged Condition - Crumbling, blistering, water damage, gouges or other damage observed over less than 25% of the materials (one-tenth if evenly distributed); or accumulation of suspect powder, dust or debris observed below the material.
>
> Significantly Damaged - Crumbling, blistering, water damage, gouges or other damage observed over greater than 25% of the materials (one-tenth if evenly distributed); material delaminating or showing adhesive failure; or accumulation of suspect powder, dust or debris observed below the material.

The assessment process also includes classifying the material as Friable ACM or Non-Friable ACM. Friable ACM is the term given to any material that contains more than one percent (1%) asbestos by weight, which can be crumbled, pulverized, or reduced to powder by hand or mechanical pressure. The word "Friability" refers to a material's likeliness to re-

lease airborne fibers when in situ, or under mechanical pressure. There is a greater possibility that a friable material will release fibers into the air when disturbed than will a non-friable material (i.e., floor tiles, roofing materials, etc.), thereby causing a potential hazard.

After identifying those materials suspected of containing asbestos, the materials were grouped into homogeneous sampling areas. A homogeneous sampling area includes building materials that are uniform in texture and color and appear identical in every other respect. A modified AHERA protocol was used in estimating the number of samples to be collected. Actual samples collected were determined by field conditions. A total of thirty-one (31) bulk samples were collected and analyzed.

Bulk samples were collected by wetting the suspect material with amended water and cutting, scraping or coring it from its substrate using an appropriate sampling tool. Sampling tools were cleaned before and after each use to prevent cross contamination between sampling events. Small quantities of material, approximately 1/2 square inch each, were extracted from suspect materials and placed in sterile, airtight bags or vials, and sealed. Each sample was labeled with a unique identification number, utilizing a sequential numbering system. The sample was logged in on the bulk survey sheet and a description noted on the type of sample. Each sample container was then placed inside a larger sterile, airtight bag. As other samples were taken from each area, they were also placed inside this larger airtight bag. Sample locations were repaired using caulk, spray glue, encapsulant, or patching material as needed, but were not always returned to their original condition. The samples were transported under chain-of-custody to an independent NVLAP participating laboratory for analysis utilizing polarized light microscopy.

The laboratory testing was conducted in accordance with the EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993). Samples were examined for homogeneity, and non-homogeneous samples were ground to ensure homogeneity. Microscopic slides were prepared from each sample using a refractive index liquid, such as trisection and ethyl cinnamate, having a refractive index of 1.550; 1-bromo-naphthalene and 1-Iodonaphthalene, having a refractive index of 1.680; or hydrogenated terthenyl and 1-bromonaphtahlene, having a refractive index of 1.605. The slides were then examined for the presence of asbestos, utilizing polarized light microscopy (PLM) and dispersion staining techniques.

The percentage of asbestos was estimated by visual examination of fibers greater than five microns in length and with an aspect ratio of 3:1 or greater. The aspect ratio of 3:1 refers to the length of the fiber being three times as long as its width. If present, the identity of asbestos fibers was confirmed with appropriate refractive index liquids, application of dispersion staining and other techniques. The results were tabulated and detailed in the laboratory reports, which are included in the appendices of this report.

Asbestos Inspection Results

Asbestos-containing construction materials that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Window Putty	Buildings A, B, C, D and E	1,200 SF	ACCM, 200 Windows
Exterior Stucco	Building H	Exterior Walls	ACCM

Approximate sample locations have been plotted on site plans that we prepared for this assessment. The Bulk Sample Summary Table, which identifies each sample and the corresponding analytical results, is included in Appendix B. The laboratory reports and chain of custody forms are included in Appendix C.

Summary and Recommendations for Asbestos-Containing Materials

All ACM and ACCM that will be impacted by the planned modernizations must be removed pursuant to Rule 1403 of the South Coast Air Quality Management District's and CalOSHA Asbestos Regulations.

Abatement activities must be conducted in compliance with all applicable regulations, standards and generally accepted environmental and safety practices, including Federal OSHA (29 CFR 1926.58), EPA NESHAPS (40 CFR Part 61), and Toxic Substances Control Act (TSCA) Title II AHERA/ASHARA (40 CFR Part 763) Asbestos Regulations, the Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101, and Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard.

All asbestos waste must be properly disposed of and documented. Waste Manifests must be submitted at the end of a project. Disposing of a known hazardous waste is illegal in the State of California. Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition activities, we will arrange to sample and analyze them accordingly.

Lead Inspection and Sampling Procedures

Lead-based paint and lead glazing on ceramics is of concern both as a source of direct exposure through ingestion of paint chips, and as a contributor to lead interior dust and exterior soil. Lead was widely used as a major ingredient in most interior and exterior oil-based paints prior to 1950. Lead compounds continued to be used as corrosion inhibitors, pigments and drying agents beginning in the early 1950's. In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5000 ppm) and, in 1978, to 0.06% (600 ppm). It has also been used extensively as a glaze on ceramic and porcelain finishes.

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) define an inspection as a surface-by-surface investigation to determine the presence of lead-based paint (see 40 CFR part 745 and Title X of the 1992 Housing and Community Development Act).

As per the EPA & HUD guidelines, lead-based paint is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm2 or 0.5 percent by weight. Lead paint amounts were reported in mg/cm2 because this unit of measurement does not depend on the number of layers of non-lead based paint.

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections because of their demonstrated abilities to:

1. Determine if lead is present on many different types of surfaces

2. Measure the paint without destructive sampling or paint removal

3. Provide sample results immediately and at a relatively low cost per sample

Portable XRF instruments expose a building component to X-rays or gamma radiation, which causes lead to emit X-rays with a characteristic frequency or energy. The intensity of this radiation is measured by the XRF instrument. The inspector must then compare this displayed value (reading) with the inconclusive range or threshold specified in the XRF Performance Characteristic Sheet for the specific substrate beneath the painted surface. If the reading is less than the lower boundary of the inconclusive range, or less than the threshold, then the reading is considered negative. If the reading is greater than the upper boundary of the inconclusive range, or greater or equal to the threshold, then the reading is considered positive. Readings within the inconclusive range, including its boundary values, are considered inconclusive. Because the inconclusive ranges and/or thresholds shown in the Performance Characteristic Sheet are based on 1.0 mg/cm2, positive and negative readings are consistent with the HUD definition of lead-based paint for identification and disclosure purposes. The method employed for paint testing for this project was X-Ray Fluorescence (XRF) using an EDAX MAP4 lead paint analyzer (Serial Number M41509) with the capability to measure the lead content in dry paint films in the range of 0 to 50 milligrams per square centimeter.

The instrument's calibration was verified according to the manufacturer's specifications, in compliance with the Performance Characteristic Sheet (PCS) developed for this instrument. The PCS is located in Appendix F of this report. The readings from this instrument produce a 95% confidence level that the "lead" reading accurately reflects the actual level of lead in the tested surfaces, relative to the federal action level. Current industry standards suggest that, when it is determined that paint abatement and/or interim control activities will be performed on components, they should be performed according to practices that are in the HUD Guidelines and the regulations under section 402 of the Toxic Substances Control Act (TSCA), 15 USC 2682.

Lead Inspection Results

Sampling for this inspection was representative and any components that were not tested, but are similar to those components that tested positive for lead, should be considered and treated as lead laden.

Lead components that are likely to be impacted by the modernizations identified at the subject site during our inspection include the following:

Location		Lead-Containing Components
A Building	Interior	Ceramic Wall Tile and Ceramic Baseboard Tile Finishes
B Building	Exterior	Doors
E Building	Interior	Ceramic Wall Tile in Restrooms
	Exterior	Window Frames
H Building	Interior	Ceramic Wall Tile in Restrooms
K Building (Admin)	Interior	Metal Window Frames and Ceramic Baseboard Tile in Nurses Office Restroom

The lead-based paint and tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Lead Summary and Recommendations

The federal and CAL/OSHA regulations for lead in construction do not specify a level of a lead in paint that classifies it as LBP. However, federal and state OSHA regulations specify ***airborne lead levels*** that should not be exceeded during construction without appropriate protection and training.

The action level for lead is 30 micrograms per cubic meter of air (µg/m3), and the permissible exposure limit (PEL) is 50 µg/m3. These airborne lead levels can be exceeded during construction activities such as scraping, sanding, grinding, blasting, and torching LBP surfaces, even when levels of lead in paint are far below the HUD definition of LBP of 1.0 mg/cm2 or 0.5 percent lead by weight. The XRF is designed to accurately quantify paint around the set abatement level (1.0 mg/cm2, 5,000 parts per million, or 0.5 percent by weight). However, painted surfaces tested with XRF that result in instrument readings much less than 1.0 mg/cm2 (even 0.0 mg/cm2 and negative results) may contain amounts of lead that could create an airborne hazard to workers during construction.

Based on the levels of lead in the components identified in the limited survey, Pacific Environmental recommends that only properly trained and equipped individuals be assigned tasks that would involve treatment or demolition of these components. Procedures and engineering controls must be designed to follow CAL/OSHA and Department of Health Services (State of California) requirements, and workers must wear appropriate personal protective equipment during the work.

Other Hazardous Materials

During our assessment of the structures, we visually inspected the locations of fluorescent light tubes and PCB ballasts. There are fluorescent fixtures throughout the campus with ballasts that are assumed to contain PCB's and fluorescent tubes. All PCB's and spent fluorescent light tubes should be handled, packaged and disposed of in compliance with current California Environmental Protection Agency, Department of Toxic Substances Control Guidelines.

Limitations

This report is not intended to identify all hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and Pacific Environmental's experience in performing this type of assessment. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations

Pacific Environmental has performed this survey in a professional manner, using the degree of skill and care exercised for similar projects, under similar conditions, by reputable and competent environmental consultants. Pacific Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

Pacific Environmental further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved as a consequence of this report, or impacted by information not properly disclosed to Pacific at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

References

AHERA Summary, prepared by Power Masters, Inc.

Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards

Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead

"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," US Department of Housing and Urban Development, June 1995

South Coast Air Quality Management District Requirements (Rule 1403)

National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, M

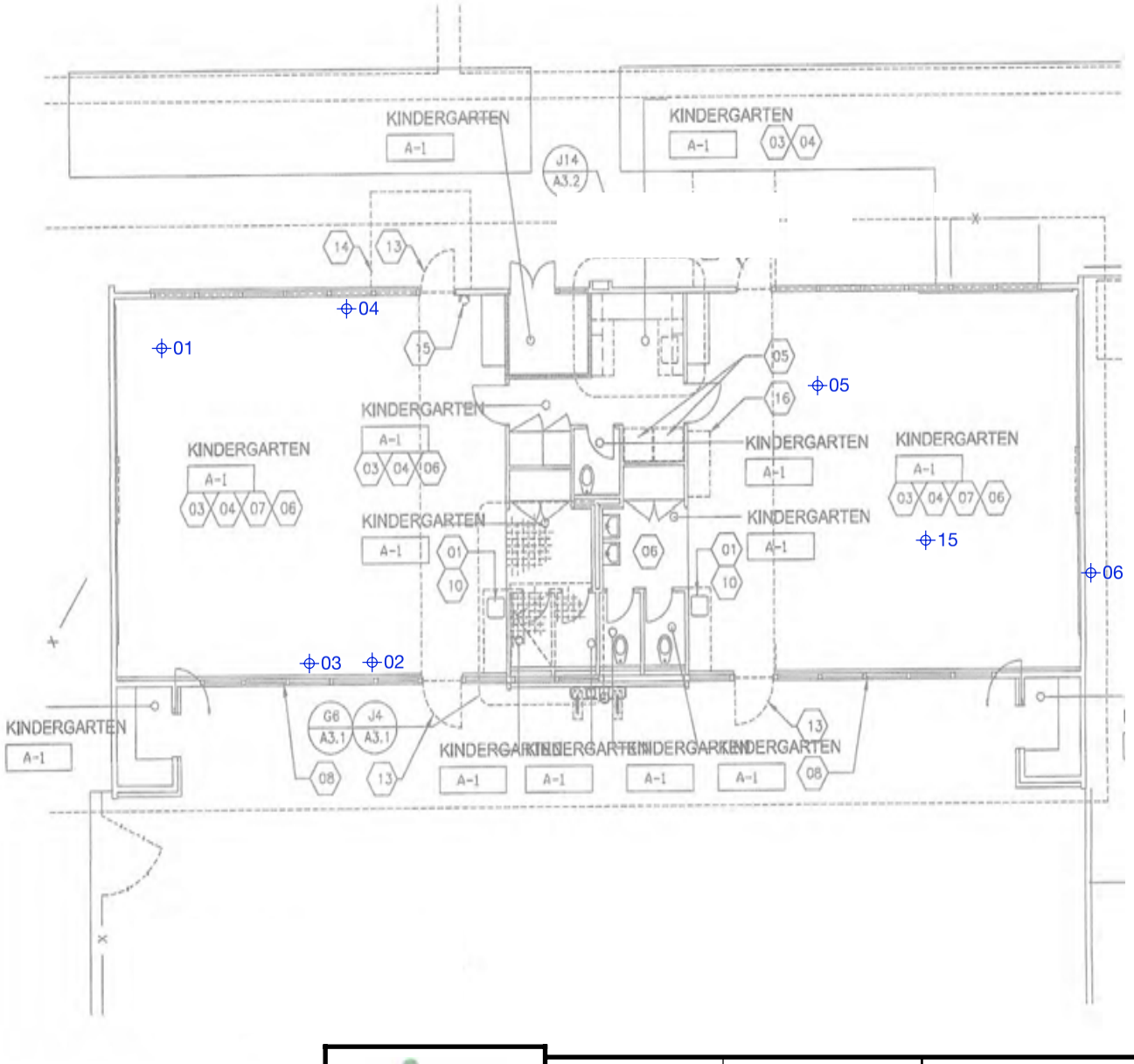
Occupational Safety and Health Administration, Asbestos in the Workplace, 29 CFR 1910.1001

Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101

Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard

Appendix A

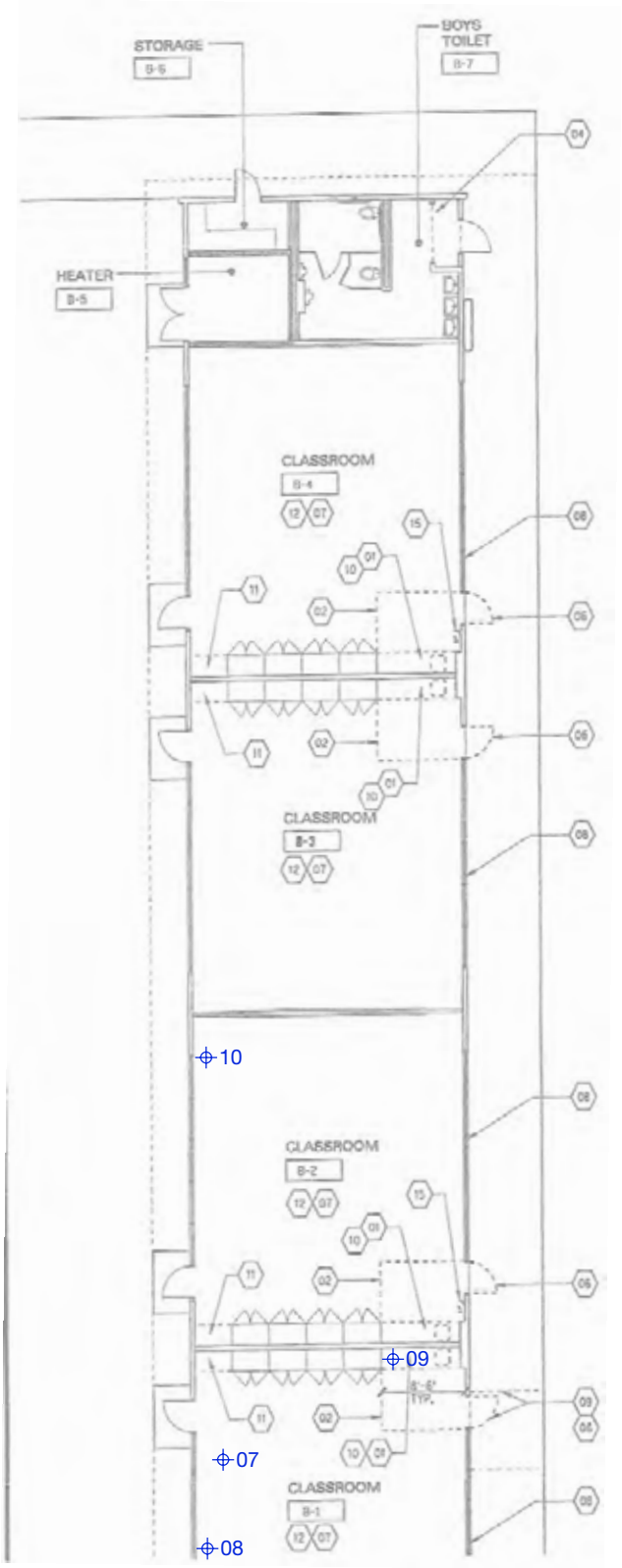
Site Plan



N

⌖ indicates approximate sample location

DATE PREPARED: 1/20/2009	DRAWN BY: C.T.	DRAWING TITLE: Sample Location Plan A Building Cole Elementary School 1331 Cole Avenue Highland, California 92346
REVISION:	SOURCE: HMC Architects	
PROJECT NO: 09017	OTHER:	
PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations	CLIENT: San Bernardino City Unified School District	FIGURE NO. 1



N

DATE PREPARED: 1/20/2009	DRAWN BY: C.T.
REVISION:	SOURCE: HMC Architects
PROJECT NO: 09017	OTHER:

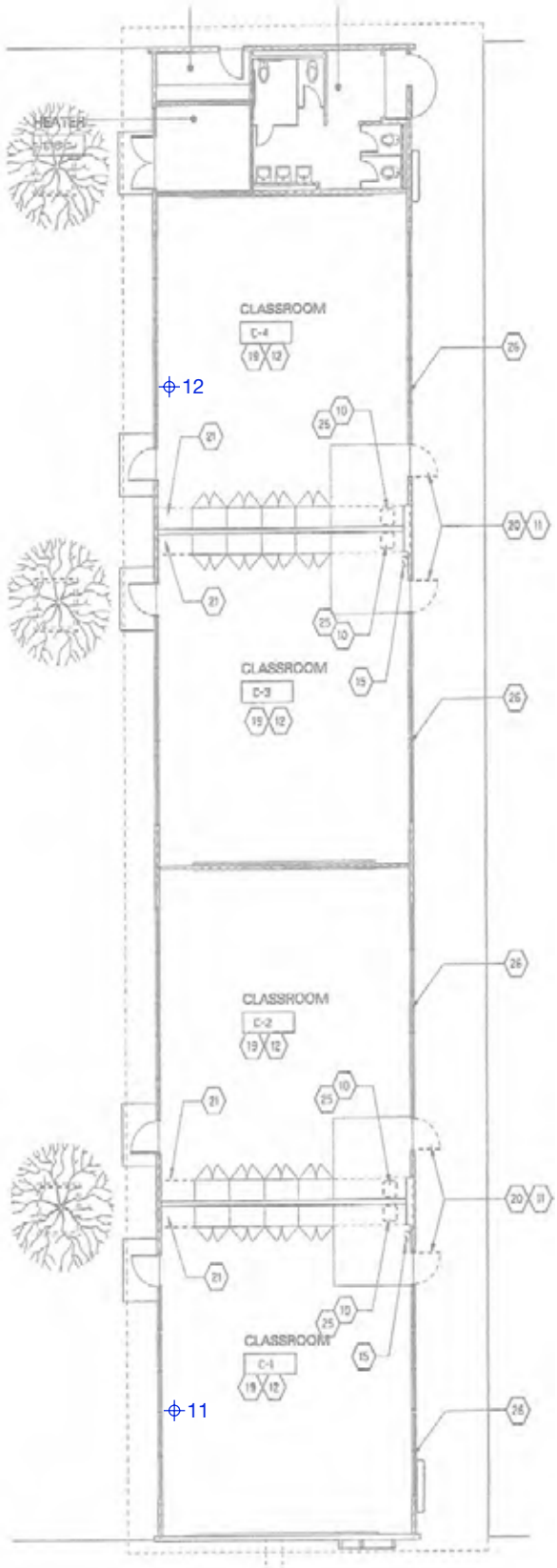
DRAWING TITLE:
Sample Location Plan
B Building
Cole Elementary School
1331 Cole Avenue
Highland, California 92346

FIGURE NO. 2

⌖ indicates approximate sample location

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District



N

indicates approximate sample location

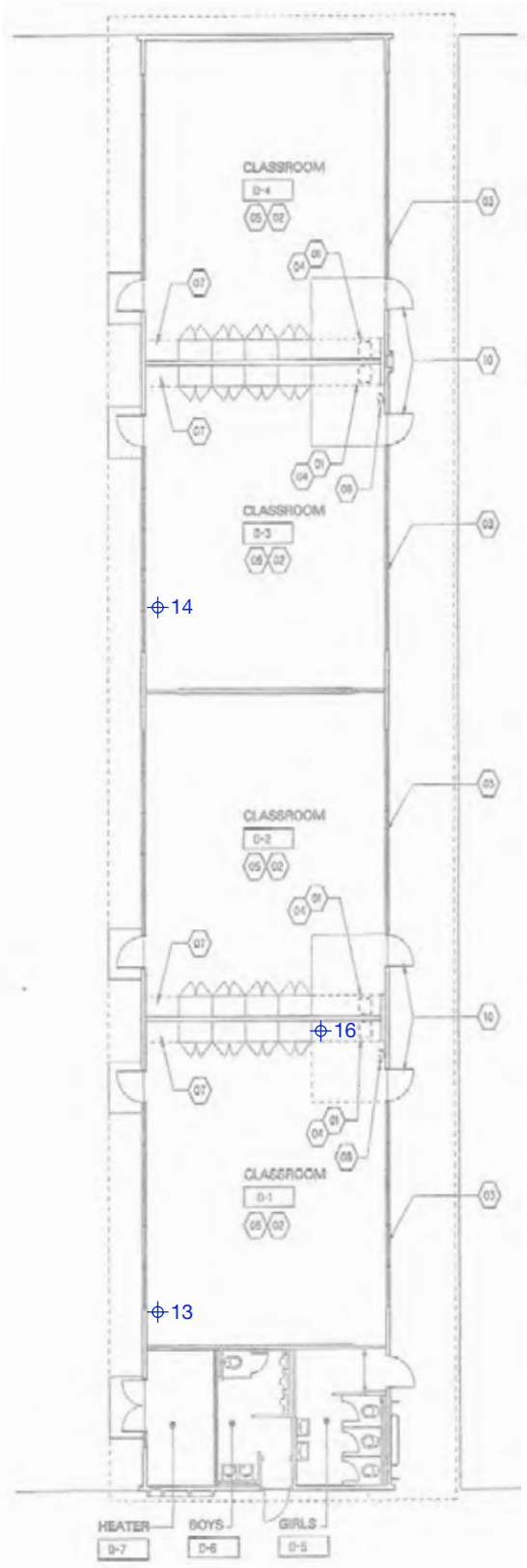
DATE PREPARED: 1/20/2009	DRAWN BY: C.T.
REVISION:	SOURCE: HMC Architects
PROJECT NO: 09017	OTHER:

DRAWING TITLE:
Sample Location Plan
C Building
Cole Elementary School
1331 Cole Avenue
Highland, California 92346

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
3



N

indicates approximate sample location

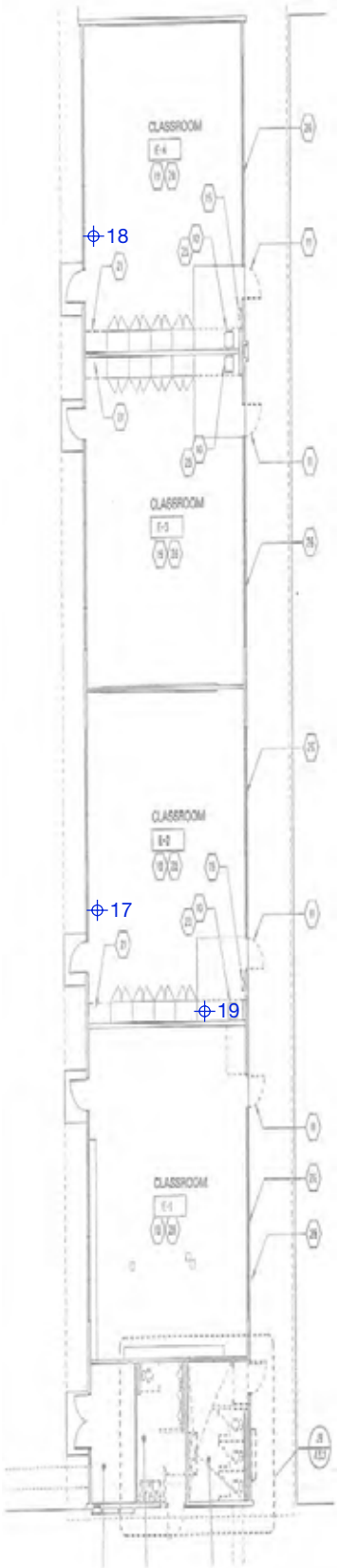
DATE PREPARED: 1/20/2009	DRAWN BY: C.T.
REVISION:	SOURCE: HMC Architects
PROJECT NO: 09017	OTHER:

DRAWING TITLE:
Sample Location Plan
D Building
Cole Elementary School
1331 Cole Avenue
Highland, California 92346

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
4



N

indicates approximate sample location

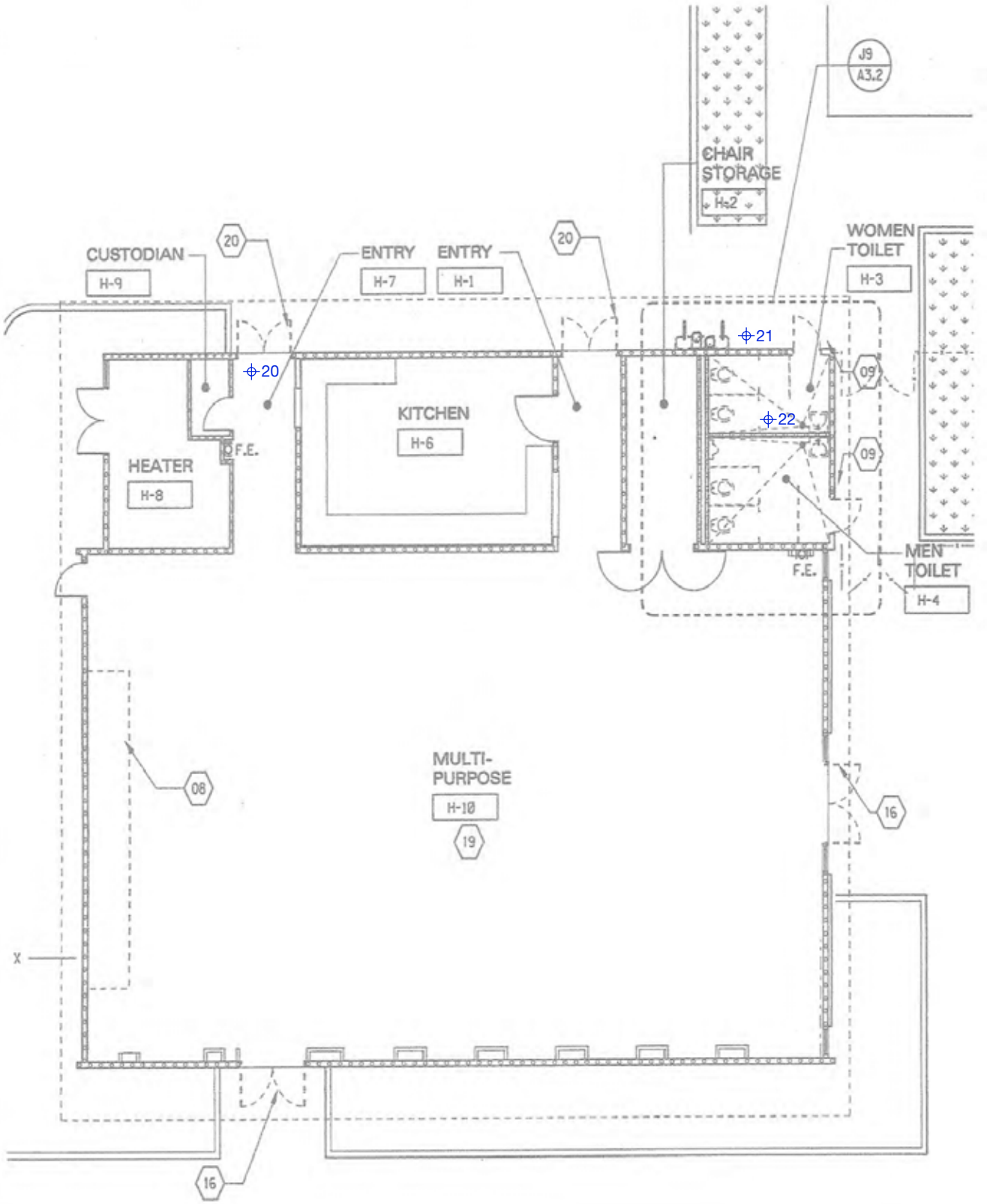
DATE PREPARED: 1/20/2009	DRAWN BY: C.T.
REVISION:	SOURCE: HMC Architects
PROJECT NO: 09017	OTHER:

DRAWING TITLE:
Sample Location Plan
E Building
Cole Elementary School
1331 Cole Avenue
Highland, California 92346

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
5



N

⌖ indicates approximate sample location

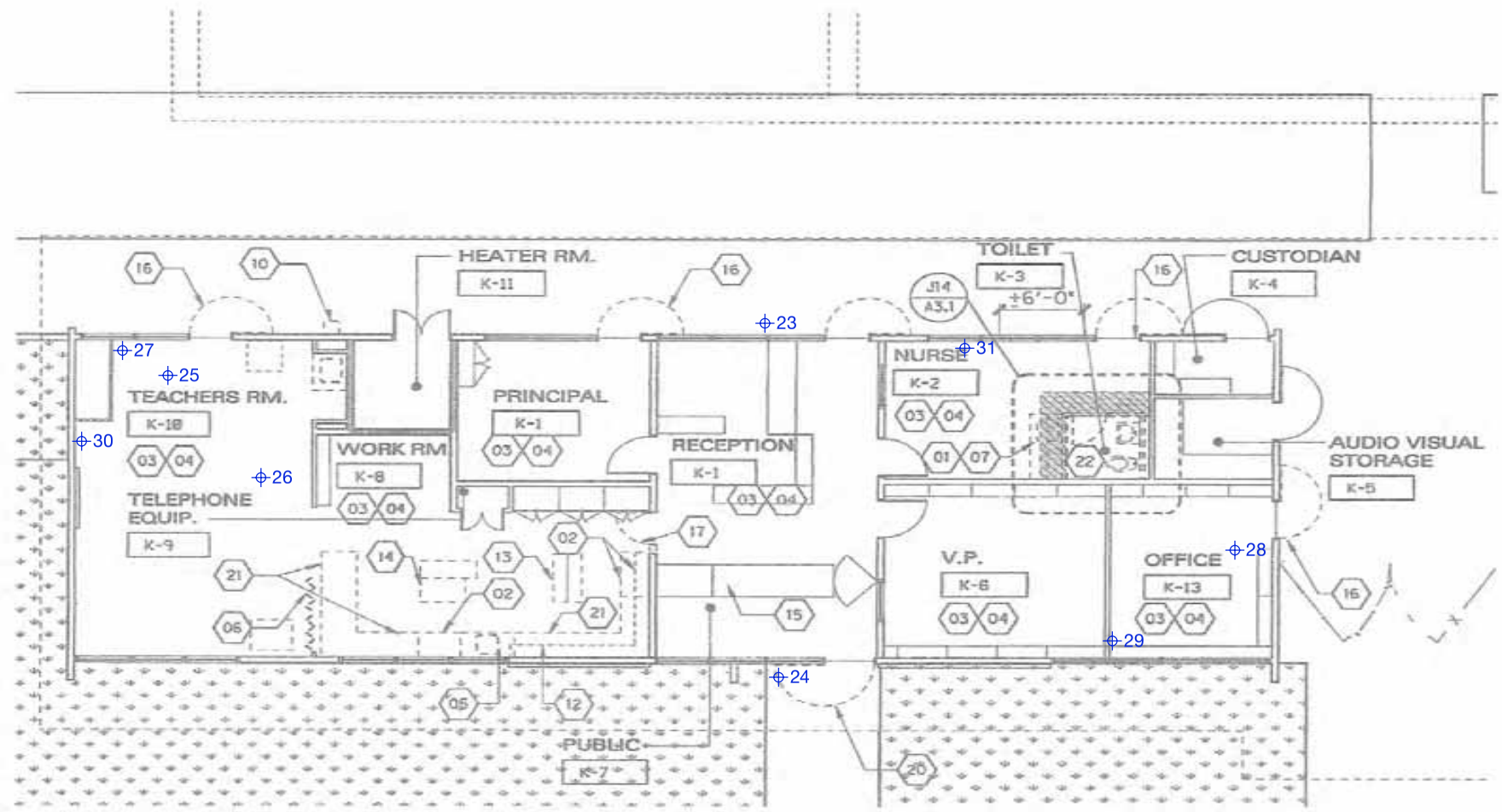
DATE PREPARED: 1/20/2009	DRAWN BY: C.T.
REVISION:	SOURCE: HMC Architects
PROJECT NO: 09017	OTHER:

DRAWING TITLE:
Sample Location Plan
H Building
Cole Elementary School
1331 Cole Avenue
Highland, California 92346

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
6



N

⌖ indicates approximate sample location

DATE PREPARED: 1/20/2009	DRAWN BY: C.T.	DRAWING TITLE: Sample Location Plan K Building Cole Elementary School 1331 Cole Avenue Highland, California 92346
REVISION:	SOURCE: HMC Architects	
PROJECT NO: 09017	OTHER:	
PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations		CLIENT: San Bernardino City Unified School District

FIGURE NO. 7

Appendix B

Bulk Sample Summary Table

COLE ELEMENTARY SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09017

Sample No.	Sample Description	Sample Location	Asbestos %
01	12"x12" Floor Tile, Beige	A-1, Kindergarten	No Asbestos Detected
02	Joint Compound	A-1, Kindergarten	No Asbestos Detected
03	Drywall	A-1, Kindergarten	No Asbestos Detected
04	4" Basecove, Brown	A-1, Kindergarten	No Asbestos Detected
05	Carpet Glue	A-2, Kindergarten	No Asbestos Detected
06	Window Glazing	A-2, Kindergarten	<1% Chrysotile
07	12"x12" Floor Tile, Beige	B-1	No Asbestos Detected
08	4" Basecove, Brown	B-1	No Asbestos Detected
09	Spray-on Material, Underside of Sink	B-1	No Asbestos Detected
10	Window Glazing, South Window	B-2	<1% Chrysotile
11	Window Glazing	C-1	<1% Chrysotile
12	Window Glazing	C-4	<1% Chrysotile
13	Window Glazing	D-1	No Asbestos Detected
14	Window Glazing	D-3	<1% Chrysotile
15	12"x12" Floor Tile, Beige	A-2	No Asbestos Detected
16	12"x12" Floor Tile, Beige	D-1, Under Counter	No Asbestos Detected
17	Window Glazing	E-2, South	<1% Chrysotile
18	Window Glazing	E-4, South	<1% Chrysotile
19	Spray-on Material, Underside of Sink	R-E2	No Asbestos Detected
20	12"x12" Floor Tile, Beige	Building H, Northeast of Kitchen	No Asbestos Detected
21	Exterior Stucco	Building H, Exterior of RR	<1% Chrysotile
22	Plaster	Building H, Interior of RR	No Asbestos Detected
23	Exterior Stucco	Building K, East	No Asbestos Detected
24	Exterior Stucco	Building K, West	No Asbestos Detected
25	12"x12" Floor Tile, Beige	Building K, Teacher Work Area	No Asbestos Detected
26	12"x12" Floor Tile, Beige	Building K, Teacher Work Area, Southwest	No Asbestos Detected
27	4" Basecove, Brown	Building K, Teacher Work Area, Northeast	No Asbestos Detected
28	Carpet Glue	Building K, Office Area, South	No Asbestos Detected
29	Interior Plaster	Office	No Asbestos Detected
30	Interior Plaster	Teachers' Work Room	No Asbestos Detected
31	Interior Plaster	Nurse's Office	No Asbestos Detected

Appendix C

Asbestos Sample Analysis Reports and Chain of Custody

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/17/09
Date Examined 01/19/09

AmeriSci Job # 909011580
P.O. #
Page 1 **of** 8

RE: SBCUSD; Cole Elementary

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
012	909011580-01L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Beige Ft / A-1 Kindergarden		
Analyst Description: Tan, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
012	909011580-01L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Beige Ft / A-1 Kindergarden		
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
02	909011580-02	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Joint Compound / A-1 Kindergarden		
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
03	909011580-03	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Drywall / A-1 Kindergarden		
Analyst Description: White/Brown, Homogeneous, Fibrous, Drywall **Asbestos Types:** **Other Material:** Cellulose 11 %, Non-fibrous 89 %			
04	909011580-04	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove 4" Brown / A-1 Kindergarden		
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cole Elementary

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
05	909011580-05	***No***	NAD
	Location: Carpet Glue / A-2 Kinder		(by CVES) by Arturo A. Aldana on 01/19/09
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Glue **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
06	909011580-06	***Yes***	Trace (<1 %)
	Location: Window Glazing / A-2 Kinder		(by CVES) by Arturo A. Aldana on 01/19/09
Analyst Description: Light Grey, Homogeneous, Non-Fibrous, Glazing **Asbestos Types:** Chrysotile <1. % **Other Material:** Non-fibrous 100 %			
07	909011580-07L1	***No***	NAD
	Location: 12x Beige Ft / B-1		(by CVES) by Arturo A. Aldana on 01/19/09
Analyst Description: Tan, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
07	909011580-07L2	***No***	NAD
	Location: 12x Beige Ft / B-1		(by CVES) by Arturo A. Aldana on 01/19/09
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
08	909011580-08L1	***No***	NAD
	Location: Base Cove Brown 4" B-1		(by CVES) by Arturo A. Aldana on 01/19/09
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
08	909011580-08L2	***No***	NAD
	Location: Base Cove Brown 4" B-1		(by CVES) by Arturo A. Aldana on 01/19/09
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cole Elementary

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
09	909011580-09	***No***	NAD
	Location: Spray On Material Under Side Of Sink / B-1 White		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
10	909011580-10	***Yes***	Trace (<1 %)
	Location: Window Glazing S. Window / B-2		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Light Grey, Homogeneous, Non-Fibrous, Glazing		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		
11	909011580-11	***Yes***	Trace (<1 %)
	Location: Window Glazing / C-1		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Light Grey, Homogeneous, Non-Fibrous, Glazing		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		
12	909011580-12	***Yes***	Trace (<1 %)
	Location: Window Glazing / C-4		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Light Grey, Homogeneous, Non-Fibrous, Glazing		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		
13	909011580-13	***No***	NAD
	Location: Window Glazing / D-1		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Glazing		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
14	909011580-14	***Yes***	Trace (<1 %)
	Location: Window Glazing / D-3		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Glazing		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cole Elementary

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
15	909011580-15L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Beige Ft / A-2		
	Analyst Description: Tan, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
15	909011580-15L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Beige Ft / A-2		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
16	909011580-16L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Beige Ft / D-1 Under Counter		
	Analyst Description: Tan, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
16	909011580-16L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Beige Ft / D-1 Under Counter		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
17	909011580-17	***Yes***	Trace (<1 %) (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Window Glazing / E-2 S		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Glazing		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		
18	909011580-18	***Yes***	Trace (<1 %) (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Window Glazing / E-4 S		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Glazing		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cole Elementary

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
19	909011580-19	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Spray On Material Under Side Of Sink / White RE2		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
20	909011580-20L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Beige Ft / Build H @ NE Of Kitchen		
	Analyst Description: Tan, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
20	909011580-20L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Beige Ft / Build H @ NE Of Kitchen		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
21	909011580-21	***Yes***	Trace (<1 %) (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Ext Stucco / Buld H. @ Ext Of RR		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		
22	909011580-22.1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Plaster / Bldg. H Interior RR		
	Analyst Description: White, Homogeneous, Non-Fibrous, Cementitious, Plaster-Finish Coat		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
22	909011580-22.2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Plaster / Bldg. H Interior RR		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Plaster-Base Coat		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cole Elementary

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
23	909011580-23.1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Ext Stucco / Bldg. K E		
Analyst Description: Tan, Homogeneous, Non-Fibrous, Cementitious, Stucco-Finish Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
23	909011580-23.2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Ext Stucco / Bldg. K E		
Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
24	909011580-24.1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Ext Stucco / Bldg. K W		
Analyst Description: Tan, Homogeneous, Non-Fibrous, Cementitious, Stucco-Finish Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
24	909011580-24.2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Ext Stucco / Bldg. K W		
Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
25	909011580-25L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12" Beige Ft / Bldg. K Teacher Work Area		
Analyst Description: Tan, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
25	909011580-25L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12" Beige Ft / Bldg. K Teacher Work Area		
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cole Elementary

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
26	909011580-26L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12" Beige Ft / Bldg. K Teacher Work Area SW		
	Analyst Description: Tan, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
26	909011580-26L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12" Beige Ft / Bldg. K Teacher Work Area SW		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
27	909011580-27L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove Brown 4" / Bldg. K Teacher Work Area NE		
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
27	909011580-27L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove Brown 4" / Bldg. K Teacher Work Area NE		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
28	909011580-28	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Carpet Glue / Bldg. K Office Area S		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Glue		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
29	909011580-29	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Interior Plaster / Office		
	Analyst Description: Off-White, Heterogeneous, Non-Fibrous, Cementitious, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cole Elementary

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
30	909011580-30	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Interior Plaster / Teacher Work Rm		
	Analyst Description: Off-White, Heterogeneous, Non-Fibrous, Cementitious, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
31	909011580-31	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Interior Plaster / Nurses Office		
	Analyst Description: Off-White, Heterogeneous, Non-Fibrous, Cementitious, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

Reporting Notes:

Analyzed By: Arturo A. Aldana A. A. Aldana; Date Analyzed: 1/19/2009 1-19-09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/20/09

909011580

PACIFIC ENVIRONMENTAL

Date:	01/15/09
Client:	SBCUSD
Site:	COLE ELEMENTARY
Project No:	
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
01	12X Biege FT	A-1 Kindergarten	Good
02	Joint Compound	" "	
03	Drywall	" "	
04	Basecove 4" Brown	" "	
05	CARPET GLUE	A-2 - Kinder.	
06	Window GLAZING	A-2 " "	
07	12X Biege FT	B-1	
08	Basecove Brown 4"	B-1	
09	Spray on material underside of sink	Sink "B-1" White	
10	Window GAZING - S. WINDOW	B-2	
11	WINDOW GLAZING	C-1	
12	" " "	C-4	
13	WINDOW GAZING	D-1	
14	" "	D-3	
15	12X Biege FT	A-2	
16	12X Biege FT	D-1 under counter	
17	WINDOW GLAZING	E-2 S.	
18	WINDOW GLAZING	E-4 S.	
19	Spray on material underside of sink	White R-E2	
20	12X Biege FT	Bldg. H. NE of kitchen	
21	EXT STUCCO	Bldg H. @ Ext of RR	
22	Plaster	" " Interior RR	
23	EXT STUCCO	Bldg K E.	
24	EXT STUCCO	Bldg K W.	

Analytical Method: PLM 24 hr.

Turn Around Time: ~~Standard~~

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
01/15/09	David ~~Villema~~	
1/17/09@0910	K. Arellano	

9090115 80

PACIFIC ENVIRONMENTAL

Date:	01 / 15 /2009
Client:	SBCUSD
Site:	COLE ELEMENTARY
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
25	12 X Beige FT	Bldg K Teacher Lounge Area	
26	" "	" " " SW	
27	Basecove Brown 4"	" " " NE.	
28	CARPET GLUE	" Office Area S.	
29	Interior Plaster	Office	
30	" "	Teacher Work Rm	
31	" "	Nurses office	

Analytical Method: PLM

Turn Around Time: 24 hr.

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Thomas Gannon — 01 / 15 / 2009
Name — Signature — Date/Time

K. Arellano — 1/17/09 @ 0930
Name — Signature — Date/Time

Appendix D

XRF Sampling Results

FIELD DATA REPORT

PROJECT NAME: Cole Elementary School

PROJECT NO.:09017

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg A	A-1	Wall	A	Wood	Intact	White	0.1	Negative
Bldg A	A-1	Wall	B	Wood	Intact	White	0	Negative
Bldg A	A-1	Wall	C	Wood	Intact	White	0	Negative
Bldg A	A-1	Wall	D	Wood	Intact	White	0.1	Negative
Bldg A	**A-1**	**Baseboard**	**A**	**Ceramic Tile**	**Intact**	**White**	**12.3**	**Positive**
Bldg A	A-1	Door	C	Metal	Intact	Red	0	Negative
Bldg A	A-1	Door	A	Wood	Intact	Red	0.5	Negative
Bldg A	**A-1**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Yellow**	**14.7**	**Positive**
Bldg A	A-1	Door Frame	C	Metal	Intact	Red	0.3	Negative
Bldg A	A-1	Door Frame	A	Metal	Intact	Red	0.5	Negative
Bldg A	A-1	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	White/Yellow	0	Negative
Bldg A	Exterior	Wall	A	Stucco	Intact	Tan	0.4	Negative
Bldg A	Exterior	Door	A	Wood	Intact	Red	0.7	Negative
Bldg A	Exterior	Door Frame	A	Metal	Intact	Red	0.4	Negative
Bldg A	Exterior	Window Frame	A	Wood	Intact	Brown	0.5	Negative
Bldg B	B-1	Wall	A	Wood	Intact	White	0	Negative
Bldg B	B-1	Wall	B	Wood	Intact	White	0	Negative
Bldg B	B-1	Wall	C	Wood	Intact	White	0	Negative
Bldg B	B-1	Wall	D	Wood	Intact	White	0	Negative
Bldg B	B-1	Door	B	Wood	Intact	Red	0.7	Negative
Bldg B	B-1	Door	D	Wood	Intact	Red	0.5	Negative
Bldg B	B-1	Door Frame	B	Metal	Intact	Red	0.2	Negative
Bldg B	B-1	Door Frame	D	Metal	Intact	Red	0.3	Negative
Bldg B	B-2	Wall	A	Wood	Intact	White	0	Negative
Bldg B	B-2	Wall	B	Wood	Intact	White	0.1	Negative
Bldg B	B-2	Wall	C	Wood	Intact	White	0	Negative
Bldg B	B-2	Wall	D	Wood	Intact	White	0.1	Negative
Bldg B	B-2	Door	B	Wood	Intact	Red	0.5	Negative
Bldg B	B-2	Door	D	Wood	Intact	Red	0.4	Negative
Bldg B	B-2	Door Frame	B	Metal	Intact	Red	0.1	Negative
Bldg B	B-2	Door Frame	D	Metal	Intact	Red	0	Negative
Bldg B	B-3	Wall	A	Wood	Intact	White	0.3	Negative
Bldg B	B-3	Wall	B	Wood	Intact	White	0.2	Negative
Bldg B	B-3	Wall	C	Wood	Intact	White	0.1	Negative
Bldg B	B-3	Wall	D	Wood	Intact	White	0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Cole Elementary School

PROJECT NO.:09017

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg B	B-3	Door	B	Wood	Intact	Red	0.3	Negative
Bldg B	B-3	Door	D	Wood	Intact	Red	0.4	Negative
Bldg B	B-3	Door Frame	B	Metal	Intact	Red	0	Negative
Bldg B	B-3	Door Frame	D	Metal	Intact	Red	0.1	Negative
Bldg B	B-4	Wall	A	Wood	Intact	White	0.2	Negative
Bldg B	B-4	Wall	B	Wood	Intact	White	0.2	Negative
Bldg B	B-4	Wall	C	Wood	Intact	White	0	Negative
Bldg B	B-4	Wall	D	Wood	Intact	White	0.3	Negative
Bldg B	B-4	Door	B	Wood	Intact	Red	0.4	Negative
Bldg B	B-4	Door	D	Wood	Intact	Red	0.3	Negative
Bldg B	B-4	Door Frame	B	Metal	Intact	Red	0.2	Negative
Bldg B	B-4	Door Frame	D	Metal	Intact	Red	0.1	Negative
Bldg B	Exterior	Wall	D	Stucco	Intact	Tan	0	Negative
Bldg B	**Exterior**	**Door**	**D**	**Wood**	**Intact**	**Red**	**1.2**	**Positive**
Bldg B	Exterior	Door Frame	D	Metal	Intact	Red	0.4	Negative
Bldg B	Exterior	Window Frame	D	Wood	Intact	Brown	0.4	Negative
Bldg C	C-1	Wall	A	Wood	Intact	White	0.0	Negative
Bldg C	C-1	Wall	B	Wood	Intact	White	0.0	Negative
Bldg C	C-1	Wall	C	Wood	Intact	White	0.0	Negative
Bldg C	C-1	Wall	D	Wood	Intact	White	0.0	Negative
Bldg C	C-1	Door	B	Wood	Intact	Red	0.7	Negative
Bldg C	C-1	Door	D	Wood	Intact	Red	0.5	Negative
Bldg C	C-1	Door Frame	B	Metal	Intact	Red	0.2	Negative
Bldg C	C-1	Door Frame	D	Metal	Intact	Red	0.4	Negative
Bldg C	C-2	Wall	A	Wood	Intact	White	0.0	Negative
Bldg C	C-2	Wall	B	Wood	Intact	White	0.1	Negative
Bldg C	C-2	Wall	C	Wood	Intact	White	0.3	Negative
Bldg C	C-2	Wall	D	Wood	Intact	White	0.1	Negative
Bldg C	C-2	Door	B	Wood	Intact	Red	0.0	Negative
Bldg C	C-2	Door	D	Wood	Intact	Red	0.2	Negative
Bldg C	C-2	Door Frame	B	Metal	Intact	Red	0.3	Negative
Bldg C	C-2	Door Frame	D	Metal	Intact	Red	0.0	Negative
Bldg C	C-3	Wall	A	Wood	Intact	White	0.0	Negative
Bldg C	C-3	Wall	B	Wood	Intact	White	0.4	Negative
Bldg C	C-3	Wall	C	Wood	Intact	White	0.2	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Cole Elementary School

PROJECT NO.:09017

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg C	C-3	Wall	D	Wood	Intact	White	0.0	Negative
Bldg C	C-3	Door	B	Wood	Intact	Red	0.3	Negative
Bldg C	C-3	Door	D	Wood	Intact	Red	0.2	Negative
Bldg C	C-3	Door Frame	B	Metal	Intact	Red	0.1	Negative
Bldg C	C-3	Door Frame	D	Metal	Intact	Red	0.1	Negative
Bldg C	C-4	Wall	A	Wood	Intact	White	0.2	Negative
Bldg C	C-4	Wall	B	Wood	Intact	White	0.0	Negative
Bldg C	C-4	Wall	C	Wood	Intact	White	0.3	Negative
Bldg C	C-4	Wall	D	Wood	Intact	White	0.2	Negative
Bldg C	C-4	Door	B	Wood	Intact	Red	0.4	Negative
Bldg C	C-4	Door	D	Wood	Intact	Red	0.6	Negative
Bldg C	C-4	Door Frame	B	Metal	Intact	Red	0.3	Negative
Bldg C	C-4	Door Frame	D	Metal	Intact	Red	0.2	Negative
Bldg C	Exterior	Wall	A	Stucco	Intact	Tan	0.1	Negative
Bldg C	Exterior	Wall	B	Stucco	Intact	Tan	0.0	Negative
Bldg C	Exterior	Door	D	Wood	Intact	Red	0.4	Negative
Bldg C	Exterior	Door	B	Wood	Intact	Red	0.5	Negative
Bldg C	Exterior	Door Frame	D	Metal	Intact	Red	0.1	Negative
Bldg C	Exterior	Door Frame	B	Metal	Intact	Red	0.0	Negative
Bldg C	Exterior	Window Frame	D	Wood	Intact	Brown	0.3	Negative
Bldg D	D-1	Wall	A	Wood	Intact	White	0.1	Negative
Bldg D	D-1	Wall	B	Wood	Intact	White	0.0	Negative
Bldg D	D-1	Wall	C	Wood	Intact	White	0.1	Negative
Bldg D	D-1	Wall	D	Wood	Intact	White	0.0	Negative
Bldg D	D-1	Door	D	Metal	Intact	Red	0.2	Negative
Bldg D	D-1	Door	B	Wood	Intact	Red	0.4	Negative
Bldg D	D-1	Door Frame	D	Metal	Intact	Red	0.1	Negative
Bldg D	D-1	Door Frame	B	Metal	Intact	Red	0.0	Negative
Bldg D	D-2	Wall	A	Wood	Intact	White	0.1	Negative
Bldg D	D-2	Wall	B	Wood	Intact	White	0.1	Negative
Bldg D	D-2	Wall	C	Wood	Intact	White	0.0	Negative
Bldg D	D-2	Wall	D	Wood	Intact	White	0.0	Negative
Bldg D	D-2	Door	D	Metal	Intact	Red	0.3	Negative
Bldg D	D-2	Door	B	Wood	Intact	Red	0.0	Negative
Bldg D	D-2	Door Frame	D	Metal	Intact	Red	0.2	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Cole Elementary School

PROJECT NO.:09017

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg D	D-2	Door Frame	B	Metal	Intact	Red	0.0	Negative
Bldg D	D-3	Wall	A	Wood	Intact	White	0.1	Negative
Bldg D	D-3	Wall	B	Wood	Intact	White	0.1	Negative
Bldg D	D-3	Wall	C	Wood	Intact	White	0.0	Negative
Bldg D	D-3	Wall	D	Wood	Intact	White	0.3	Negative
Bldg D	D-3	Door	D	Metal	Intact	Red	0.3	Negative
Bldg D	D-3	Door	B	Wood	Intact	Red	0.0	Negative
Bldg D	D-3	Door Frame	D	Metal	Intact	Red	0.4	Negative
Bldg D	D-3	Door Frame	B	Metal	Intact	Red	0.0	Negative
Bldg D	D-4	Wall	A	Wood	Intact	White	0.3	Negative
Bldg D	D-4	Wall	B	Wood	Intact	White	0.2	Negative
Bldg D	D-4	Wall	C	Wood	Intact	White	0.0	Negative
Bldg D	D-4	Wall	D	Wood	Intact	White	0.1	Negative
Bldg D	D-4	Door	D	Metal	Intact	Red	0.1	Negative
Bldg D	D-4	Door	B	Wood	Intact	Red	0.0	Negative
Bldg D	D-4	Door Frame	D	Metal	Intact	Red	0.0	Negative
Bldg D	D-4	Door Frame	B	Metal	Intact	Red	0.2	Negative
Bldg D	Exterior	Wall	A	Stucco	Intact	Tan	0.1	Negative
Bldg D	Exterior	Wall	B	Stucco	Intact	Tan	0.0	Negative
Bldg D	Exterior	Wall	C	Stucco	Intact	Tan	0.1	Negative
Bldg D	Exterior	Wall	D	Stucco	Intact	Tan	0.1	Negative
Bldg D	Exterior	Door	D	Metal	Intact	Red	0.1	Negative
Bldg D	Exterior	Door Frame	D	Metal	Intact	Red	0.4	Negative
Bldg D	Exterior	Window Frame	D	Wood	Intact	Brown	0.3	Negative
Bldg E	E-1	Wall	A	Wood	Intact	White	0.1	Negative
Bldg E	E-1	Wall	B	Wood	Intact	White	0.0	Negative
Bldg E	E-1	Wall	C	Wood	Intact	White	0.0	Negative
Bldg E	E-1	Wall	D	Wood	Intact	White	0.0	Negative
Bldg E	E-1	Door	D	Metal	Intact	Red	0.1	Negative
Bldg E	E-1	Door Frame	D	Metal	Intact	Red	0.4	Negative
Bldg E	E-2	Wall	A	Wood	Intact	White	0.1	Negative
Bldg E	E-2	Wall	B	Wood	Intact	White	0.1	Negative
Bldg E	E-2	Wall	C	Wood	Intact	White	0.0	Negative
Bldg E	E-2	Wall	D	Wood	Intact	White	0.2	Negative
Bldg E	E-2	Door	D	Metal	Intact	Red	0.2	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Cole Elementary School

PROJECT NO.:09017

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg E	E-2	Door Frame	D	Metal	Intact	Red	0.0	Negative
Bldg E	E-3	Wall	A	Wood	Intact	White	0.3	Negative
Bldg E	E-3	Wall	B	Wood	Intact	White	0.0	Negative
Bldg E	E-3	Wall	C	Wood	Intact	White	0.4	Negative
Bldg E	E-3	Wall	D	Wood	Intact	White	0.2	Negative
Bldg E	E-3	Door	D	Metal	Intact	Red	0.0	Negative
Bldg E	E-3	Door Frame	D	Metal	Intact	Red	0.1	Negative
Bldg E	E-4	Wall	A	Wood	Intact	White	0.2	Negative
Bldg E	E-4	Wall	B	Wood	Intact	White	0.2	Negative
Bldg E	E-4	Wall	C	Wood	Intact	White	0.0	Negative
Bldg E	E-4	Wall	D	Wood	Intact	White	0.3	Negative
Bldg E	E-4	Door	D	Metal	Intact	Red	0.0	Negative
Bldg E	E-4	Door Frame	D	Metal	Intact	Red	0.1	Negative
Bldg E	Exterior	Wall	D	Stucco	Intact	Tan	0.0	Negative
Bldg E	Exterior	Door	D	Metal	Intact	Red	0.1	Negative
Bldg E	Exterior	Door Frame	D	Metal	Intact	Red	0.0	Negative
Bldg E	**Exterior**	**Window Frame**	**D**	**Wood**	**Intact**	**Tan**	**3.4**	**Positive**
Bldg E	**Girls' RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Pink**	**10.7**	**Positive**
Bldg E	Girls' RR	Door	D	Metal	Intact	Red	0.5	Negative
Bldg E	Girls' RR	Door Frame	D	Metal	Intact	Red	0.4	Negative
Bldg E	Girls' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Pink	0.1	Negative
Bldg H	Cafeteria	Wall	A	Wood	Intact	White	0.0	Negative
Bldg H	Cafeteria	Wall	B	Wood	Intact	White	0.0	Negative
Bldg H	Cafeteria	Wall	C	Wood	Intact	White	0.0	Negative
Bldg H	Cafeteria	Wall	D	Wood	Intact	White	0.0	Negative
Bldg H	Cafeteria	Door	C	Metal	Intact	Red	0.1	Negative
Bldg H	Cafeteria	Door	A	Metal	Intact	Red	0.4	Negative
Bldg H	Cafeteria	Door Frame	C	Metal	Intact	Red	0.0	Negative
Bldg H	Cafeteria	Door Frame	A	Metal	Intact	Red	0.3	Negative
Bldg H	Exterior	Door	D	Wood	Intact	Red	0.1	Negative
Bldg H	Exterior	Door	D	Metal	Intact	Red	0.4	Negative
Bldg H	Exterior	Door Frame	D	Metal	Intact	Red	0.3	Negative
Bldg H	Exterior	Door Frame	D	Metal	Intact	Red	0.4	Negative
Bldg H	**Men's RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Yellow**	**4.8**	**Positive**
Bldg H	**Men's RR**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Yellow**	**11.9**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Cole Elementary School

PROJECT NO.:09017

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg H	Men's RR	Door	D	Wood	Intact	Red	0.5	Negative
Bldg H	Men's RR	Door Frame	D	Metal	Intact	Red	0.5	Negative
Bldg H	Men's RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Yellow	0.0	Negative
Bldg K (Admin)	Exterior	Wall	B	Stucco	Intact	Tan	0.4	Negative
Bldg K (Admin)	Exterior	Wall	C	Stucco	Intact	Tan	0.3	Negative
Bldg K (Admin)	Exterior	Door	C	Wood	Intact	Red	0.6	Negative
Bldg K (Admin)	Exterior	Door	C	Wood	Intact	Red	0.5	Negative
Bldg K (Admin)	Exterior	Door Frame	C	Wood	Intact	Red	0.5	Negative
Bldg K (Admin)	Exterior	Door Frame	C	Metal	Intact	Red	0.5	Negative
Bldg K (Admin)	Exterior	Window Frame	C	Wood	Intact	Brown	0.6	Negative
Bldg K (Admin)	Exterior	Window Frame	C	Wood	Intact	Brown	0.3	Negative
Bldg K (Admin)	Main Office	Wall	A	Metal	Intact	White	0.0	Negative
Bldg K (Admin)	Main Office	Wall	B	Wood	Intact	White	0.0	Negative
Bldg K (Admin)	Main Office	Wall	C	Wood	Intact	White	0.1	Negative
Bldg K (Admin)	Main Office	Wall	D	Wood	Intact	White	0.0	Negative
Bldg K (Admin)	Main Office	Door	A	Metal	Intact	Red	0.1	Negative
Bldg K (Admin)	Main Office	Door	B	Wood	Intact	Red	0.0	Negative
Bldg K (Admin)	Main Office	Door Frame	A	Metal	Intact	Red	0.4	Negative
Bldg K (Admin)	Main Office	Door Frame	B	Wood	Intact	White	0.3	Negative
Bldg K (Admin)	**Main Office**	**Window Frame**	**A**	**Metal**	**Intact**	**White**	**11.4**	**Positive**
Bldg K (Admin)	Nurse's Office	Wall	A	Plaster	Intact	White	0.4	Negative
Bldg K (Admin)	Nurse's Office	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg K (Admin)	Nurse's Office	Wall	C	Plaster	Intact	White	0.3	Negative
Bldg K (Admin)	Nurse's Office	Wall	D	Plaster	Intact	White	0.3	Negative
Bldg K (Admin)	Nurse's Office	Door	B	Wood	Intact	Grey	0.3	Negative
Bldg K (Admin)	Nurse's Office	Door	C	Metal	Intact	Red	0.7	Negative
Bldg K (Admin)	Nurse's Office	Door Frame	B	Wood	Intact	White	0.3	Negative
Bldg K (Admin)	Nurse's Office	Door Frame	C	Metal	Intact	Red	0.4	Negative
Bldg K (Admin)	Nurse's Office	Lower Cabinet	D	Wood	Intact	Grey	0.0	Negative
Bldg K (Admin)	Nurse's RR	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg K (Admin)	Nurse's RR	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg K (Admin)	Nurse's RR	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg K (Admin)	Nurse's RR	Wall	D	Plaster	Intact	White	0.1	Negative
Bldg K (Admin)	**Nurse's RR**	**Baseboard**	**D**	**Ceramic Tile**	**Intact**	**White**	**9.8**	**Positive**
Bldg K (Admin)	Nurse's RR	Door	C	Wood	Intact	White	0.1	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Cole Elementary School

PROJECT NO.:09017

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg K (Admin)	Nurse's RR	Door Frame	C	Wood	Intact	White	0.3	Negative
Bldg K (Admin)	Nurse's RR	Ceiling	N/A	Plaster	Intact	White	0.3	Negative
Bldg K (Admin)	Nurse's RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	White/Yellow	0.0	Negative
Bldg K (Admin)	Staff Rm / Work Rm	Wall	A	Plaster	Intact	Blue	0.1	Negative
Bldg K (Admin)	Staff Rm / Work Rm	Wall	B	Plaster	Intact	Blue	0.3	Negative
Bldg K (Admin)	Staff Rm / Work Rm	Wall	C	Plaster	Intact	Blue	0.1	Negative
Bldg K (Admin)	Staff Rm / Work Rm	Wall	D	Plaster	Intact	Blue	0.1	Negative
Bldg K (Admin)	Staff Rm / Work Rm	Door	C	Wood	Intact	Red	0.5	Negative
Bldg K (Admin)	Staff Rm / Work Rm	Door Frame	C	Metal	Intact	Red	0.5	Negative
Bldg K (Admin)	Staff Rm / Work Rm	Lower Cabinet	D	Wood	Intact	Red	0.2	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Cole Elementary School

PROJECT NO.:09017

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Bldg A	A-1	Baseboard	A	Ceramic Tile	Intact	White	12.3
Bldg A	A-1	Wall	D	Ceramic Tile	Intact	Yellow	14.7
Bldg B	Exterior	Door	D	Wood	Intact	Red	1.2
Bldg E	Exterior	Window Frame	D	Wood	Intact	Tan	3.4
Bldg E	Girls' RR	Wall	B	Ceramic Tile	Intact	Pink	10.7
Bldg H	Men's RR	Wall	B	Ceramic Tile	Intact	Yellow	4.8
Bldg H	Men's RR	Wall	C	Ceramic Tile	Intact	Yellow	11.9
Bldg K (Admin)	Main Office	Window Frame	A	Metal	Intact	White	11.4
Bldg K (Admin)	Nurse's RR	Baseboard	D	Ceramic Tile	Intact	White	9.8

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

Appendix E

DHS Form 8552

State of California– Health and Human Services Agency | California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead Hazard Evaluation 1/15/2009

Section 2 — Type of Lead Hazard Evaluation (Check one box only)

☑ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 — Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
1331 Cole Avenue	Highland	San Bernardino	92346

Construction date (year) of structure	Type of structure (check one box only)
1965	☐ Multi-unit building ☑ School or daycare ☐ Single family dwelling ☐ Other (specify)_____

Section 4 — Owner of Structure (If business/agency, list contact person)

Name	Telephone number
San Bernardino City Unified School District	909-381-1238

Address [number, street, apartment (if applicable)]	City	State	Zip Code
777 North F Street	San Bernardino	CA	92401

Section 5 — Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected. ☑ Lead-based paint detected.

☐ No lead hazards detected. ☐ Lead hazards detected.

Section 6 — Individual Conducting Lead Hazard Evaluation

Name	Telephone number
David Tillema	800.303.6484

Address [number, street, apartment (if applicable)]	City	State	Zip Code
28202 Cabot Road #300	Laguna Niguel	CA	92677

CDPH certification number	Signat	Date
17740		1/20/2009

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 — Attachments

A. A foundation diagram or sketch of the structure indicating the specific locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

CDPH 8552 (6/07)

Appendix F

XRF Performance Characteristics Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: June 26, 1996 **EDITION NO.: 3**

MANUFACTURER AND MODEL:

Make: *Scitec Corporation*
Model: *MAP-4*
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS

Test mode, Screen mode, or Unlimited mode.

XRF CALIBRATION CHECK LIMITS

0.6 to 1.2 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

When using Unlimited mode, substrate correction recommended for:

None

When using Unlimited mode, substrate correction not recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

When using Screen or Test mode, for XRF results below 4.0 mg/cm^2, substrate correction recommended for:

Drywall, Metal, and Wood

When using Screen or Test mode, substrate correction not recommended for:

Brick, Concrete, and Plaster

INCONCLUSIVE RANGE OR THRESHOLD

UNLIMITED MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm^2)
Results not corrected for substrate bias for unlimited mode readings	Brick	0.91 to 1.19
	Concrete	0.91 to 1.19
	Drywall	0.91 to 1.19
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.19
	Wood	0.91 to 1.19

SCREEN MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm²)
Results corrected for substrate bias for screen mode readings on drywall, metal, and wood substrates only	Brick	0.91 to 1.09
	Concrete	0.91 to 1.09
	Drywall	0.91 to 1.39
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.09
	Wood	0.91 to 1.29

TEST MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)	INCONCLUSIVE RANGE (mg/cm²)
Readings corrected for substrate bias for test mode readings on drywall, metal, and wood substrates only	Brick	0.9	None
	Concrete	0.9	None
	Drywall	None	0.91 to 1.39
	Metal	None	0.91 to 1.09
	Plaster	0.9	None
	Wood	None	0.91 to 1.29

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from an EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations. All of the test locations were tested in February 1996 using two different instruments. One instrument had a new source installed in July 1994 and its strength at the time of testing was calculated as 9.4 mCi. The other instrument had a new source installed in September 1994 and its strength at the time of testing was calculated as 10.6 mCi.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds

SUBSTRATE CORRECTION VALUE COMPUTATION

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

- Using the same XRF instrument, take three readings on a bare substrate area covered with the

NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

- Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

  For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\left.\begin{matrix}\text{Correction}\\ \text{Value}\end{matrix}\right\} = \frac{1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th}\ \text{Reading}}{6} - 1.02 mg/cm^2$$

- Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either 15-second readings or 60-second readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES

For screen, test, and confirm modes, the MAP 4 instrument tests until a K-shell result is obtained relative to a level of precision. A result is "positive", "negative" or "retest" as displayed by indicator lights. For the unlimited mode, the MAP 4 instrument tests until a K-shell result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the the reading is terminated by releasing the trigger. A few unlimited mode readings were terminated because they exceeded the two-minute limit used for archive testing. The following tables provide testing time information for three testing modes. Insufficient information is available to provide this information for confirm mode. All times have been scaled to match an initial 12 miC source. Note that source strength and factors such as substrate may affect testing times.

UNLIMITED MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	3	4	6	4	13	3
Metal	3	4	8	4	9	3
Brick Concrete Plaster	4	5	8	6	6	3

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

SCREEN MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	6	7	5	6	7
Metal	4	5	6	5	5	5
Brick Concrete Plaster	11	11	13	11	11	11

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

TEST MODE TESTING TIMES (Seconds)						
SUBSTRATE	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm²)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	17	22	27	21	20	28
Metal	13	20	23	20	20	20
Brick Concrete Plaster	41	42	52	41	46	43

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

BIAS AND PRECISION

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with laboratory-measured lead levels less than 4.0 mg/cm² lead. There were 15 testing locations taken in the screen mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were 15 testing locations taken in the test mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were not any testing locations taken in the confirm mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. There were 15 testing locations taken in the unlimited mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². All testing was done in February 1996 with two different instruments. The following data are for illustrative purposes only. Actual bias must be determined on the site. Inconclusive ranges provided above already account for bias and precision.

SCREEN MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.1	0.2
	Metal	0.1	0.3
	Plaster	-0.1	0.3
	Wood	0.0	0.2
0.5 mg/cm²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	0.1	0.4
	Concrete	0.1	0.4
	Drywall	0.5	0.6
	Metal	0.3	0.3
	Plaster	0.1	0.4
	Wood	0.4	0.6

2.0 mg/cm²	Brick	0.4	0.5
	Concrete	0.4	0.5
	Drywall	0.9	0.8
	Metal	0.5	0.3
	Plaster	0.4	0.5
	Wood	0.7	0.8

*Precision at 1 standard deviation

TEST MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.2
	Concrete	-0.1	0.2
	Drywall	0.1	0.1
	Metal	0.1	0.2
	Plaster	-0.1	0.2
	Wood	0.0	0.1
0.5 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.2
	Plaster	-0.1	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.5	0.6
	Metal	0.3	0.2
	Plaster	-0.1	0.3
	Wood	0.4	0.6
2.0 mg/cm²	Brick	0.0	0.4
	Concrete	0.0	0.4
	Drywall	1.0	0.8
	Metal	0.5	0.2
	Plaster	0.0	0.4
	Wood	0.8	0.8

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristics Sheet is a joint product of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD). The issuance of this sheet does not constitute rulemaking. The information provided here is intended solely as guidance to be used in conjunction with Chapter 7, Lead-Based Paint Inspection, of the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. EPA and HUD reserve the right to revise this guidance. Please address questions and comments on this sheet to: Director, Office of Lead Hazard Control (L), U.S. Department of Housing and Urban Development, 451 Seventh St, S.W., Washington, DC 20410.

Pacific Environmental Company

ACCM and Lead Abatement Workplan

Cole Elementary School Modernization Project
1331 Cole Avenue
Highland, California 92346

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 21, 2009

Project Number: 09017

ACCM Abatement Workplan

Cole Elementary School Modernization Project
1331 Cole Avenue
Highland, California 92346

Background

The San Bernardino City Unified School District is requesting proposals from qualified hazardous materials abatement contractors for the removal the identified asbestos containing construction materials and lead-based paints in anticipation of modernizations to Cole Elementary School

The contractor's responsibilities will include the following key components:

- ACCM Abatement
- Lead Abatement
- Notifications to all appropriate agencies
- All permits, fees and other incidentals required to carry out the specified work
- Inspections if required

Contract Documents

This Workplan is to be used in conjunction with the Project Specifications prepared for the District for this site. The specifications are to be made available to the bidders without cost. Additional copies may be obtained at the cost of reproduction.

Discrepancies

1. Each bidder shall visit the site of the proposed work and fully acquaint himself with the conditions relating to the construction and labor so that he may fully understand the facilities, difficulties, and restrictions attending the execution of the work under the contract. Bidders shall thoroughly examine and be familiar with the Contract Documents including the drawings and specifications. The failure or omission of any bidder to receive or examine any contract document, form, instrument, addenda, or other document, or to visit the site and acquaint himself with the conditions there existing shall not relieve any bidder from any obligations with respect to his bid or to the contract. The submission of a bid shall be taken as prima facie evidence of compliance with this section.

2. If, during the bidding period, a bidder observes errors, discrepancies, ambiguities or omissions in, or requires clarification as to the meaning of the Contract Documents, he immediately informs the Owner who in turn will send written addenda to all prospective bidders.

3. Requests for clarification's will be made to the Owner's offices.

4. Bidders communications will not receive consideration unless they are received by the Owner at least two days prior to the day bids are due and the Owner will not issue addenda later than one day preceding the day bids are due.

5. Neither the Owner nor Owner's Representative will be responsible for oral explanations and instructions.

6. The contents of all addenda shall become part of the Contract Documents.

7. Bidders are responsible for verification of quantities, change orders will not be approved on the basis of understated quantities.

Substitutions

Bidders shall feel free to recommend substitutions of items and procedures specified, but recommendations shall be made in letter form independent of the basis lump sum bid. The recommendations shall state the corresponding changes in the base bid amount in the event recommendations are approved.

Contract Requirements

1. Contractor shall supply the necessary materials, equipment, transportation, workers, supervisors, insurance and expertise to perform the services outlined in their bid proposal.

2. The Contractor shall base his pricing on his own take-off quantities required to perform the work. No change orders will be allowed on the basis that the quantities are considered inaccurate.

3. The Contractor shall perform all Work in compliance with the most recent edition of all applicable federal, state, and local regulations, standards and codes governing demolition, asbestos and lead abatement, transport, and disposal of asbestos and lead containing/contaminated materials.

4. Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

5. In addition to the above, do all the other work as required by the Specifications, job walk and addenda.

6. Unless exempt under Business & Professions Code §7028.15, no bidder who is not licensed as a Contractor to perform the Work of the Contract shall submit a bid therefore and at the time the Contract is awarded to a bidder, the bidder shall possess a valid and in good standing California Contractors License in the Classification of ASB. In addition, no bid will be considered from a bidder who is not certified and registered in accordance with California Business & Professions Code §7058.5 and California Labor Code §6501.5 to perform asbestos-related work.

7. Each bidder shall submit a list of the proposed subcontractors on this project as required by the Subletting and Subcontracting Fair Practices Act.

8. In accordance with the provisions of §3700 of the Labor Code, Contractor shall secure the payment of compensation to his employees. Contractor shall sign the following certificate prior to performing the work under this contract: "I am aware of the provisions of §3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Code, and I will comply with such provisions before commencing the performance of the work of this contract." The form of such certificate is included as part of the contract documents.

9. The Contractor hereby assures that it will comply with Subchapter VI of the Civil Rights Act of 1964, 42 USC Sections 2000 (e) through 2000 (e) (17), to the end that no person, on the grounds of race, creed, color, sex, or national origin be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination under this Agreement or under any project, program, or activity supported by this Agreement. The Contractor agrees to comply with applicable Federal and California laws against discrimination. Additionally the Contractor agrees to require like compliance by any subcontractors employed on the work by him.

10. The Contractor hereby assures that it will comply with the Americans with Disabilities Act of 1990, 42 USC Sections 12010 et. seq., to ensure that disabled individuals shall be reasonably accommodated in accordance with the Act, and the Contractor shall not exclude from participation in, or deny the benefit of, or otherwise subject a disabled individual to discrimination under this Agreement, or under any project, program, or activity supported by this Agreement.

11. The successful Contractor shall provide Comprehensive General Liability Insurance in the amount specified at the mandatory job walk. Contractor shall name the Owner as additional insured on the liability insurance which shall be endorsed so that the Owner will receive a thirty (30) day prior written notice in the event of cancellation or material change.

12. Public funds are being used for this project and as such, prevailing wage and certified payroll reporting requirements will apply.

Description of Work

The scope of work for this project includes the removal of all of the asbestos containing construction materials, lead-laden materials, fluorescent light tubes, and pcb light ballasts that are going to be impacted by the Modernizations at the Site.

Materials that are to be removed to facilitate the demolition include the following:

ACCM – Exterior Window Putty, Stucco on Building H

Lead – Ceramic Wall and Baseboard tile finishes in the A, E, H and K Buildings (where occurs), Exterior Doors on B Building, Exterior Window Frames on the E Building and Metal Window Frames in the K Building.

Fluorescent light tubes and pcb light ballasts – where occurs

All demolition required to carry out the abatement is the responsibility of the abatement contractor. Patching of surfaces is not required.

Please refer to the original survey report for further details on the survey process and results.

Submittals

Pre-Job Submittals: Prior to commencement of work, Contractor shall submit (two copies) to Owner's Representative documentation that includes, without limitation, the following:

- Submit copies of licenses and registrations required by these specifications (include copies of subcontractors licenses).
- Submit copies of written notification to the appropriate regulatory agencies.
- Submit proof that required permits, site location and arrangements for transport and disposal of hazardous waste materials have been made.
- Submit proof of legal right to use patented equipment or processes.
- Manufacturer's certification that HEPA vacuums, differential pressure air filtration devices and other local exhaust ventilation equipment conform to ANSI Z9.2-79.
- Submit a construction schedule indicating milestones and dates of completion for each phase of the Work.
- Submit documentation that Contractor's employees, including foreman, supervisor, and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received training as required by 29 CFR 1926.1101.
- Submit documentation from Physician that all employees or agents who may be exposed to airborne asbestos fibers in excess of background levels have received medical monitoring to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. The Contractor must be aware of and provide information to the examining physician about unusual conditions in the workplace environment (e.g. high temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities.

- Submit documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. This fit-testing shall be in accordance with qualitative procedures as required by OSHA regulations or be quantitative in nature.
- Submit a project specific work plan.
- Submit an emergency preparedness plan.

Ongoing Submittals: During abatement activities, Contractor shall submit to Owner's Representative documentation that includes, without limitation, the following:

- Submit copies of the work area entry/exit log book. Log book must record name, affiliation, time in, and time out for each entry into the work area.
- Submit copies of logs documenting filter changes on respirators, HEPA vacuums, differential pressure air filtration devices, water filtration device, and other engineering controls.
- Submit copies of Material Safety Data Sheets (MSDS) for solvents, encapsulants, wetting agents and replacement materials, as necessary.
- Submit results of all required OSHA air monitoring. Results shall be available prior to the start of the following shift and within 24 hours of completion of the last shift.
- Submit copies of all accident/incident reports where injury or damage has occurred on or to the Owner's property.
- Submit copies of all transport manifests, trip tickets and disposal receipts for all hazardous waste materials removed from the work area within 24 hours of the transport.

Technical Specifications

All work shall be preformed in accordance with the guidelines of all prevailing local and state regulations including but not limited to local air quality management authority requirements. The Contractor and all its employees shall be licensed certified and trained to perform work in California.

Contractor is required to provide written legal notification of its intent to perform asbestos and lead related work to all regulatory agencies as required. Contractor shall pay permit fees required for the work.

The Contractor shall be required to furnish and maintain on the Site as a minimum all legally required job postings include but not limited to: evidence of licensure and certificates for the Contractor and its employees. A daily supervisor's log maintained by the on-site supervisor, daily worker sign-in logs, all workers current asbestos and lead related training certificates, medical clearance, respirator fit testing records, and notifications sent to regulatory agencies. In addition, the Contractor shall be required to provide all personal air monitoring results to the Owner and Owner's Representative, either within five working days form the time the samples are collected or the required statutory time, whichever is less.

It is the responsibility of the Contractor to provide respiratory protection and personal protective equipment for his worker's in accordance with all current regulations.

All ACCM asbestos work shall be conducted within regulated areas. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they shall demarcate the

regulated area. Access to regulated areas shall be limited to authorized persons. The Contractor shall control access to regulated areas, ensure that only authorized personnel enter, and verify that Contractor required medical surveillance, training and respiratory protection program requirements are met prior to allowing entrance.

Warning signs and tape printed in English and Spanish shall be provided at the regulated boundaries and entrances to regulated areas. The Contractor shall ensure that all personnel working in areas contiguous to regulated areas comprehend the warning signs. Signs shall be located to allow personnel to read the signs and take the necessary protective steps required before entering the area.

ACCM WORK

Per Title 8 of the California Code of Regulations, ACCM must be handled in compliance with the CalOSHA requirements which specify contractor registration requirements, worker protection through appropriate personal protective equipment, engineering controls and exposure assessment. This material is not an Asbestos Containing Material for the purpose of disposal and does not have a corresponding EPA category.

The ACCM window putty and stucco materials shall be removed by adequately wet methods. While full containment is not required, the work area is to be regulated, visual barriers will be required and exposure assessment monitoring will be conducted. Waste is to be disposed of in leak-tight containers.

LBP REMOVAL

All of the identified lead hazards are to be removed to facilitate the demolition. All lead related work shall be completed in accordance with the following regulations.

- Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards.
- Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead.
- “Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing,” US Department of Housing and Urban Development, June 1995
- All Certifications, Respiratory Fit Tests and Medical Releases must be on-site at all times when lead related work is being performed.

All waste generated from any lead related work must be properly profiled and disposed of. Waste manifests documenting the disposal site will need to be submitted at the end of each phase of the job.

January 21, 2009

San Bernardino City Unified School District
Facilities Management
777 North "F" Street
San Bernardino, California 92410

Attention: Michael Plunkett

Subject: Budgets for Abatement at Cole Elementary School

Dear Mr. Plunkett:

Pacific Environmental Company conducted a hazardous materials survey for Cole Elementary School in anticipation of modernizations per your request.

ACCM window putty and stucco materials were identified at the site and must be removed prior to the modernization work if they are going to be impacted, otherwise they can be managed in place since they are in good condition. Current EPA regulations require that ACM be removed from a building prior to renovation or demolition or renovation that will impact the ACCM. ACM and ACCM must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

Lead-based paints (LBP) were also identified at the site. Lead abatement, treatment and/or recycling should be conducted in full compliance with the Cal-OSHA Lead-Related Construction Standard. Paints containing lead greater than 0.5% lead by weight that are to be scraped, sanded, torched, or otherwise disturbed during the demolition should be removed or stabilized prior to the demolition by a licensed contractor and workers with California Department of Health Services (DHS) certification in lead-related construction. Waste streams must be characterized to ensure appropriate disposal methods.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures and transformers should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and Department of Toxic Substances Control (DTSC) guidelines. The batteries stored on site should be recycled.

For planning purposes, we have prepared the following preliminary estimates for abatement. This is not a bid to do the work, rather a planning tool based on our site observations, current industry trends and discussions with abatement contractors regarding the project.

Building	Material	Location	Estimated Qty.	Unit Cost	Abatement Estimate
A, B, C, D and E Buildings	Window Putty	Exterior Window Glazing	1200 SF	$10	$12,000
H Building	Exterior Stucco	Exterior Walls	4,200 SF	Budget $10,000 for cuts	$10,000
Estimated Total for Asbestos Abatement					$22,000.00
Lead painted components					$20,000.00
PCB Ballasts and Miscellaneous					$5,000.00
Project Compliance Monitoring and Inspections					$5,000.00
Subtotal					$52,000.00
Contingency (10%)					$5,200.00
Total Estimate					**$57,200.00**

If you have any questions or require additional information, please call me at (800)303-6484 extension 701.

Respectfully,

Pacific Environmental Company



Michael Lyssy
President

Pacific Environmental Company

Limited Asbestos and Lead Survey Report

Cypress Elementary School Modernization Project
26825 Cypress Avenue
Highland, California 92346

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 21, 2009

Project Number: 09014

Limited Asbestos and Lead Survey Report

Cypress Elementary School Modernization Project
26825 Cypress Avenue
Highland, California 92346

Executive Summary

Pacific Environmental Company conducted a limited asbestos and lead survey in anticipation of modernizations at Cypress Elementary School, which is located at 26825 Cypress Avenue in Highland, California. All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

This executive summary is not to be utilized as a stand-alone document. The report shall be read in its entirety. The reader must review the detailed information provided in the accompanying text. Any interpretation, use, or conclusions resulting from the data contained in this report is the responsibility of the reader. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations.

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos as determined by PLM, however, the California Department of Occupational Safety and Health (CalOSHA) classifies any material as having greater than one tenth of one percent asbestos as asbestos-containing construction material (ACCM).

ACM and ACCM that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Mastic Under Beige 12" x 12" Vinyl Floor Tile	Building A – Reception, Teacher Room, Work Room and Nurse's Office (to be removed per plans) Building B – B5-B8 Northwest portions of Rooms (to be removed per plans) Building C – C1-C8 North portions of Classrooms (to remain per plans) Building D – D1-D8 North portions of Classrooms (to remain per plans) Building MU – Cafeteria Dining Room (to remain per plans)	800 SF impacted	Will require abatement where impacted by Modernization Work
Window Putty	Buildings B, C and D	150 Windows 900 SF	ACCM will require abatement where impacted by Modernization Work
Transite Vent	West Storage	3 LF	Not likely to be impacted

Current EPA regulations require that the asbestos-containing building materials be removed prior to demolition or renovation, if they are going to be impacted. If any of the identified ACM or ACCMs are to be impacted by the renovations, then they must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

A licensed and certified asbestos abatement contractor must perform any asbestos abatement that takes place at the subject property. Waste generated from the asbestos abatement must be properly transported and disposed of.

Lead components likely to be impacted by the modernization project identified at the subject site during our inspection include the following:

Location	Lead-Containing Components
A Building	Ceramic Baseboard Tile in Restrooms
MU Building	Exterior Window Frames

The lead-based paint and lead tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and DTSC guidelines.

Pacific Environmental recommends that all future renovation, demolition, construction or abatement activities with the potential for disturbing the identified ACM, ACCM or lead-laden components, be performed by properly trained and qualified personnel. These activities should employ state-of-the-art techniques, and be conducted in accordance with all applicable local, State and Federal laws and regulations.

Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition or renovation activities, please call us and we will sample and analyze accordingly. This survey was limited to the materials that are going to be impacted by the modernization activities, as detailed in the provided plans.

The presence of the identified hazardous materials should be brought to the attention of contractors and personnel involved in the project at the subject site. Specifications have been prepared for the removal and handling of specific hazardous materials, such as those containing asbestos and lead.

Any employees, visitors, or contractors entering this building should be notified of the presence and condition of the asbestos-containing materials, lead-based paints, and other hazardous materials (including those listed under Proposition 65), in accordance with applicable regulations.

Table of Contents

Introduction	1
Quality Control Procedures	2
Site Description	2
Asbestos Inspection and Sampling Procedures	3
Asbestos Inspection Results	5
Summary and Recommendations for Asbestos-Containing Materials	5
Lead Inspection and Sampling Procedures	6
Lead Inspection Results	7
Lead Summary and Recommendations	7
Other Hazardous Materials	7
Limitations	8
References	9

Appendix A	Site Plans
Appendix B	Bulk Sample Summary Table
Appendix C	Asbestos Sample Analysis Reports and Chain of Custody
Appendix D	XRF Sampling Results
Appendix E	DHS Form 8552
Appendix F	XRF Performance Characteristics Sheet

Limited Asbestos and Lead Survey Report

Cypress Elementary School Modernization Project
26825 Cypress Avenue
Highland, California 92346

Introduction

Pacific Environmental Company was retained by the San Bernardino City Unified School District to conduct a limited investigation to identify the presence of asbestos-containing materials, lead-based paints and other lead laden components that will require abatement or treatment, in conjunction with the school modernizations at Cypress Elementary School, which is located at 26825 Cypress Avenue in Highland, California.

All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

Field Services for the inspection were conducted on January 16, 2009. The project team included David Tillema, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Raed Sahawneh, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Thomas Gannon, a Cal/OSHA Certified Site Surveillance Technician, and Michael Lyssy, a State Certified Asbestos Consultant and Registered Environmental Assessor.

The scope of work for this project included the following key elements:

- Review, verification and incorporation of the original AHERA inspection and re-inspection data and any subsequent reports detailing the results of prior asbestos and lead testing at the School into this report.
- Inspection and assessment of asbestos-containing materials, lead-based paints, lead glazed ceramics and PCB light ballasts
- Preparation of a final report that is suitable for inclusion in the District's specifications for abatement of hazardous building materials.

Prior to our asbestos assessments, we evaluated the site conditions and demolition plans provided by HMC Architects in order to developed our sampling strategy to ensure identification of all asbestos-containing materials that are going to be affected by the modernization work. Representative sampling of homogeneous materials in areas that are being impacted by the project was conducted per SCAQMD guidelines, and all identifiable suspect materials were sampled. Asbestos analysis was performed by an independent, State Certified, NVLAP Accredited Laboratory. Bulk samples were analyzed by polarized light microscopy (PLM), EPA Method 600/R-93/116. This report details the specific site conditions and estimated quantities of Asbestos Containing Material (ACM) for the project. Areas affected by destructive sampling were repaired so as not to cause hazards to school personnel, survey crew, visitors and the general public.

Testing for lead-based paint was performed using an EDAX Map-4 portable X-ray fluorescence (XRF) spectrum analyzer. Testing was modeled after the protocol outlined in the Department of Housing and Urban Developments document titled

Lead-Based Paint: Interim Guidelines For Hazard Identification and Abatement in Public and Indian Housing (1997 Revision).

Quality Control Procedures

Pacific Environmental Company's integrated resources, technologies, discipline, and expertise combine to ensure that the inspection and analysis for each project is conducted based on the following principles:

- All applicable regulations are addressed in order to ensure that our field inspectors and lab personnel meet their responsibilities, do so cost-effectively, and are equipped with the practical knowledge they need in order to understand and comply with regulations that affect them.
- Care is taken to make certain that the information provided and actions recommended are practical and cost effective in achieving regulatory compliance.

The 'management' approach utilized for this project assured that all work was performed using the highest standard of quality. All project results, reports and recommendations are reviewed for accuracy, content and quality prior to presentation. We recognize that, for each assignment we undertake, the information we develop and the conclusions and advice we provide, will be used to support important management decisions.

Pacific Environmental Company's Quality Assurance Program requires that all personnel:

- Provide specific objectives so that project activities can be evaluated with regard to precision, accuracy, reproducibility, completeness, and comparability.
- Provide specific guidance on the proper methodology for all activities.
- Be provided with ongoing training to enhance their technical skills.
- Be trained in QA/QC procedures and QC activities.
- Review all reports until they are acceptable in terms of technical and editorial quality, and all quality assurance activities have been successfully performed.

Site Description

Cypress Elementary School consists of several classroom and administration buildings. The buildings that are being impacted by the planned modernization work per the HMC Architect's plans include the A, B, C, D and the MU buildings.

Finishes that are likely to be impacted by the modernization work include carpet and vinyl floorings, ceiling tiles, covebase, drywall and plaster ceramics and stucco.

The school was occupied at the time of our assessment and we worked after hours in an effort to characterize the site conditions. If any additional suspect materials are identified during the modernizations, please contact us to perform supplemental sampling.

Asbestos Inspection and Sampling Procedures

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos, as determined by polarized light microscopy (PLM). Title 8, Section 1529, of the California Code of Regulations, however, defines asbestos-containing construction material (ACCM) as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight.

We reviewed the District's asbestos records on file and the demolition plans prepared by HMC in order to formulate our sampling strategy. The only documentation on file for the site was an inventory from Power Master's original AHERA survey which was on file at the M&O Offices and a project specific asbestos survey performed in 2003 by Xarax. The demolition plans indicate that the scope of the demolition at this site will include removal of floorings, removal of sinks and casework, renovation of several doors and windows and the removal of portions of walls. We collected additional samples to confirm the original AHERA findings and to characterize materials that were not originally tested.

Subsequent to our review of the prior report, a visual assessment of the suspect building materials located throughout the subject facility was completed prior to the collection of samples. During the visual assessment, the building materials suspected of containing asbestos were categorized by homogeneous areas. Materials are classified as homogenous when they appear uniform, have a consistent texture, and appear to have been installed at the same time.

The laboratory testing for the bulk samples was conducted in accordance with the recommended EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993).

The field investigation began with an initial site walk-through and identification of homogenous building materials suspected of containing asbestos. Samples were collected based on building layout, structural features, and mechanical and plumbing systems. Pacific Environmental then performed the following tasks:

- Evaluated whether materials suspected of containing asbestos were present at the site.
- Collected bulk samples, as required, to adequately characterize the suspect materials.
- Identified approximate sample locations and locations of identified ACM on field drawings or with photographs.
- Estimated the amount of ACM, where access allowed.
- Assessed the condition of the suspected and known ACMs.

At the time of inspection, suspect materials are assessed to be in good, damaged, or significantly damaged condition based on the following criteria:

> Good Condition - No or very limited visible damage or deterioration observed.
>
> Damaged Condition - Crumbling, blistering, water damage, gouges or other damage observed over less than 25% of the materials (one-tenth if evenly distributed); or accumulation of suspect powder, dust or debris observed below the material.
>
> Significantly Damaged - Crumbling, blistering, water damage, gouges or other damage observed over greater than 25% of the materials (one-tenth if evenly distributed); material delaminating or showing adhesive failure; or accumulation of suspect powder, dust or debris observed below the material.

The assessment process also includes classifying the material as Friable ACM or Non-Friable ACM. Friable ACM is the term given to any material that contains more than one percent (1%) asbestos by weight, which can be crumbled, pulverized, or reduced to powder by hand or mechanical pressure. The word "Friability" refers to a material's likeliness to release airborne fibers when in situ, or under mechanical pressure. There is a greater possibility that a friable material will

release fibers into the air when disturbed than will a non-friable material (i.e., floor tiles, roofing materials, etc.), thereby causing a potential hazard.

After identifying those materials suspected of containing asbestos, the materials were grouped into homogeneous sampling areas. A homogeneous sampling area includes building materials that are uniform in texture and color and appear identical in every other respect. A modified AHERA protocol was used in estimating the number of samples to be collected. Actual samples collected were determined by field conditions. A total of thirty (30) bulk samples were collected and analyzed.

Bulk samples were collected by wetting the suspect material with amended water and cutting, scraping or coring it from its substrate using an appropriate sampling tool. Sampling tools were cleaned before and after each use to prevent cross contamination between sampling events. Small quantities of material, approximately 1/2 square inch each, were extracted from suspect materials and placed in sterile, airtight bags or vials, and sealed. Each sample was labeled with a unique identification number, utilizing a sequential numbering system. The sample was logged in on the bulk survey sheet and a description noted on the type of sample. Each sample container was then placed inside a larger sterile, airtight bag. As other samples were taken from each area, they were also placed inside this larger airtight bag. Sample locations were repaired using caulk, spray glue, encapsulant, or patching material as needed, but were not always returned to their original condition. The samples were transported under chain-of-custody to an independent NVLAP participating laboratory for analysis utilizing polarized light microscopy.

The laboratory testing was conducted in accordance with the EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993). Samples were examined for homogeneity, and non-homogeneous samples were ground to ensure homogeneity. Microscopic slides were prepared from each sample using a refractive index liquid, such as trisection and ethyl cinnamate, having a refractive index of 1.550; 1-bromo-naphthalene and 1-Iodonaphthalene, having a refractive index of 1.680; or hydrogenated terthenyl and 1-bromonaphtahlene, having a refractive index of 1.605. The slides were then examined for the presence of asbestos, utilizing polarized light microscopy (PLM) and dispersion staining techniques.

The percentage of asbestos was estimated by visual examination of fibers greater than five microns in length and with an aspect ratio of 3:1 or greater. The aspect ratio of 3:1 refers to the length of the fiber being three times as long as its width. If present, the identity of asbestos fibers was confirmed with appropriate refractive index liquids, application of dispersion staining and other techniques. The results were tabulated and detailed in the laboratory reports, which are included in the appendices of this report.

Asbestos Inspection Results

ACM and ACCM that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Mastic Under Beige 12" x 12" Vinyl Floor Tile	Building A – Reception, Teacher Room, Work Room and Nurse's Office (to be removed per plans) Building B – B5-B8 Northwest portions of Rooms (to be removed per plans) Building C – C1-C8 North portions of Classrooms (to remain per plans) Building D – D1-D8 North portions of Classrooms (to remain per plans) Building MU – Cafeteria Dining Room (to remain per plans)	800 SF impacted	Will require abatement where impacted by Modernization Work
Window Putty	Buildings B, C and D	150 Windows 900 SF	ACCM will require abatement where impacted by Modernization Work
Transite Vent	West Storage	3 LF	Not likely to be impacted

Approximate sample locations have been plotted on site plans that we prepared for this assessment. The Bulk Sample Summary Table, which identifies each sample and the corresponding analytical results, is included in Appendix B. The laboratory reports and chain of custody forms are included in Appendix C.

Summary and Recommendations for Asbestos-Containing Materials

All ACM and ACCM that will be impacted by the planned modernizations must be removed pursuant to Rule 1403 of the South Coast Air Quality Management District's and CalOSHA Asbestos Regulations.

Abatement activities must be conducted in compliance with all applicable regulations, standards and generally accepted environmental and safety practices, including Federal OSHA (29 CFR 1926.58), EPA NESHAPS (40 CFR Part 61), and Toxic Substances Control Act (TSCA) Title II AHERA/ASHARA (40 CFR Part 763) Asbestos Regulations, the Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101, and Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard.

All asbestos waste must be properly disposed of and documented. Waste Manifests must be submitted at the end of a project. Disposing of a known hazardous waste is illegal in the State of California. Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition activities, we will arrange to sample and analyze them accordingly.

Lead Inspection and Sampling Procedures

Lead-based paint and lead glazing on ceramics is of concern both as a source of direct exposure through ingestion of paint chips, and as a contributor to lead interior dust and exterior soil. Lead was widely used as a major ingredient in most interior and exterior oil-based paints prior to 1950. Lead compounds continued to be used as corrosion inhibitors, pigments and drying agents beginning in the early 1950's. In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5000 ppm) and, in 1978, to 0.06% (600 ppm). It has also been used extensively as a glaze on ceramic and porcelain finishes.

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) define an inspection as a surface-by-surface investigation to determine the presence of lead-based paint (see 40 CFR part 745 and Title X of the 1992 Housing and Community Development Act).

As per the EPA & HUD guidelines, lead-based paint is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm2 or 0.5 percent by weight. Lead paint amounts were reported in mg/cm2 because this unit of measurement does not depend on the number of layers of non-lead based paint.

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections because of their demonstrated abilities to:

1. Determine if lead is present on many different types of surfaces

2. Measure the paint without destructive sampling or paint removal

3. Provide sample results immediately and at a relatively low cost per sample

Portable XRF instruments expose a building component to X-rays or gamma radiation, which causes lead to emit X-rays with a characteristic frequency or energy. The intensity of this radiation is measured by the XRF instrument. The inspector must then compare this displayed value (reading) with the inconclusive range or threshold specified in the XRF Performance Characteristic Sheet for the specific substrate beneath the painted surface. If the reading is less than the lower boundary of the inconclusive range, or less than the threshold, then the reading is considered negative. If the reading is greater than the upper boundary of the inconclusive range, or greater or equal to the threshold, then the reading is considered positive. Readings within the inconclusive range, including its boundary values, are considered inconclusive. Because the inconclusive ranges and/or thresholds shown in the Performance Characteristic Sheet are based on 1.0 mg/cm2, positive and negative readings are consistent with the HUD definition of lead-based paint for identification and disclosure purposes. The method employed for paint testing for this project was X-Ray Fluorescence (XRF) using an EDAX MAP4 lead paint analyzer (Serial Number M41509) with the capability to measure the lead content in dry paint films in the range of 0 to 50 milligrams per square centimeter.

The instrument's calibration was verified according to the manufacturer's specifications, in compliance with the Performance Characteristic Sheet (PCS) developed for this instrument. The PCS is located in Appendix F of this report. The readings from this instrument produce a 95% confidence level that the "lead" reading accurately reflects the actual level of lead in the tested surfaces, relative to the federal action level. Current industry standards suggest that, when it is determined that paint abatement and/or interim control activities will be performed on components, they should be performed according to practices that are in the HUD Guidelines and the regulations under section 402 of the Toxic Substances Control Act (TSCA), 15 USC 2682.

Lead Inspection Results

Sampling for this inspection was representative and any components that were not tested, but are similar to those components that tested positive for lead, should be considered and treated as lead laden.

Lead components likely to be impacted by the modernization project identified at the subject site during our inspection include the following:

Location	Lead-Containing Components
A Building	Ceramic Baseboard Tile in Restrooms
MU Building	Exterior Window Frames

The lead-based paint and lead tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Lead Summary and Recommendations

The federal and CAL/OSHA regulations for lead in construction do not specify a level of a lead in paint that classifies it as LBP. However, federal and state OSHA regulations specify ***airborne lead levels*** that should not be exceeded during construction without appropriate protection and training.

The action level for lead is 30 micrograms per cubic meter of air (µg/m3), and the permissible exposure limit (PEL) is 50 µg/m3. These airborne lead levels can be exceeded during construction activities such as scraping, sanding, grinding, blasting, and torching LBP surfaces, even when levels of lead in paint are far below the HUD definition of LBP of 1.0 mg/cm2 or 0.5 percent lead by weight. The XRF is designed to accurately quantify paint around the set abatement level (1.0 mg/cm2, 5,000 parts per million, or 0.5 percent by weight). However, painted surfaces tested with XRF that result in instrument readings much less than 1.0 mg/cm2 (even 0.0 mg/cm2 and negative results) may contain amounts of lead that could create an airborne hazard to workers during construction.

Based on the levels of lead in the components identified in the limited survey, Pacific Environmental recommends that only properly trained and equipped individuals be assigned tasks that would involve treatment or demolition of these components. Procedures and engineering controls must be designed to follow CAL/OSHA and Department of Health Services (State of California) requirements, and workers must wear appropriate personal protective equipment during the work.

Other Hazardous Materials

During our assessment of the structures, we visually inspected the locations of fluorescent light tubes and PCB ballasts. There are fluorescent fixtures throughout the campus with ballasts that are assumed to contain PCB's and fluorescent tubes. All PCB's and spent fluorescent light tubes should be handled, packaged and disposed of in compliance with current California Environmental Protection Agency, Department of Toxic Substances Control Guidelines.

Limitations

This report is not intended to identify all hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and Pacific Environmental's experience in performing this type of assessment. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations

Pacific Environmental has performed this survey in a professional manner, using the degree of skill and care exercised for similar projects, under similar conditions, by reputable and competent environmental consultants. Pacific Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

Pacific Environmental further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved as a consequence of this report, or impacted by information not properly disclosed to Pacific at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

References

AHERA Summary, prepared by Power Masters, Inc.

Project Specific Asbestos Survey Report by Xarax, 2003

Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards

Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead

"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," US Department of Housing and Urban Development, June 1995

South Coast Air Quality Management District Requirements (Rule 1403)

National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, M

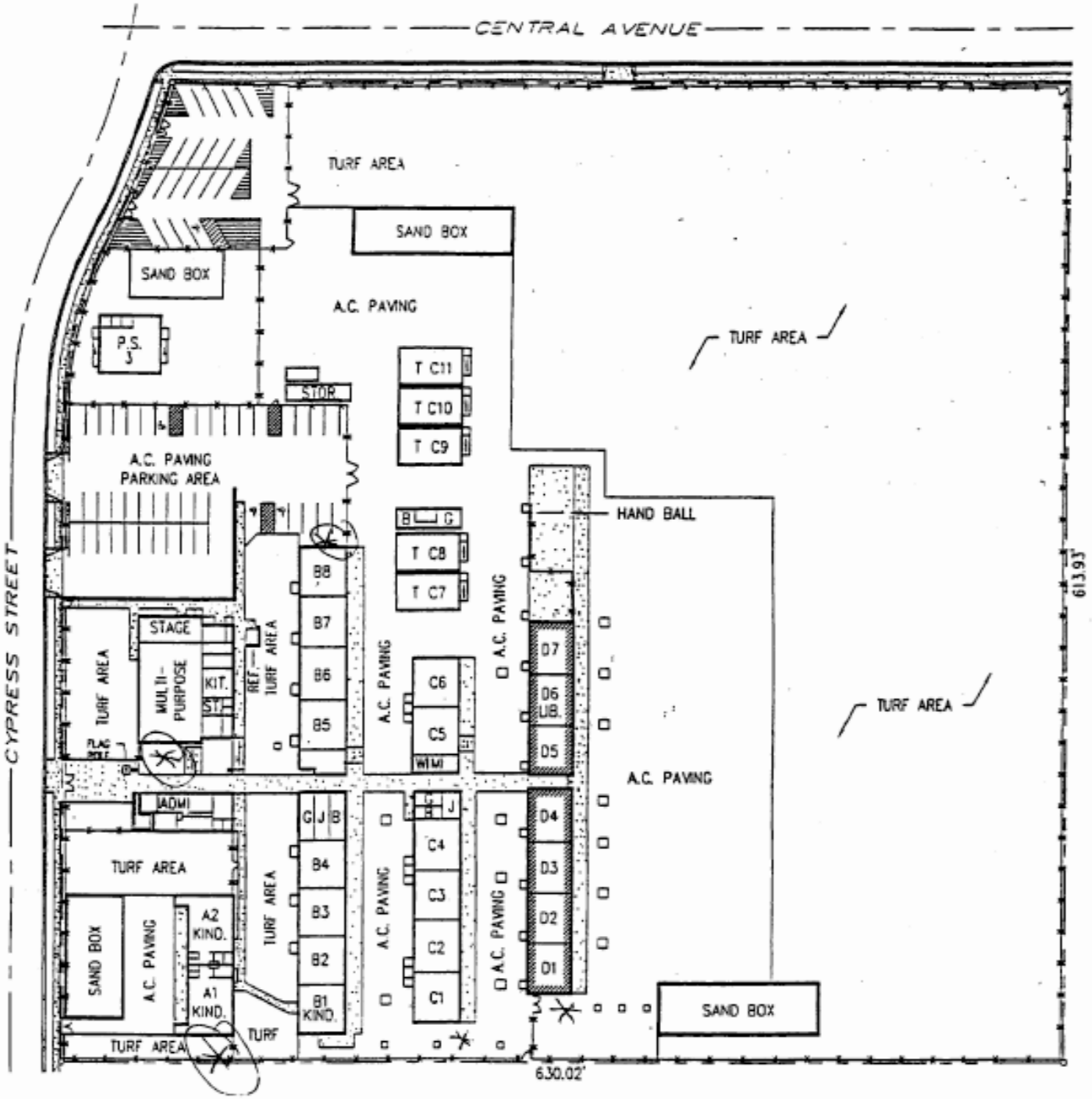
Occupational Safety and Health Administration, Asbestos in the Workplace, 29 CFR 1910.1001

Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101

Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard

Appendix A

Site Plan



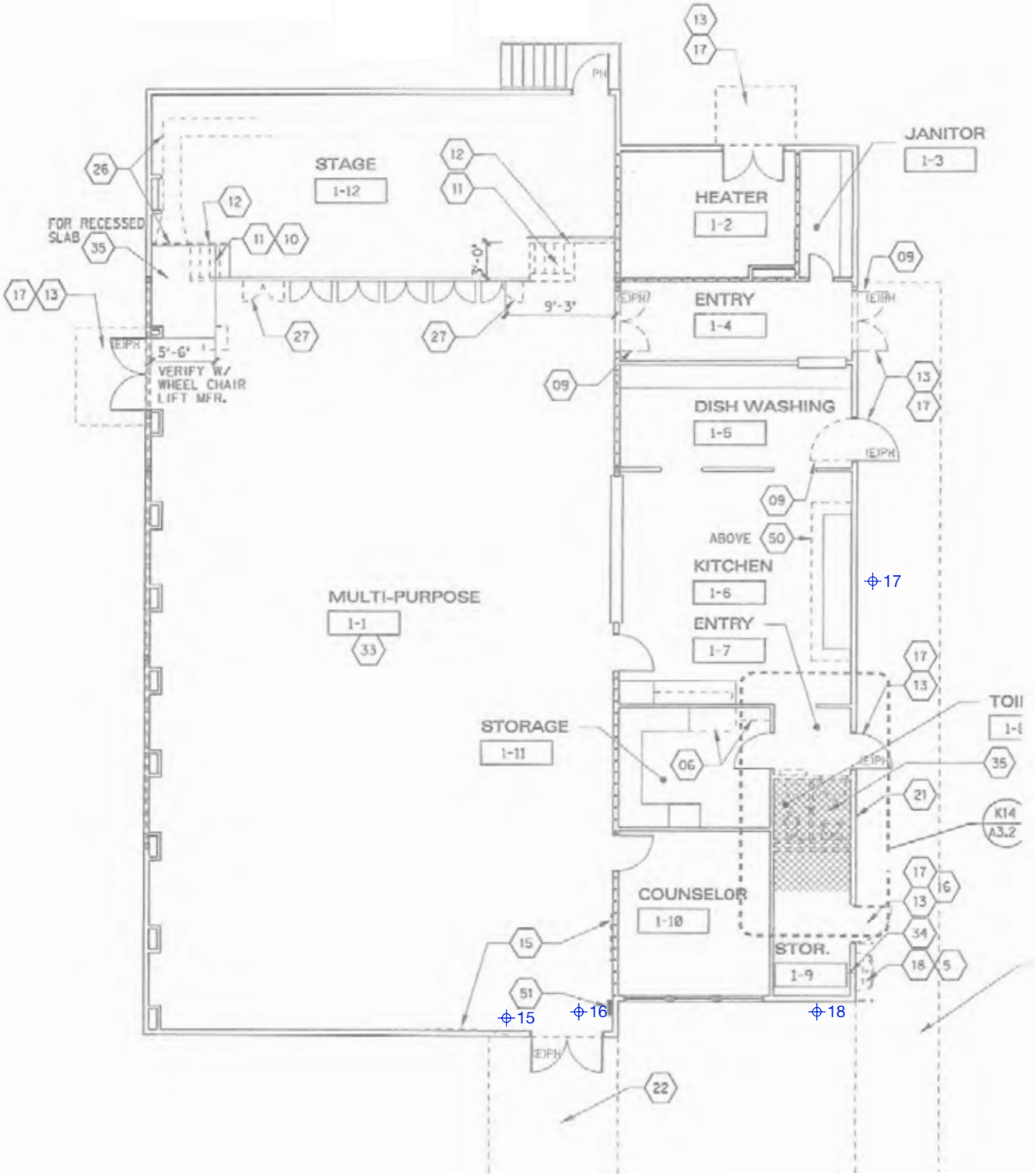
N

DATE PREPARED: 1/21/2009	DRAWN BY: C.T.	DRAWING TITLE: Overall Site Plan Cypress Elementary School 26825 Cypress Street Highland, California 92346
REVISION:	SOURCE: Xarax Environmental	
PROJECT NO: 09014	OTHER:	

PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations

CLIENT: San Bernardino City Unified School District

FIGURE NO. 1



indicates approximate sample location

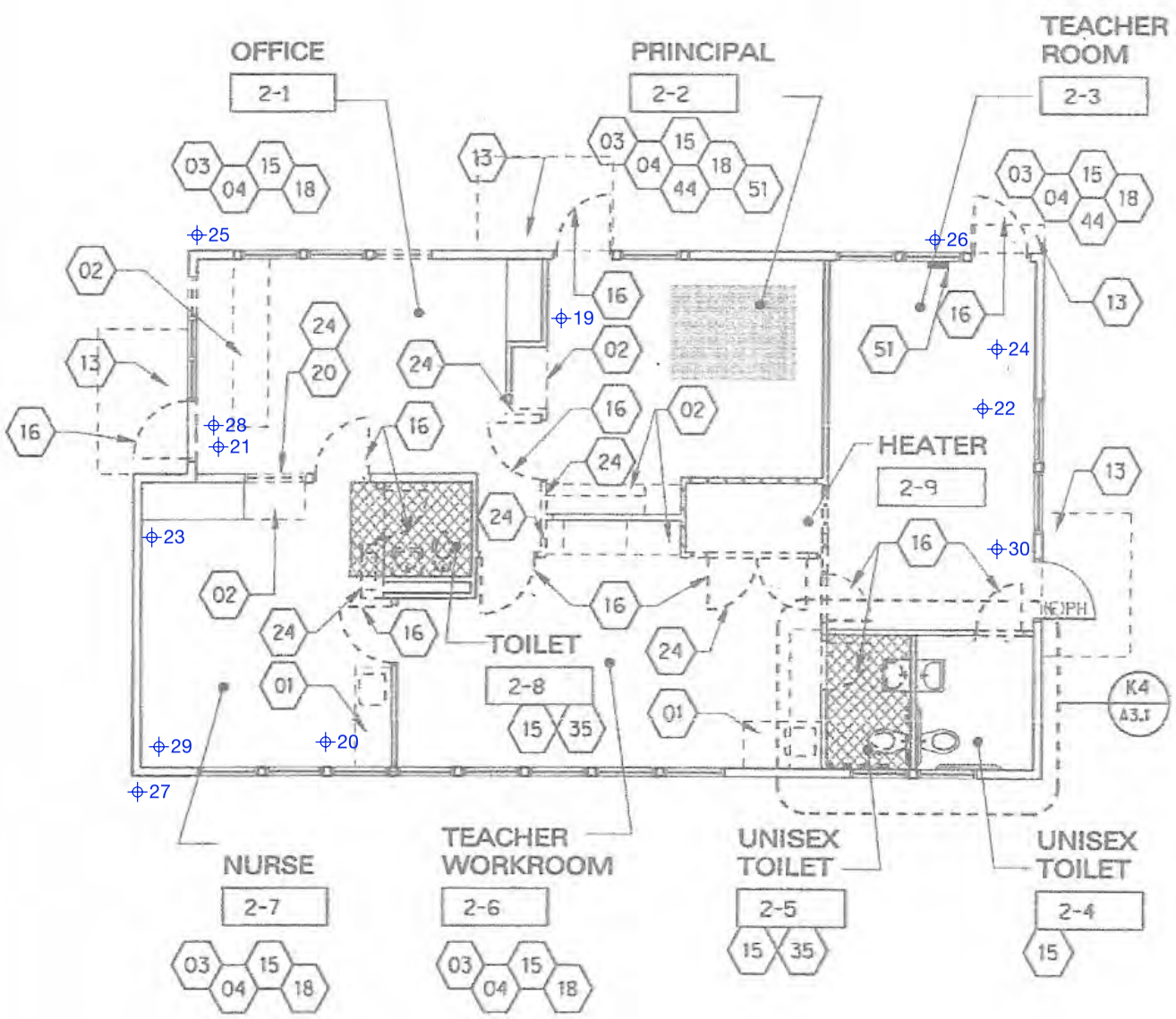
DATE PREPARED: 1/21/2009	DRAWN BY: C.T.
REVISION:	SOURCE: HMC Architects
PROJECT NO: 09014	OTHER:

DRAWING TITLE:
Sample Location Plan
M.U. or 1 Building
Cypress Elementary School
26825 Cypress Street
Highland, California 92346

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

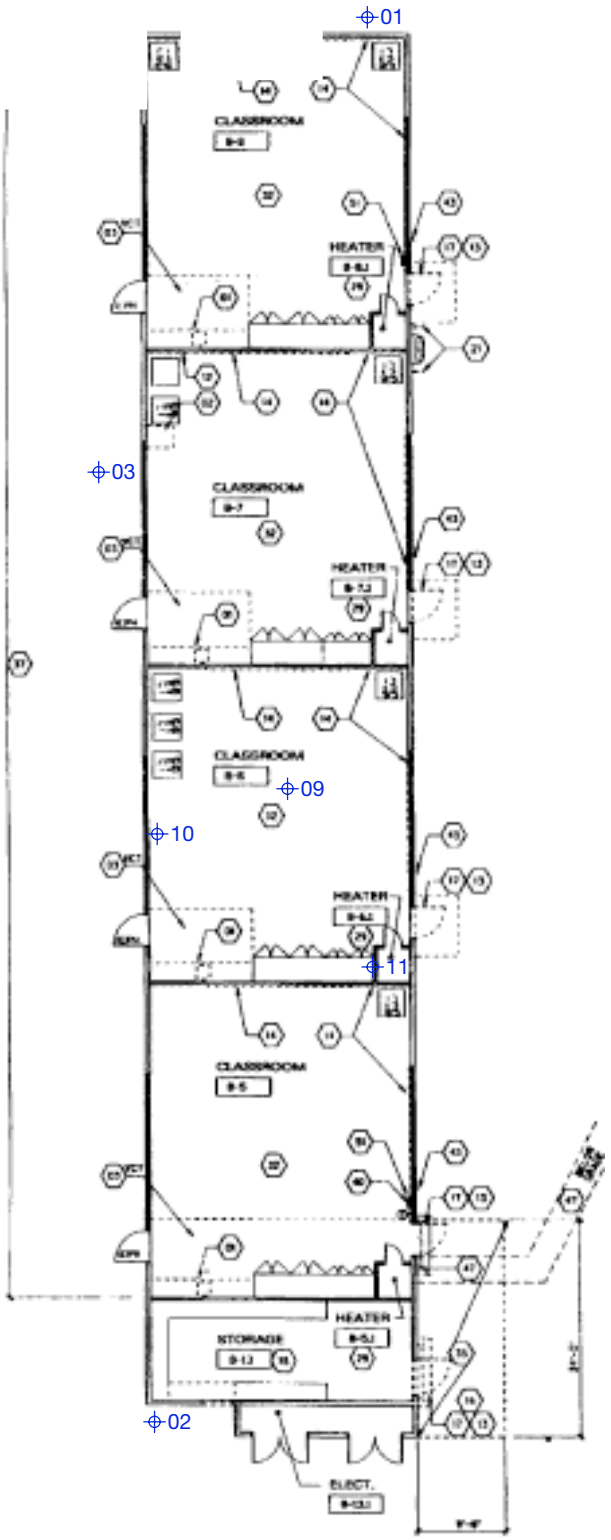
FIGURE NO.
2



N

⌖ indicates approximate sample location

DATE PREPARED: 1/21/2009	DRAWN BY: C.T.	DRAWING TITLE: Sample Location Plan Building 2 or A Cypress Elementary School 26825 Cypress Street Highland, California 92346
REVISION:	SOURCE: HMC Architects	
PROJECT NO: 09014	OTHER:	
PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations	CLIENT: San Bernardino City Unified School District	FIGURE NO. 3



N

⌖ indicates approximate sample location

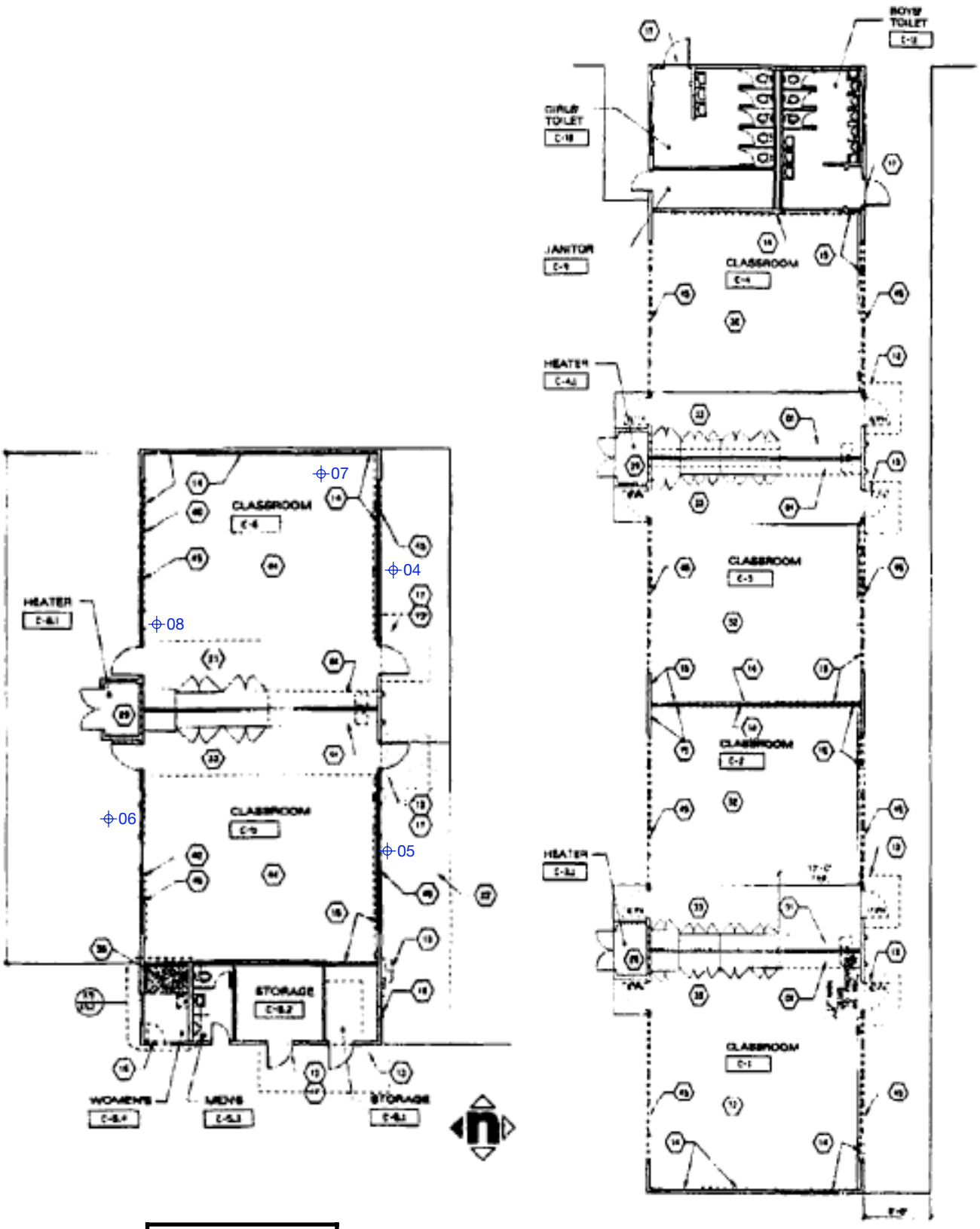
DATE PREPARED: 1/21/2009	DRAWN BY: C.T.
REVISION:	SOURCE: HMC Architects
PROJECT NO: 09014	OTHER:

DRAWING TITLE:
Sample Location Plan
B1 Building
Cypress Elementary School
26825 Cypress Street
Highland, California 92346

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
4



indicates approximate sample location

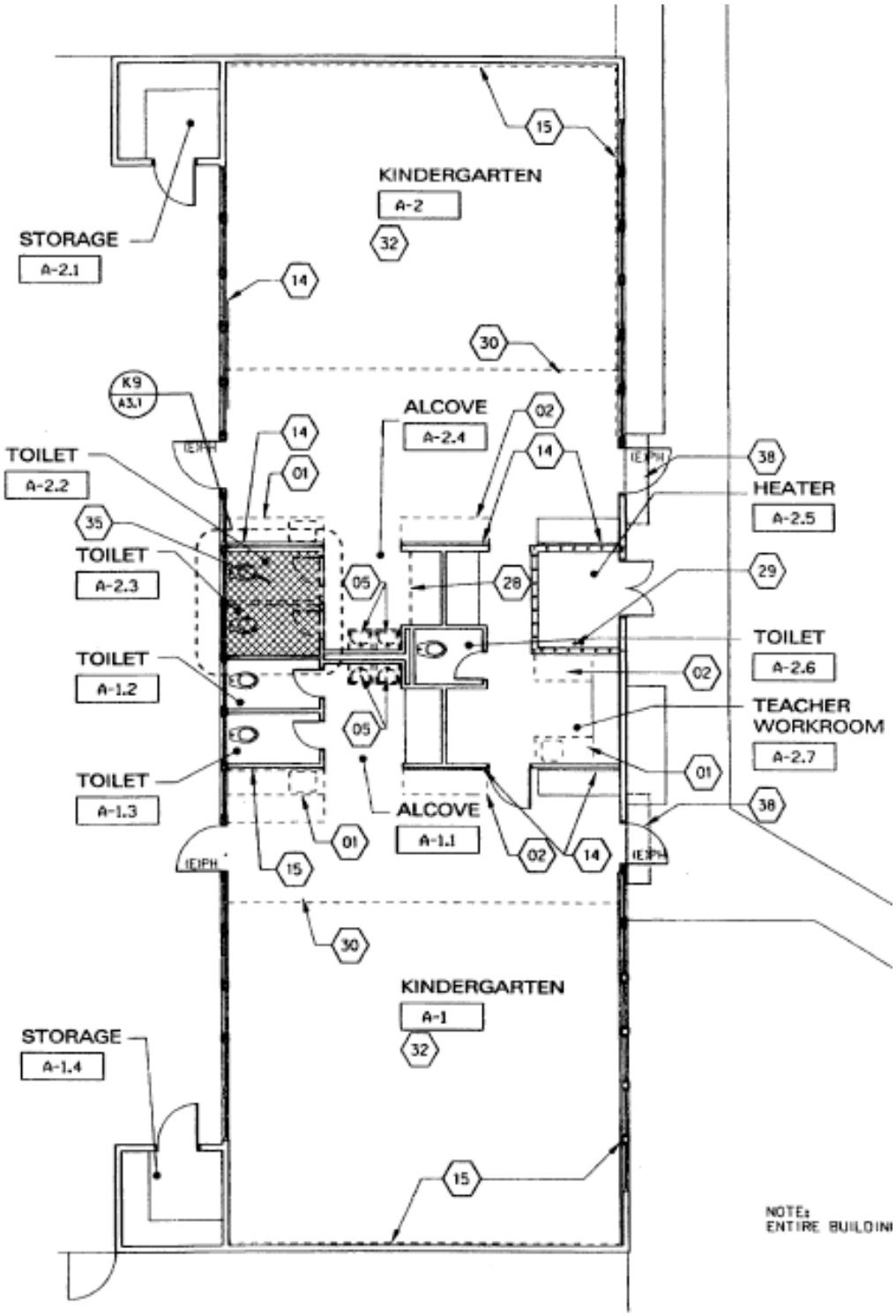
DATE PREPARED: 1/21/2009	DRAWN BY: C.T.
REVISION:	SOURCE: HMC Architects
PROJECT NO: 09014	OTHER:

DRAWING TITLE:
Sample Location Plan
C & C1 Buildings
Cypress Elementary School
26825 Cypress Street
Highland, California 92346

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
5



01 indicates approximate sample location

N

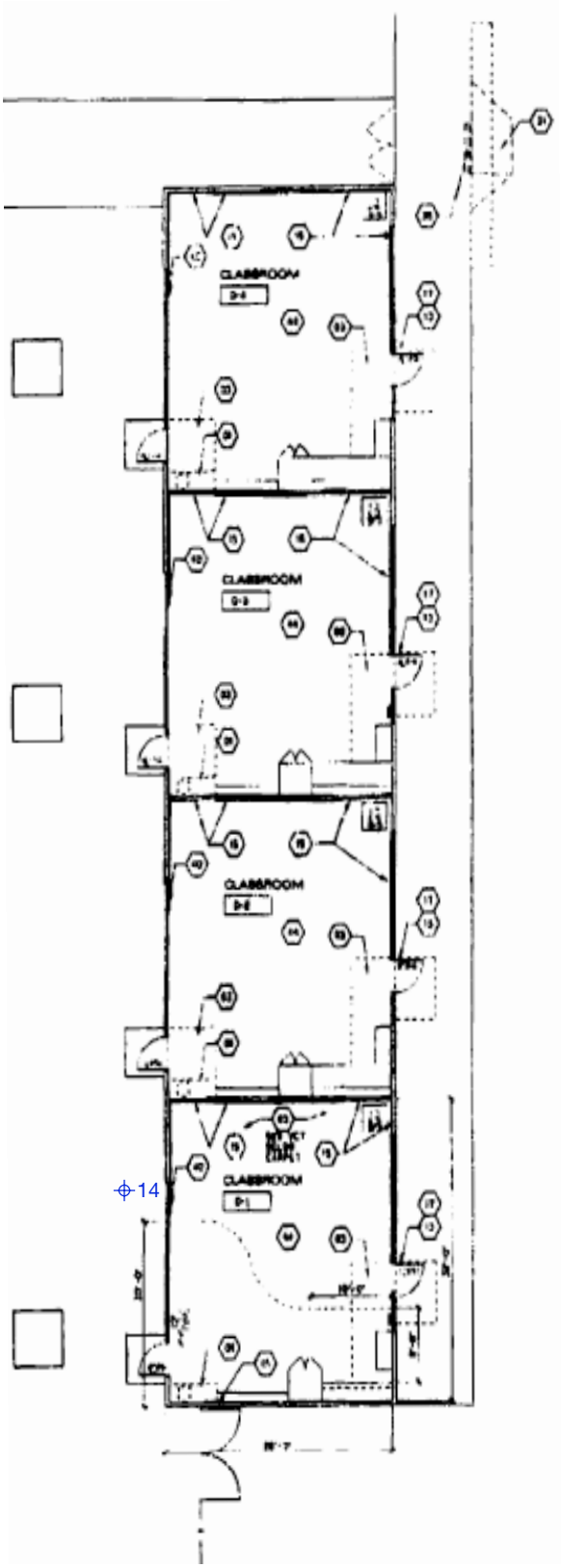
DATE PREPARED: 1/21/2009	DRAWN BY: C.T.
REVISION:	SOURCE: HMC Architects
PROJECT NO: 09014	OTHER:

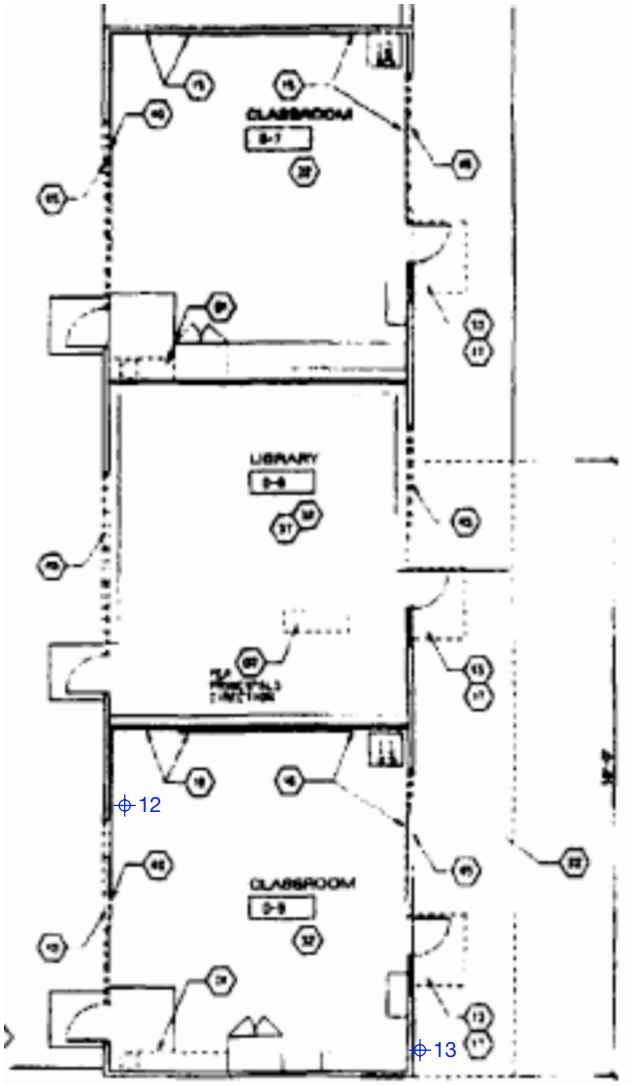
DRAWING TITLE:
Sample Location Plan
A Building
Cypress Elementary School
26825 Cypress Street
Highland, California 92346

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
6





N

⌖ indicates approximate sample location

DATE PREPARED: 1/21/2009	DRAWN BY: C.T.
REVISION:	SOURCE: HMC Architects
PROJECT NO: 09014	OTHER:

DRAWING TITLE:
Sample Location Plan
D & D1 Buildings
Cypress Elementary School
26825 Cypress Street
Highland, California 92346

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
7

Appendix B

Bulk Sample Summary Table

CYPRESS ELEMENTARY SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09014

Sample No.	Sample Description	Sample Location	Asbestos %
01	Exterior Stucco	Building B	No Asbestos Detected
02	Exterior Stucco	Building B	No Asbestos Detected
03	Exterior Stucco	Building B	No Asbestos Detected
04	Window Glazing	Building C, Rm C-6	No Asbestos Detected
05	Window Glazing	Building C, Rm C-5	No Asbestos Detected
06	Window Glazing	Building C, Rm C-5	No Asbestos Detected
07	Carpet Glue	Building C, Rm C-6	No Asbestos Detected
08	4" Basecove, Brown	Building C, Rm C-6	No Asbestos Detected
09	12"x12" Floor Tile, Beige	Building B, Rm B-6	No Asbestos Detected
10	4" Basecove, Brown	Building B, Rm B-6	No Asbestos Detected
11	Plaster	Building B, Heater Closet, Rm B-6	No Asbestos Detected
12	4" Basecove, Brown	Building D, Rm D-5	No Asbestos Detected
13	Window Glazing	Building D, Rm D-5	No Asbestos Detected
14	Window Glazing	Building D, Rm D-1	<1% Chrysotile
15	Interior Plaster	Multipurpose Bldg, Southwest Double Doors	No Asbestos Detected
16	Interior Plaster	Multipurpose Bldg, Southwest Double Doors	No Asbestos Detected
17	Exterior Stucco	Multipurpose Bldg, S. Side @ Fountain	No Asbestos Detected
18	Exterior Stucco	Multipurpose Bldg, Southwest Side	No Asbestos Detected
19	Carpet Glue	Building A, East Side	No Asbestos Detected
20	Carpet Glue	Building A, West Side	No Asbestos Detected
21	12"x12" Floor Tile, Beige	Building A, North Area	NAD (Floor Tile & Orange Glue); 3% Chrysotile (Black Mastic)
22	12"x12" Floor Tile, Beige	Building A, South Area	No Asbestos Detected
23	4" Basecove, Brown	Building A, North Area	No Asbestos Detected
24	4" Basecove, Brown	Building A, South Area	No Asbestos Detected
25	Exterior Stucco	Building A, Northeast	No Asbestos Detected
26	Exterior Stucco	Building A, Southeast	No Asbestos Detected
27	Exterior Stucco	Building A, Northwest	No Asbestos Detected
28	Plaster Walls	Building A, North	No Asbestos Detected
29	Plaster Walls	Building A, Northwest	No Asbestos Detected
30	Plaster Walls	Building A, South	No Asbestos Detected

Appendix C

Asbestos Sample Analysis Reports and Chain of Custody

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/17/09
Date Examined 01/19/09

AmeriSci Job # 909011578
P.O. #
Page 1 **of** 8

RE: SBCUSD; Cypress Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011578-01.1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Ext. Stucco / Bldg. B		
Analyst Description: Green, Homogeneous, Non-Fibrous, Cementitious, Stucco-Finish Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
01	909011578-01.2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Ext. Stucco / Bldg. B		
Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
02	909011578-02.1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Ext. Stucco / Bldg. B		
Analyst Description: Green, Homogeneous, Non-Fibrous, Cementitious, Stucco-Finish Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
02	909011578-02.2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Ext. Stucco / Bldg. B		
Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
03	909011578-03.1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Ext. Stucco / Bldg. B		
Analyst Description: Green, Homogeneous, Non-Fibrous, Cementitious, Stucco-Finish Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cypress Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
03	909011578-03.2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Ext. Stucco / Bldg. B			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
04	909011578-04	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Window Glazing / Bldg. C - Rm C-6			
Analyst Description: White, Homogeneous, Non-Fibrous, Glazing **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
05	909011578-05	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Window Glazing / Bldg. C - Rm C-5			
Analyst Description: White, Homogeneous, Non-Fibrous, Glazing **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
06	909011578-06	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Window Glazing / Bldg. C - Rm C-5			
Analyst Description: White, Homogeneous, Non-Fibrous, Glazing **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
07	909011578-07	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Carpet Glue / Bldg. C C-6			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Glue **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
08	909011578-08L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Base Cove Brown 4" / Bldg. C C-6			
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cypress Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
08	909011578-08L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Base Cove Brown 4" / Bldg. C C-6			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Glue **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
09	909011578-09L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: 12x Beige Ft / Bldg. B Rm B-6			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
09	909011578-09L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: 12x Beige Ft / Bldg. B Rm B-6			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
10	909011578-10L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Base Cove Brown 4" Bldg. B Rm B-6			
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
10	909011578-10L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Base Cove Brown 4" Bldg. B Rm B-6			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
11	909011578-11	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Plaster / Bldg. B Heater Closet Rm B-6			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Plaster **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cypress Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
12	909011578-12L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove Brown 4" / Bldg. D Rm D-J		
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
12	909011578-12L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove Brown 4" / Bldg. D Rm D-J		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
13	909011578-13	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Window Glazing / Bldg. D Rm D-J		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Glazing		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
14	909011578-14	***Yes***	Trace (<1 %) (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Window Glazing / Bldg. D Rm D-1		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Glazing		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		
15	909011578-15	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Interior Plaster / Multi Purpose Bldg. SW Double C.		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
16	909011578-16	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Interior Plaster / Multipurpose Bldg. SW Double C.		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cypress Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
17	909011578-17	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Exterior Stucco / Multipurpose Bldg. S Side @ Fountain		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
18	909011578-18	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Exterior Stucco / Multipurpose Bldg. SW Side		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
19	909011578-19	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Carpet Glue / Building A E Side		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Glue		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
20	909011578-20	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Carpet Glue / Building A W Side		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Glue		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
21	909011578-21L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Beige Ft / Building A N Area		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
21	909011578-21L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Beige Ft / Building A N Area		
	Analyst Description: Orange, Homogeneous, Non-Fibrous, Glue		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cypress Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
21	909011578-21L3	***Yes***	3 %
	Location: 12x Beige Ft / Building A N Area		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types: Chrysotile 3.0 %		
	Other Material: Non-fibrous 97 %		
22	909011578-22L1	***No***	NAD
	Location: 12x Beige Ft / Building A S Area		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
22	909011578-22L2	***No***	NAD
	Location: 12x Beige Ft / Building A S Area		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Orange, Homogeneous, Non-Fibrous, Glue		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
23	909011578-23L1	***No***	NAD
	Location: Base Cove Brown 4" / Building A N Area		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
23	909011578-23L2	***No***	NAD
	Location: Base Cove Brown 4" / Building A N Area		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
23	909011578-23L3	***No***	NAD
	Location: Base Cove Brown 4" / Building A N Area		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: White, Homogeneous, Non-Fibrous, Underlayment		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cypress Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
24	909011578-24L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove Brown 4" / Building A S Area		
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
24	909011578-24L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove Brown 4" / Building A S Area		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
24	909011578-24L3	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove Brown 4" / Building A S Area		
	Analyst Description: White, Homogeneous, Non-Fibrous, Underlayment		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
25	909011578-25	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Exterior Stucco / Building "A" NE		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
26	909011578-26	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Exterior Stucco / Building "A" SE		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
27	909011578-27	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Exterior Stucco / Building "A" NW		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Cypress Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
28	909011578-28	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Plaster Walls / Building "A" N			
Analyst Description: White, Homogeneous, Non-Fibrous, Cementitious, Plaster			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
29	909011578-29.1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Plaster Walls / Building "A" NW			
Analyst Description: White, Homogeneous, Non-Fibrous, Cementitious, Plaster-Finish Coat			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
29	909011578-29.2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Plaster Walls / Building "A" NW			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Plaster-Base Coat			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
30	909011578-30	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Plaster Walls / Building "A" S			
Analyst Description: Off-White, Heterogeneous, Non-Fibrous, Cementitious, Plaster			
Asbestos Types:			
Other Material: Non-fibrous 100 %			

Reporting Notes:

Analyzed By: Arturo A. Aldana A. Aldana; Date Analyzed: 1/19/2009 1-19-09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/19/09

909011578

PACIFIC ENVIRONMENTAL

Date:	01/16/2009
Client:	SBCUSD
Site:	CYPRESS ELE.
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
01	EXT. STUCCO	BLDG B.	
02	" "	" "	
03	" "	" "	
04	WINDOW GLAZING	BLDG C - Rm C-6	
05	" "	" C-5	
06	" "	" C-5	
07	CARPET GLUE	" C-6	
08	BASECOVE BROWN 4"	" C-6	
09	12X BIEGE FT	BLDG - B Rm B-6	
10	BASECOVE BROWN 4"	" " " "	
11	PLASTER	" " heater closet " "	
12	BASECOVE BROWN 4"	BLDG D Rm D-5	
13	WINDOW GLAZING	" " " "	
14	WINDOW GLAZING	" " Rm-D-1	
15	INTERIOR PLASTER	MULTIPURPOSE BLDG SW. Double doors	
16	" "	" " " "	
17	EXTERIOR STUCCO	" " S.E side @ fountain	
18	" "	" " S W side	
19	CARPET GLUE	BUILDING A. E side	
20	CARPET GLUE	" " W side	
21	12X BIEGE FT	" " N. Area	
22	" "	" " S. Area	
23	BASECOVE BROWN 4"	" " N. Area	
24	" "	" " S. Area	

Analytical Method: PLM

Turn Around Time: 24 hr.

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		01/16/2009
Name	Signature	Date/Time

RECEIVED
JAN 20 2009
00910
K. ARELLANO

909911578

PACIFIC ENVIRONMENTAL

Date:	1 / 16 /2009
Client:	SBC USD
Site:	CYPRESS ELE.
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
25	Exterior Stucco	Building "A" NE.	
26	" "	" " SE.	
27	" "	" " NW.	
28	Plaster Walls	N	
29	" "	NW	
30	" "	S.	

Analytical Method: PLM

Turn Around Time: _____

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		/ /2009
Name	Signature	Date/Time

RECEIVED
JAN 19 2009
0910
K. ARELLANO

Appendix D

XRF Sampling Results

FIELD DATA REPORT

PROJECT NAME: Cypress Elementary School

PROJECT NO.:09014

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Admin Bldg	Exterior	Door	A	Metal	Intact	Red	0.1	Negative
Admin Bldg	Exterior	Door Frame	A	Metal	Intact	Red	0.0	Negative
Admin Bldg	Exterior	Window Frame	A	Metal	Intact	Red	0.0	Negative
Admin Bldg	Health Rm	Wall	A	Plaster	Intact	White	0.0	Negative
Admin Bldg	Health Rm	Wall	B	Plaster	Intact	White	0.1	Negative
Admin Bldg	Health Rm	Wall	C	Plaster	Intact	White	0.0	Negative
Admin Bldg	Health Rm	Wall	D	Plaster	Intact	White	0.0	Negative
Admin Bldg	Health Rm	Door	B	Wood	Intact	Red	0.4	Negative
Admin Bldg	Health Rm	Door Frame	B	Wood	Intact	White	0.2	Negative
Admin Bldg	Health Rm	Ceiling	N/A	Plaster	Intact	White	0.3	Negative
Admin Bldg	Health Rm	Lower Cabinet	B	Wood	Intact	White	0.1	Negative
Admin Bldg	Health Rm RR	Wall	A	Plaster	Intact	White	0.1	Negative
Admin Bldg	Health Rm RR	Wall	B	Plaster	Intact	White	0.3	Negative
Admin Bldg	Health Rm RR	Wall	C	Plaster	Intact	White	0.1	Negative
Admin Bldg	Health Rm RR	Wall	D	Plaster	Intact	White	0.3	Negative
Admin Bldg	**Health Rm RR**	**Baseboard**	**B**	**Ceramic Tile**	**Intact**	**Blue**	**4.3**	**Positive**
Admin Bldg	Health Rm RR	Door	A	Wood	Intact	White	0.0	Negative
Admin Bldg	Health Rm RR	Door Frame	A	Wood	Intact	White	0.3	Negative
Admin Bldg	Health Rm RR	Ceiling	N/A	Plaster	Intact	White	0.0	Negative
Admin Bldg	Health Rm RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Green	0.0	Negative
Admin Bldg	Main Office	Wall	A	Plaster	Intact	White	0.0	Negative
Admin Bldg	Main Office	Wall	B	Plaster	Intact	White	0.1	Negative
Admin Bldg	Main Office	Wall	C	Plaster	Intact	White	0.0	Negative
Admin Bldg	Main Office	Wall	D	Plaster	Intact	White	0.0	Negative
Admin Bldg	Main Office	Door	A	Metal	Intact	Red	0.0	Negative
Admin Bldg	Main Office	Door Frame	A	Metal	Intact	Red	0.1	Negative
Admin Bldg	Unisex Bath	Wall	A	Plaster	Intact	White	0.0	Negative
Admin Bldg	Unisex Bath	Wall	B	Plaster	Intact	White	0.0	Negative
Admin Bldg	Unisex Bath	Wall	C	Plaster	Intact	White	0.0	Negative
Admin Bldg	Unisex Bath	Wall	D	Plaster	Intact	White	0.0	Negative
Admin Bldg	Unisex Bath	Door	D	Wood	Intact	White	0.1	Negative
Admin Bldg	Unisex Bath	Door Frame	D	Metal	Intact	White	0.0	Negative
Admin Bldg	Unisex Bath	Ceramic Wall Tile	C	Ceramic Tile	Intact	White	0.0	Negative
Admin Bldg	Unisex Bath	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Tan	0.0	Negative
B Bldg	B-6	Wall	A	Wood	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Cypress Elementary School

PROJECT NO.:09014

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
B Bldg	B-6	Wall	B	Wood	Intact	White	0.0	Negative
B Bldg	B-6	Wall	C	Wood	Intact	White	0.0	Negative
B Bldg	B-6	Wall	D	Wood	Intact	White	0.0	Negative
B Bldg	B-6	Door	C	Metal	Intact	Red	0.3	Negative
B Bldg	B-6	Door Frame	C	Metal	Intact	Red	0.3	Negative
B Bldg	B-6	Lower Cabinet	B	Wood	Intact	White	0.1	Negative
B-5	Exterior	Wall	A	Stucco	Intact	Tan	0.1	Negative
B-5	Exterior	Door	A	Metal	Intact	Red	0.5	Negative
B-5	Exterior	Door Frame	A	Wood	Intact	Red	0.4	Negative
B-6	Exterior	Wall	A	Stucco	Intact	Tan	0.2	Negative
B-6	Exterior	Door	A	Metal	Intact	Red	0.0	Negative
B-6	Exterior	Door Frame	A	Wood	Intact	Red	0.1	Negative
B-7	Exterior	Wall	A	Stucco	Intact	Tan	0.3	Negative
B-7	Exterior	Door	A	Metal	Intact	Red	0.4	Negative
B-7	Exterior	Door Frame	A	Wood	Intact	Red	0.2	Negative
B-8	Exterior	Wall	A	Stucco	Intact	Tan	0.2	Negative
B-8	Exterior	Door	A	Metal	Intact	Red	0.3	Negative
B-8	Exterior	Door Frame	A	Wood	Intact	Red	0.1	Negative
C Bldg	C-6	Wall	A	Wood	Intact	White	0.0	Negative
C Bldg	C-6	Wall	B	Wood	Intact	White	0.0	Negative
C Bldg	C-6	Wall	C	Wood	Intact	White	0.0	Negative
C Bldg	C-6	Wall	D	Wood	Intact	White	0.0	Negative
C Bldg	C-6	Door	A	Wood	Intact	Red	0.1	Negative
C Bldg	C-6	Door Frame	A	Metal	Intact	Red	0.0	Negative
C Bldg	C-6	Lower Cabinet	B	Wood	Intact	White	0.0	Negative
C Bldg	Exterior	Door	C	Wood	Intact	Red	0.1	Negative
C Bldg	Exterior	Door Frame	C	Metal	Intact	Red	0.0	Negative
C Bldg	Exterior	Window Frame	C	Metal	Intact	Tan	0.4	Negative
C Bldg	Women's Staff RR	Wall	A	Ceramic Tile	Intact	White	0.0	Negative
C Bldg	Women's Staff RR	Wall	B	Ceramic Tile	Intact	White	0.0	Negative
C Bldg	Women's Staff RR	Wall	C	Ceramic Tile	Intact	White	0.0	Negative
C Bldg	Women's Staff RR	Wall	D	Ceramic Tile	Intact	White	0.0	Negative
C Bldg	Women's Staff RR	Door	B	Wood	Intact	Red	0.0	Negative
C Bldg	Women's Staff RR	Door Frame	B	Metal	Intact	Red	0.0	Negative
C Bldg	Women's Staff RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Cypress Elementary School

PROJECT NO.:09014

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
M.U. Bldg	Exterior	Wall	A	Stucco	Intact	Tan	0.0	Negative
M.U. Bldg	Exterior	Door	A	Metal	Intact	Red	0.1	Negative
M.U. Bldg	Exterior	Door Frame	A	Metal	Intact	Red	0.3	Negative
M.U. Bldg	**Exterior**	**Window Frame**	**A**	**Wood**	**Defective**	**Tan**	**1.2**	**Positive**
M.U. Bldg	Open Area	Door	A	Wood	Intact	Grey	0.0	Negative
M.U. Bldg	Open Area	Door	A	Metal	Intact	Red	0.0	Negative
M.U. Bldg	Open Area	Stairway Tread	D	Wood	Intact	Grey	0.0	Negative
M.U. Bldg	Open Area	Door Frame	A	Wood	Intact	Grey	0.0	Negative
M.U. Bldg	Open Area	Door Frame	A	Metal	Intact	Red	0.0	Negative
M.U. Bldg	Open Area	Stairway Railing	D	Metal	Intact	Grey	0.0	Negative
M.U. Bldg	Open Area	Lower Cabinet	D	Wood	Intact	Grey	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Cypress Elementary School

PROJECT NO.:09014

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Admin Bldg	Health Rm RR	Baseboard	B	Ceramic Tile	Intact	Blue	4.3
M.U. Bldg	Exterior	Window Frame	A	Wood	Defective	Tan	1.2

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

Appendix E

DHS Form 8552

State of California – Health and Human Services Agency | California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead Hazard Evaluation 1/16/2009

Section 2 — Type of Lead Hazard Evaluation (Check one box only)

☑ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 — Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
26825 Cypress Avenue	Highland	San Bernardino	92346

Construction date (year) of structure	Type of structure (check one box only)
1965	☐ Multi-unit building ☑ School or daycare ☐ Single family dwelling ☐ Other (specify)_____

Section 4 — Owner of Structure (if business/agency, list contact person)

Name	Telephone number
San Bernardino City Unified School District	909-381-1238

Address [number, street, apartment (if applicable)]	City	State	Zip Code
777 North F Street	San Bernardino	CA	92401

Section 5 — Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected. ☑ Lead-based paint detected.

☐ No lead hazards detected. ☐ Lead hazards detected.

Section 6 — Individual Conducting Lead Hazard Evaluation

Name	Telephone number
David Tillema	800.303.6484

Address [number, street, apartment (if applicable)]	City	State	Zip Code
28202 Cabot Road #300	Laguna Niguel	CA	92677

CDPH certification number	Signature	Date
17740		1/21/2009

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 — Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

CDPH 8552 (6/07)

Appendix F

XRF Performance Characteristics Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: June 26, 1996 **EDITION NO.: 3**

MANUFACTURER AND MODEL:

Make: *Scitec Corporation*
Model: *MAP-4*
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS

Test mode, Screen mode, or Unlimited mode.

XRF CALIBRATION CHECK LIMITS

0.6 to 1.2 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

When using Unlimited mode, substrate correction recommended for:

None

When using Unlimited mode, substrate correction not recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

When using Screen or Test mode, for XRF results below 4.0 mg/cm^2, substrate correction recommended for:

Drywall, Metal, and Wood

When using Screen or Test mode, substrate correction not recommended for:

Brick, Concrete, and Plaster

INCONCLUSIVE RANGE OR THRESHOLD

UNLIMITED MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm^2)
Results not corrected for substrate bias for unlimited mode readings	Brick	0.91 to 1.19
	Concrete	0.91 to 1.19
	Drywall	0.91 to 1.19
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.19
	Wood	0.91 to 1.19

SCREEN MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm²)
Results corrected for substrate bias for screen mode readings on drywall, metal, and wood substrates only	Brick	0.91 to 1.09
	Concrete	0.91 to 1.09
	Drywall	0.91 to 1.39
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.09
	Wood	0.91 to 1.29

TEST MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)	INCONCLUSIVE RANGE (mg/cm²)
Readings corrected for substrate bias for test mode readings on drywall, metal, and wood substrates only	Brick	0.9	None
	Concrete	0.9	None
	Drywall	None	0.91 to 1.39
	Metal	None	0.91 to 1.09
	Plaster	0.9	None
	Wood	None	0.91 to 1.29

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from an EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations. All of the test locations were tested in February 1996 using two different instruments. One instrument had a new source installed in July 1994 and its strength at the time of testing was calculated as 9.4 mCi. The other instrument had a new source installed in September 1994 and its strength at the time of testing was calculated as 10.6 mCi.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds

SUBSTRATE CORRECTION VALUE COMPUTATION

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

- Using the same XRF instrument, take three readings on a bare substrate area covered with the

NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

- Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

  For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\left.\begin{matrix}\text{Correction}\\ \text{Value}\end{matrix}\right\} = \frac{1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th}\ \text{Reading}}{6} - 1.02 mg/cm^2$$

- Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either 15-second readings or 60-second readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES

For screen, test, and confirm modes, the MAP 4 instrument tests until a K-shell result is obtained relative to a level of precision. A result is "positive", "negative" or "retest" as displayed by indicator lights. For the unlimited mode, the MAP 4 instrument tests until a K-shell result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the the reading is terminated by releasing the trigger. A few unlimited mode readings were terminated because they exceeded the two-minute limit used for archive testing. The following tables provide testing time information for three testing modes. Insufficient information is available to provide this information for confirm mode. All times have been scaled to match an initial 12 miC source. Note that source strength and factors such as substrate may affect testing times.

UNLIMITED MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	3	4	6	4	13	3
Metal	3	4	8	4	9	3
Brick Concrete Plaster	4	5	8	6	6	3

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

SCREEN MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	6	7	5	6	7
Metal	4	5	6	5	5	5
Brick Concrete Plaster	11	11	13	11	11	11

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

TEST MODE TESTING TIMES (Seconds)						
SUBSTRATE	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm²)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	17	22	27	21	20	28
Metal	13	20	23	20	20	20
Brick Concrete Plaster	41	42	52	41	46	43

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

BIAS AND PRECISION

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with laboratory-measured lead levels less than 4.0 mg/cm² lead. There were 15 testing locations taken in the screen mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were 15 testing locations taken in the test mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were not any testing locations taken in the confirm mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. There were 15 testing locations taken in the unlimited mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². All testing was done in February 1996 with two different instruments. The following data are for illustrative purposes only. Actual bias must be determined on the site. Inconclusive ranges provided above already account for bias and precision.

SCREEN MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.1	0.2
	Metal	0.1	0.3
	Plaster	-0.1	0.3
	Wood	0.0	0.2
0.5 mg/cm²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	0.1	0.4
	Concrete	0.1	0.4
	Drywall	0.5	0.6
	Metal	0.3	0.3
	Plaster	0.1	0.4
	Wood	0.4	0.6

2.0 mg/cm²	Brick	0.4	0.5
	Concrete	0.4	0.5
	Drywall	0.9	0.8
	Metal	0.5	0.3
	Plaster	0.4	0.5
	Wood	0.7	0.8

*Precision at 1 standard deviation

TEST MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.2
	Concrete	-0.1	0.2
	Drywall	0.1	0.1
	Metal	0.1	0.2
	Plaster	-0.1	0.2
	Wood	0.0	0.1
0.5 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.2
	Plaster	-0.1	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.5	0.6
	Metal	0.3	0.2
	Plaster	-0.1	0.3
	Wood	0.4	0.6
2.0 mg/cm²	Brick	0.0	0.4
	Concrete	0.0	0.4
	Drywall	1.0	0.8
	Metal	0.5	0.2
	Plaster	0.0	0.4
	Wood	0.8	0.8

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristics Sheet is a joint product of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD). The issuance of this sheet does not constitute rulemaking. The information provided here is intended solely as guidance to be used in conjunction with Chapter 7, Lead-Based Paint Inspection, of the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. EPA and HUD reserve the right to revise this guidance. Please address questions and comments on this sheet to: Director, Office of Lead Hazard Control (L), U.S. Department of Housing and Urban Development, 451 Seventh St, S.W., Washington, DC 20410.

Pacific Environmental Company

Asbestos and Lead Abatement Specifications

Cypress Elementary School Modernization Project
26825 Cypress Avenue
Highland, California 92346

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 21, 2009

Project Number: 09014



Pacific Environmental Company

Table of Contents

DIVISION 02. GENERAL REQUIREMENTS FOR ASBESTOS ABATEMENT

DIVISION 03. GENERAL REQUIREMENTS FOR LEAD ABATEMENT

DIVISION 2. GENERAL REQUIREMENTS FOR ASBESTOS ABATEMENT

PART 1 GENERAL

1.1 REFERENCES
1.2 DEFINITIONS
1.3 DESCRIPTION OF WORK
1.4 SUBMITTALS
1.5 QUALIFICATIONS
1.6 MEDICAL REQUIREMENTS
1.7 TRAINING PROGRAM
1.8 RESPIRATORY PROTECTION PROGRAM
1.9 HAZARD COMMUNICATION PROGRAM
1.10 LICENSES, PERMITS AND NOTIFICATIONS
1.11 PERSONAL PROTECTIVE EQUIPMENT
1.12 HYGIENE FACILITIES AND PRACTICES
1.13 REGULATED AREAS
1.14 WARNING SIGNS AND TAPE
1.15 WARNING LABELS
1.16 LOCAL EXHAUST VENTILATION
1.17 TOOLS
1.18 RENTAL EQUIPMENT
1.19 AIR MONITORING EQUIPMENT
1.20 EXPENDABLE SUPPLIES
1.21 MISCELLANEOUS ITEMS

PART 2 PRODUCTS

2.1 ENCAPSULANTS
2.2 ENCASEMENT PRODUCTS

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS
3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN
3.3 TEMPORARY POWER
3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS
3.5 TEMPORARY FACILITIES
3.6 METHODS OF COMPLIANCE
3.7 FINAL CLEANING AND VISUAL INSPECTION
3.8 LOCKDOWN
3.9 EXPOSURE ASSESSMENT AND AIR MONITORING
3.10 CLEARANCE CERTIFICATION
3.11 CLEANUP AND DISPOSAL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below 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)

ANSI Z9.2 (1979; R 1991)	Fundamentals Governing the Design and Operation of Local Exhaust Systems
ANSI Z87.1 (1989; Errata; Z87.1a)	Occupational and Educational Eye and Face Protection
ANSI Z88.2 (1992)	Respiratory Protection

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 732 (1995)	Aging Effects of Artificial Weathering on Latex Sealants
ASTM D 522 (1993a)	Mandrel Bend Test of Attached Organic Coatings
ASTM D 1331 (1989; R 1995)	Surface and Interfacial Tension of Solutions of Surface-ActiveAgents
ASTM D 2794 (1993)	Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
ASTM D 4397 (1996)	Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
ASTM E 84 (1996a)	Surface Burning Characteristics of Building Materials
ASTM E 96 (1995)	Water Vapor Transmission of Materials
ASTM E 119 (1995a)	Fire Tests of Building Construction and Materials
ASTM E 736 (1992)	Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members
ASTM E 1368 (1997)	Visual Inspection of Asbestos Abatement Projects

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 61	National Emissions Standards for Hazardous Air Pollutants
40 CFR 763	Asbestos
42 CFR 84	Approval of Respiratory Protective Devices
49 CFR 107	Hazardous Materials Program Procedures
49 CFR 171	General Information, Regulations and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packagings

COMPRESSED GAS ASSOCIATION (CGA)

CGA G-7 (1990)	Compressed Air for Human Respiration
CGA G-7.1 (1989)	Commodity Specification for Air

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 340/1-90-018 (1990)	Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance
EPA 340/1-90-019 (1990)	Asbestos/NESHAP Adequately Wet Guidance
EPA 560/5-85-024 (1985)	Guidance for Controlling Asbestos-Containing Materials in Buildings
SCAQMD Rule 1403	Asbestos Emissions from Renovation/Demolition Activities

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 701 (1996)	Methods of Fire Test for Flame-Resistant Textiles and Films

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 84-100 (1984; Supple 1985, 1987, 1988 & 1990)
NIOSH Manual of Analytical Methods

UNDERWRITERS LABORATORIES (UL)

UL 586 (1996)	High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

A. Adequately Wet: A term defined in 40 CFR 61, Subpart M, and EPA 340/1-90-019 meaning to sufficiently mix or penetrate with liquid to prevent the release of particulate. If visible emissions are observed coming from asbestos-containing material (ACM), then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wetted.

B. Aggressive Method: Removal or disturbance of building material by sanding, abrading, grinding, or other method that breaks, crumbles, or disintegrates intact asbestos-containing material (ACM).

C. Amended Water: Water containing a wetting agent or surfactant with a surface tension of at least 29 dynes per square centimeter when tested in accordance with ASTM D 1331.

D. Asbestos: Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophylite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered.

E. Asbestos-Containing Material (ACM): Any materials containing more than one percent asbestos.

F. Asbestos Fiber: A particulate form of asbestos, 5 micrometers or longer, with a length-to-width ratio of at least 3 to 1.

G. Authorized Person: Any person authorized by the Contractor and required by work duties to be present in the regulated areas.

H. Building Inspector: Individual who inspects buildings for asbestos and has EPA Model Accreditation Plan (MAP) "Building Inspector" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

I. Certified Industrial Hygienist (CIH): An Industrial Hygienist certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

J. Class I Asbestos Work: Activities defined by OSHA involving the removal of thermal system insulation (TSI) and surfacing ACM.

K. Class II Asbestos Work: Activities defined by OSHA involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos- containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic. Certain "incidental" roofing materials such as mastic, flashing and cements when they are still intact are excluded from Class II asbestos work. Removal of small amounts of these materials which would fit into a glovebag may be classified as a Class III job.

L. Class III Asbestos Work: Activities defined by OSHA that involve repair and maintenance operations, where ACM, including TSI and surfacing ACM, is likely to be disturbed. Operations may include drilling, abrading, cutting a hole, cable pulling, crawling through tunnels or attics and spaces above the ceiling, where asbestos is actively disturbed or asbestos-containing debris is actively disturbed.

M. Class IV Asbestos Work: Maintenance and custodial construction activities during which employees contact but do not disturb ACM and activities to clean-up dust, waste and debris resulting from Class I, II, and III activities. This may include dusting surfaces where ACM waste and debris and accompanying dust exists and cleaning up loose ACM debris from TSI or surfacing ACM following construction.

N. Clean room: An uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

O. Competent Person: In addition to the definition in 29 CFR 1926, Section .32(f), a person who is capable of identifying existing asbestos hazards as defined in 29 CFR 1926, Section .1101, selecting the appropriate control strategy, has the authority to take prompt corrective measures to eliminate them and has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

P. Contractor/Supervisor: Individual who supervises asbestos abatement work and has EPA Model Accreditation Plan "Contractor/Supervisor" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

Q. Critical Barrier: One or more layers of plastic sealed over all openings into a regulated area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a regulated area from migrating to an adjacent area.

R. Decontamination Area: An enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

S. Demolition: The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

T. Disposal Bag: A 0.15 mm 6 mil thick, leak-tight plastic bag, pre-labeled in accordance with 29 CFR 1926, Section .1101, used for transporting asbestos waste from containment to disposal site.

U. Disturbance: Activities that disrupt the matrix of ACM, crumble or pulverize ACM, or generate visible debris from ACM. Disturbance includes cutting away small amounts of ACM, no greater than the amount which can be contained in 1 standard sized glovebag or waste bag, not larger than 1.5 m 60 inches in length and width in order to access a building component.

V. Equipment Room or Area: An area adjacent to the regulated area used for the decontamination of employees and their equipment.

W. Employee Exposure: That exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

X. Fiber: A fibrous particulate, 5 micrometers or longer, with a length to width ratio of at least 3 to 1.

Y. Friable ACM: A term defined in 40 CFR 61, Subpart M and EPA 340/1-90-018 meaning any material which contains more than 1percent asbestos, as determined using the method specified in 40 CFR 763, Subpart E, Appendix A, Section 1, Polarized Light Microscopy (PLM), that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent, as determined by a method other than point counting by PLM, the asbestos content is verified by point counting using PLM.

Z. Glovebag: Not more than a 1.5 by 1.5 m 60 by 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

AA. High-Efficiency Particulate Air (HEPA) Filter: A filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

BB. Homogeneous Area: An area of surfacing material or thermal system insulation that is uniform in color and texture.

CC. Industrial Hygienist: A professional qualified by education, training, and experience to anticipate, recognize, evaluate, and develop controls for occupational health hazards.

DD. Intact: ACM which has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix. Removal of "intact" asphaltic, resinous, cementitious products does not render the ACM non-intact simply by being separated into smaller pieces.

EE. Model Accreditation Plan (MAP): USEPA training accreditation requirements for persons who work with asbestos as specified in 40 CFR 763, Subpart E, Appendix C.

FF. Modification: A changed or altered procedure, material or component of a control system, which replaces a procedure, material or component of a required system.

GG. Negative Exposure Assessment: A demonstration by the Contractor to show that employee exposure during an operation is expected to be consistently below the OSHA Permissible Exposure Limits (PELs).

HH. NESHAP: National Emission Standards for Hazardous Air Pollutants. The USEPA NESHAP regulation for asbestos is at 40 CFR 61, Subpart M.

II. Nonfriable ACM: A NESHAP term defined in 40 CFR 61, Subpart M and EPA 340/1-90-018 meaning any material containing more than 1 percent asbestos, as determined using the method specified in 40 CFR 763, Subpart E, Appendix A, Section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

JJ. Nonfriable ACM (Category I): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90-018 meaning asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in 40 CFR 763, Subpart F, Appendix A, Section 1, Polarized Light Microscopy.

KK. Nonfriable ACM (Category II): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90-018 meaning any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos, as determined using the methods specified in 40 CFR 763, Subpart F, Appendix A, Section 1, Polarized Light Microscopy, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

LL. Permissible Exposure Limits (PELs):

(1) PEL-Time weighted average(TWA): Concentration of asbestos not in excess of 0.1 fibers per cubic centimeter of air (f/cc) as an 8 hour time weighted average (TWA), as determined by the method prescribed in 29 CFR 1926, Section .1101, Appendix A, or the current version of NIOSH Pub No. 84-100 analytical method 7400.

(2) PEL-Excursion Limit: An airborne concentration of asbestos not in excess of 1.0 f/cc of air as averaged over a sampling period of 30 minutes as determined by the method prescribed in 29 CFR 1926, Section .1101, Appendix A, or the current version of NIOSH Pub No. 84-100 analytical method 7400.

MM. Regulated Area: An OSHA term defined in 29 CFR 1926, Section .1101 meaning an area established by the Contractor to demarcate areas where Class I, II, and III asbestos work is conducted; also any adjoining area where debris and waste from such asbestos work accumulate; and an area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit.

NN. Removal: All operations where ACM is taken out or stripped from structures or substrates, and includes demolition operations.

OO. Repair: Overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM attached to structures or substrates. If the amount of asbestos so "disturbed" cannot be contained in 1 standard glovebag or waste bag, Class I precautions are required.

PP. Spills/Emergency Cleanups: Cleanup of sizable amounts of asbestos waste and debris which has occurred, for example, when water damage occurs in a building, and sizable amounts of ACM are dislodged. A Competent Person evaluates the site and ACM to be handled, and based on the type, condition and extent of the dislodged material, classifies the cleanup as Class I, II, or III. Only if the material was intact and the cleanup involves mere contact of ACM, rather than disturbance, could there be a Class IV classification.

QQ. Surfacing ACM: Asbestos-containing material which contains more than 1% asbestos and is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

RR. Thermal system insulation (TSI) ACM: ACM which contains more than 1% asbestos and is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain or water condensation.

SS. Transite: A generic name for asbestos cement wallboard and pipe.

TT. Worker: Individual (not designated as the Competent Person or a supervisor) who performs asbestos work and has completed asbestos worker training required by 29 CFR 1926, Section .1101, to include EPA Model Accreditation Plan (MAP) "Worker" training; accreditation required by 40 CFR 763, Subpart E, Appendix C, if required by the OSHA Class of work to be performed or by the state where the work is to be performed.

1.3 DESCRIPTION OF WORK

1.3.1 The work covered by this section includes the removal of the asbestos-containing materials and demolition services required to facilitate access to the ACM, where the ACM is impacted by the planned modernization work. ACM and ACCM that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity
Mastic Under Beige 12" x 12" Vinyl Floor Tile	Building A – Reception, Teacher Room, Work Room and Nurse's Office (to be removed per plans) Building B – B5-B8 Northwest portions of Rooms (to be removed per plans) Building C – C1-C8 North portions of Classrooms (to remain per plans) Building D – D1-D8 North portions of Classrooms (to remain per plans) Building MU – Cafeteria Dining Room (to remain per plans)	800 SF impacted
Window Putty	Buildings B, C and D	150 Windows 900 SF
Transite Vent	West Storage	3 LF

1.3.2 All work described or included in paragraph 1.3.1 shall be performed by the hazardous materials abatement contractor utilizing trained and AHERA certified asbestos workers. The only exception to this requirement may be the removal of intact non-asbestos-containing furnishings and equipment from the building prior to initiating any demolition activity and when such removal of intact materials or equipment does not have the potential for disturbing asbestos-containing materials.

1.3.3 The Work shall be performed in phases so as to maximize safety and minimize the potential for mixing hazardous and non-hazardous waste streams during their removal, transportation and disposal.

1.4 SUBMITTALS

1.4.1 Pre-Job Submittals: Prior to commencement of work, Contractor shall submit (two copies) to Owner's Representative documentation that includes, without limitation, the following:

A. Submit copies of licenses and registrations required by these specifications (include copies of subcontractor's licenses).

B. The Contractor shall carry comprehensive bodily injury and property damage liability insurance provided by an A-rated California Admitted Carrier with a combined single limit of $2,000,000.00 per occurrence. The insurance policy shall provide coverage for all liability arising out of or related to the Project or to the performance of the Work including asbestos and unintentional release of hazardous materials. The Contractor's insurance policies shall contain a 30-day Notice of Cancellation clause and shall list the following individuals and entities as Certificate holders and Additional Insured, San Bernardino City Unified School District and Pacific Environmental Company.

C. Submit copies written notification to the appropriate regulatory agencies (SCAQMD and CalOSHA).

D. Submit proof that required permits, site location and arrangements for transport and disposal of asbestos-containing waste materials have been made.

E. Submit proof of legal right to use patented equipment or processes.

F. Manufacturer's certification that HEPA vacuums, differential pressure air filtration devices and other local exhaust ventilation equipment conform to ANSI Z9.2-79.

G. Submit a construction schedule indicating milestones and dates of completion for each phase of the Work.

H. Submit documentation that Contractor's employees, including foreman, supervisor, and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received training as required by 29 CFR 1926.1101.

I. Submit documentation from Physician that all employees or agents who may be exposed to airborne asbestos fibers in excess of background levels have received medical monitoring to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. The Contractor must be aware of and provide information to the examining physician about unusual conditions in the workplace environment (e.g. high temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities.

J. Submit documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. This fit-testing shall be in accordance with qualitative procedures as required by OSHA regulations or be quantitative in nature.

K. Submit a project specific work plan.

L. Submit an emergency preparedness plan.

1.4.2 Ongoing Submittals: During abatement activities, Contractor shall submit to Owner's Representative documentation that includes, without limitation, the following:

A. Submit copies of the work area entry/exit log book. Log book must record name, affiliation, time in, and time out for each entry into the work area.

B. Submit copies of logs documenting filter changes on respirators, HEPA vacuums, differential pressure air filtration devices, water filtration device, and other engineering controls.

C. Submit copies of Material Safety Data Sheets (MSDS) for solvents, encapsulants, wetting agents and replacement materials, as necessary.

D. Submit results of all required OSHA air monitoring. Results shall be available prior to the start of the following shift and within 24 hours of completion of the last shift.

E. Submit copies of all accident/incident reports where injury or damage has occurred on or to the Owner's property.

F. Submit copies of all transport manifests, trip tickets and disposal receipts for all asbestos waste materials removed from the work area within 24 hours of the transport.

1.5 QUALIFICATIONS

1.5.1 Written Qualifications and Organization Report

The Contractor shall furnish a written qualifications and organization report providing evidence of qualifications of the Contractor, Contractor's Project Supervisor, Designated Competent Person, supervisors and workers; independent testing laboratory: all subcontractors to be used including disposal transportation and disposal facility firms, subcontractor supervisors, subcontractor workers; and any others assigned to perform asbestos abatement and support activities. The report shall include an organization chart showing the Contractor's staff organization for this project by name and title, chain of command and reporting relationship with all subcontractors. The report shall be signed by the Contractor, the Contractor's onsite project manager, Designated Competent Person, designated testing laboratory and the principals of all subcontractors to be used. The Contractor shall include the following statement in the report: "By signing this report I certify that the personnel I am responsible for during the course of this project fully understand the contents of 29 CFR 1926, Section .1101, 40 CFR 61, Subpart M, and the federal, state and local requirements specified in paragraph SAFETY AND HEALTH PROGRAM AND PLANS for those asbestos abatement activities that they will be involved in."

1.5.2 Specific Requirements

The Contractor shall designate in writing, personnel meeting the following qualifications:

A. Designated Competent Person: The name, address, telephone number, and resume of the Contractor's Designated Competent Person shall be provided. Evidence that the full-time Designated Competent Person is qualified in accordance with 29 CFR 1926, Sections .32 and .1101, has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by 40 CFR 763, Subpart E, Appendix C, and is experienced in the administration and supervision of asbestos abatement projects, including exposure assessment and monitoring, work practices, abatement methods, protective measures for personnel, setting up and inspecting

asbestos abatement work areas, evaluating the integrity of containment barriers, placement and operation of local exhaust systems, ACM generated waste containment and disposal procedures, decontamination units installation and maintenance requirements, site safety and health requirements, notification of other employees onsite, etc. The duties of the Competent Person shall include the following: controlling entry to and exit from the regulated area; supervising any employee exposure monitoring required by 29 CFR 1926, Section .1101; ensuring that all employees working within a regulated area wear the appropriate personal protective equipment (PPE), are trained in the use of appropriate methods of exposure control, and use the hygiene facilities and decontamination procedures specified; and ensuring that engineering controls in use are in proper operating conditions and are functioning properly. The Designated Competent Person shall be responsible for compliance with applicable federal, state and local requirements, the Contractor's Accident Prevention Plan and Asbestos Hazard Abatement Plan. The Designated Competent Person shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that this person has a minimum of 2 years of on-the-job asbestos abatement experience relevant to OSHA competent person requirements. The Designated Competent Person shall be onsite at all times during the conduct of this project.

B. Project and Other Supervisors: The Contractor shall provide the name, address, telephone number, and resume of the Project Supervisor and other supervisors who have responsibility to implement the Accident Prevention Plan, including the Asbestos Hazard Abatement Plan and Activity Hazard Analyses, the authority to direct work performed under this contract and verify compliance, and have EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by 40 CFR 763, Subpart E, Appendix C. The Project Supervisor and other supervisors shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that the Project Supervisor has a minimum of 2 years of on-the-job asbestos abatement experience relevant to project supervisor responsibilities and the other supervisors have a minimum of 1 year on-the-job asbestos abatement experience commensurate with the responsibilities they will have on this project.

C. Asbestos Abatement Workers: Asbestos abatement workers shall meet the requirements contained in 29 CFR 1926, Section .1101, 40 CFR 61, Subpart M, and other applicable federal, state and local requirements. Worker training documentation shall be provided as required on the "Certificate of Workers Acknowledgment" in this paragraph.

D. Worker Training and Certification of Worker Acknowledgment: Training documentation will be required for each employee who will perform OSHA Class I, Class II, Class III, or Class IV asbestos abatement operations. Such documentation shall be submitted on a Contractor generated form titled "Certificate of Workers Acknowledgment", to be completed for each employee in the same format and containing the same information as the example certificate at the end of this section. Training course completion certificates (initial and most recent update refresher) required by the information checked on the form shall be attached.

E. First Aid and CPR Trained Persons: The names of at least 2 persons who are currently trained in first aid and CPR by the American Red Cross or other approved agency shall be designated and shall be onsite at all times during site operations. They shall be trained in universal precautions and the use of PPE as described in the Bloodborne Pathogens Standard of 29 CFR 1910, Section. These persons may perform other duties but shall be immediately available to render first aid when needed. A copy of each designated person's current valid First Aid and CPR certificate shall be provided.

F. Disposal Facility, Transporter: The Contractor shall provide written evidence that the landfill to be used is approved for asbestos disposal by the USEPA, state and local regulatory agencies. Copies of signed agreements between the Contractor (including subcontractors and transporters) and the asbestos waste disposal facility to accept and dispose of all asbestos containing waste generated during the performance of this contract shall be provided. Qualifications shall be provided for each subcontractor or transporter to be used, indicating previous experience in transport and disposal of asbestos waste to include all required state and local waste hauler requirements for asbestos. The Contractor and transporters shall meet the DOT requirements of 49 CFR 171, 49 CFR 172, and 49 CFR 173 as well as registration requirements of 49 CFR 107 and other applicable state or local requirements. The disposal facility shall meet the requirements of 40 CFR 61, Sections .154 or .155, as required in 40 CFR 61, Section .150(b), and other applicable state or local requirements.

1.5.3 Federal, State or Local Citations on Previous Projects

The Contractor and all subcontractors shall submit a statement, signed by an officer of the company, containing a record of any citations issued by Federal, State or local regulatory agencies relating to asbestos activities (including projects, dates, and resolutions); a list of penalties incurred through non-compliance with asbestos project specifications, including liquidated damages, overruns in scheduled time limitations and resolutions; and situations in which an asbestos-related contract has been terminated (including projects, dates, and reasons for terminations). If there are none, a negative declaration signed by an officer of the company shall be provided.

1.6 MEDICAL REQUIREMENTS

Medical requirements shall conform to 29 CFR 1926, Section .1101.

1.6.1 Medical Examination

Before being exposed to airborne asbestos fibers, workers shall be provided with a medical examination as required by 29 CFR 1926, Section .1101 and other pertinent state or local requirements. This requirement shall have been satisfied within the last 12 months. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos and within 30 calendar days before or after the termination of employment in such occupation. X-ray films of asbestos workers shall be identified to the consulting radiologist and medical record jackets shall be marked with the word "asbestos."

1.6.1.1 Information Provided to the Physician

The Contractor shall provide the following information in writing to the examining physician:

a. A copy of 29 CFR 1926, Section .1101 and Appendices D, E, G, and I;
b. A description of the affected employee's duties as they relate to the employee's exposure;
c. The employee's representative exposure level or anticipated exposure level;
d. A description of any personal protective and respiratory equipment used or to be used;
e. Information from previous medical examinations of the affected employee that is not otherwise available to the examining physician.

1.6.1.2 Written Medical Opinion

For each worker, a written medical opinion prepared and signed by a licensed physician indicating the following:

a. Summary of the results of the examination.
b. The potential for an existing physiological condition that would place the employee at an increased risk of health impairment from exposure to asbestos.
c. The ability of the individual to wear personal protective equipment, including respirators, while performing strenuous work tasks under cold and/or heat stress conditions.
d. A statement that the employee has been informed of the results of the examination, provided with a copy of the results, informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure, and informed of any medical condition that may result from asbestos exposure.

1.6.2 Medical and Exposure Records

Complete and accurate records shall be maintained of each employee's medical examinations, medical records, and exposure data, as required by 29 CFR 1910, Section 1910.20 and 29 CFR 1926, Section .1101 for a period of 50 years after termination of employment. Records of the required medical examinations and exposure data shall be made available, for inspection and copying, to the Assistant Secretary of Labor for Occupational Safety and Health (OSHA) or authorized representatives of the employee and an employee's physician upon request of the employee or former employee. A copy of the required medical certification for each employee shall be maintained on file at the worksite for review, as requested by the Owner’s representatives.

1.7 TRAINING PROGRAM

1.7.1 General Training Requirements

The Contractor shall establish a training program as specified by EPA Model Accreditation Plan (MAP), training requirements at 40 CFR 763, Subpart E, Appendix C, the State of California, OSHA requirements at 29 CFR 1926, Section .1101(k)(9), and this specification. Contractor employees shall complete the required training for the type of work they are to perform and such training shall be documented.

1.7.2 Project Specific Training

Prior to commencement of work, each worker shall be instructed by the Owner’s Representative and Competent Person in the following project specific training:

a. The hazards and health effects of the specific types of ACM to be abated;
b. The content and requirements of the Contractor's Accident Prevention Plan to include the Asbestos Hazard Abatement Plan and Activity Hazard Analyses and site-specific safety and health precautions;
c. Hazard Communication Program;
d. Hands-on training for each asbestos abatement technique to be employed;
e. Heat and/or cold stress monitoring specific to this project;
f. Air monitoring program and procedures;
g. Medical surveillance to include medical and exposure record-keeping procedures;
h. The association of cigarette smoke and asbestos-related disease;
i. Security procedures;

j. Specific work practice controls and engineering controls required for each Class of work in accordance with 29 CFR 1926, Section .1101.

1.8 RESPIRATORY PROTECTION PROGRAM

The Contractor shall establish in writing, and implement a respiratory protection program in accordance with 29 CFR 1926, Section .1101, 29 CFR 1910, Section .134, ANSI Z88.2, CGA G-7, CGA G-7.1 and DETAIL SHEET 12. The Contractor shall establish minimum respiratory protection requirements based on measured or anticipated levels of airborne asbestos fiber concentrations encountered during the performance of the asbestos abatement work. The Contractor's respiratory
protection program shall include, but not be limited to, the following elements:

A. The company policy, used for the assignment of individual responsibility, accountability, and implementation of the respiratory protection program.

B. The standard operating procedures covering the selection and use of respirators. Respiratory selection shall be determined by the hazard to which the worker is exposed.

C. Medical evaluation of each user to verify that the worker may be assigned to an activity where respiratory protection is required.

D. Training in the proper use and limitations of respirators.

E. Respirator fit-testing, i.e., quantitative, qualitative and individual functional fit checks.

F. Regular cleaning and disinfection of respirators.

G. Routine inspection of respirators during cleaning and after each use when designated for emergency use.

H. Storage of respirators in convenient, clean, and sanitary locations.

I. Surveillance of regulated area conditions and degree of employee exposure (e.g., through air monitoring).

J. Regular evaluation of the continued effectiveness of the respiratory protection program.

K. Recognition and procedures for the resolution of special problems as they affect respirator use (e.g., no facial hair that comes between the respirator face piece and face or interferes with valve function; prescription eye wear usage; contact lenses usage; etc.).

L. Proper training in putting on and removing respirators.

1.8.1 Respiratory Fit Testing

A qualitative or quantitative fit test conforming to 29 CFR 1926, Section 1101, Appendix C shall be conducted by the Contractor Competent Person for each Contractor worker required to wear a respirator, and for authorized visitors who enter a regulated area where respirators are required to be worn. A respirator fit test shall be performed for each worker wearing a negative-pressure respirator prior to initially wearing a respirator on this project and every 6 months thereafter. The qualitative fit tests may be used only for testing the fit of half-mask respirators where they are permitted to be worn, or of full-facepiece air purifying respirators where they are worn at levels at which half-

facepiece air purifying respirators are permitted. If physical changes develop that will affect the fit, a new fit test for the worker shall be performed. Functional fit checks shall be performed by employees each time a respirator is put on and in accordance with the manufacturer's recommendation.

1.8.2 Respirator Selection and Use Requirements

The Contractor shall provide respirators, and ensure that they are used as required by 29 CFR 1926, Section .1101 and in accordance with the manufacturer's recommendations. Respirators shall be jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health (MSHA/NIOSH), or by NIOSH, under the provisions of 42 CFR 84, for use in environments containing airborne asbestos fibers. Personnel who handle ACM, enter regulated areas that require the wearing of a respirator, or who are otherwise carrying out abatement activities that require the wearing of a respirator, shall be provided with approved respirators that are fully protective of the worker at the measured or anticipated airborne asbestos concentration level to be encountered. For air-purifying respirators, the particulate filter portion of the cartridges or canister approved for use in airborne asbestos environments shall be high-efficiency particulate air (HEPA). The initial respirator selection and the decisions regarding the upgrading or downgrading of respirator type shall be made by the Owner’s Representative based on the measured or anticipated airborne asbestos fiber concentrations to be encountered. The Contractor's Designated Competent Person in consultation with the Owner’s Representative, shall have the authority to take immediate action to upgrade or downgrade respiratory type when there is an immediate danger to the health and safety of the wearer. Respirators shall be used in the following circumstances:

a. During all Class I asbestos jobs.
b. During all Class II work where the ACM is not removed in a substantially intact state.
c. During all Class II and III work which is not performed using wet methods. Respirators need not be worn during removal of ACM from sloped roofs when a negative exposure assessment has been made and ACM is removed in an intact state.
d. During all Class II and III asbestos jobs where the Contractor does not produce a negative exposure assessment.
e. During all Class III jobs where TSI or surfacing ACM is being disturbed.
f. During all Class IV work performed within regulated areas where employees performing other work are required to wear respirators.
g. During all work where employees are exposed above the PEL-TWA or PEL-Excursion Limit.
h. In emergencies

1.8.3 Class I Work

The Contractor shall provide: (1) a tight-fitting, powered air purifying respirator equipped with high efficiency filters, or (2) a full-facepiece supplied air respirator operated in the pressure demand mode, equipped with HEPA egress cartridges, or (3) an auxiliary positive pressure self-contained breathing apparatus, for all employees within the regulated area where Class I work is being performed; provided that a negative exposure assessment has not been produced, and that the exposure level will not exceed 1 f/cc as an 8-hour time weighted average. A full-facepiece supplied air respirator, operated in the pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus shall be provided under such conditions, if the exposure assessment indicates exposure levels above 1 f/cc as an 8-hour time weighted average.

1.8.4 Class II and III Work

The Contractor shall provide an air purifying respirator, other than a disposable respirator, equipped with high-efficiency filters whenever the employee performs Class II and III asbestos jobs where the

Contractor does not produce a negative exposure assessment; and Class III jobs where TSI or surfacing ACM is being disturbed.

1.8.5 Sanitation

Employees who wear respirators shall be permitted to leave work areas to wash their faces and respirator facepieces whenever necessary to prevent skin irritation associated with respirator use.

1.9 HAZARD COMMUNICATION PROGRAM

A hazard communication program shall be established and implemented in accordance with 29 CFR 1926, Section .59. Material safety data sheets (MSDSs) shall be provided for all hazardous materials brought onto the worksite. One copy shall be provided to the Owner's Representative and 1 copy shall be included in the Contractor's Hazard Communication Program.

1.10 LICENSES, PERMITS AND NOTIFICATIONS

1.10.1 General Legal Requirements

Necessary licenses, permits and notifications shall be obtained in conjunction with the project's asbestos abatement, transportation and disposal actions and timely notification furnished of such actions as required by federal, state, regional, and local authorities. The Contractor shall notify the SCAWMD and CalOSHA in writing, at least 14 days prior to the commencement of work, in accordance with 40 CFR 61, Subpart M, and state and local requirements to include the mandatory "Notification of Demolition and Renovation Record" form and other required notification documents. The Contractor shall furnish copies of the notifications to the Owner's Representative at least 3 days prior to the projects scheduled start date. For licenses, permits, and notifications that the Contractor is responsible for obtaining, the Contractor shall pay any associated fees or other costs incurred.

1.10.2 Litigation and Notification

The Contractor shall notify the Owner's Representative if any of the following occur:

a. The Contractor or any of the subcontractors are served with notice of violation of any law, regulation, permit or license which relates to this contract;
b. Proceedings are commenced which could lead to revocation of related permits or licenses; permits, licenses or other Government authorizations relating to this contract are revoked;
c. Litigation is commenced which would affect this contract;
d. The Contractor or any of the subcontractors become aware that their equipment or facilities are not in compliance or may fail to comply in the future with applicable laws or regulations.

1.11 PERSONAL PROTECTIVE EQUIPMENT

Three complete sets of personal protective equipment shall be made available to the authorized visitors for entry to the regulated area. Authorized visitors shall be provided with training equivalent to that provided to Contractor employees in the selection, fitting, and use of the required personal protective equipment and the site safety and health requirements. Contractor workers shall be provided with personal protective clothing and equipment and the Contractor shall ensure that it is worn properly. The Owner's Representative and

Designated Competent Person shall select and approve all the required personal protective clothing and equipment to be used.

1.11.1 Respirators

Respirators shall be in accordance with paragraph RESPIRATORY PROTECTION PROGRAM.

1.11.2 Whole Body Protection

Personnel exposed to airborne concentrations of asbestos that exceed the PELs, or for all OSHA Classes of work for which a required negative exposure assessment is not produced, shall be provided with whole body protection and such protection shall be worn properly. The Owner's Representative and Competent Person shall select and approve the whole body protection to be used. The Competent Person shall examine work suits worn by employees at least once per work shift for rips or tears that may occur during performance of work. When rips or tears are detected while an employee is working, rips and tears shall be immediately mended, or the work suit shall be immediately replaced. Disposable whole body protection shall be disposed of as asbestos contaminated waste upon exiting from the regulated area. Reusable whole body protection worn shall be either disposed of as asbestos contaminated waste upon exiting from the regulated area or be properly laundered in accordance with 29 CFR 1926, Section .1101. Whole body protection used for asbestos abatement shall not be removed from the worksite by a worker to be cleaned. The Contractor's Designated Competent Person, in consultation with the Owner's Representative, has the authority to take immediate action to upgrade or downgrade whole body protection when there is an immediate danger to the health and safety of the wearer.

1.11.2.1 Coveralls: Disposable coveralls with a zipper front shall be provided. Sleeves shall be secured at the wrists, and foot coverings secured at the ankles.

1.11.2.2 Underwear: Disposable underwear shall be provided. If reusable underwear are used, they shall be disposed of as asbestos contaminated waste or laundered in accordance with 29 CFR 1926, Section .1101. Asbestos abatement workers shall not remove contaminated reusable underwear worn during abatement of ACM from the site to be laundered.

1.11.2.3 Work Clothing: An additional coverall shall be provided when the abatement and control method employed does not provide for the exit from the regulated area directly into an attached decontamination unit. Cloth work clothes for wear under the protective coverall, and foot coverings, shall be provided when work is being conducted in low temperature conditions. Cloth work clothes shall be either disposed of as asbestos contaminated waste or properly laundered in accordance with 29 CFR 1926, Section .1101.

1.11.2.4 Gloves: Gloves shall be provided to protect the hands. Where there is the potential for hand injuries (i.e., scrapes, punctures, cuts, etc.) a suitable glove shall be provided and used.

1.11.2.5 Foot Coverings: Cloth socks shall be provided and worn next to the skin. Footwear, as required by OSHA, that is appropriate for safety and health hazards in the area shall be worn. Rubber boots shall be used in moist or wet areas. Reusable footwear removed from the regulated area shall be thoroughly decontaminated or disposed of as ACM waste. Disposable protective foot covering shall be disposed of as ACM waste. If rubber boots are not used, disposable foot covering shall be provided.

1.11.2.6 Head Covering: Hood type disposable head covering shall be provided. In addition, protective head gear (hard hats) shall be provided as required. Hard hats shall only be removed from the regulated area after being thoroughly decontaminated.

1.11.2.7 Protective Eye Wear: Eye protection provided shall be in accordance with ANSI Z87.1.

1.12 HYGIENE FACILITIES AND PRACTICES

The Contractor shall establish a decontamination area for the decontamination of employees, material and equipment. The Contractor shall ensure that employees enter and exit the regulated area through the decontamination area.

1.12.1 Shower Facilities

Shower facilities, when provided, shall comply with 29 CFR 1910, Section 141(d)(3).

1.12.2 3-Stage Decontamination Area

The decontamination unit shall have an equipment room and a clean room separated by a shower that complies with 29 CFR 1910, Section .141 (unless the Contractor can demonstrate that such facilities are not feasible). Equipment and surfaces of containers filled with ACM shall be cleaned prior to removing them from the equipment room or area. Surfaces of the equipment room shall be wet wiped 2 times after each shift. Materials used for wet wiping shall be disposed of as asbestos contaminated waste. Two separate lockers shall be provided for each asbestos worker, one in the equipment room and one in the clean room. [Hot water service may be secured from the building hot water system provided backflow protection is installed by the Contractor at the point of connection. The wastewater pump shall be sized for 1.25 times the showerhead flow-rate at a pressure head sufficient to satisfy the filter head loss and discharge line losses. The pump shall supply a minimum 1.6 L/s 25 gpm flow with 10.7 m35 ft. of pressure head. Used shower water shall be collected and filtered to remove asbestos contamination. Filters and residue shall be disposed of as asbestos contaminated. Filtered water shall be discharged to the sanitary system. Wastewater filters shall be installed in series with the first stage pore size of 20 microns and the second stage pore size of 5 microns. The floor of the decontamination unit's clean room shall be kept dry and clean at all times. Water from the shower shall not be allowed to wet the floor in the clean room. Surfaces of the clean room and shower shall be wet-wiped 2 times after each shift change with a disinfectant solution. Proper housekeeping and hygiene requirements shall be maintained. Soap and towels shall be provided for showering, washing and drying. Any cloth towels provided shall be disposed of as ACM waste or shall be laundered in accordance with 29 CFR 1926, Section .1101.

1.12.3 Load-Out Unit

A temporary load-out unit that is adjacent and connected to the regulated area may be constructed. Utilization of prefabricated units shall have prior approval of the Owner’s Representative. The load-out unit shall be attached in a leak-tight manner to each regulated area. Surfaces of the load-out unit and access tunnel shall be adequately wet-wiped 2 times after each shift change. Materials used for wet wiping shall be disposed of as asbestos contaminated waste.

1.12.4 Decontamination Area Entry Procedures

The Contractor shall ensure that employees entering the decontamination area through the clean room or clean area:

a. Remove street clothing in the clean room or clean area and deposit it in lockers.
b. Put on protective clothing and respiratory protection before leaving the clean room or clean area.
c. Pass through the equipment room to enter the regulated area.

1.12.5 Decontamination Area Exit Procedures

The Contractor shall ensure that the following procedures are followed:

a. Before leaving the regulated area, respirators shall be worn while employees remove all gross contamination and debris from their work clothing using a HEPA vacuum.
b. Employees shall remove their protective clothing in the equipment room and deposit the clothing in labeled impermeable bags or containers for disposal and/or laundering.
c. Employees shall not remove their respirators in the equipment room.
d. Employees shall shower prior to entering the clean room. If a shower has not been located between the equipment room and the clean room or the work is performed outdoors, the Contractor shall ensure that employees engaged in Class I asbestos jobs: a) Remove asbestos contamination from their work suits in the equipment room or decontamination area using a HEPA vacuum before proceeding to a shower that is not adjacent to the work area; or b) Remove their contaminated work suits in the equipment room, without cleaning worksuits, and proceed to a shower that is not adjacent to the work area.
e. After showering, employees shall enter the clean room before changing into street clothes.

1.12.6 Lunch Areas

The Contractor shall provide lunch areas in which the airborne concentrations of asbestos are below 0.01 f/cc.

1.12.7 Smoking

Smoking, shall not be permitted unless in designated areas approved by the Owner.

1.13 REGULATED AREAS

All Class I, II, and III asbestos work shall be conducted within regulated areas. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they shall demarcate the regulated area. Access to regulated areas shall be limited to authorized persons. The Contractor shall control access to regulated areas, ensure that only authorized personnel enter, and verify that Contractor required medical surveillance, training and respiratory protection program requirements are met prior to allowing entrance.

1.14 WARNING SIGNS AND TAPE

Warning signs and tape printed in English and Spanish shall be provided at the regulated boundaries and entrances to regulated areas. The Contractor shall ensure that all personnel working in areas contiguous to regulated areas comprehend the warning signs. Signs shall be located to allow personnel to read the signs and take the necessary protective steps required before entering the area. Warning signs, shall be in vertical format conforming to 29 CFR 1910 and 29 CFR 1926, Section .1101, a minimum of 500 by 350 mm 20 by 14 inches, and displaying the following legend in the lower panel:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE
REQUIRED IN THIS AREA

Spacing between lines shall be at least equal to the height of the upper of any two lines. Warning tape shall be provided.

1.15 WARNING LABELS

Warning labels shall be affixed to all asbestos disposal containers used to contain asbestos materials, scrap, waste debris, and other products contaminated with asbestos. Containers with preprinted warning labels conforming to requirements are acceptable. Warning labels conform to 29 CFR 1926, Section .1101 and shall be of sufficient size to be clearly legible displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

1.16 LOCAL EXHAUST VENTILATION

Local exhaust ventilation units shall conform to ANSI Z9.2 and 29 CFR 1926, Section .1101. Filters on local exhaust system equipment shall conform to ANSI Z9.2 and UL 586. Filter shall be UL labeled.

1.17 TOOLS

Vacuums shall be leak proof to the filter, equipped with HEPA filters, of sufficient capacity and necessary capture velocity at the nozzle or nozzle attachment to efficiently collect, transport and retain the ACM waste material. Power tools shall not be used to remove ACM unless the tool is equipped with effective, integral HEPA filtered exhaust ventilation capture and collection system, or has otherwise been approved for use by the Owner’s Representative. Residual asbestos shall be removed from reusable tools prior to storage and reuse. Reusable tools shall be thoroughly decontaminated prior to being removed from regulated areas.

1.18 RENTAL EQUIPMENT

If rental equipment is to be used, written notification shall be provided to the rental agency, concerning the intended use of the equipment, the possibility of asbestos contamination of the equipment and the steps that will be taken to decontaminate such equipment. A written acceptance of the terms of the Contractor's notification shall be obtained from the rental agency.

1.19 AIR MONITORING EQUIPMENT

The Owner’s Representative shall approve air monitoring equipment to be used to collect personal samples. The equipment shall include, but shall not be limited to:

a. Low-volume, battery powered, body-attachable, portable personal pumps that can be calibrated to a constant airflow up to approximately 3.5 liters per minute when equipped with a sampling train of tubing and filter cassette, and a self-contained rechargeable power pack capable of sustaining the calibrated flow rate for a minimum of 10 hours. The pumps shall also be equipped with an automatic flow control unit which shall maintain a constant flow, even as filter resistance increases due to accumulation of fiber and debris on the filter surface.
b. Single use standard 25 mm diameter cassette, open face, 0.8 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive extension cowl, and shrink bands, to be used with low flow pumps in accordance with 29 CFR 1926, Section .1101 for personal air sampling.
c. Single use standard 25 mm diameter cassette, open face, 0.45 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive cowl, and shrink bands, to be used with high flow pumps when conducting environmental area sampling using NIOSH Pub No. 84-100 Methods 7400 and 7402, (and the transmission electric microscopy method specified at 40 CFR 763 if required).
d. Appropriate plastic tubing to connect the air sampling pump to the selected filter cassette.
e. A flow calibrator capable of calibration to within plus or minus 2 percent of reading over a temperature range of minus 20 to plus 60 degrees C minus 4 to plus 140 degrees F and traceable to a NIST primary standard.

1.20 EXPENDABLE SUPPLIES

1.20.1 Glovebag: Glovebags shall be provided as described in 29 CFR 1926, Section .1101. The glovebag assembly shall be 0.15 mm 6 mil thick plastic, prefabricated and seamless at the bottom with preprinted OSHA warning label.

1.20.2 Duct Tape: Industrial grade duct tape of appropriate widths suitable for bonding sheet plastic and disposal container shall be provided.

1.20.3 Disposal Container: Leak-tight (defined as solids, liquids, or dust that cannot escape or spill out) disposal containers shall be provided for ACM wastes as required by 29 CFR 1926 Section .1101.

1.20.4 Disposal Bags: Leak-tight bags, 0.15 mm 6 mil thick, shall be provided for placement of asbestos generated waste.

1.20.5 Sheet Plastic: Sheet plastic shall be polyethylene of 0.15 mm 6 mil minimum thickness and shall be provided in the largest sheet size necessary to minimize seams. Film shall be frosted or clear and conform to ASTM D 4397, except as specified below:

1.20.5.1 Flame Resistant: Where a potential for fire exists, flame-resistant sheets shall be provided. Film shall be frosted and shall conform to the requirements of NFPA 701.

1.20.5.2 Reinforced: Reinforced sheets shall be provided where high skin strength is required, such as where it constitutes the only barrier between the regulated area and the outdoor environment. The sheet stock shall consist of translucent, nylon-reinforced or woven-polyethylene thread laminated between 2 layers of polyethylene film. Film shall meet flame resistant standards of NFPA 701.

1.20.6 Amended Water: Amended water shall meet the requirements of ASTM D 1331.

1.20.7 Mastic Removing Solvent: Mastic removing solvent shall be nonflammable and shall not contain methylene chloride, glycol ether, or halogenated hydrocarbons. Solvents used onsite shall have a flash point greater than 60 degrees C. 140 degrees F.

1.20.8 Leak-tight Wrapping: Two layers of 0.15 mm 6 mil minimum thick polyethylene sheet stock shall be used for the containment of removed asbestos-containing components or materials such as reactor vessels, large tanks, boilers, insulated pipe segments and other materials too large to be placed in disposal bags. Upon placement of the ACM component or material, each layer shall be individually leak-tight sealed with duct tape.

1.20.9 Viewing Inspection Window: Where feasible, a minimum of 1 clear, 3 mm 1/8 inch thick, acrylic sheet, 450 by 610 mm 18 by 24 inches, shall be installed as a viewing inspection window at eye level on a wall in each containment enclosure. The windows shall be sealed leak-tight with industrial grade duct tape.

1.20.10 Wetting Agents: Removal encapsulant (a penetrating encapsulant) shall be provided when conducting removal abatement activities that require a longer removal time or are subject to rapid evaporation of amended water. The removal encapsulant shall be capable of wetting the ACM and retarding fiber release during disturbance of the ACM greater than or equal to that provided by amended water. Performance requirements for penetrating encapsulants are specified in paragraph ENCAPSULANTS.

1.21 MISCELLANEOUS ITEMS

A sufficient quantity of other items, such as, but not limited to: scrapers, brushes, brooms, staple guns, tarpaulins, shovels, rubber squeegees, dust pans, other tools, scaffolding, staging, enclosed chutes, wooden ladders, lumber necessary for the construction of containments, UL approved temporary electrical equipment, material and cords, ground fault circuit interrupters, water hoses of sufficient length, fire extinguishers, first aid kits, portable toilets, logbooks, log forms, markers with indelible ink, spray paint in bright color to mark areas, project boundary fencing, etc., shall be provided.

PART 2 PRODUCTS

2.1 ENCAPSULANTS

Encapsulants shall conform to USEPA requirements, shall contain no toxic or hazardous substances and no solvent and shall meet the following requirements:

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol
Life Expectancy, 20 yrs Accelerated Aging Test	ASTM C 732
Permeability, Min. 23 ng per Pa-sec-square m	ASTM E 96

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 730 N/m	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Min. 4.7 N-m (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 730 N/m	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Min.	ASTM D 2794

4.7 N-m (Gardner Impact Test)	
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119
Bond Strength, 1.5 kN/m (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol
Life Expectancy, 20 yrs Accelerated Aging Test	ASTM C 732
Permeability, Minimum 0.4 perms	ASTM E 96

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 50 pounds of force/foot	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Minimum 43 in-lb (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test,	ASTM E 736

50 pounds of force/foot	
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test(Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Minimum 43 in-lb (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test(Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119

ALL ENCAPSULANTS

Requirement	Test Standard
Bond Strength, 100 pounds of force/foot (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

2.2 ENCASEMENT PRODUCTS

This section has been deleted.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Asbestos abatement work tasks shall be performed as summarized in phase-specific Workplans which are to be used in conjunction with this master specification for abatement. The Contractor shall use the engineering controls and work practices required in 29 CFR 1926, Section .1101(g) in all operations regardless of the levels of exposure. Personnel shall wear and utilize protective clothing and equipment as specified. The Contractor shall not permit eating, smoking, drinking, chewing or applying cosmetics in the regulated area. All hot work (burning, cutting, welding, etc.) shall be conducted under controlled conditions in conformance with 29 CFR 1926, Section .352, Fire Prevention. Personnel of other trades, not engaged in asbestos abatement activities, shall not be exposed at any time to airborne concentrations of asbestos unless all the administrative and personal protective provisions of the Contractor's Accident Prevention Plan are complied with. Power to the regulated area shall be locked-out and tagged in accordance with 29 CFR 1910, and temporary electrical service with ground fault circuit interrupters shall be provided as needed. Temporary electrical service shall be disconnected when necessary for wet removal. The Contractor shall stop abatement work in the regulated area immediately when the airborne total fiber concentration: (1) equals or exceeds 0.01 f/cc, or the pre-abatement concentration, whichever is greater, outside the regulated area; or (2) equals or exceeds 1.0 f/cc inside the regulated area. The Contractor shall correct the condition to the satisfaction of the Owner’s Representative, including visual inspection and air sampling. Work shall resume only upon notification by the Owner’s Representative. Corrective actions shall be documented.

3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN

Asbestos abatement shall be performed without damage to or contamination of adjacent work or area. Where such work or area is damaged or contaminated, as verified by the Owner’s Representative using visual inspection or sample analysis, it shall be restored to its original condition or decontaminated by the Contractor at no expense to the Owner, as deemed appropriate by the Owner’s Representative. When satisfactory visual inspection and air sampling analysis results are obtained and have been evaluated by the Owner’s Representative, work shall proceed.

3.3 TEMPORARY POWER

The Contractor shall provide a temporary power system of sufficient capacity to provide for the electrical demand for work covered under this specification.

The Contractor shall shut down and lock out electric power to the entire work area, and any interruption of power to other parts of the building shall be minimal, and coordinated with the Owner.

Contractor shall insure a safe installation (including ground faulting) of temporary power sources and equipment, and; Compliance with all applicable electrical code requirements and Cal-OSHA requirements for temporary electrical systems.

The temporary electrical service shall be sized to provide 150% of the maximum demand of the Contractor's equipment during the performance of the Project. Contractor shall provide a power distribution schedule and amperage calculation for all electrical devices to be used.

Contractor shall ensure that all power cords are free of cuts, nicks or other damage. Power cords shall not be allowed to gather or coil where they may create a trip hazard. Power cords repaired with duct tape will not be permitted inside contained areas.

3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS

Building ventilating systems supplying air into or returning air out of a regulated area shall be shut down and isolated by lockable switch or other positive means in accordance with 29 CFR 1910, Section .147. Air-tight critical barriers shall be installed on building ventilating openings located inside the regulated area that supply or return air from the building ventilation system or serve to exhaust air from the building. The critical barriers shall consist of 2 layers of polyethylene. Edges to wall, ceiling and floor surfaces shall be sealed with industrial grade duct tape. Critical barriers shall be installed.

3.5 TEMPORARY FACILITIES

If it is deemed necessary during the bidding of the project, the abatement contractor will provide a trailer with two separate offices, large enough to serve as the job site office. The offices will be air conditioned and the power will be provided by the Owner. The Owner will direct the Contractor as to the location of said field office.

3.6 METHODS OF COMPLIANCE

3.6.1 Mandated Practices

The Contractor shall employ proper handling procedures in accordance with 29 CFR 1926 and 40 CFR 61, Subpart M, and the specified requirements. The specific abatement techniques and items identified shall be detailed in the Contractor's Asbestos Hazard Abatement Plan including, but not limited to, details of construction materials, equipment, and handling procedures. The Contractor shall use the following engineering controls and work practices in all operations, regardless of the levels of exposure:

a. Vacuum cleaners equipped with HEPA filters to collect debris and dust containing ACM.
b. Wet methods or wetting agents to control employee exposures during asbestos handling, mixing, removal, cutting, application, and cleanup; except where it can be demonstrated that the use of wet methods is unfeasible due to, for example, the creation of electrical hazards, equipment malfunction, and in roofing.
c. Prompt clean-up and disposal in leak-tight containers of wastes and debris contaminated with asbestos.
d. Inspection and repair of polyethylene in work and high traffic areas.
e. Cleaning of equipment and surfaces of containers filled with ACM prior to removing them from the equipment room or area.

3.6.2 Control Methods

The Contractor shall use the following control methods to comply with the PELs:

a. Local exhaust ventilation equipped with HEPA filter dust collection systems;
b. Enclosure or isolation of processes producing asbestos dust;
c. Ventilation of the regulated area to move contaminated air away from the breathing zone of employees and toward a filtration or collection device equipped with a HEPA filter;
d. Use of other work practices and engineering controls;
e. Where the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the PELs, the Contractor shall use them to reduce

employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with paragraph, RESPIRATORY PROTECTION PROGRAM.

3.6.3 Unacceptable Practices

The following work practices and engineering controls shall not be used for work related to asbestos or for work which disturbs ACM, regardless of measured levels of asbestos exposure or the results of initial exposure assessments:

a. High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
b. Compressed air used to remove asbestos, or materials containing asbestos, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.
c. Dry sweeping, shoveling, or other dry clean-up of dust and debris containing ACM.
d. Employee rotation as a means of reducing employee exposure to asbestos.

3.6.4 Class I Work Procedures

In addition to requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the installation and operation of the control system.
b. For jobs involving the removal of more than 7.5 m 25 feet or 0.9 square meters 10 square feet of TSI or surfacing material, the Contractor shall place critical barriers over all openings to the regulated area.
c. HVAC systems shall be isolated in the regulated area by sealing with a double layer of plastic or air-tight rigid covers.
d. Impermeable dropcloths (0.15 mm 6 mil or greater thickness) shall be placed on surfaces beneath all removal activity.
e. Objects within the regulated area shall be handled as specified in paragraph OBJECTS.
f. Where a negative exposure assessment has not been provided or where exposure monitoring shows the PEL was exceeded, the regulated area shall be ventilated to move contaminated air away from the employee's breathing zone toward a HEPA unit or collection device.

3.6.5 Specific Control Methods for Class I Work

In addition to requirements of paragraph Class I Work Procedures, Class I asbestos work shall be performed using the control methods identified in
the subparagraphs below.

3.6.5.1 Negative Pressure Enclosure (NPE) System: The system shall provide at least 4 air changes per hour inside the containment. The local exhaust unit equipment shall be operated 24 hours per day until the containment is removed, and shall be leak-proof to the filter and equipped with HEPA filters. Air movement shall be directed away from the employees and toward a HEPA filtration device. The NPE shall be smoke tested for leaks at the beginning of each shift. Local exhaust equipment shall be sufficient to maintain a minimum pressure differential of minus 0.5 mm 0.02 inch of water column relative to adjacent, unsealed areas. Pressure differential shall be monitored continuously, 24 hours per day, with an automatic manometric recording instrument. Pressure differential recordings shall be provided daily on the same day collected. Readings shall be reviewed by the Contractor's Designated Competent Person and Owner’s Representative. The building ventilation system shall

not be used as the local exhaust system for the regulated area. The local exhaust system shall terminate outdoors unless an alternate arrangement is allowed by the Owner. All filters used shall be new at the beginning of the project and shall be periodically changed as necessary and disposed of as ACM waste.

3.6.5.2 Glovebag Systems: The glovebag system shall be used to remove ACM from straight runs of piping and elbows and other connections. Glovebags shall be used without modification and shall be smoke-tested for leaks and any leaks sealed prior to use. Glovebags shall be installed to completely cover the circumference of pipe or other structures where the work is to be done. Glovebags shall be used only once and shall not be moved. Glovebags shall not be used on surfaces that have temperatures exceeding 66 degrees C. 150 degrees F. Prior to disposal, glovebags shall be collapsed by removing air within them using a HEPA vacuum. Before beginning the operation, loose and friable material adjacent to the glovebag operation shall be wrapped and sealed in 2 layers of plastic or otherwise rendered intact. At least 2 persons shall perform Class I glovebag removal. Asbestos regulated work areas shall be established as specified and shown on detailed drawings and plans for glovebag abatement. Designated boundary limits for the asbestos work shall be established with rope or other continuous barriers and all other requirements for asbestos control areas shall be maintained, including area signage and boundary warning tape.

a. In addition to requirements for negative pressure glovebag systems above, the Contractor shall attach HEPA vacuum systems or other devices to the bag to prevent collapse during removal of ACM from straight runs of piping and elbows and other connections.

b. The negative pressure glove boxes used to remove ACM from pipe runs shall be fitted with gloved apertures and a bagging outlet and constructed with rigid sides from metal or other material which can withstand the weight of the ACM and water used during removal. A negative pressure shall be created in the system using a HEPA filtration system. The box shall be smoke tested for leaks prior to each use.

3.6.5.3 Mini-Enclosures: Mini-containment (small walk-in enclosure)to accommodate no more than 2 persons, may be used if the disturbance or removal can be completely contained by the enclosure with the following specifications and work practices. The mini-enclosure shall be inspected for leaks and smoke tested before each use. Air movement shall be directed away from the employee's breathing zone within the mini-enclosure.

3.6.5.4 Wrap and Cut Operation: Prior to cutting pipe, the asbestos-containing insulation shall be wrapped with polyethylene and securely sealed with duct tape to prevent asbestos becoming airborne as a result of the cutting process. The following steps shall be taken: install glovebag, strip back sections to be cut 150 mm 6 inches from point of cut, and cut pipe into manageable sections.

3.6.6 Class II Work

In addition to the requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the work.
b. For indoor work, critical barriers shall be placed over all openings to the regulated area.
c. Impermeable dropcloths shall be placed on surfaces beneath all removal activity.

3.6.7 Specific Control Methods for Class II Work

In addition to requirements of paragraph Class II Work, Class II work shall be performed using the following methods:

3.6.7.1 Vinyl and Asphalt Flooring Materials: When removing vinyl and asphalt flooring materials [which contain ACM] Resilient sheeting shall be removed by adequately wet methods. Tiles shall be removed intact (if possible); wetting is not required when tiles are heated and removed intact. Flooring or its backing shall not be sanded. Scraping of residual adhesive and/or backing shall be performed using wet methods. Mechanical chipping is prohibited unless performed in a negative pressure enclosure. Dry sweeping is prohibited. The Contractor shall use vacuums equipped with HEPA filter, disposable dust bag, and metal floor tool (no brush) to clean floors.

3.6.7.2 Roofing Material: Roofing material shall be removed in an intact state. Wet methods shall be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards. When removing built-up roofs, with asbestos-containing roofing felts and an aggregate surface, using a power roof cutter, all dust resulting from the cutting operations shall be collected by a HEPA dust collector, or shall be HEPA vacuumed by vacuuming along the cut line. Asbestos-containing roofing material shall not be dropped or thrown to the ground, but shall be lowered to the ground via covered, dust-tight chute, crane, hoist or other method approved by the Owner's Representative. Any ACM that is not intact shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. While the material remains on the roof it shall be kept wet or placed in an impermeable waste bag or wrapped in plastic sheeting. Intact ACM shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. Unwrapped material shall be transferred to a closed receptacle precluding the dispersion of dust. Critical barriers shall be placed over roof level heating and ventilation air intakes.

3.6.7.3 Cementitious Siding and Shingles or Transite Panels: Intentionally cutting, abrading or breaking siding, shingles, or transite panels is prohibited. Each panel or shingle shall be sprayed with amended water prior to removal. Nails shall be cut with flat, sharp instruments. Unwrapped or unbagged panels or shingles shall be immediately lowered to the ground via covered dust-tight chute, crane or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.

3.6.7.4 Gaskets: Gaskets shall be thoroughly wetted with amended water prior to removal and immediately placed in a disposal container. If a gasket is visibly deteriorated and unlikely to be removed intact, removal shall be undertaken within a glovebag. Any scraping to remove residue shall be performed wet.

3.6.7.5 Other Class II Jobs: The Contractor shall use the following work practices when performing Class II removal miscellaneous ACM: The material shall be thoroughly wetted with amended water prior and during its removal. The material shall be removed in an intact state. Cutting, abrading or breaking the material is prohibited. The ACM removed shall be immediately bagged or wrapped.

3.6.8 Specific Control Methods for Class III Work

Class III asbestos work shall be conducted using engineering and work practice controls which minimize the exposure to employees performing the asbestos work and to bystander employees. The work shall be performed using wet methods and, to the extent feasible, using local exhaust ventilation. The Contractor shall use impermeable dropcloths and shall isolate the operation, using mini-enclosures or glovebag systems, where the disturbance involves drilling, cutting, abrading, sanding, chipping, breaking, or sawing of TSI or surfacing material.

3.6.9 Specific Control Methods for Class IV Work

Class IV jobs shall be conducted using wet methods, HEPA vacuums, and prompt clean-up of debris containing ACM. Employees cleaning up debris and waste in a regulated area where respirators are required shall wear the selected respirators.

3.6.10 Alternative Methods for Roofing Materials and Asphaltic Wrap

The Contractor shall use the following engineering controls and work practices when removing, repairing, or maintaining intact pipeline asphaltic wrap, or roof cements, mastics, coatings, or flashings which contain asbestos fibers encapsulated or coated by bituminous or resinous compounds. If during the course of the job the material does not remain intact, the Contractor shall use the procedures described in paragraph Roofing Material. Before work begins, and as needed during the job, the Designated Competent Person shall conduct an inspection and determine that the roofing material is intact and will likely remain intact. The material shall not be sanded, abraded, or ground. Manual methods which would render the material non-intact shall not be used. Roofing material shall not be dropped or thrown to the ground but shall be lowered via covered, dust-tight chute, crane, hoist or other method approved by the Owner's Representative. All such material shall be removed from the roof as soon as practicable, but not later than the end of the work shift. Removal or disturbance of pipeline asphaltic wrap shall be performed using wet methods.

3.6.11 Cleaning After Asbestos Removal

After completion of all asbestos removal work, surfaces from which ACM has been removed shall be wet wiped or sponged clean, or cleaned by some equivalent method to remove all visible residue. Run-off water shall be collected and filtered through a dual filtration system. A first filter shall be provided to remove fibers 20 micrometers and larger, and a final filter provided that removes fibers 5 micrometers and larger. After the gross amounts of asbestos have been removed from every surface, remaining visible accumulations of asbestos on floors shall be collected using plastic shovels, rubber squeegees, rubber dustpans, and HEPA vacuum cleaners as appropriate to maintain the integrity of the regulated area. When TSI and surfacing material has been removed, workmen shall use HEPA vacuum cleaners to vacuum every surface. Surfaces or locations which could harbor accumulations or residual asbestos dust shall be checked after vacuuming to verify that no asbestos-containing material remains; and shall be re-vacuumed as necessary to remove the ACM.

3.7 FINAL CLEANING AND VISUAL INSPECTION

Upon completion of abatement, the regulated area shall be cleaned by collecting, packing, and storing all gross contamination. A final cleaning shall be performed using HEPA vacuum and wet cleaning of all exposed surfaces and objects in the regulated area. Upon completion of the cleaning, the Contractor shall conduct a visual pre-inspection of the cleaned area in preparation for a final inspection before final air clearance monitoring and recleaning, as necessary. Upon completion of the final cleaning, the Contractor and the Owner's Representative shall conduct a final visual inspection of the cleaned regulated area in accordance with ASTM E 1368 and document the results. If the Owner's Representative rejects the clean regulated area as not meeting final cleaning requirements, the Contractor shall reclean as necessary and have a follow-on inspection conducted with the Owner's Representative. Recleaning and follow-up reinspection shall be at the Contractor's expense.

3.8 LOCKDOWN

Prior to removal of plastic barriers and after clean-up of gross contamination and final visual inspection, a post removal (lockdown) encapsulant shall be spray applied to ceiling, walls, floors, and other surfaces in the regulated area.

3.9 EXPOSURE ASSESSMENT AND AIR MONITORING

3.9.1 General Requirements For Exposure

Exposure assessment, air monitoring and analysis of airborne concentration of asbestos fibers shall be performed in accordance with 29 CFR 1926, Section .1101, the Contractor's air monitoring plan, and as specified. Personal exposure air monitoring (collected at the breathing zone) that is representative of the exposure of each employee who is assigned to work within a regulated area shall be performed by the Contractor. Breathing zone samples shall be taken for at least 25 percent of the workers in each shift, or a minimum of 2, whichever is greater. Air monitoring results at the 95 percent confidence level shall be calculated as shown in Table 2 at the end of this section. The Owner's Representative will provide an onsite technician and appropriate equipment to conduct sample analyses of air samples using the methods prescribed in 29 CFR 1926, Section .1101, to include NIOSH Pub No. 84-100 Method 7400.] Preabatement and abatement environmental air monitoring shall be performed by the Owner's Representative. Final clearance environmental air monitoring, shall be performed by the Owner's Representative. Environmental and final clearance air monitoring shall be performed using [NIOSH Pub No. 84-100 Method 7400 (PCM) with optional confirmation of results by the EPA TEM Method specified in 40 CFR 763. For environmental and final clearance, air monitoring shall be conducted at a sufficient velocity and duration to establish the limit of detection of the method used at 0.005 f/cc. Confirmation of asbestos fiber concentrations (asbestos f/cc) from environmental and final clearance samples collected and analyzed by NIOSH Pub No. 84-100 Method 7400 (total f/cc) may be conducted using TEM in accordance with NIOSH Pub No. 84-100 Method 7402. When such confirmation is conducted, it shall be from the same sample filter used for the NIOSH Pub No. 84-100 Method 7400 PCM analysis. For all Contractor required environmental or final clearance air monitoring, confirmation of asbestos fiber concentrations, using NIOSH Pub No. 84-100 Method 7402, shall be at the Contractor's expense. Results of breathing zone samples shall be posted at the job site and made available to the Owner's Representative. The Contractor shall maintain a fiber concentration inside a regulated area less than or equal to 0.1 f/cc expressed as an 8 hour, time-weighted average (TWA) during the conduct of the asbestos abatement. If fiber concentration rises above 0.1 f/cc, work procedures shall be investigated with the Owner's Representative to determine the cause. At the discretion of the Owner's Representative, fiber concentration may exceed 0.1 f/cc but shall not exceed 1.0 f/cc expressed as an 8-hour TWA. The Contractor's workers shall not be exposed to an airborne fiber concentration in excess of 1.0 f/cc, as averaged over a sampling period of 30 minutes. Should either an environmental concentration of 1.0 f/cc expressed as an 8-hour TWA or a personal excursion concentration of 1.0 f/cc expressed as a 30-minute sample occur inside a regulated work area, the Contractor shall stop work immediately, notify the Owner's Representative, and implement additional engineering controls and work practice controls to reduce airborne fiber levels below prescribed limits in the work area. Work shall not restart until authorized by the Owner's Representative.

3.9.2 Initial Exposure Assessment

The Contractor shall conduct an exposure assessment immediately before or at the initiation of an asbestos abatement operation to ascertain expected exposures during that operation. The assessment shall be completed in time to comply with the requirements which are triggered by

exposure data or the lack of a negative exposure assessment, and to provide information necessary to assure that all control systems planned are appropriate for that operation. The assessment shall take into consideration both the monitoring results and all observations, information or calculations which indicate employee exposure to asbestos, including any previous monitoring conducted in the workplace, or of the operations of the Contractor which indicate the levels of airborne asbestos likely to be encountered on the job.

3.9.3 Negative Exposure Assessment

The Contractor shall provide a negative exposure assessment for the specific asbestos job which will be performed. The negative exposure assessment shall be provided within five days of the initiation of the project and conform to the following criteria:

a. Objective Data: Objective data demonstrating that the product or material containing asbestos minerals or the activity involving such product or material cannot release airborne fibers in concentrations exceeding the PEL-TWA and PEL-Excursion Limit under those work conditions having the greatest potential for releasing asbestos.

b. Prior Asbestos Jobs: Where the Contractor has monitored prior asbestos jobs for the PEL and the PEL-Excursion Limit within 12 months of the current job, the monitoring and analysis were performed in compliance with asbestos standard in effect; the data were obtained during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the Contractor's current operations; the operations were conducted by employees whose training and experience are no more extensive than that of employees performing the current job; and these data show that under the conditions prevailing and which will prevail in the current workplace, there is a high degree of certainty that the monitoring covered exposure from employee exposures will not exceed the PEL-TWA and PEL-Excursion Limit.

c. Initial Exposure Monitoring: The results of initial exposure monitoring of the current job, made from breathing zone air samples that are representative of the 8-hour PEL-TWA and 30-minute short-term exposures of each employee. The monitoring covered exposure from operations which are most likely during the performance of the entire asbestos job to result in exposures over the PELs.

3.9.4 Preabatement Environmental Air Monitoring

Preabatement environmental air monitoring shall be established prior to the masking and sealing operations for each regulated area to determine background concentrations before abatement work begins. As a minimum, preabatement air samples shall be collected using NIOSH Pub No. 84-100 Method 7400, PCM at these locations: outside the building; inside the building, but outside the regulated area perimeter; and inside each regulated work area. One sample shall be collected for every 185 square meters 2000 square feet of floor space. At least 2 samples shall be collected outside the building: at the exhaust of the HEPA unit; and downwind from the abatement site. The PCM samples shall be analyzed within 24 hours; and if any result in fiber concentration greater than 0.01 f/cc, asbestos fiber concentration shall be confirmed using NIOSH Pub No. 84-100 Method 7402 (TEM).

3.9.5 Environmental Air Monitoring During Abatement

Environmental air monitoring shall be conducted at locations and frequencies that will accurately characterize any evolving airborne asbestos fiber concentrations. The assessment shall demonstrate that the product or material containing asbestos minerals, or the abatement involving such product or material, cannot release airborne asbestos fibers in concentrations exceeding 0.01 f/cc as a TWA under those work conditions having the greatest potential for releasing asbestos. The monitoring shall be at least once per shift at locations including, but not limited to, close to the work inside a regulated area; preabatement sampling locations; outside entrances to a regulated area; close to glovebag operations; representative locations outside of the perimeter of a regulated area; inside clean room; and at the exhaust discharge point of local exhaust system ducted to the outside of a containment (if used). If the sampling outside regulated area shows airborne fiber levels have exceeded background or 0.01 f/cc, whichever is greater, work shall be stopped immediately, and the Owner's Representative notified. The condition causing the increase shall be corrected. Work shall not restart until authorized by the Owner's Representative.

3.9.6 Final Clearance Air Monitoring

Prior to conducting final clearance air monitoring, the Contractor and the Owner's Representative shall conduct a final visual inspection of the regulated area where asbestos abatement has been completed. Final clearance air monitoring shall not begin until acceptance of the Contractor's final cleaning by the Owner's Representative. The Owner's Representative will] conduct final clearance air monitoring using aggressive air sampling techniques as defined in EPA 560/5-85-024 or as otherwise required by federal or state requirements. The sampling and analytical method used will be NIOSH Pub No. 84-100Method 7400 (PCM.

3.9.6.1 Final Clearance Requirements, NIOSH PCM Method: For PCM sampling and analysis using NIOSH Pub No. 84-100 Method 7400, the fiber concentration inside the abated regulated area, for each airborne sample, shall be less than 0.01 f/cc. The abatement inside the regulated area is considered complete when every PCM final clearance sample is below the clearance limit. If any sample result is greater than 0.01 total f/cc, the asbestos fiber concentration (asbestos f/cc) shall be confirmed from that same filter using NIOSH Pub No. 84-100 Method 7402 (TEM) at Contractor's expense. If any confirmation sample result is greater than 0.01 asbestos f/cc, abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.6.2 Final Clearance Requirements, EPA TEM Method: For EPA TEM sampling and analysis, using the EPA Method specified in 40 CFR 763, abatement inside the regulated area is considered complete when the arithmetic mean asbestos concentration of the 5 inside samples is less than or equal to 70 structures per square millimeter (70 S/mm). When the arithmetic mean is greater than 70 S/mm, the 3 blank samples shall be analyzed. If the 3 blank samples are greater than 70 S/mm, resampling shall be done. If less than 70 S/mm, the 5 outside samples shall be analyzed and a Z-test analysis performed. When the Z-test results are less than 1.65, the decontamination shall be considered complete. If the Z-test results are more than 1.65, the abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.6.3 Air Clearance Failure: If clearance sampling results fail to meet the final clearance requirements, the Contractor shall pay all costs associated with the required recleaning, resampling, and analysis, until final clearance requirements are met.

3.9.7 Air-Monitoring Results and Documentation

Air sample fiber counting shall be completed and results provided within 24 hours (breathing zone samples) after completion of a sampling period. The Owner's Representative shall be notified immediately of any airborne levels of asbestos fibers in excess of established requirements. Written sampling results shall be provided within 5 working days of the date of collection. The written results shall be signed by testing laboratory analyst. The air sampling results shall be documented on a Contractor's daily air monitoring log. The daily air monitoring log shall contain the following information for each sample:

a. Sampling and analytical method used;
b. Date sample collected;
c. Sample number;
d. Sample type: BZ = Breathing Zone (Personal)
e. Activity/name where sample collected;
f. Sampling pump manufacturer, model and serial number, beginning flow rate, end flow rate, average flow rate (L/min);
g. Calibration date, time, method, location, name of calibrator, signature;
h. Sample period (start time, stop time, elapsed time (minutes);
i. Total air volume sampled (liters);
j. Sample results (f/cc and S/mm square)
k. Laboratory name, location, analytical method, analyst, confidence level.

3.10 CLEARANCE CERTIFICATION

When asbestos abatement is complete, ACM waste is removed from the regulated areas, and final clean-up is completed, the Owner's Representative will certify the areas as safe before allowing the warning signs and boundary warning tape to be removed. The Contractor and the Owner's Representative shall visually inspect all surfaces within the containment for residual material or accumulated debris. The Contractor shall reclean all areas showing dust or residual materials. The Owner's Representative will certify in writing that the area is safe before unrestricted entry is permitted.

3.11 CLEANUP AND DISPOSAL

3.11.1 Collection and Disposal of Asbestos

All ACM waste including contaminated wastewater filters, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing, shall be collected and placed in leak-tight containers such as double plastic bags; sealed double wrapped polyethylene sheet: or other approved containers. Waste within the containers shall be wetted in case the container is breeched. Asbestos-containing waste shall be disposed of at an EPA, state and local approved asbestos landfill. For temporary storage, sealed impermeable containers shall be stored in an asbestos waste load-out unit or in a storage/transportation conveyance (i.e., dumpster, roll-off waste boxes, etc.) in a manner acceptable to and in an area assigned by the Owner's Representative. Procedure for hauling and disposal shall comply with 40 CFR 61, Subpart M, state, regional, and local standards.

3.11.2 Asbestos Waste Shipment Record

The Contractor shall complete and provide the Owner's Representative final completed copies of the Waste Shipment Record for all shipments of waste material as specified in 40 CFR 61, Subpart M and other required state waste manifest shipment records, within 3 days of delivery to the landfill. Each Waste Shipment Record shall be signed and dated by the Contractor, Owner or Owner's Representative, the waste transporter and disposal facility operator.

End of Asbestos Abatement Specifications

DIVISION 03. GENERAL REQUIREMENTS FOR LEAD ABATEMENT

PART 1 GENERAL

1.1 REFERENCES

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

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 148	Hazardous Waste Injection Restrictions
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 268	Land Disposal Restrictions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD)

HUD-01 (1996)	Lead-Based Paint: Guidelines for the Availability and Control of Lead-Based Paint Hazards in Housing

CALIFORNIA CODE OF REGULATIONS

Title 17, CCR, Div. 1, Ch. 8	Accreditation, Certification And Work Practices In Lead-Related Construction

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH OSHA Booklet 3142 Lead in Construction

UNDERWRITERS LABORATORIES (UL)

UL 586 (1996)	High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

A. Abatement: "Abatement" means any set of measures designed to reduce or eliminate lead hazards.

B. Accreditation: The Department has reviewed and finds acceptable a training provider's written application for accreditation, and has conducted and finds acceptable, an on-site audit as specified in Subsection 35078(f).

C. Accredited Training Provider: "Accredited training provider" means any individual, corporation, partnership or other unincorporated association or public entity to which the Department has granted accreditation or provisional accreditation to offer lead-related construction courses and continuing education instruction.

D. Certified Lead Supervisor: "Certified lead supervisor" means an individual who is responsible for implementing lead-related construction work and enforcing work practices that ensure worker safety in residential or public buildings and who has received a certificate or an interim certificate from the Department as a "certified lead supervisor".

E. Certified Lead Worker: "Certified lead worker" means an individual who performs lead-related construction work in residential or public buildings under the direction of a certified lead supervisor and has received a certificate from the Department as a "certified lead worker".

F. Clearance Inspection: "Clearance inspection" means an on-site limited investigation, as described in Chapter 15: Clearance, Sections II-VI, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.

G. Component: "Component" means a structural element or fixture, including a wall, floor, ceiling, door, window, molding, trim, trestle, tank, stair, railing, cabinet, gutter, or downspout.

H. Containment: "Containment" means a system, process, or barrier used to contain lead hazards inside a work area as described in "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, Chapter 8, "Containment and Barrier Systems," Table 8.1, Table 8.2, and Table 8.3.

I. Department: "Department" means the California Department of Health Services (DHS).

J. Deteriorated Paint: Deteriorated paint" means paint or surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, or otherwise separating from a component.

K. DHS-Approved Course: "DHS-Approved course" means any lead-related construction course that satisfies the requirements specified in Sections, 35056, 35057, 35061, 35065, 35066, or 35067 as determined by DHS pursuant to Sections 35076 and 35078.

L. Interim Certificate: "Interim certificate" means the document issued by the Department to an individual who meets requirements for interim certification as described in Section 35093.

M. Job Tasks: "Job tasks" mean the specific activities performed in the context of work.

N. Lead-Based Paint: Lead-based paint" means paint or other surface coatings that contain an amount of lead equal to, or in excess of one milligram per square centimeter (1.0 mg/cm2) or more than half of one percent (0.5%) by weight.

O. Lead-Contaminated Dust: "Lead-contaminated dust" means dust that contains an amount of lead equal to, or in excess of, one hundred micrograms per square foot (100_g/ft2) for floor surfaces and five hundred micrograms per square foot (500 _g/ft2) for horizontal window surfaces.

P. Lead-Contaminated Soil: "Lead-contaminated soil" means bare soil that contains an amount of lead equal to, or in excess of, four hundred parts per million (400 ppm) in children's play areas and one thousand parts per million (1000 ppm) in all other areas.

Q. Lead Hazard: "Lead hazard" means deteriorated lead-based paint, lead contaminated dust, lead contaminated soil, disturbing lead-based paint or presumed lead-based paint without containment, or any other nuisance which results in environmental lead contamination.

R. Lead-Related Construction Work: "Lead-related construction work" means any construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential or public building, including preparation and cleanup, that, by using or disturbing lead-containing material or soil, may result in significant exposure of adults or children to lead.

S. Presumed Lead-Based Paint: "Presumed lead-based paint" means paint or surface coating affixed to a component in or on a structure, excluding paint or surface coating affixed to a component in or on a residential dwelling constructed on or after January 1, 1978.

T. Public Building: "Public building" means a structure which is generally accessible to the public, including but not limited to, schools, daycare centers, museums, airports, hospitals, stores, convention centers, government facilities, office buildings and any other building which is not an industrial building or a residential building.

U. Residential Building; "Residential building" means a structure which is used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of one or more persons.

V. Work Area: "Work area" means an area where lead-based paint or presumed lead-based paint is disturbed, or abatement is conducted.

1.3 DESCRIPTION OF WORK

The scope of this project is to remove LBP and lead ceramics where they are to be impacted by the planned modernizations. Lead components likely to be impacted identified at the site include the door frames on Building B, Restroom door frames in Building D and the ceramic baseboard tile in the K Building.

1.4 SUBMITTALS

1.4.1 Lead-Based Paint (LBP) Management Plan; The Contractor shall prepare a detailed LBP Management Plan that identifies the work procedures, health, and safety measures to be used in LBP abatement. The plan shall address the various sources of lead and the methods to be undertaken to abate the lead hazards to include the following key elements:

a. Abatement methods for each LBP containing component.
b. Training requirements as required by Federal, state, and local regulations.
c. Unique problems associated with the LBP abatement project.
d. Eating, drinking, smoking, and rest room procedures.
e. Sequencing of LBP related work.
f. Personnel protective equipment; respiratory protection program and controls.

g. Engineering controls, containment structures and safety measures.
h. Worker exposure assessment procedures.
i. Work Practice controls.
j. Housekeeping.
k. Hygiene facilities and practice.
l. Medical surveillance, including medical removal protection.
m. Sampling, testing and analytical methods to include personal air sampling requirements of 29 CFR 1926 Section .62 and toxicity characteristic leaching procedure (TCLP) of the waste material in accordance with 40 CFR 261. Procedures must include frequency, locations, and sampling and analytical methods to be used.

1.6.1 Emergency Contingency Plan; An emergency contingency plan shall be prepared in accordance with 40 CFR 261. Procedure must address the following LBP abatement hazards as appropriate to the project:

a. Negative air pressure system failure.
b. Major breech of containment barriers.
c. Detection of unexpected lead levels on adjacent grounds.
d. Spilling of lead debris bags or containers.
e. Phone numbers for project manager, local fire, police and medical personnel.

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

a. Identification or documentation of potential hazardous wastes associated with the work.
b. Names and qualifications of each Contractor that will be transporting, storing, treating, and disposing of the wastes; the facility location, phone number, and name of a 24-hour point of contact shall be included. Two copies of EPA, state, and local hazardous waste permit applications, permits, and EPA identification numbers.
c. Names and qualifications (experience and training) of personnel who will be working onsite with hazardous waste.
d. Spill prevention, containment, and clean-up contingency measures to be implemented.
g. Work plan and schedule for waste containment, removal, and disposal. Waste shall be cleaned up and containerized daily.

1.6.2 Sampling Result; A daily log of the personal air sampling test results shall be reviewed by the Competent Person 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. Documentation of results that exceed specified limits (personal air samples that exceed 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.

1.5 QUALITY ASSURANCE

1.5.1 Qualifications

a. Contractor: Certification that the Contractor has prior experience on LBP abatement projects similar in nature and extent to ensure the capability to perform the abatement in a satisfactory manner.
b. Competent Person: Certification that the Contractor's full-time onsite Competent Person meets the competent person requirements of 29 CFR 1926 Section .62 and Title 8 and is experienced in administration and supervision of LBP abatement projects, including work practices, protective measures for building and personnel, disposal procedures, etc. This person shall have completed a Contractor Supervisor LBP abatement course by an EPA Training Center or an equivalent certification course, and have had a minimum of 2 years on-the-job experience.

c. Testing Laboratory: The name, address, and telephone number of the independent testing laboratory selected to perform analysis] for personal air samples and TCLP analysis. Documentation that the laboratory performing the analysis is an EPA National Lead Laboratory Accreditation Program (NLLAP) and California ELAP accredited laboratory and that it is rated proficient in the NIOSH/EPA Environmental Lead Proficiency Analytical Testing Program (ELPAT). 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.

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.

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); High Efficiency Particulate Air (HEPA) filtration capabilities for all cartridges, filters, and HEPA vacuum systems.

1.5.4 Medical Records: Certification that employees who are involved in LBP abatement work have received medical examinations and will receive continued medical surveillance, including biological monitoring, as required by 29 CFR 1926 Section .62 and by the state and local regulations pertaining to such work. Records shall be retained, at Contractor expense, in accordance with 29

1.5.5 Training: Training certification shall be provided prior to the start of work involving LBP abatement, for all of the Contractors' workers, supervisors and Competent Person. Training shall meet the requirements of 29 CFR 1926 Section .62, 29 CFR 1926 Section .59 and 49 CFR 172, and that required by EPA or the state LBP course for the work to be performed. Training shall be provided prior to the time of job assignment and, at least, annually.

1.6 RESPIRATORY PROTECTION PROGRAM

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

1.7 HAZARD COMMUNICATION PROGRAM

A Hazard Communication Program shall be implemented in accordance with 29 CFR 1926 Section .59. Material safety data sheets (MSDSs) shall be provided for all hazardous materials brought onto the worksite. One copy shall be provided to the Owner's Representative and 1 copy shall be included in the Contractor's Hazard Communication Program.

1.8 SAFETY AND HEALTH OVERSIGHT

The Competent Person shall be the onsite person responsible for coordination, safety, security and execution of the work. The Competent Person shall be able to identify existing and predictable lead hazards and shall have the authority to take corrective measures to eliminate them. The Competent Person shall be responsible for personal sampling.

PART 2 PRODUCTS

2.1 SUBSTITUTION OF MATERIALS AND/ OR METHODS

A. Any substitution in materials or methods to those specified shall be approved by the Owner's Representative prior to use. Any requests for substitution shall be provided in writing to the Consultant and the Owner. The request shall clearly state the rationale for the substitution.

B. Submit to the Owner's Representative and the Owner product data and samples of all materials to be considered as an alternate.

C. Product data shall consist of manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, material safety data sheets (MSDS) and other standard descriptive data. Submittal data shall be clearly marked to identify pertinent materials, products or models and show performance characteristics and capacities. Samples shall be of sufficient size and quantity to clearly illustrate the functional characteristics of the product or material with integrally related parts and attachment devices.

D. No work shall begin which requires submittal for approval until the Owner's Representative has "approved" or "approved as noted" the submittal.

2.2 INTRODUCTION

2.2.1 Materials and Equipment

A. The work of this Section, without limiting the generality thereof, includes the furnishing of labor, materials, tools, equipment, services and incidentals necessary to complete all Lead Based Paint Abatement in accordance with the Plans and Specifications. These Plans and Specifications are intended to describe, and provide for a finished and complete piece of work; work which is described by any portion of these documents shall be complete in every detail and in accordance with established trade practice, notwithstanding whether or not every item or detail necessarily involved is particularly mentioned.

B. Approvals and Inspections. All temporary facilities, work procedures, equipment, materials, services, and agreements must strictly adhere to and meet this Section along with EPA, OSHA, NIOSH, HUD regulations recommendations, and guidelines, as well as any other federal state, and local regulations. Where there exists an overlap of these regulations and guidelines, the most stringent one applies. All work performed by the Abatement Contractor is further subject to approval of the Owner, and/ or Owner's Representative.

2.2.2 Materials

A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description.

B. Damaged or deteriorating materials shall not be used and shall be removed from the premises.

C. Polyethylene sheet in a roll size to minimize the frequency of joints shall be delivered to job site with factory label indicating 6 mil.

D. Polyethylene disposable bags shall be six (6) mil with pre- printed label. Tie wraps for bags shall be plastic, five (5) inches long (minimum), pointed and looped to secure filled plastic bags.

E. Tape or adhesive spray will be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.

F. Impermeable containers are to be used to receive and retain any lead containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with EPA and DOT standards.

G. HEPA filtered exhaust systems shall be used during any dust generating abatement operations.

H. All caustics shall be properly labeled and containerized in leak- tight containers.

I. Machine Sanding Equipment - Sanders shall be of the dual action, rotary action, orbital or straight line system type, fitted with a high efficiency particulate air (HEPA) dust pick- up system. Air compressors utilized to operate this equipment shall be designed to continuously provide 90 to 110 p. s. i. or as recommended by the manufacturer.

J. Heat Blower Gun Equipment - Electrically- operated, heat- blower gun shall be a flameless electrical paint softener type. Heat- blower shall have electronically controlled temperature settings to allow usage below a temperature of 1,100 degrees Fahrenheit. Heat- blower shall be DI type (non-grounded) 120 V, AC application. Heat- blower shall be equipped with various nozzles to cover all common applications (cone, fan, glass protector, spoon reflector, etc.).

K. Chemical Stripping Removers - Chemical removers shall contain no methylene chloride products. Chemical removers shall be compatible with, and not harmful to the substrate that they are applied to. Chemical removers used on masonry surfaces shall contain anti- stain formulation that inhibits discoloration of stone, granite, brick and other masonry construction. Chemical removers used on interior surfaces shall not raise or discolor the surface being abated.

L. Chemical Stripping Agent Neutralizer - Chemical stripping agent neutralizers may be used on exterior surfaces only. Neutralizers shall be compatible with and not harmful to the substrate that they are applied to. Neutralizers shall be compatible with the stripping agent that has been applied to the surface substrate.

2.2.3 TOOLS AND EQUIPMENT

A. Provide suitable tools for all abatement operations.

B. The Abatement Contractor shall have available sufficient inventory or dated purchase orders for materials necessary for the job including protective clothing, respirators, filter cartridges, polyethylene sheeting of proper size and thickness, tape, and air filters.

C. The Abatement Contractor shall have available power cables or sources such as generators (where required).

D. Vacuum units, of suitable size and capacities for project, shall have HEPA filter(s) capable of trapping and retaining at least 99.97% of all monodispersed particles of 0.3 micrometers in diameter.

E. The Abatement Contractor will have reserve units so that the station system will operate continuously.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Abatement shall:

A. Be conducted only by a certified lead supervisor or a certified lead worker. A certified lead supervisor shall be onsite during all work site preparation and during the post-abatement cleanup of work areas. At all other times when abatement is conducted, the certified lead supervisor shall be onsite or available by telephone, pager or answering service, and able to be present at the work area in no more than two hours.

B. Be conducted using containment and in a manner which does not result in contamination of non-work areas with lead-contaminated dust, lead-contaminated soil, or lead-based paint debris.

C. Be conducted according to the procedures specified in:

1. Chapter 12: Abatement, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, if the abatement is designed to reduce lead paint or lead hazards for a minimum of twenty years; or

1 Chapter 11: Interim Controls, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, if the abatement is designed to reduce lead paint or lead hazards for less than twenty yearS.

3.2 WORK AREA SET UP

3.2.1 General

A. Site Safety. The Abatement Contractor is responsible for all safety at the work site. This includes, but is not limited to electrical safety, mechanical (tool) safety, fire safety, and personnel protective safety. Safety requirements are, for the most part, common sense and sound business practice; however, the Abatement Contractor is advised that federal, state and local regulations exist which govern safety on the work site. Therefore, in addition to the following, the Abatement Contractor is responsible for adhering to the most stringent requirements in affect by any of the following entities or these Specifications.

B. A primary concern in this type of work is to ensure that adequate exits exist in the event of an emergency and conversely, that adequate entrances exist for emergency personnel. The nature of this work requires sealing entrances and the extensive use of six- mil polyethylene sheeting; however, the Abatement Contractor should never permanently seal (i. e., nail, bolt, hard cover) any potential escape exits and should take extra care to clearly identify potential exits and inform the workers.

C. Work Site Safety Plan. Prior to the initiation of the abatement work, the following tasks must be completed by the Contractor:

The Abatement Contractor shall establish a work site safety plan which includes a set of emergency procedures and shall post them in a conspicuous place at the work site. The safety plan should include provisions for the following:

1) Evacuation of injured workers

2) Emergency and fire exit routes from all work areas, including local telephone numbers for fire and medical emergency personnel

3) Copies of applicable insurance certificates

4) Employee work logs

The Abatement Contractor is responsible for training all workers in safety procedures. At a minimum, one employee on site shall be trained and certified in basic first aid by the American Red Cross or equivalent. A general first aid kit may be maintained in the containment for treating minor medical problems.

D. Access to Work Areas

1. The Owner will provide specific access as required during the project to the Abatement Contractor and personnel assigned to the project. The Abatement Contractor will be responsible for the security of each building or portion thereof involved in the abatement project. It will also be the Abatement Contractor's responsibility to allow only authorized personnel as defined below in Section 3.5 into the work area, and to secure all assigned entrances and exits at the end of the work day so as to prevent unauthorized entry.

2. The Abatement Contractor shall maintain a bound log book in which any person entering or leaving the lead abatement work area must sign and enter the dates and times of entry and departure.

3. Use of waste containers on- site shall be controlled under the following requirements:

   (a) Location of waste containers on- site shall be coordinated with the Owner and Owner's Representative.
   (b) The waste containers shall be solid enclosed containers, lined with two layers of six- mil polyethylene sheeting and locked and secured at all times.
   (c) The Abatement Contractor shall comply with all federal, state and local regulations and ordinances regarding lead waste storage.

4. The Abatement Contractor, supervisor will not allow anyone access to the dwelling unless they have successfully passed an approved training program.

3.2.2 Abatement Preparation

A. Prior to the commencement of any abatement procedures, notification requirements must be met; required signs shall be posted and moveable objects shall be moved a minimum of four feet from the perimeter walls of the room.

B. Pre-abatement work shall be performed prior to any abatement or component removal commencing on each side of the building.

C. Decontamination Unit. At a minimum, the Abatement Contractor shall construct a two- stage decontamination unit. This unit shall be directly adjacent to the abatement area for the decontamination of workers contaminated with lead. The decontamination unit shall consist of an equipment room, dirty room, and wash area in series. The Contractor shall ensure that employees use the worker decontamination chamber prior to leaving the work area.

   1. The decontamination unit shall be constructed with six-mil polyethylene sheeting on floors, walls and ceiling. Doors through this unit shall be constructed as described above.

D. Clean area. The Abatement Contractor shall select a clean area outside the abatement area for the workers to change into protective equipment. This area shall contain warm water hand washing facilities (potable water), clean cloths, storage for a HEPA vacuum, and respirator storage space. Table, chairs and a rest facility shall also be available at this location. Contaminated equipment or personnel shall not be permitted in this area.

E. Abatement area.

1. The Abatement Contractor shall pre-clean all surfaces with a HEPA vacuum and protect occupants' belongings by covering with one layer of six mil polyethylene and have joints taped. All debris gathered during this clean- up shall be disposed of properly. In addition, any existing loose paint or paint bearing materials found in the buildings are to be assumed hazardous and packaged and disposed of properly. The amount of the material should be estimated during the pre-bid walkthrough.

2. The Abatement Contractor shall prepare the area as follows:

   a) Doors and Windows: Doors and windows upon which a dust- generating method is being used, and on the same floor and all floors below, must be closed and covered with six- mil thick polyethylene sheeting.

   b) Plants and Ground: The ground and any plants or shrubs in the area in which exterior abatement is occurring shall be covered with a waterproof canvas tarp and weighted at all edges so as to prevent blowing. Such covering shall cover from the side of the structure to a point at least eight feet away from the structure. The covering shall be taped or otherwise attached to the structure.

      (1) The waterproof canvas tarp shall always be placed in a manner that traps all debris and water. This is best accomplished by elevating the edges.

      (2) The waterproof canvas tarp shall be properly disposed of and not re-used.

3. Special Areas. Any abatement project being performed on any structure other than a building shall be arranged, equipped and operated in a manner which will eliminate the possibility of lead contaminants or lead contaminated materials escaping from the work area.

   a) The Abatement Contractor shall maintain polyethylene barriers, and a clean area as long as needed for the safe and proper completion of the work. Any openings or tears in the work area barriers shall be corrected by the Abatement Contractor at the beginning of each work day and as necessary during the workday with such openings or tears reported immediately to the Owner. Work will not be allowed to commence until all barriers are in place and acceptable to the Owner's Representative.

4. Barriers shall not be removed until the work areas are thoroughly cleaned, and the area approved by the Owner's Representative. All debris must be properly bagged and removed from work areas, and the lead surface wipe samples must have passed final clearance tests, in accordance with provisions detailed in the Specification prior to barrier removal.

5. At the Owner's and Owner's Representative's approval, the Abatement Contractor may utilize a portable mini-isolation chamber to create an isolated work area around single components to be removed. This chamber shall still be equipped with an adjacent clean room, and become an isolated work area sealed at all seams to where it is attached to adjacent surfaces. It shall also satisfy all requirements for a work area and satisfy all clearance criteria, as identified in this Section and Local Law.

F. Signs. Prior to the preparation of a dwelling for abatement, the Abatement Contractor shall place warning signs immediately outside all entrances and exits to the dwelling, warning that abatement work is being conducted in the vicinity. The signs shall be at least 20" x 14" and read:

WARNING:
LEAD PAINT REMOVAL HAZARD
UNAUTHORIZED ENTRY PROHIBITED
NO SMOKING, EATING OR DRINKING ALLOWED IN THE WORK AREA

Signs shall be in bold lettering with lettering not smaller than two inches tall.

G. Construct and maintain suitable polyethylene barriers within the building to isolate the exterior work area from the interior of the building.

H. The polyethylene barriers termed "critical barriers" for the removal of windows shall consist of the following:

1. Pre- Clean all interior window surfaces with a HEPA- equipped vacuum.

2. Seal duct tape lip to inner most sill, casing and header surfaces of the window.

3. Seal two layers of six mil polyethylene sheeting from the duct tape lip on the inside sill of the dwelling unit window and extend up to the inside surface of the top interior casing. The first layer of sheeting applied shall be sealed to the inside faces of the window casing. The polyethylene sheeting shall be sealed to a piece of three- inch wide duct tape forming a lip attached to the interior window perimeter of the window casing.

4. There shall be no cavity in the polyethylene sheeting created that would allow lead dust to accumulate, which cannot be removed with HEPA vacuuming. This shall allow for removal of this polyethylene sheeting from the exterior of the building, without the generation of lead dust, once the window is removed and cleanup is complete.

5. The second layer of polyethylene sheeting shall be applied over the first layer and sealed directly to the inner face of the cut tape lip and window sill and casing.

6. This sealing of windows shall be done from the interior prior to the beginning of any exterior work.

I. The critical barriers for the removal of doors and door jambs, casing, and associated trim, shall consist of the following:

1. After precleaning activities of HEPA vacuuming floor and surfaces to be abated, seal with duct tape one layer of polyethylene sheeting over a 4’ x 4’ floor area extending in from the entrance doorway. This floor sheeting shall extend a minimum of six inches up the adjacent wall.

2. Remove the entrance door as described in this section.

3. Construct a mini- containment chamber with a double layer of six- mil polyethylene sheeting to isolate the inside door frame from the interior of the unit.

4. Seal mini- containment chamber to the interior wall a minimum of six inches from the interior door casing. Seal walls of the chamber to the floor poly. Cover ceiling with one layer of six- mil polyethylene. A prefabricated containment system may be used if approved by the Owner’s Representative.

5. Allow sufficient clearance around the door frame and casing to permit workers adequate access to remove the components without breaching the containment system.

J. Maintain polyethylene barriers, as long as needed for the safe and proper completion of the work. Any breeches in the work area barriers shall be corrected immediately and as necessary during the work day with such breeches reported immediately to the Owner. Work will not be allowed to commence until all barriers are in place and acceptable to the Owner's Representative.

3.3 PROTECTIVE PROCEDURES

3.3.1 Personal Air monitoring. Both personal air and area (ambient) air sampling will occur periodically throughout the project. The Abatement Contractor is advised of the following sampling:

A. Owner's Representative will perform clean area air monitoring sampling and analysis for all phases of the work in this Section. The Contractor is responsible for performance of personal air monitoring of Abatement Contractor employees.

B. Air samples may also be collected by the Owner's Representative outside critical barriers of the work area in the clean room, and in areas adjacent to the clean room.

C. The Owner's Representative will also collect wipe samples both within the abatement area and outside.

D. Any adjustment, tampering, and/ or deliberate interference with Owner's Representative air monitoring equipment by the Abatement Contractor's personnel will not be tolerated. Furthermore, the Abatement Contractor may be held liable for prosecution under applicable laws and regulations for attempting to falsify test results.

3.3.2 Worker Protection Requirements

A. Biological Monitoring. All workers must have baseline and post- abatement blood lead level measurements determined by the whole blood lead method, utilizing the Vena-Puncture technique with results provided to the Owner and Owner's Representative. This screening shall be performed every two months for the first six (6) months, and every six months thereafter if blood lead levels do not increase by more than 10 «g/ dl. In addition, the Abatement Contractor shall have a medical examination performed on each employee. This medical examination must be performed before workers begin lead contaminated work area and at the termination of an employee's employment or yearly, whichever comes first. A worker shall be removed from the job whenever three blood sampling tests average more than 25 «g/ dl or if a single test exceeds 30 «g/ dl. A formal investigation shall occur whenever a worker's blood lead level rises more than 10 «g/ dl over the baseline level. The Abatement Contractor shall be responsible for medical surveillance and record keeping, as defined in the OSHA Lead in Construction Standard (29 CFR 1926.62) and Local Law.

B. Training Requirements. All workers and supervisors shall have successfully completed a course provided by a licensed training provider meeting all requirements of EPA and Local Law. Supervisors shall be licensed by the responsible Local State Agency responsible. The Abatement Contractor will adhere to the requirements of OSHA regulations CFR 1910.1200 and 1926.62.

C. Supervision. The Abatement Contractor shall provide one site supervisor whose responsibilities include coordination, safety, security and execution of all phases of the lead removal project. The supervisor shall not be used as a lead removal worker, and shall be assigned full time to the project. The supervisor shall be fully qualified in all aspects of lead abatement practices and procedures, and have a three- day training course provided by a certified training provider and approved by the responsible Local State Agency within the previous year prior to commencement of lead-related work.

D. Respirators and Personal Protective Equipment (PPE)

1) Personal protection in the form of disposable coveralls and NIOSH and MSHA approved respirators, is required for all workers, supervisors, and authorized visitors entering the work area during the abatement and cleaning operations. A half- face negative pressure respirator is required until air monitoring data proves otherwise. Authorized visitors (i. e., federal, state, and local inspectors) must provide a current health and medical report certifying them as approved to wear half- face respirators, and must wear PAPRs until air monitoring data permits the use of half face respirators.

2) Each worker shall be supplied with a minimum of two (2) complete disposable suits every day. Removal workers shall not be limited to two (2) suits, and the Abatement Contractor will be required to supply additional suits as is necessary. In addition to disposable suits for the workers, the Abatement Contractor shall also supply suits for the Owner's Representative and other personnel who are authorized to inspect the worksite. Contractor must consider this cost in the bid. Disposable suits, such as TYVEK suits, and other personal protective equipment (PPE) must be donned prior to entering work area. A clean area will be provided for workers to put on suits and other personal protective equipment and to store their street clothes.

Suits will be worn inside the work area after the area passes pre- abatement inspection and shall remain in use until the area passes final clearance inspection. Light weight nylon clothes may be worn under the suit, but these clothes must be changed before leaving the work area and should be laundered separately.

3) Work clothes shall consist of moisture repellent, disposable full- body suits, head covers, gloves with cuffs extending outside the sleeves of the protective suit, boot or shoe covers, a face shield and eye protection. Hard hats shall be worn when deemed necessary. In addition, when caustic paste is used as an abatement agent, full-body suits and gloves impervious to caustics, glove extenders, face shields and boot or shoe covers are required.

4) Eye protection to personnel engaged in lead operations shall be furnished when the use of a full face respirator is not required.

5) Goggles with side shields will be worn when working with a material that may splash or fragment, or if protective eye wear is specified on the Material Safety Data Sheet (MSDS) for that product.

6) Additional respiratory protection by supplemental filters, such as organic vapor cartridges, may be needed when handling some coating products. Consult the Material Safety Data Sheets (MSDS) and obtain the proper filters as necessary.

7) The Abatement Contractor shall provide portable eyewash stations inside all work areas where caustic paste is to be used.

The stations should be capable of providing a flow of water for at least five minutes. The Abatement Contractor shall provide another station capable of providing a flow of water for at least fifteen minutes in the clean area. Squeeze bottles are not sufficient eyewash stations.

8) The Abatement Contractor shall supply workers and supervisory personnel with NIOSH and MSHA approved respirators and HEPA filters. Respiratory protection shall be implemented for all work performed by the Abatement Contractor under this Section. The respirators shall be sanitized and maintained according to the manufacturer's specifications. Disposable respirators shall not be considered acceptable under any circumstances. The Abatement Contractor will maintain on- site a sufficient supply of HEPA filters to allow workers and supervisory personnel to change contaminated

filters per manufacturer's recommendations or when breathing resistance is encountered. The Abatement Contractor is solely responsible for means and methods used and for compliance with applicable regulations:

(a) Half- mask, negative pressure, air purifying respirators equipped with high efficiency filters for airborne lead dust levels not in excess of 0.5 mg/ m3 (10 times the Permissible Exposure Limit) shall be used during component removal and enclosure abatement methods, with the exception of surface preparation for enclosures.

(b) Full- face Powered Air Purifying Respirators (PAPRs) with high efficiency filters for airborne dust levels not in excess of 2.5 mg/ m3 (50 time the Permissible Exposure Limit) will be required during all abatement demolition methods and encapsulation surface preparation methods and as required by OSHA 1926.62.

(c) Pressure demand, full face, supplied air respirators are required when airborne lead dust concentrations are expected to meet or exceed 50 mg/ m3 (1000 times the Permissible Exposure Limit). Respirators will not be removed until the worker enters the washing area of the decontamination chamber.

9) Respirators shall be individually assigned to removal workers for their exclusive use. All respiratory protection shall be provided to workers in accordance with the approved respiratory protection program, which includes all items in OSHA 29 CFR 1910.134 (B),(D),(E), & (F), and the OSHA lead standard 29 CFR 1926.62. A copy of this program shall be kept at the worksite, and shall be posted in the clean area.

10) Workers must perform negative and positive pressure fit checks each time a respirator is put on, whenever the respirator design so permits.

11) Powered air purifying respirators (PAPR) shall be tested for adequate flow as specified by the manufacturer.

12) Workers shall be given a qualitative fit test in accordance with procedures detailed in OSHA 29 CFR 1910.1025, Appendix D, Qualitative Fit Test Protocols, for all respirators to be used on this abatement project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.

13) If a question exists as to the proper selection of respirators, the Contractor may consult the OSHA Lead in Construction Standard (29 CFR 1926.62).

14) Upon leaving the active work area, cartridges must be removed, and respirators cleaned in a disinfectant solution and clean water rinsed.

15) Clean respirators should be stored in plastic bags when not in use.

16) The Abatement Contractor shall inspect respirators daily for broken, missing, or damaged parts.

17) The Abatement Contractor shall provide personal sampling to check personal exposure levels. Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken every day but must be taken in accordance with 29 CFR 1926.62. Sampling will determine eight- hour Time- Weighted Average exposures (TWA). Results shall be provided to the Owner and Owner's Representatives within 48 hours of the sampling.

18) Abatement Contractor shall comply with all OSHA, state, or other applicable requirements of worker medical examinations for approval to wear respiratory protection, and shall submit document of such approval to the Owner.

E. Exposure Conditions.

If air monitoring data, gathered by the Abatement Contractor or Owner's Representative shows that worker exposure to airborne lead exceeds 50 «g/ m3, the following conditions apply:

1) Clothing. Street clothes cannot be worn into containment. Workers must wear nylon shorts, TYVEK shorts, or nothing under disposable suit.

2) Showers. Showers must be provided. Shower water must pass through at least a 5.0 micron filter before returning to the public waste system.

(a) All workers must shower upon leaving the work area.

(b) A five- stage decontamination unit must be constructed of six- mil polyethylene sheeting and consisting of a dirty room, airlock, shower, airlock, and clean room.

3.3.3 Personal Air Sampling

A. General. The Abatement Contractor is required to perform the personal air sampling activities during all lead paint abatement work. The results of such sampling shall be posted, provided to individual workers, and submitted to Owner and Owner's Representative as described herein.

B. Sampling. Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken every day after the first day if working conditions remain unchanged, but must be taken every time there is a change in the removal operation, either in terms of the location or the type of work. Sampling will be used to determine eight- hour Time-Weighted Averages (TWA). The Abatement Contractor is responsible for personal sampling as outlined in OSHA Standard 29 CFR 1926.62. This sampling will determine the degree of respirator protection required, subject to the regulations.

C. Sampling Results. Air sampling results shall be transmitted to the Owner and individual workers in written form no more than forty- eight (48) hours after the completion of a sampling cycle. The reporting document shall list each sample's result, sampling time and date, personnel monitored and their social security numbers, flow rate, sample duration, sample yield, cassette size, and analysts' name and company, and shall include an interpretation of the results. Air sample analysis results will be reported in micrograms of lead per cubic meter of air («g/ m3).

D. Testing Laboratory. The Abatement Contractor's testing lab shall be certified for lead air sample by the American Industrial Hygiene Association. Abatement Contractor shall submit for the Owner's and Owner's Representative's review and acceptance the name and address of the laboratory, certification(s) of accreditation for heavy metal analysis, and a listing of relevant experience in air lead analysis, and presentation of a documented Quality Assurance and Quality Control program.

E. Air Monitoring Frequency. The air monitoring frequency for Abatement Contractor operations will be established in accordance with the requirements set forth in 29 CFR 1926.62.

3.4 WORKER HYGIENE PRACTICES

In order to avoid possible exposure to dangerous levels of lead and to prevent possible contamination of areas outside the demarcated work area, work shall follow the general guidelines listed below:

3.4.1. Work Area Entry. At no time shall a worker or other authorized personnel entering the work area go further than the Clean Area without proper respiratory protection and protective clothing.

3.4.2. Work Area Departure. The worker shall remove all gross contamination, debris and dust from the disposable suit by completely HEPA vacuuming them before leaving work area.

3.4.3 Personal Protective Equipment. All persons leaving the work area must remove their personal protective equipment (except respirators) before leaving the containment. Suits shall be removed "inside out" to minimize the dispersal of lead dust.

3.4.4 Wash Facilities. All workers must wash upon leaving the work area. Wash facilities will be provided by the abatement Contractor. This wash facility will consist of, at least, warm running potable water, soap, and towels. All waste water must be contained and disposed of in accordance with this Specification.

3.4.5 Equipment. All equipment used by the workers inside the work area shall be either left in the work area or thoroughly decontaminated before being removed from the area. Extra work clothing (in addition to the disposable suits supplied by the Abatement Contractor) shall be left in the clean area until the completion of work in that area. The clean area shall be cleaned of all visible debris and disposable materials daily.

3.4.6. Prohibited Activities. Under no circumstances shall workers or supervisory personnel eat, drink, smoke, chew gum, or chew tobacco or remove their respirators in the work area. To do so shall be grounds for the Owner and/ or Owner's Representative to STOP all removal operations. Only in the case of life threatening emergency shall workers or supervisory personnel be allowed to remove their protective respirators while in the work area. In this situation, respirators are to be removed for as short a duration as possible.

3.4.7 Footwear. As with additional clothing, all work footwear shall be left inside the decontamination area until the completion of the job and then shall be HEPA vacuumed and wiped or discarded as contaminated waste.

3.4.8 Shock Hazards. The Abatement Contractor is responsible for using safe procedures to avoid electrical hazards. Power will be shut off and checked before work begins when a hazard exists. all extension cords and power tools used within the work area shall be attached to Ground Fault Circuit Interrupters (GFCI).

3.5 CONTROL OVER ABATEMENT WORK

All work procedures shall be continuously controlled and monitored by the Contractor to assure that the building will not be further contaminated. The following controls shall be instituted on each working day:

3.5.1 Start Up. Prior to work on any given day, the Contractor's designated project supervisor will discuss the day's work schedule with his work force to evaluate job tasks with respect to safety procedures and requirements specified to prevent contamination of the other parts of the building or the employees. This includes a visual survey of the work area and the decontamination enclosure systems.

3.5.2 Access. The Contractor shall maintain control of and be responsible for access to all work areas to ensure the following requirements:

A. Non- authorized personnel are prohibited from entering the area at all times of day and night;

B. All authorized personnel entering the work area shall be familiar with the worker protection procedures contained in this specification and shall be equipped with properly fitted respirators and protective clothing;

C. All personnel who are exiting from the decontamination enclosure system shall be properly decontaminated;

D. Lead waste which is taken out of the work area must be properly handled in accordance with these specifications. The surface of any waste containers, removed from the work area, shall be wiped down with a minimum of a 5% solution of tri-sodium phosphate or other equivalent cleaning agent prior to removing it from the work area.

E. Building components with lead painted surfaces shall be removed from the work area and placed directly into a labeled and secured disposal container or a designated storage area.

3.6 VISUAL INSPECTIONS

The Abatement Contractor shall request a visual inspection by the Owner's Representative. If the area does not pass a visual inspection (e. g., no visible dust or debris), the Abatement Subcontractor shall reclean the area. Clearance monitoring shall be conducted according to the procedures specified in Chapter 15: Clearance, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.

3.6.1 Post-abatement Visual Inspection. The Owner's Representative shall confirm job completeness by determining whether all surfaces have been abated according to the approved abatement plan and project specification. The Owner's Representative will then determine if the building has been adequately cleaned by examining all surfaces for dust and debris. If dust is found, the work area should be recleaned, and the damp cloth test repeated.

3.6.2 Post- abatement Clearance. When all surfaces have passed visual inspection, and the building rehabilitation is complete, clearance wipe samples shall be performed by the Owner's Representative. The standards for passing a wipe test are outlined in the HUD Guidelines. Should laboratory results indicate that the wipe test clearance level is exceeded, the Abatement Subcontractor shall re-clean the affected area, at no additional cost to the Owner, utilizing the methods specified above. Retesting will then be performed to verify compliance with the mandated levels. Abatement Contractor shall pay for all additional testing and provide, at no additional cost, a recleaning of an effected area and personal belongings until the clearance level is achieved.

3.7 DISPOSAL

The waste generated by this procedure will be profiled and disposed of in compliance AB 2784 and all other current standards.

The following testing must be performed by a laboratory properly certified by the State of California. The name of the laboratory must be supplied to the Owner prior to the initiation of the testing.

TCLP Test. Testing on lead- based paint abatement waste materials by use of the Toxicity Characteristic Leaching Procedure (TCLP) will be completed and paid by the Abatement Contractor, and results shall be supplied to the Owner's Representative and Owner.

The testing of material shall be performed as obtained to minimize the storage of "assumed" hazardous material. In absence of written official state guidance, the Abatement Contractor shall take at least one (1) composite sample of the items listed below for the RCRA eight (8) heavy metals. The Abatement Contractor shall also determine if additional testing for other compounds, such as pH, flashpoint, etc., are required for disposal at a particular landfill. The following materials shall be tested to determine whether or not they are hazardous:

1. Waste water.
2. Dust from HEPA filters.
3. Metals that have not been previously tested.
4. Plastic sheets, duct tape, or tape used to cover floors and other services during the lead- based paint removal.
5. Solvents and caustics used during the stripping process.
6. Liquid waste, such as wash water used to decontaminate wood after solvents have been used, and liquid waste from exterior (or interior) water blasting.
7. Rags, sponges, mops, scrapers, and other materials used for testing, abatement, and clean- up.
8. Disposable work clothes and respirator filters cartridges.
9. Any other items contaminated with lead- based paint or items produced as a result of lead- based paint abatement activity, such as the water filters.

End of Lead Abatement Specifications

January 21, 2009

San Bernardino City Unified School District
Facilities Management
777 North "F" Street
San Bernardino, California 92410

Attention: Michael Plunkett

Subject: Budgets for Abatement at Cypress Elementary School

Dear Mr. Plunkett:

Pacific Environmental Company conducted a hazardous materials survey for Cypress Elementary School in anticipation of modernizations per your request.

Asbestos-containing flooring mastics, window putty and transite materials were identified at the site and must be removed prior to the modernization work if they are going to be impacted, otherwise they can be managed in place since they are in good condition. Current EPA regulations require that ACM be removed from a building prior to renovation or demolition or renovation that will impact the ACM. Asbestos-containing materials must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

Lead-based paints (LBP) were also identified at the site. Lead abatement, treatment and/or recycling should be conducted in full compliance with the Cal-OSHA Lead-Related Construction Standard. Paints containing lead greater than 0.5% lead by weight that are to be scraped, sanded, torched, or otherwise disturbed during the demolition should be removed or stabilized prior to the demolition by a licensed contractor and workers with California Department of Health Services (DHS) certification in lead-related construction. Waste streams must be characterized to ensure appropriate disposal methods.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures and transformers should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and Department of Toxic Substances Control (DTSC) guidelines. The batteries stored on site should be recycled.

For planning purposes, we have prepared the following preliminary estimates for abatement. This is not a bid to do the work, rather a planning tool based on our site observations, current industry trends and discussions with abatement contractors regarding the project.

Building	Material	Location	Estimated Qty.	Unit Cost	Abatement Estimate
A, B, C, D and MU Buildings	Mastic under Beige 12" x 12" Vinyl Floor Tile	Building A – Reception, Teacher Room, Work Room and Nurse's Office (to be removed per plans) Building B – B5-B8 Northwest portions of Rooms (to be removed per plans) Building C – C1-C8 North portions of Classrooms (to remain per plans) Building D – D1-D8 North portions of Classrooms (to remain per plans) Building MU – Cafeteria Dining Room (to remain per plans)	800 SF	$7	$5 ,600
B, C and D Buildings	Window Putty	Exterior Windows	900 SF	$10	$9,000
A	Transite Vent	West Storage	3 LF	$300	$900
Estimated Total for Asbestos Abatement					$15,500.00
Lead painted components					$10,000.00
PCB Ballasts and Miscellaneous					$5,000.00
Project Compliance Monitoring and Inspections					$5,000.00
Subtotal					**$35,500.00**
Contingency (10%)					**$3,550.00**
Total Estimate					**$39,05.00**

If you have any questions or require additional information, please call me at (800)303-6484 extension 701.

Respectfully,

Pacific Environmental Company



Michael Lyssy
President

Pacific Environmental Company

Limited Asbestos and Lead Survey Report

Highland Pacific Elementary School Modernization Project
3340 Pacific Street
Highland, California 92346

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 20, 2009

Project Number: 09019

Limited Asbestos and Lead Survey Report

Highland Pacific Elementary School Modernization Project
3340 Pacific Street
Highland, California 92346

Executive Summary

Pacific Environmental Company conducted a limited asbestos and lead survey in anticipation of modernizations at Highland Pacific Elementary School, which is located at 3340 Pacific Street in Highland, California. All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

This executive summary is not to be utilized as a stand-alone document. The report shall be read in its entirety. The reader must review the detailed information provided in the accompanying text. Any interpretation, use, or conclusions resulting from the data contained in this report is the responsibility of the reader. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations. Based on our review of the HMC Group provided demolition plans, modernizations are going to impact Buildings A, B, C, E and F.

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos as determined by PLM, however, the California Department of Occupational Safety and Health (CalOSHA) classifies any material as having greater than one tenth of one percent asbestos as asbestos-containing construction material (ACCM).

Asbestos-containing materials that are likely t be impacted by the modernization that were identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Black Mastic under White & Brown 12" VCT	A Building, Work Room Hallway and Classroom A2	500 SF	Mastic is considered to cross-contaminate VCT
Penetration Mastic	Roof Penetrtions	300 SF	At Roof Penetrations, Patches and AC Equipment
Window Putty	Exterior Windows	840 SF	56 Windows

Current EPA regulations require that the asbestos-containing building materials be removed prior to demolition or renovation, if they are going to be impacted. If any of the identified asbestos-containing materials are to be impacted by the renovations, then they must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

A licensed and certified asbestos abatement contractor must perform any asbestos abatement that takes place at the subject property. Waste generated from the asbestos abatement must be properly transported and disposed of.

Lead components likely to be impacted by the modernizations that were identified at the subject site during our inspection include the following:

Location		Lead-Containing Components
A Building	Interior	Ceramic Wall Tile in Restrooms, Ceramic Baseboard Tile, Wood Baseboard Restrooms, and Restroom Doorframe
	Exterior	Door Frames, Window Frames
B Building	Exterior	Doors and Door Frames
C Building	Exterior	Doors and Door Frames
E Building	Exterior	Doors, Doorframes and Window Frames
F Building	Exterior	Door Frames and Window Frames

The lead paint and tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and DTSC guidelines.

Pacific Environmental recommends that all future renovation, demolition, construction or abatement activities with the potential for disturbing the identified ACM or lead-laden components, be performed by properly trained and qualified personnel. These activities should employ state-of-the-art techniques, and be conducted in accordance with all applicable local, State and Federal laws and regulations.

Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition or renovation activities, please call us and we will sample and analyze accordingly. This survey was limited to the materials that are going to be impacted by the modernization activities, as detailed in the provided plans.

The presence of the identified hazardous materials should be brought to the attention of contractors and personnel involved in the project at the subject site. Specifications have been prepared for the removal and handling of specific hazardous materials, such as those containing asbestos and lead.

Any employees, visitors, or contractors entering this building should be notified of the presence and condition of the asbestos-containing materials, lead-based paints, and other hazardous materials (including those listed under Proposition 65), in accordance with applicable regulations.

Table of Contents

Introduction	1
Quality Control Procedures	2
Site Description	2
Asbestos Inspection and Sampling Procedures	3
Asbestos Inspection Results	5
Summary and Recommendations for Asbestos-Containing Materials	5
Lead Inspection and Sampling Procedures	6
Lead Inspection Results	7
Lead Summary and Recommendations	7
Other Hazardous Materials	7
Limitations	8
References	9

Appendix A	Site Plans
Appendix B	Bulk Sample Summary Table
Appendix C	Asbestos Sample Analysis Reports and Chain of Custody
Appendix D	XRF Sampling Results
Appendix E	DHS Form 8552
Appendix F	XRF Performance Characteristics Sheet

Limited Asbestos and Lead Survey Report

Highland Pacific Elementary School Modernization Project
3340 Pacific Street
Highland, California 92346

Introduction

Pacific Environmental Company was retained by the San Bernardino City Unified School District to conduct a limited investigation to identify the presence of asbestos-containing materials, lead-based paints and other lead laden components that will require abatement or treatment, in conjunction with the school modernizations at Highland Pacific Elementary School, which is located at 3340 Pacific Street in Highland, California.

All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

Field Services for the inspection were conducted on January 14, 2009. The project team included David Tillema, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Raed Sahawneh, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Thomas Gannon, a Cal/OSHA Certified Site Surveillance Technician, and Michael Lyssy, a State Certified Asbestos Consultant and Registered Environmental Assessor.

The scope of work for this project included the following key elements:

- Review, verification and incorporation of the original AHERA inspection and re-inspection data and any subsequent reports detailing the results of prior asbestos and lead testing at the School into this report.
- Inspection and assessment of asbestos-containing materials, lead-based paints, lead glazed ceramics and PCB light ballasts
- Preparation of a final report that is suitable for inclusion in the District's specifications for abatement of hazardous building materials.

Prior to our asbestos assessments, we evaluated the site conditions and demolition plans provided by HMC Group in order to developed our sampling strategy to ensure identification of all asbestos-containing materials that are going to be affected by the modernization work which includes buildings A, B, C, E and F. Representative sampling of homogeneous materials in areas that are being impacted by the project was conducted per SCAQMD guidelines, and all identifiable suspect materials were sampled. Asbestos analysis was performed by an independent, State Certified, NVLAP Accredited Laboratory. Bulk samples were analyzed by polarized light microscopy (PLM), EPA Method 600/R-93/116. This report details the specific site conditions and estimated quantities of Asbestos Containing Material (ACM) for the project. Areas affected by destructive sampling were repaired so as not to cause hazards to school personnel, survey crew, visitors and the general public.

Testing for lead-based paint was performed using an EDAX Map-4 portable X-ray fluorescence (XRF) spectrum analyzer. Testing was modeled after the protocol outlined in the Department of Housing and Urban Developments document titled

Lead-Based Paint: Interim Guidelines For Hazard Identification and Abatement in Public and Indian Housing (1997 Revision).

Quality Control Procedures

Pacific Environmental Company's integrated resources, technologies, discipline, and expertise combine to ensure that the inspection and analysis for each project is conducted based on the following principles:

- All applicable regulations are addressed in order to ensure that our field inspectors and lab personnel meet their responsibilities, do so cost-effectively, and are equipped with the practical knowledge they need in order to understand and comply with regulations that affect them.
- Care is taken to make certain that the information provided and actions recommended are practical and cost effective in achieving regulatory compliance.

The 'management' approach utilized for this project assured that all work was performed using the highest standard of quality. All project results, reports and recommendations are reviewed for accuracy, content and quality prior to presentation. We recognize that, for each assignment we undertake, the information we develop and the conclusions and advice we provide, will be used to support important management decisions.

Pacific Environmental Company's Quality Assurance Program requires that all personnel:

- Provide specific objectives so that project activities can be evaluated with regard to precision, accuracy, reproducibility, completeness, and comparability.
- Provide specific guidance on the proper methodology for all activities.
- Be provided with ongoing training to enhance their technical skills.
- Be trained in QA/QC procedures and QC activities.
- Review all reports until they are acceptable in terms of technical and editorial quality, and all quality assurance activities have been successfully performed.

Site Description

Highland Pacific Elementary School consists of several classroom buildings. The buildings that are being impacted by the planned modernization work per the HMC Architect's plans include the A, B, C, E and F buildings.

Interior finishes that are likely to be impacted by the modernization work include carpet and vinyl floorings, ceiling tiles, plaster walls, acoustic wall tiles, windows and some of the roofing materials..

The school was occupied at the time of our assessment and we worked after hours in an effort to characterize the site conditions. If any additional suspect materials are identified during the modernizations, please contact us to perform supplemental sampling.

Asbestos Inspection and Sampling Procedures

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos, as determined by polarized light microscopy (PLM). Title 8, Section 1529, of the California Code of Regulations, however, defines asbestos-containing construction material (ACCM) as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight.

We reviewed the District's asbestos records on file and the demolition plans prepared by HMC in order to formulate our sampling strategy. The only documentation on file for the site was an inventory from Power Master's original AHERA survey which was on file at the M&O Offices. This inventory has been utilized for reinspection purposes over the years and indicates that the floorings were assumed to be ACM. The demolition plans indicate that the scope of the demolition at this site will include removal of VCT and quarry tile floorings, removal of sinks and casework, removal of several doors and windows and the removal of portions of both the brick veneer walls and the demountable partitions.. We collected additional samples to confirm the original AHERA findings and to characterize materials that were not originally tested.

Subsequent to our review of the prior report, a visual assessment of the suspect building materials located throughout the subject facility was completed prior to the collection of samples. During the visual assessment, the building materials suspected of containing asbestos were categorized by homogeneous areas. Materials are classified as homogenous when they appear uniform, have a consistent texture, and appear to have been installed at the same time.

The laboratory testing for the bulk samples was conducted in accordance with the recommended EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993).

The field investigation began with an initial site walk-through and identification of homogenous building materials suspected of containing asbestos. Samples were collected based on building layout, structural features, and mechanical and plumbing systems. Pacific Environmental then performed the following tasks:

- Evaluated whether materials suspected of containing asbestos were present at the site.
- Collected bulk samples, as required, to adequately characterize the suspect materials.
- Identified approximate sample locations and locations of identified ACM on field drawings or with photographs.
- Estimated the amount of ACM, where access allowed.
- Assessed the condition of the suspected and known ACMs.

At the time of inspection, suspect materials are assessed to be in good, damaged, or significantly damaged condition based on the following criteria:

> Good Condition - No or very limited visible damage or deterioration observed.
>
> Damaged Condition - Crumbling, blistering, water damage, gouges or other damage observed over less than 25% of the materials (one-tenth if evenly distributed); or accumulation of suspect powder, dust or debris observed below the material.
>
> Significantly Damaged - Crumbling, blistering, water damage, gouges or other damage observed over greater than 25% of the materials (one-tenth if evenly distributed); material delaminating or showing adhesive failure; or accumulation of suspect powder, dust or debris observed below the material.

The assessment process also includes classifying the material as Friable ACM or Non-Friable ACM. Friable ACM is the term given to any material that contains more than one percent (1%) asbestos by weight, which can be crumbled, pulverized, or reduced to powder by hand or mechanical pressure. The word "Friability" refers to a material's likeliness to re-

lease airborne fibers when in situ, or under mechanical pressure. There is a greater possibility that a friable material will release fibers into the air when disturbed than will a non-friable material (i.e., floor tiles, roofing materials, etc.), thereby causing a potential hazard.

After identifying those materials suspected of containing asbestos, the materials were grouped into homogeneous sampling areas. A homogeneous sampling area includes building materials that are uniform in texture and color and appear identical in every other respect. A modified AHERA protocol was used in estimating the number of samples to be collected. Actual samples collected were determined by field conditions. A total of thirty-one (31) bulk samples were collected and analyzed.

Bulk samples were collected by wetting the suspect material with amended water and cutting, scraping or coring it from its substrate using an appropriate sampling tool. Sampling tools were cleaned before and after each use to prevent cross contamination between sampling events. Small quantities of material, approximately 1/2 square inch each, were extracted from suspect materials and placed in sterile, airtight bags or vials, and sealed. Each sample was labeled with a unique identification number, utilizing a sequential numbering system. The sample was logged in on the bulk survey sheet and a description noted on the type of sample. Each sample container was then placed inside a larger sterile, airtight bag. As other samples were taken from each area, they were also placed inside this larger airtight bag. Sample locations were repaired using caulk, spray glue, encapsulant, or patching material as needed, but were not always returned to their original condition. The samples were transported under chain-of-custody to an independent NVLAP participating laboratory for analysis utilizing polarized light microscopy.

The laboratory testing was conducted in accordance with the EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993). Samples were examined for homogeneity, and non-homogeneous samples were ground to ensure homogeneity. Microscopic slides were prepared from each sample using a refractive index liquid, such as trisection and ethyl cinnamate, having a refractive index of 1.550; 1-bromo-naphthalene and 1-Iodonaphthalene, having a refractive index of 1.680; or hydrogenated terthenyl and 1-bromonaphtahlene, having a refractive index of 1.605. The slides were then examined for the presence of asbestos, utilizing polarized light microscopy (PLM) and dispersion staining techniques.

The percentage of asbestos was estimated by visual examination of fibers greater than five microns in length and with an aspect ratio of 3:1 or greater. The aspect ratio of 3:1 refers to the length of the fiber being three times as long as its width. If present, the identity of asbestos fibers was confirmed with appropriate refractive index liquids, application of dispersion staining and other techniques. The results were tabulated and detailed in the laboratory reports, which are included in the appendices of this report.

Asbestos Inspection Results

Asbestos-containing materials that are likely t be impacted by the modernization that were identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Black Mastic under White & Brown 12" VCT	A Building, Work Room Hallway and Classroom A2	500 SF	Mastic is considered to cross-contaminate VCT
Penetration Mastic	Roof Penetrtions	300 SF	At Roof Penetrations, Patches and AC Equipment
Window Putty	Exterior Windows	840 SF	56 Windows

Approximate sample locations have been plotted on site plans that we prepared for this assessment. The Bulk Sample Summary Table, which identifies each sample and the corresponding analytical results, is included in Appendix B. The laboratory reports and chain of custody forms are included in Appendix C.

Summary and Recommendations for Asbestos-Containing Materials

All ACM that will be impacted by the planned modernizations must be removed pursuant to Rule 1403 of the South Coast Air Quality Management District's and CalOSHA Asbestos Regulations.

Abatement activities must be conducted in compliance with all applicable regulations, standards and generally accepted environmental and safety practices, including Federal OSHA (29 CFR 1926.58), EPA NESHAPS (40 CFR Part 61), and Toxic Substances Control Act (TSCA) Title II AHERA/ASHARA (40 CFR Part 763) Asbestos Regulations, the Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101, and Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard.

All asbestos waste must be properly disposed of and documented. Waste Manifests must be submitted at the end of a project. Disposing of a known hazardous waste is illegal in the State of California. Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition activities, we will arrange to sample and analyze them accordingly.

Lead Inspection and Sampling Procedures

Lead-based paint and lead glazing on ceramics is of concern both as a source of direct exposure through ingestion of paint chips, and as a contributor to lead interior dust and exterior soil. Lead was widely used as a major ingredient in most interior and exterior oil-based paints prior to 1950. Lead compounds continued to be used as corrosion inhibitors, pigments and drying agents beginning in the early 1950's. In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5000 ppm) and, in 1978, to 0.06% (600 ppm). It has also been used extensively as a glaze on ceramic and porcelain finishes.

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) define an inspection as a surface-by-surface investigation to determine the presence of lead-based paint (see 40 CFR part 745 and Title X of the 1992 Housing and Community Development Act).

As per the EPA & HUD guidelines, lead-based paint is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm2 or 0.5 percent by weight. Lead paint amounts were reported in mg/cm2 because this unit of measurement does not depend on the number of layers of non-lead based paint.

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections because of their demonstrated abilities to:

1. Determine if lead is present on many different types of surfaces

2. Measure the paint without destructive sampling or paint removal

3. Provide sample results immediately and at a relatively low cost per sample

Portable XRF instruments expose a building component to X-rays or gamma radiation, which causes lead to emit X-rays with a characteristic frequency or energy. The intensity of this radiation is measured by the XRF instrument. The inspector must then compare this displayed value (reading) with the inconclusive range or threshold specified in the XRF Performance Characteristic Sheet for the specific substrate beneath the painted surface. If the reading is less than the lower boundary of the inconclusive range, or less than the threshold, then the reading is considered negative. If the reading is greater than the upper boundary of the inconclusive range, or greater or equal to the threshold, then the reading is considered positive. Readings within the inconclusive range, including its boundary values, are considered inconclusive. Because the inconclusive ranges and/or thresholds shown in the Performance Characteristic Sheet are based on 1.0 mg/cm2, positive and negative readings are consistent with the HUD definition of lead-based paint for identification and disclosure purposes. The method employed for paint testing for this project was X-Ray Fluorescence (XRF) using an EDAX MAP4 lead paint analyzer (Serial Number M41509) with the capability to measure the lead content in dry paint films in the range of 0 to 50 milligrams per square centimeter.

The instrument's calibration was verified according to the manufacturer's specifications, in compliance with the Performance Characteristic Sheet (PCS) developed for this instrument. The PCS is located in Appendix F of this report. The readings from this instrument produce a 95% confidence level that the "lead" reading accurately reflects the actual level of lead in the tested surfaces, relative to the federal action level. Current industry standards suggest that, when it is determined that paint abatement and/or interim control activities will be performed on components, they should be performed according to practices that are in the HUD Guidelines and the regulations under section 402 of the Toxic Substances Control Act (TSCA), 15 USC 2682.

Lead Inspection Results

Sampling for this inspection was representative and any components that were not tested, but are similar to those components that tested positive for lead, should be considered and treated as lead laden.

Lead components likely to be impacted by the modernizations that were identified at the subject site during our inspection include the following:

Location		Lead-Containing Components
A Building	Interior	Ceramic Wall Tile in Restrooms, Ceramic Baseboard Tile, Wood Baseboard Restrooms, and Restroom Doorframe
	Exterior	Door Frames, Window Frames
B Building	Exterior	Doors and Door Frames
C Building	Exterior	Doors and Door Frames
E Building	Exterior	Doors, Doorframes and Window Frames
F Building	Exterior	Door Frames and Window Frames

The lead paint and tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Lead Summary and Recommendations

The federal and CAL/OSHA regulations for lead in construction do not specify a level of a lead in paint that classifies it as LBP. However, federal and state OSHA regulations specify ***airborne lead levels*** that should not be exceeded during construction without appropriate protection and training.

The action level for lead is 30 micrograms per cubic meter of air (µg/m3), and the permissible exposure limit (PEL) is 50 µg/m3. These airborne lead levels can be exceeded during construction activities such as scraping, sanding, grinding, blasting, and torching LBP surfaces, even when levels of lead in paint are far below the HUD definition of LBP of 1.0 mg/cm2 or 0.5 percent lead by weight. The XRF is designed to accurately quantify paint around the set abatement level (1.0 mg/cm2, 5,000 parts per million, or 0.5 percent by weight). However, painted surfaces tested with XRF that result in instrument readings much less than 1.0 mg/cm2 (even 0.0 mg/cm2 and negative results) may contain amounts of lead that could create an airborne hazard to workers during construction.

Based on the levels of lead in the components identified in the limited survey, Pacific Environmental recommends that only properly trained and equipped individuals be assigned tasks that would involve treatment or demolition of these components. Procedures and engineering controls must be designed to follow CAL/OSHA and Department of Health Services (State of California) requirements, and workers must wear appropriate personal protective equipment during the work.

Other Hazardous Materials

During our assessment of the structures, we visually inspected the locations of fluorescent light tubes and PCB ballasts. There are fluorescent fixtures throughout the campus with ballasts that are assumed to contain PCB's and fluorescent tubes. All PCB's and spent fluorescent light tubes should be handled, packaged and disposed of in compliance with current California Environmental Protection Agency, Department of Toxic Substances Control Guidelines.

Limitations

This report is not intended to identify all hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and Pacific Environmental's experience in performing this type of assessment. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations

Pacific Environmental has performed this survey in a professional manner, using the degree of skill and care exercised for similar projects, under similar conditions, by reputable and competent environmental consultants. Pacific Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

Pacific Environmental further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved as a consequence of this report, or impacted by information not properly disclosed to Pacific at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

References

AHERA Summary, prepared by Power Masters, Inc.

Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards

Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead

"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," US Department of Housing and Urban Development, June 1995

South Coast Air Quality Management District Requirements (Rule 1403)

National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, M

Occupational Safety and Health Administration, Asbestos in the Workplace, 29 CFR 1910.1001

Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101

Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard

Appendix A

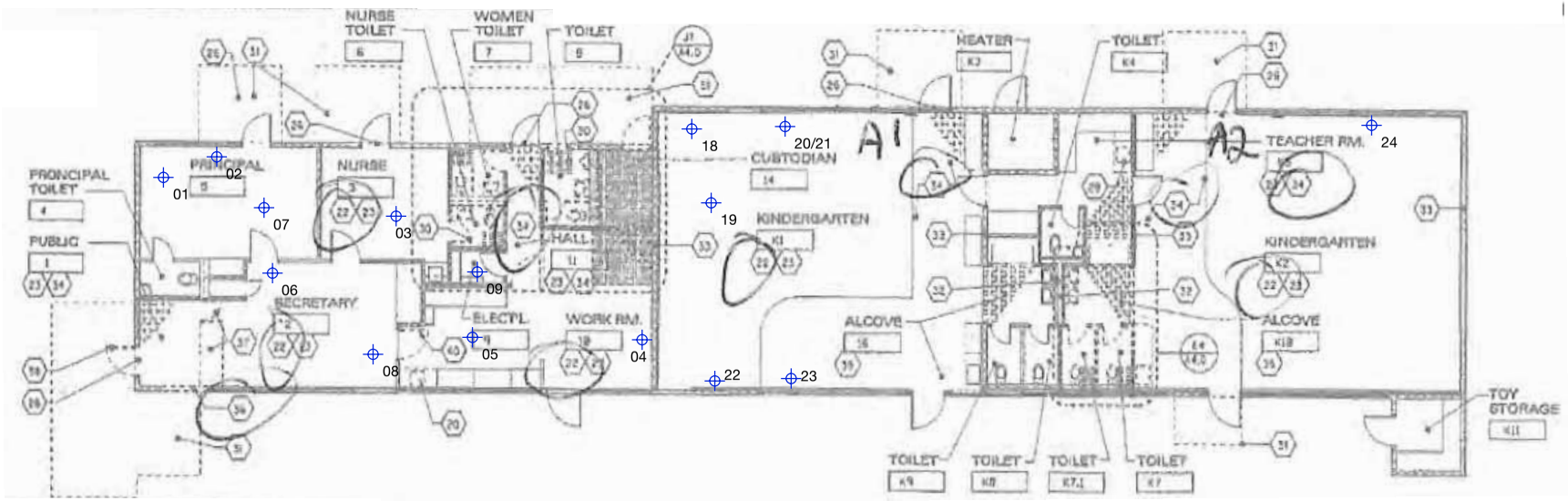
Site Plan

C

B

D

A



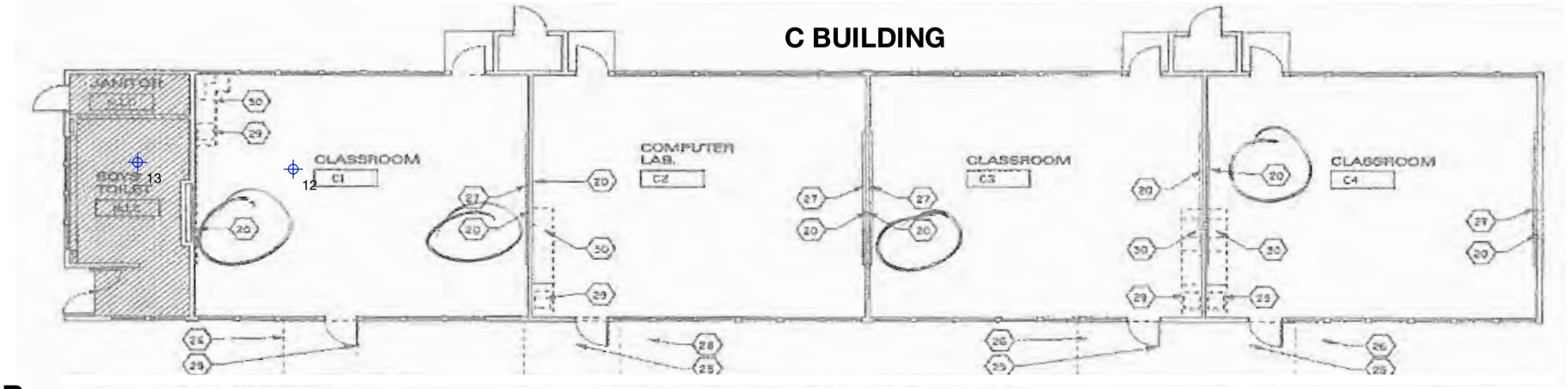
N

⌖ indicates approximate sample location

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.	DRAWING TITLE: Sample Location Plan A Building Highland Pacific Elementary School 3340 Pacific Street Highland, California 92346
REVISION:	SOURCE:	
PROJECT NO: 09019	OTHER:	
PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations		CLIENT: San Bernardino City Unified School District

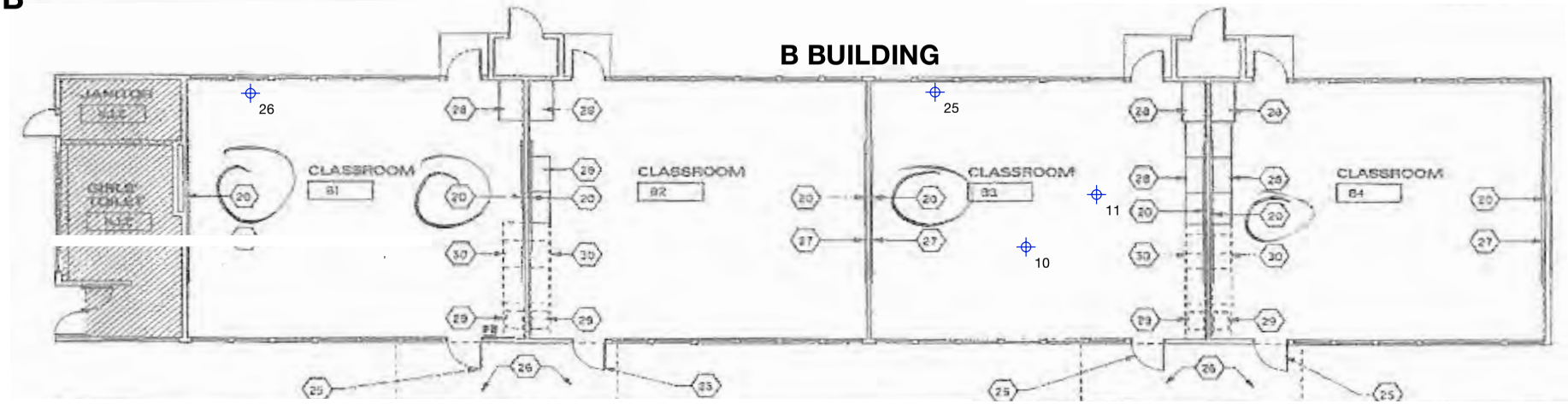
FIGURE NO. 1

C



B

D



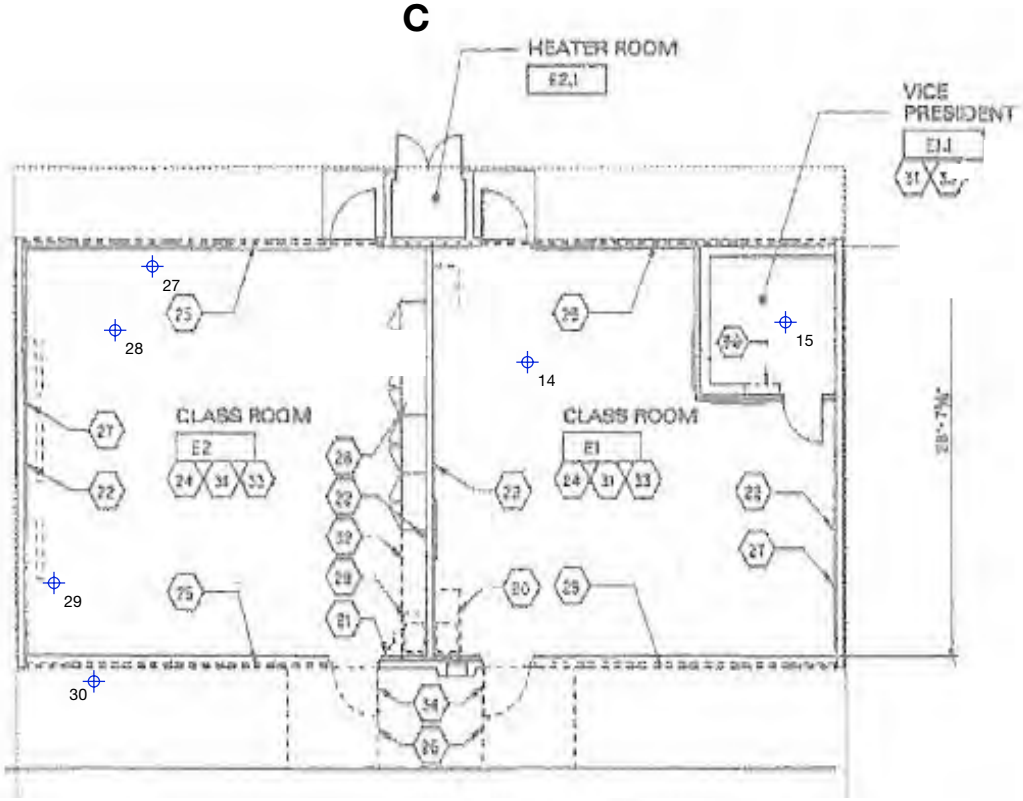
A

indicates approximate sample location

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.	DRAWING TITLE: Sample Location Plan B & C Buildings Highland Pacific Elementary School 3340 Pacific Street Highland, California 92346
REVISION:	SOURCE:	
PROJECT NO: 09019	OTHER:	
PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations		CLIENT: San Bernardino City Unified School District

FIGURE NO. 2

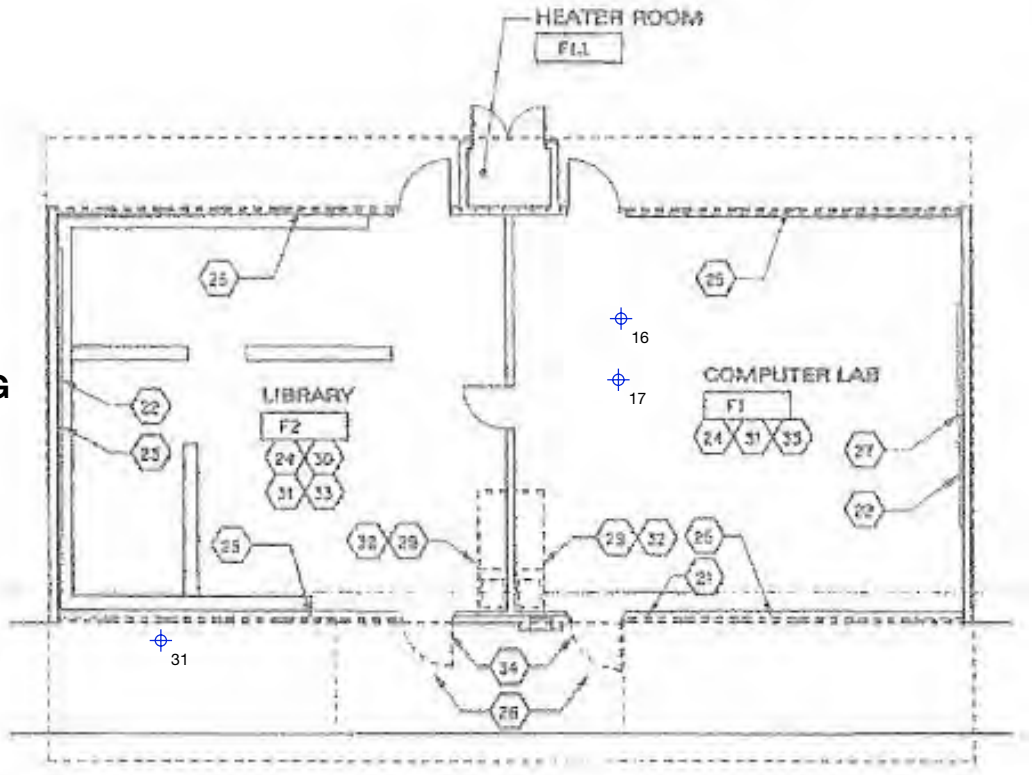
C



E BUILDING

B

D



F BUILDING

A

N

indicates approximate sample location

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.
REVISION:	SOURCE:
PROJECT NO: 09019	OTHER:

DRAWING TITLE:
Sample Location Plan
E & F Buildings
Highland Pacific Elementary School
3340 Pacific Street
Highland, California 92346

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
3

Appendix B

Bulk Sample Summary Table

HIGHLAND PACIFIC ELEMENTARY SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09019

Sample No.	Sample Description	Sample Location	Asbestos %
01	Carpet Mastic	Principal's Office	No Asbestos Detected
02	4" Basecove, Brown	Principal's Office	No Asbestos Detected
03	12"x12" Floor Tile, Beige	Nurse's Office	No Asbestos Detected
04	Plaster Wall	Workroom	No Asbestos Detected
05	12"x12" Floor Tile, White/Brown	Corridor, Northwest	NAD (Tile); 2% Chrysotile (Mastic)
06	12"X12" Ceiling Tile, Pinhole, Nailed	Office Admin Area	No Asbestos Detected
07	12"X12" Ceiling Tile, Pinhole, Nailed	Principal's Office	No Asbestos Detected
08	Roof Core	Bldg A	No Asbestos Detected
09	Penetration Mastic	Bldg A	5% Chrysotile
10	Roof Core	Bldg B	No Asbestos Detected
11	Penetration Mastic	Bldg B	2% Chrysotile
12	Roof Core	Bldg C	No Asbestos Detected
13	Penetration Mastic	Bldg C	2% Chrysotile
14	Roof Core	Bldg E	No Asbestos Detected
15	Penetration Mastic	Bldg E	No Asbestos Detected
16	Roof Core	Bldg F	No Asbestos Detected
17	Penetration Mastic	Bldg F	No Asbestos Detected
18	12"x12" Floor Tile, Beige	Rm A-1	No Asbestos Detected
19	Carpet Mastic	Rm A-1	No Asbestos Detected
20	12"x12" Wall Tile, Pinhole	Rm A-1	No Asbestos Detected
21	12"x12" Pinhole Wall Tile, Mastic	Rm A-1	No Asbestos Detected
22	Wall Plaster	Rm A-1	No Asbestos Detected
23	4" Basecove, Brown	Rm A-1	No Asbestos Detected
24	Wall Plaster	Rm A-2	No Asbestos Detected
25	12"x12" Wall Tile	Rm B-3	No Asbestos Detected
26	12"x12" Wall Tile	Rm B-1	No Asbestos Detected
27	12"x12" Wall Tile	Rm E-2	No Asbestos Detected
28	Carpet Mastic	Rm E-2	No Asbestos Detected
29	4" Basecove, Brown	Rm E-2	No Asbestos Detected
30	Window Glazing	Rm E-1	2% Chrysotile
31	Window Glazing	Rm F-2	No Asbestos Detected

Appendix C

Asbestos Sample Analysis Reports and Chain of Custody

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/15/09
Date Examined 01/15/09
AmeriSci Job # 909011487
P.O. #

RE: SBSUSD; Highland - Pacific Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011487-01L1	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Carpet Mastic / Principal Off.		
	Analyst Description: Multi-Colored, Homogeneous, Fibrous, Carpet		
	Asbestos Types:		
	Other Material: Synthetic fibers 85 %, Non-fibrous 15 %		
01	909011487-01L2	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Carpet Mastic / Principal Off.		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Carpet Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011487-02	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Basecove Brown 4" / Principal Off.		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
03	909011487-03	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12x Beige FT / Nurses Off.		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
04	909011487-04	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Plaster Wall / Work Rm		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBSUSD; Highland - Pacific Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
05	909011487-05L1	***No***	NAD
	Location: 12x White/Brown FT / Corridor NW		(by CVES) by Paola Ducoing on 01/15/09
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
05	909011487-05L2	***Yes***	2 %
	Location: 12x White/Brown FT / Corridor NW		(by CVES) by Paola Ducoing on 01/15/09
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types: Chrysotile 2.0 %		
	Other Material: Non-fibrous 98 %		
06	909011487-06	***No***	NAD
	Location: 12x CT Pinhole - Nailed / Office Admin A.		(by CVES) by Paola Ducoing on 01/15/09
	Analyst Description: Brown/White, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 90 %, Non-fibrous 10 %		
07	909011487-07	***No***	NAD
	Location: 12x CT Pinhole - Nailed / Principal Off.		(by CVES) by Paola Ducoing on 01/15/09
	Analyst Description: Brown/White, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 90 %, Non-fibrous 10 %		
08	909011487-08	***No***	NAD
	Location: Roof Core / Bldg - A		(by CVES) by Paola Ducoing on 01/15/09
	Analyst Description: Black, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 15 %, Non-fibrous 85 %		
09	909011487-09	***Yes***	5 %
	Location: Penetration Mastic / Bldg - A		(by CVES) by Paola Ducoing on 01/15/09
	Analyst Description: Black/Grey, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 5.0 %		
	Other Material: Non-fibrous 95 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBSUSD; Highland - Pacific Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
10	909011487-10	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Roof Core / Bldg - B		
	Analyst Description: Black, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Fibrous glass 15 %, Non-fibrous 85 %		
11	909011487-11	***Yes***	2 % (by CVES) by Paola Ducoing on 01/15/09
	Location: Penetration Mastic / Bldg - B		
	Analyst Description: Black/Grey, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 2.0 %		
	Other Material: Non-fibrous 98 %		
12	909011487-12	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Roof Core / Bldg - C		
	Analyst Description: Black, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Fibrous glass 15 %, Non-fibrous 85 %		
13	909011487-13	***Yes***	2 % (by CVES) by Paola Ducoing on 01/15/09
	Location: Penetration Mastic / Bldg - C		
	Analyst Description: Black/Grey, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 2.0 %		
	Other Material: Non-fibrous 98 %		
14	909011487-14	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Roof Core / Bldg - E		
	Analyst Description: Black, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Fibrous glass 15 %, Non-fibrous 85 %		
15	909011487-15	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Penetration Mastic / Bldg - E		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBSUSD; Highland - Pacific Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
16	909011487-16	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Roof Core / Bldg - F		
	Analyst Description: Black, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Fibrous glass 15 %, Non-fibrous 85 %		
17	909011487-17	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Penetration Mastic / Bldg - F		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
18	909011487-18L1	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12"x Biege FT / Rm A-1		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
18	909011487-18L2	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12"x Biege FT / Rm A-1		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
19	909011487-19L1	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Carpet Mastic / Rm A-1		
	Analyst Description: Multi-Colored, Homogeneous, Fibrous, Carpet		
	Asbestos Types:		
	Other Material: Synthetic fibers 85 %, Non-fibrous 15 %		
19	909011487-19L2	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Carpet Mastic / Rm A-1		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Carpet Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBSUSD; Highland - Pacific Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
20	909011487-20	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12x Pinhole Wall Tile / Rm A-1		
	Analyst Description: Brown, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 95 %, Non-fibrous 5 %		
21	909011487-21	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12x Pinhole Mastic / Rm A-1		
	Analyst Description: Brown, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 95 %, Non-fibrous 5 %		
22	909011487-22	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Wall Plaster / Rm A-1		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
23	909011487-23L1	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Basecove Brown 4" / Rm A-1		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
23	909011487-23L2	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Basecove Brown 4" / Rm A-1		
	Analyst Description: White, Homogeneous, Non-Fibrous, Caulking		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
24	909011487-24	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Wall Plaster / Rm A-2		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBSUSD; Highland - Pacific Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
25	909011487-25	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12x Wall Tile / Rm B-3		
	Analyst Description: Brown, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 95 %, Non-fibrous 5 %		
26	909011487-26	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12x Wall Tile / Rm B-1		
	Analyst Description: Brown/White, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 90 %, Non-fibrous 10 %		
27	909011487-27	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12x Wall / Rm E-2		
	Analyst Description: Brown/White, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 90 %, Non-fibrous 10 %		
28	909011487-28L1	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Carpet Mastic / Rm E-2		
	Analyst Description: Multi-Colored, Homogeneous, Fibrous, Carpet		
	Asbestos Types:		
	Other Material: Synthetic fibers 85 %, Non-fibrous 15 %		
28	909011487-28L2	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Carpet Mastic / Rm E-2		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Carpet Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
29	909011487-29L1	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Basecove Brown 4" / Rm E-2		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBSUSD; Highland - Pacific Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
29	909011487-29L2	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Basecove Brown 4" / Rm E-2		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
30	909011487-30	***Yes***	2 % (by CVES) by Paola Ducoing on 01/15/09
	Location: Window Glazing / Rm E-1		
	Analyst Description: Maroon/Grey, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 2.0 %		
	Other Material: Non-fibrous 98 %		
31	909011487-31	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Window Glazing / Rm F-2		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

Reporting Notes:

Analyzed By: Paola Ducoing Paola Ducoing; Date Analyzed: 1/15/2009 1/15/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/15/09

909011487-

PACIFIC ENVIRONMENTAL

Date:	01-14-09
Client:	SBSUSD
Site:	HIGHLAND-PACIFIC ELE.
Project No:	
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
01	CARPET MASTIC	Principal off.	
02	BASECOVE BROWN 4"	PRINCIPAL OFF	
03	12X BIEGE FT	NURSES OFF.	
04	PLASTER WALL	WORK RM	
05	12X WHITE/BROWN FT	CORRIDOR N.W.	
06	12X CT PINHOLE - NAILED	OFFICE ADMIN AREA	
07	" " "	PRINCIPALS OFFICE	
08	ROOF CORE	BLDG-A	
09	PENETRATION MASTIC	BLDG-A	
10	ROOF CORE	BLDG-B	
11	PENETRATION MASTIC	BLDG-B	
12	ROOF CORE	BLDG. C	
13	PENETRATION MASTIC	BLDG C	
14	ROOF CORE	BLDG E	
15	PENETRATION MASTIC	BLDG E	
16	ROOF CORE	BLDG F	
17	PENETRATION MASTIC	BLDG F.	
18	12"X BIEGE FT	RM A-1	
19	CARPET MASTIC	" "	
20	12X PINHOLE WALL TILE	" "	
21	" " " MASTIC	" "	
22	WALL PLASTER	" "	
23	BASECOVE BROWN 4"	" "	
24	WALL PLASTER	RM A-2	

Analytical Method: PLM

Turn Around Time: ~~Standard~~ 24hr.

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
01/14/09	David Tirema	
RECEIVED JAN 15 2009	S. TAHVILDARI	

909011487-

PACIFIC ENVIRONMENTAL

Date:	01-14-09
Client:	SBSVSD
Site:	HIGHLAND - PACIFIC ELE.
Project No:	
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
25	12X WALL TILE	Rm - B-3	
26	" " "	Rm - B-1	
27	12X WALL TILE	Rm - E-2	
28	CARPET MASTIC	Rm - E-2	
29	BASECOVE BROWN 4"	Rm - E-2	
30	WINDOW GAZING	Rm - E-1	
31	WINDOW GLAZING	Rm - F-2	
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			

Analytical Method: PLM

Turn Around Time: Standard

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

01/14/09 — David Tillema — Signature

Date/Time — Name — Signature

RECEIVED
JAN 15 2009
S. TAHVILDARI

Date/Time — Name — Signature

Appendix D

XRF Sampling Results

FIELD DATA REPORT

PROJECT NAME: Highland Pacific Elementary School

PROJECT NO.:09019

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
A Bldg	A-1 Boys'/Girls'' RR	Wall	A	Plaster	Intact	White	0.1	Negative
A Bldg	A-1 Boys'/Girls'' RR	Wall	B	Plaster	Intact	White	0.0	Negative
A Bldg	A-1 Boys'/Girls'' RR	Wall	C	Plaster	Intact	White	0.0	Negative
A Bldg	**A-1 Boys'/Girls'' RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Pink**	**14.6**	**Positive**
A Bldg	A-1 Boys'/Girls'' RR	Door	C	Wood	Intact	Red	0.3	Negative
A Bldg	A-1 Boys'/Girls'' RR	Door Frame	C	Wood	Intact	Red	0.3	Negative
A Bldg	A-1/A-2 Workroom	Wall	A	Plaster	Intact	White	0.1	Negative
A Bldg	A-1/A-2 Workroom	Wall	B	Plaster	Intact	White	0.0	Negative
A Bldg	A-1/A-2 Workroom	Wall	C	Plaster	Intact	White	0.1	Negative
A Bldg	A-1/A-2 Workroom	Wall	D	Plaster	Intact	White	0.1	Negative
A Bldg	A-1/A-2 Workroom	Door	D	Wood	Intact	Red	0.1	Negative
A Bldg	A-1/A-2 Workroom	Door frame	D	Wood	Intact	Red	0.3	Negative
A Bldg	A-1/A-2 Workroom	Ceiling	N/A	Plaster	Intact	White	0.1	Negative
A Bldg	A-1/A-2 Workroom	Upper Cabinet	D	Wood	Intact	Red	0.0	Negative
A Bldg	A-1/A-2 Workroom	Lower Cabinet	D	Wood	Intact	Red	0.1	Negative
A Bldg	Exterior	Wall	A	Stucco	Intact	Tan	0.1	Negative
A Bldg	Exterior	Wall	B	Stucco	Intact	Tan	0.0	Negative
A Bldg	Exterior	Wall	C	Stucco	Intact	Tan	0.1	Negative
A Bldg	Exterior	Wall	D	Stucco	Intact	Tan	0.1	Negative
A Bldg	Exterior	Door, Health Office	C	Wood	Intact	Red	0.1	Negative
A Bldg	**Exterior**	**Door Frame, Health Office**	**C**	**Wood**	**Intact**	**Tan**	**1.6**	**Positive**
A Bldg	**Exterior**	**Window Frame**	**C**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
A Bldg	Health Office	Wall	A	Plaster	Intact	White	0.1	Negative
A Bldg	Health Office	Wall	B	Plaster	Intact	White	0.0	Negative
A Bldg	Health Office	Wall	C	Plaster	Intact	White	0.1	Negative
A Bldg	Health Office	Wall	D	Plaster	Intact	White	0.1	Negative
A Bldg	Health Office	Door	C	Wood	Intact	Red	0.1	Negative
A Bldg	Health Office	Door Frame	C	Wood	Intact	Red	0.3	Negative
A Bldg	Principal's Office	Wall	A	Plaster	Intact	White	0.0	Negative
A Bldg	Principal's Office	Wall	B	Plaster	Intact	White	0.0	Negative
A Bldg	Principal's Office	Wall	C	Plaster	Intact	White	0.0	Negative
A Bldg	Principal's Office	Wall	D	Plaster	Intact	White	0.0	Negative
A Bldg	Principal's Office	Door	C	Wood	Intact	Red	0.1	Negative
A Bldg	Principal's Office	Door Frame	C	Wood	Intact	Red	0.1	Negative
A Bldg	**Principal's RR**	**Baseboard**	**A**	**Ceramic Tile**	**Intact**	**Grey**	**16.5**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Highland Pacific Elementary School

PROJECT NO.:09019

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
A Bldg	Principal's RR	Door	C	Wood	Intact	Red	0.2	Negative
A Bldg	Principal's RR	Door Frame	C	Wood	Intact	Red	0.5	Negative
A Bldg	Principal's RR	Ceiling	N/A	Plaster	Intact	White	0.3	Negative
A Bldg	Unisex RR	Wall	B	Plaster	Intact	White	0.4	Negative
A Bldg	**Unisex RR**	**Baseboard**	**B**	**Wood**	**Intact**	**Grey**	**14.7**	**Positive**
A Bldg	Unisex RR	Door	C	Wood	Intact	Red	0.1	Negative
A Bldg	**Unisex RR**	**Door Frame**	**C**	**Wood**	**Intact**	**Red**	**1.2**	**Positive**
A Bldg	Unisex RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Grey	0.0	Negative
A Bldg	Unisex RR, North	Wall	B	Plaster	Intact	White	0.2	Negative
A Bldg	**Unisex RR, North**	**Baseboard**	**B**	**Wood**	**Intact**	**Grey**	**12.8**	**Positive**
A Bldg	Unisex RR, North	Door	C	Wood	Intact	Red	0.0	Negative
A Bldg	**Unisex RR, North**	**Door Frame**	**C**	**Wood**	**Intact**	**Red**	**1.1**	**Positive**
A Bldg	Unisex RR, North	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Grey	0.1	Negative
B Bldg	B-3	Wall	A	Plaster	Intact	White	0.0	Negative
B Bldg	B-3	Door	A	Metal	Intact	Red	0.0	Negative
B Bldg	B-3	Door Frame	A	Metal	Intact	Red	0.0	Negative
B Bldg	**Exterior**	**Door**	**A**	**Wood**	**Intact**	**Red**	**1.2**	**Positive**
B Bldg	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Red**	**1.9**	**Positive**
C Bldg	**Exterior**	**Door**	**A**	**Wood**	**Intact**	**Red**	**1.1**	**Positive**
C Bldg	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Red**	**1.6**	**Positive**
E Bldg	**E-2**	**Door**	**A**	**Metal**	**Intact**	**Red**	**1.2**	**Positive**
E Bldg	**E-2**	**Door Frame**	**A**	**Wood**	**Intact**	**Red**	**3.4**	**Positive**
E Bldg	E-2	Window Frame	A	Wood	Intact	Red	0.0	Negative
E Bldg	Exterior	Door	A	Metal	Intact	Red	0.0	Negative
E Bldg	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Red**	**1.4**	**Positive**
E Bldg	**Exterior**	**Window Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.8**	**Positive**
F Bldg	Exterior	Door	A	Metal	Intact	Red	0.4	Negative
F Bldg	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Red**	**1.4**	**Positive**
F Bldg	**Exterior**	**Window Frame**	**A**	**Wood**	**Intact**	**Tan**	**2.0**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Highland Pacific Elementary School

PROJECT NO.:09019

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
A Bldg	A-1 Boys'/Girls'' RR	Wall	D	Ceramic Tile	Intact	Pink	14.6
A Bldg	Exterior	Door Frame, Health Office	C	Wood	Intact	Tan	1.6
A Bldg	Exterior	Window Frame	C	Wood	Intact	Tan	1.2
A Bldg	Principal's RR	Baseboard	A	Ceramic Tile	Intact	Grey	16.5
A Bldg	Unisex RR	Baseboard	B	Wood	Intact	Grey	14.7
A Bldg	Unisex RR	Door Frame	C	Wood	Intact	Red	1.2
A Bldg	Unisex RR, North	Baseboard	B	Wood	Intact	Grey	12.8
A Bldg	Unisex RR, North	Door Frame	C	Wood	Intact	Red	1.1
B Bldg	Exterior	Door	A	Wood	Intact	Red	1.2
B Bldg	Exterior	Door Frame	A	Wood	Intact	Red	1.9
C Bldg	Exterior	Door	A	Wood	Intact	Red	1.1
C Bldg	Exterior	Door Frame	A	Wood	Intact	Red	1.6
E Bldg	E-2	Door	A	Metal	Intact	Red	1.2
E Bldg	E-2	Door Frame	A	Wood	Intact	Red	3.4
E Bldg	Exterior	Door Frame	A	Wood	Intact	Red	1.4
E Bldg	Exterior	Window Frame	A	Wood	Intact	Tan	1.8
F Bldg	Exterior	Door Frame	A	Wood	Intact	Red	1.4
F Bldg	Exterior	Window Frame	A	Wood	Intact	Tan	2.0

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

Appendix E

DHS Form 8552

State of California – Health and Human Services Agency | California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead Hazard Evaluation 1/14/2009

Section 2 — Type of Lead Hazard Evaluation (Check one box only)

☑ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 — Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
3340 Pacific Street	Highland	San Bernardino	92346

Construction date (year) of structure	Type of structure (check one box only)
1965	☐ Multi-unit building ☑ School or daycare ☐ Single family dwelling ☐ Other (specify)_____

Section 4 — Owner of Structure (if business/agency, list contact person)

Name	Telephone number
San Bernardino City Unified School District	909-381-1238

Address [number, street, apartment (if applicable)]	City	State	Zip Code
777 North F Street	San Bernardino	CA	92401

Section 5 — Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected. ☑ Lead-based paint detected.

☐ No lead hazards detected. ☐ Lead hazards detected.

Section 6 — Individual Conducting Lead Hazard Evaluation

Name	Telephone number
David Tillema	800.303.6484

Address [number, street, apartment (if applicable)]	City	State	Zip Code
28202 Cabot Road #300	Laguna Niguel	CA	92677

CDPH certification number	Signat	Date
17740		1/20/2009

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 — Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

CDPH 8552 (6/07)

Appendix F

XRF Performance Characteristics Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: June 26, 1996 **EDITION NO.: 3**

MANUFACTURER AND MODEL:

Make: *Scitec Corporation*
Model: *MAP-4*
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS

Test mode, Screen mode, or Unlimited mode.

XRF CALIBRATION CHECK LIMITS

0.6 to 1.2 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

When using Unlimited mode, substrate correction recommended for:

None

When using Unlimited mode, substrate correction not recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

When using Screen or Test mode, for XRF results below 4.0 mg/cm^2, substrate correction recommended for:

Drywall, Metal, and Wood

When using Screen or Test mode, substrate correction not recommended for:

Brick, Concrete, and Plaster

INCONCLUSIVE RANGE OR THRESHOLD

UNLIMITED MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm^2)
Results not corrected for substrate bias for unlimited mode readings	Brick	0.91 to 1.19
	Concrete	0.91 to 1.19
	Drywall	0.91 to 1.19
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.19
	Wood	0.91 to 1.19

SCREEN MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm²)
Results corrected for substrate bias for screen mode readings on drywall, metal, and wood substrates only	Brick	0.91 to 1.09
	Concrete	0.91 to 1.09
	Drywall	0.91 to 1.39
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.09
	Wood	0.91 to 1.29

TEST MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)	INCONCLUSIVE RANGE (mg/cm²)
Readings corrected for substrate bias for test mode readings on drywall, metal, and wood substrates only	Brick	0.9	None
	Concrete	0.9	None
	Drywall	None	0.91 to 1.39
	Metal	None	0.91 to 1.09
	Plaster	0.9	None
	Wood	None	0.91 to 1.29

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from an EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations. All of the test locations were tested in February 1996 using two different instruments. One instrument had a new source installed in July 1994 and its strength at the time of testing was calculated as 9.4 mCi. The other instrument had a new source installed in September 1994 and its strength at the time of testing was calculated as 10.6 mCi.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds

SUBSTRATE CORRECTION VALUE COMPUTATION

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

- Using the same XRF instrument, take three readings on a bare substrate area covered with the

NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

- Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

  For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\left.\begin{matrix}\text{Correction}\\ \text{Value}\end{matrix}\right\} = \frac{1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th}\ \text{Reading}}{6} - 1.02 mg/cm^2$$

- Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either 15-second readings or 60-second readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES

For screen, test, and confirm modes, the MAP 4 instrument tests until a K-shell result is obtained relative to a level of precision. A result is "positive", "negative" or "retest" as displayed by indicator lights. For the unlimited mode, the MAP 4 instrument tests until a K-shell result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the the reading is terminated by releasing the trigger. A few unlimited mode readings were terminated because they exceeded the two-minute limit used for archive testing. The following tables provide testing time information for three testing modes. Insufficient information is available to provide this information for confirm mode. All times have been scaled to match an initial 12 miC source. Note that source strength and factors such as substrate may affect testing times.

UNLIMITED MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	3	4	6	4	13	3
Metal	3	4	8	4	9	3
Brick Concrete Plaster	4	5	8	6	6	3

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

SCREEN MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	6	7	5	6	7
Metal	4	5	6	5	5	5
Brick Concrete Plaster	11	11	13	11	11	11

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

TEST MODE TESTING TIMES (Seconds)						
SUBSTRATE	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm²)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	17	22	27	21	20	28
Metal	13	20	23	20	20	20
Brick Concrete Plaster	41	42	52	41	46	43

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

BIAS AND PRECISION

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with laboratory-measured lead levels less than 4.0 mg/cm² lead. There were 15 testing locations taken in the screen mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were 15 testing locations taken in the test mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were not any testing locations taken in the confirm mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. There were 15 testing locations taken in the unlimited mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². All testing was done in February 1996 with two different instruments. The following data are for illustrative purposes only. Actual bias must be determined on the site. Inconclusive ranges provided above already account for bias and precision.

SCREEN MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.1	0.2
	Metal	0.1	0.3
	Plaster	-0.1	0.3
	Wood	0.0	0.2
0.5 mg/cm²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	0.1	0.4
	Concrete	0.1	0.4
	Drywall	0.5	0.6
	Metal	0.3	0.3
	Plaster	0.1	0.4
	Wood	0.4	0.6

2.0 mg/cm²	Brick	0.4	0.5
	Concrete	0.4	0.5
	Drywall	0.9	0.8
	Metal	0.5	0.3
	Plaster	0.4	0.5
	Wood	0.7	0.8

*Precision at 1 standard deviation

TEST MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.2
	Concrete	-0.1	0.2
	Drywall	0.1	0.1
	Metal	0.1	0.2
	Plaster	-0.1	0.2
	Wood	0.0	0.1
0.5 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.2
	Plaster	-0.1	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.5	0.6
	Metal	0.3	0.2
	Plaster	-0.1	0.3
	Wood	0.4	0.6
2.0 mg/cm²	Brick	0.0	0.4
	Concrete	0.0	0.4
	Drywall	1.0	0.8
	Metal	0.5	0.2
	Plaster	0.0	0.4
	Wood	0.8	0.8

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristics Sheet is a joint product of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD). The issuance of this sheet does not constitute rulemaking. The information provided here is intended solely as guidance to be used in conjunction with Chapter 7, Lead-Based Paint Inspection, of the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. EPA and HUD reserve the right to revise this guidance. Please address questions and comments on this sheet to: Director, Office of Lead Hazard Control (L), U.S. Department of Housing and Urban Development, 451 Seventh St, S.W., Washington, DC 20410.

Pacific Environmental Company

Asbestos and Lead Abatement Specifications

Highland Pacific Elementary School Modernization Project
3340 Pacific Street
Highland, California 92346

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 21, 2009

Project Number: 09019



Pacific Environmental Company

Table of Contents

DIVISION 02. GENERAL REQUIREMENTS FOR ASBESTOS ABATEMENT

DIVISION 03. GENERAL REQUIREMENTS FOR LEAD ABATEMENT

DIVISION 2. GENERAL REQUIREMENTS FOR ASBESTOS ABATEMENT

PART 1 GENERAL

1.1 REFERENCES
1.2 DEFINITIONS
1.3 DESCRIPTION OF WORK
1.4 SUBMITTALS
1.5 QUALIFICATIONS
1.6 MEDICAL REQUIREMENTS
1.7 TRAINING PROGRAM
1.8 RESPIRATORY PROTECTION PROGRAM
1.9 HAZARD COMMUNICATION PROGRAM
1.10 LICENSES, PERMITS AND NOTIFICATIONS
1.11 PERSONAL PROTECTIVE EQUIPMENT
1.12 HYGIENE FACILITIES AND PRACTICES
1.13 REGULATED AREAS
1.14 WARNING SIGNS AND TAPE
1.15 WARNING LABELS
1.16 LOCAL EXHAUST VENTILATION
1.17 TOOLS
1.18 RENTAL EQUIPMENT
1.19 AIR MONITORING EQUIPMENT
1.20 EXPENDABLE SUPPLIES
1.21 MISCELLANEOUS ITEMS

PART 2 PRODUCTS

2.1 ENCAPSULANTS
2.2 ENCASEMENT PRODUCTS

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS
3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN
3.3 TEMPORARY POWER
3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS
3.5 TEMPORARY FACILITIES
3.6 METHODS OF COMPLIANCE
3.7 FINAL CLEANING AND VISUAL INSPECTION
3.8 LOCKDOWN
3.9 EXPOSURE ASSESSMENT AND AIR MONITORING
3.10 CLEARANCE CERTIFICATION
3.11 CLEANUP AND DISPOSAL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below 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)

ANSI Z9.2 (1979; R 1991)	Fundamentals Governing the Design and Operation of Local Exhaust Systems
ANSI Z87.1 (1989; Errata; Z87.1a)	Occupational and Educational Eye and Face Protection
ANSI Z88.2 (1992)	Respiratory Protection

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 732 (1995)	Aging Effects of Artificial Weathering on Latex Sealants
ASTM D 522 (1993a)	Mandrel Bend Test of Attached Organic Coatings
ASTM D 1331 (1989; R 1995)	Surface and Interfacial Tension of Solutions of Surface-ActiveAgents
ASTM D 2794 (1993)	Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
ASTM D 4397 (1996)	Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
ASTM E 84 (1996a)	Surface Burning Characteristics of Building Materials
ASTM E 96 (1995)	Water Vapor Transmission of Materials
ASTM E 119 (1995a)	Fire Tests of Building Construction and Materials
ASTM E 736 (1992)	Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members
ASTM E 1368 (1997)	Visual Inspection of Asbestos Abatement Projects

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 61	National Emissions Standards for Hazardous Air Pollutants
40 CFR 763	Asbestos
42 CFR 84	Approval of Respiratory Protective Devices
49 CFR 107	Hazardous Materials Program Procedures
49 CFR 171	General Information, Regulations and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packagings

COMPRESSED GAS ASSOCIATION (CGA)

CGA G-7 (1990)	Compressed Air for Human Respiration
CGA G-7.1 (1989)	Commodity Specification for Air

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 340/1-90-018 (1990)	Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance
EPA 340/1-90-019 (1990)	Asbestos/NESHAP Adequately Wet Guidance
EPA 560/5-85-024 (1985)	Guidance for Controlling Asbestos-Containing Materials in Buildings
SCAQMD Rule 1403	Asbestos Emissions from Renovation/Demolition Activities

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 701 (1996)	Methods of Fire Test for Flame-Resistant Textiles and Films

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 84-100 (1984; Supple 1985, 1987, 1988 & 1990)
NIOSH Manual of Analytical Methods

UNDERWRITERS LABORATORIES (UL)

UL 586 (1996)	High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

A. Adequately Wet: A term defined in 40 CFR 61, Subpart M, and EPA 340/1-90-019 meaning to sufficiently mix or penetrate with liquid to prevent the release of particulate. If visible emissions are observed coming from asbestos-containing material (ACM), then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wetted.

B. Aggressive Method: Removal or disturbance of building material by sanding, abrading, grinding, or other method that breaks, crumbles, or disintegrates intact asbestos-containing material (ACM).

C. Amended Water: Water containing a wetting agent or surfactant with a surface tension of at least 29 dynes per square centimeter when tested in accordance with ASTM D 1331.

D. Asbestos: Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophylite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered.

E. Asbestos-Containing Material (ACM): Any materials containing more than one percent asbestos.

F. Asbestos Fiber: A particulate form of asbestos, 5 micrometers or longer, with a length-to-width ratio of at least 3 to 1.

G. Authorized Person: Any person authorized by the Contractor and required by work duties to be present in the regulated areas.

H. Building Inspector: Individual who inspects buildings for asbestos and has EPA Model Accreditation Plan (MAP) "Building Inspector" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

I. Certified Industrial Hygienist (CIH): An Industrial Hygienist certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

J. Class I Asbestos Work: Activities defined by OSHA involving the removal of thermal system insulation (TSI) and surfacing ACM.

K. Class II Asbestos Work: Activities defined by OSHA involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos- containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic. Certain "incidental" roofing materials such as mastic, flashing and cements when they are still intact are excluded from Class II asbestos work. Removal of small amounts of these materials which would fit into a glovebag may be classified as a Class III job.

L. Class III Asbestos Work: Activities defined by OSHA that involve repair and maintenance operations, where ACM, including TSI and surfacing ACM, is likely to be disturbed. Operations may include drilling, abrading, cutting a hole, cable pulling, crawling through tunnels or attics and spaces above the ceiling, where asbestos is actively disturbed or asbestos-containing debris is actively disturbed.

M. Class IV Asbestos Work: Maintenance and custodial construction activities during which employees contact but do not disturb ACM and activities to clean-up dust, waste and debris resulting from Class I, II, and III activities. This may include dusting surfaces where ACM waste and debris and accompanying dust exists and cleaning up loose ACM debris from TSI or surfacing ACM following construction.

N. Clean room: An uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

O. Competent Person: In addition to the definition in 29 CFR 1926, Section .32(f), a person who is capable of identifying existing asbestos hazards as defined in 29 CFR 1926, Section .1101, selecting the appropriate control strategy, has the authority to take prompt corrective measures to eliminate them and has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

P. Contractor/Supervisor: Individual who supervises asbestos abatement work and has EPA Model Accreditation Plan "Contractor/Supervisor" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

Q. Critical Barrier: One or more layers of plastic sealed over all openings into a regulated area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a regulated area from migrating to an adjacent area.

R. Decontamination Area: An enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

S. Demolition: The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

T. Disposal Bag: A 0.15 mm 6 mil thick, leak-tight plastic bag, pre-labeled in accordance with 29 CFR 1926, Section .1101, used for transporting asbestos waste from containment to disposal site.

U. Disturbance: Activities that disrupt the matrix of ACM, crumble or pulverize ACM, or generate visible debris from ACM. Disturbance includes cutting away small amounts of ACM, no greater than the amount which can be contained in 1 standard sized glovebag or waste bag, not larger than 1.5 m 60 inches in length and width in order to access a building component.

V. Equipment Room or Area: An area adjacent to the regulated area used for the decontamination of employees and their equipment.

W. Employee Exposure: That exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

X. Fiber: A fibrous particulate, 5 micrometers or longer, with a length to width ratio of at least 3 to 1.

Y. Friable ACM: A term defined in 40 CFR 61, Subpart M and EPA 340/1-90-018 meaning any material which contains more than 1percent asbestos, as determined using the method specified in 40 CFR 763, Subpart E, Appendix A, Section 1, Polarized Light Microscopy (PLM), that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent, as determined by a method other than point counting by PLM, the asbestos content is verified by point counting using PLM.

Z. Glovebag: Not more than a 1.5 by 1.5 m 60 by 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

AA. High-Efficiency Particulate Air (HEPA) Filter: A filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

BB. Homogeneous Area: An area of surfacing material or thermal system insulation that is uniform in color and texture.

CC. Industrial Hygienist: A professional qualified by education, training, and experience to anticipate, recognize, evaluate, and develop controls for occupational health hazards.

DD. Intact: ACM which has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix. Removal of "intact" asphaltic, resinous, cementitious products does not render the ACM non-intact simply by being separated into smaller pieces.

EE. Model Accreditation Plan (MAP): USEPA training accreditation requirements for persons who work with asbestos as specified in 40 CFR 763, Subpart E, Appendix C.

FF. Modification: A changed or altered procedure, material or component of a control system, which replaces a procedure, material or component of a required system.

GG. Negative Exposure Assessment: A demonstration by the Contractor to show that employee exposure during an operation is expected to be consistently below the OSHA Permissible Exposure Limits (PELs).

HH. NESHAP: National Emission Standards for Hazardous Air Pollutants. The USEPA NESHAP regulation for asbestos is at 40 CFR 61, Subpart M.

II. Nonfriable ACM: A NESHAP term defined in 40 CFR 61, Subpart M and EPA 340/1-90-018 meaning any material containing more than 1 percent asbestos, as determined using the method specified in 40 CFR 763, Subpart E, Appendix A, Section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

JJ. Nonfriable ACM (Category I): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90-018 meaning asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in 40 CFR 763, Subpart F, Appendix A, Section 1, Polarized Light Microscopy.

KK. Nonfriable ACM (Category II): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90-018 meaning any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos, as determined using the methods specified in 40 CFR 763, Subpart F, Appendix A, Section 1, Polarized Light Microscopy, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

LL. Permissible Exposure Limits (PELs):

(1) PEL-Time weighted average(TWA): Concentration of asbestos not in excess of 0.1 fibers per cubic centimeter of air (f/cc) as an 8 hour time weighted average (TWA), as determined by the method prescribed in 29 CFR 1926, Section .1101, Appendix A, or the current version of NIOSH Pub No. 84-100 analytical method 7400.

(2) PEL-Excursion Limit: An airborne concentration of asbestos not in excess of 1.0 f/cc of air as averaged over a sampling period of 30 minutes as determined by the method prescribed in 29 CFR 1926, Section .1101, Appendix A, or the current version of NIOSH Pub No. 84-100 analytical method 7400.

MM. Regulated Area: An OSHA term defined in 29 CFR 1926, Section .1101 meaning an area established by the Contractor to demarcate areas where Class I, II, and III asbestos work is conducted; also any adjoining area where debris and waste from such asbestos work accumulate; and an area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit.

NN. Removal: All operations where ACM is taken out or stripped from structures or substrates, and includes demolition operations.

OO. Repair: Overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM attached to structures or substrates. If the amount of asbestos so "disturbed" cannot be contained in 1 standard glovebag or waste bag, Class I precautions are required.

PP. Spills/Emergency Cleanups: Cleanup of sizable amounts of asbestos waste and debris which has occurred, for example, when water damage occurs in a building, and sizable amounts of ACM are dislodged. A Competent Person evaluates the site and ACM to be handled, and based on the type, condition and extent of the dislodged material, classifies the cleanup as Class I, II, or III. Only if the material was intact and the cleanup involves mere contact of ACM, rather than disturbance, could there be a Class IV classification.

QQ. Surfacing ACM: Asbestos-containing material which contains more than 1% asbestos and is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

RR. Thermal system insulation (TSI) ACM: ACM which contains more than 1% asbestos and is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain or water condensation.

SS. Transite: A generic name for asbestos cement wallboard and pipe.

TT. Worker: Individual (not designated as the Competent Person or a supervisor) who performs asbestos work and has completed asbestos worker training required by 29 CFR 1926, Section .1101, to include EPA Model Accreditation Plan (MAP) "Worker" training; accreditation required by 40 CFR 763, Subpart E, Appendix C, if required by the OSHA Class of work to be performed or by the state where the work is to be performed.

1.3 DESCRIPTION OF WORK

1.3.1 The work covered by this section includes the removal of the asbestos-containing materials and demolition services required to facilitate access to the ACM, where the ACM is impacted by the planned modernization work. ACM that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity
Black Mastic under White & Brown 12” VCT	A Building, Work Room Hallway and Classroom A2	500 SF
Penetration Mastic	Roof Penetrations	300 SF
Window Putty	Exterior Windows	840 SF

1.3.2 All work described or included in paragraph 1.3.1 shall be performed by the hazardous materials abatement contractor utilizing trained and AHERA certified asbestos workers. The only exception to this requirement may be the removal of intact non-asbestos-containing furnishings and equipment from the building prior to initiating any demolition activity and when such removal of intact materials or equipment does not have the potential for disturbing asbestos-containing materials.

1.3.3 The Work shall be performed in phases so as to maximize safety and minimize the potential for mixing hazardous and non-hazardous waste streams during their removal, transportation and disposal.

1.4 SUBMITTALS

1.4.1 Pre-Job Submittals: Prior to commencement of work, Contractor shall submit (two copies) to Owner's Representative documentation that includes, without limitation, the following:

A. Submit copies of licenses and registrations required by these specifications (include copies of subcontractor’s licenses).

B. The Contractor shall carry comprehensive bodily injury and property damage liability insurance provided by an A-rated California Admitted Carrier with a combined single limit of $2,000,000.00 per occurrence. The insurance policy shall provide coverage for all liability arising out of or

related to the Project or to the performance of the Work including asbestos and unintentional release of hazardous materials. The Contractor's insurance policies shall contain a 30-day Notice of Cancellation clause and shall list the following individuals and entities as Certificate holders and Additional Insured, San Bernardino City Unified School District and Pacific Environmental Company.

C. Submit copies written notification to the appropriate regulatory agencies (SCAQMD and CalOSHA).

D. Submit proof that required permits, site location and arrangements for transport and disposal of asbestos-containing waste materials have been made.

E. Submit proof of legal right to use patented equipment or processes.

F. Manufacturer's certification that HEPA vacuums, differential pressure air filtration devices and other local exhaust ventilation equipment conform to ANSI Z9.2-79.

G. Submit a construction schedule indicating milestones and dates of completion for each phase of the Work.

H. Submit documentation that Contractor's employees, including foreman, supervisor, and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received training as required by 29 CFR 1926.1101.

I. Submit documentation from Physician that all employees or agents who may be exposed to airborne asbestos fibers in excess of background levels have received medical monitoring to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. The Contractor must be aware of and provide information to the examining physician about unusual conditions in the workplace environment (e.g. high temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities.

J. Submit documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. This fit-testing shall be in accordance with qualitative procedures as required by OSHA regulations or be quantitative in nature.

K. Submit a project specific work plan.

L. Submit an emergency preparedness plan.

1.4.2 Ongoing Submittals: During abatement activities, Contractor shall submit to Owner's Representative documentation that includes, without limitation, the following:

A. Submit copies of the work area entry/exit log book. Log book must record name, affiliation, time in, and time out for each entry into the work area.

B. Submit copies of logs documenting filter changes on respirators, HEPA vacuums, differential pressure air filtration devices, water filtration device, and other engineering controls.

C. Submit copies of Material Safety Data Sheets (MSDS) for solvents, encapsulants, wetting agents and replacement materials, as necessary.

D. Submit results of all required OSHA air monitoring. Results shall be available prior to the start of the following shift and within 24 hours of completion of the last shift.

E. Submit copies of all accident/incident reports where injury or damage has occurred on or to the Owner's property.

F. Submit copies of all transport manifests, trip tickets and disposal receipts for all asbestos waste materials removed from the work area within 24 hours of the transport.

1.5 QUALIFICATIONS

1.5.1 Written Qualifications and Organization Report

The Contractor shall furnish a written qualifications and organization report providing evidence of qualifications of the Contractor, Contractor's Project Supervisor, Designated Competent Person, supervisors and workers; independent testing laboratory: all subcontractors to be used including disposal transportation and disposal facility firms, subcontractor supervisors, subcontractor workers; and any others assigned to perform asbestos abatement and support activities. The report shall include an organization chart showing the Contractor's staff organization for this project by name and title, chain of command and reporting relationship with all subcontractors. The report shall be signed by the Contractor, the Contractor's onsite project manager, Designated Competent Person, designated testing laboratory and the principals of all subcontractors to be used. The Contractor shall include the following statement in the report: "By signing this report I certify that the personnel I am responsible for during the course of this project fully understand the contents of 29 CFR 1926, Section .1101, 40 CFR 61, Subpart M, and the federal, state and local requirements specified in paragraph SAFETY AND HEALTH PROGRAM AND PLANS for those asbestos abatement activities that they will be involved in."

1.5.2 Specific Requirements

The Contractor shall designate in writing, personnel meeting the following qualifications:

A. Designated Competent Person: The name, address, telephone number, and resume of the Contractor's Designated Competent Person shall be provided. Evidence that the full-time Designated Competent Person is qualified in accordance with 29 CFR 1926, Sections .32 and .1101, has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by 40 CFR 763, Subpart E, Appendix C, and is experienced in the administration and supervision of asbestos abatement projects, including exposure assessment and monitoring, work practices, abatement methods, protective measures for personnel, setting up and inspecting asbestos abatement work areas, evaluating the integrity of containment barriers, placement and operation of local exhaust systems, ACM generated waste containment and disposal procedures, decontamination units installation and maintenance requirements, site safety and health requirements, notification of other employees onsite, etc. The duties of the Competent Person shall include the following: controlling entry to and exit from the regulated area; supervising any employee exposure monitoring required by 29 CFR 1926, Section .1101; ensuring that all employees working within a regulated area wear the appropriate personal protective equipment (PPE), are trained in the use of appropriate methods of exposure control, and use the hygiene facilities and decontamination procedures specified; and ensuring that engineering controls in use are in proper operating conditions and are functioning properly. The Designated Competent Person shall be responsible for compliance with applicable federal, state and local requirements, the Contractor's Accident Prevention Plan and Asbestos Hazard Abatement Plan. The Designated Competent Person shall

provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that this person has a minimum of 2 years of on-the-job asbestos abatement experience relevant to OSHA competent person requirements. The Designated Competent Person shall be onsite at all times during the conduct of this project.

B. Project and Other Supervisors: The Contractor shall provide the name, address, telephone number, and resume of the Project Supervisor and other supervisors who have responsibility to implement the Accident Prevention Plan, including the Asbestos Hazard Abatement Plan and Activity Hazard Analyses, the authority to direct work performed under this contract and verify compliance, and have EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by 40 CFR 763, Subpart E, Appendix C. The Project Supervisor and other supervisors shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that the Project Supervisor has a minimum of 2 years of on-the-job asbestos abatement experience relevant to project supervisor responsibilities and the other supervisors have a minimum of 1 year on-the-job asbestos abatement experience commensurate with the responsibilities they will have on this project.

C. Asbestos Abatement Workers: Asbestos abatement workers shall meet the requirements contained in 29 CFR 1926, Section .1101, 40 CFR 61, Subpart M, and other applicable federal, state and local requirements. Worker training documentation shall be provided as required on the "Certificate of Workers Acknowledgment" in this paragraph.

D. Worker Training and Certification of Worker Acknowledgment: Training documentation will be required for each employee who will perform OSHA Class I, Class II, Class III, or Class IV asbestos abatement operations. Such documentation shall be submitted on a Contractor generated form titled "Certificate of Workers Acknowledgment", to be completed for each employee in the same format and containing the same information as the example certificate at the end of this section. Training course completion certificates (initial and most recent update refresher) required by the information checked on the form shall be attached.

E. First Aid and CPR Trained Persons: The names of at least 2 persons who are currently trained in first aid and CPR by the American Red Cross or other approved agency shall be designated and shall be onsite at all times during site operations. They shall be trained in universal precautions and the use of PPE as described in the Bloodborne Pathogens Standard of 29 CFR 1910, Section. These persons may perform other duties but shall be immediately available to render first aid when needed. A copy of each designated person's current valid First Aid and CPR certificate shall be provided.

F. Disposal Facility, Transporter: The Contractor shall provide written evidence that the landfill to be used is approved for asbestos disposal by the USEPA, state and local regulatory agencies. Copies of signed agreements between the Contractor (including subcontractors and transporters) and the asbestos waste disposal facility to accept and dispose of all asbestos containing waste generated during the performance of this contract shall be provided. Qualifications shall be provided for each subcontractor or transporter to be used, indicating previous experience in transport and disposal of asbestos waste to include all required state and local waste hauler requirements for asbestos. The Contractor and transporters shall meet the DOT requirements of 49 CFR 171, 49 CFR 172, and 49 CFR 173 as well as registration requirements of 49 CFR 107 and other applicable state or local requirements. The disposal facility shall meet the requirements of 40 CFR 61, Sections .154 or .155, as required in 40 CFR 61, Section .150(b), and other applicable state or local requirements.

1.5.3 Federal, State or Local Citations on Previous Projects

The Contractor and all subcontractors shall submit a statement, signed by an officer of the company, containing a record of any citations issued by Federal, State or local regulatory agencies relating to asbestos activities (including projects, dates, and resolutions); a list of penalties incurred through non-compliance with asbestos project specifications, including liquidated damages, overruns in scheduled time limitations and resolutions; and situations in which an asbestos-related contract has been terminated (including projects, dates, and reasons for terminations). If there are none, a negative declaration signed by an officer of the company shall be provided.

1.6 MEDICAL REQUIREMENTS

Medical requirements shall conform to 29 CFR 1926, Section .1101.

1.6.1 Medical Examination

Before being exposed to airborne asbestos fibers, workers shall be provided with a medical examination as required by 29 CFR 1926, Section .1101 and other pertinent state or local requirements. This requirement shall have been satisfied within the last 12 months. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos and within 30 calendar days before or after the termination of employment in such occupation. X-ray films of asbestos workers shall be identified to the consulting radiologist and medical record jackets shall be marked with the word "asbestos."

1.6.1.1 Information Provided to the Physician

The Contractor shall provide the following information in writing to the examining physician:

a. A copy of 29 CFR 1926, Section .1101 and Appendices D, E, G, and I;
b. A description of the affected employee's duties as they relate to the employee's exposure;
c. The employee's representative exposure level or anticipated exposure level;
d. A description of any personal protective and respiratory equipment used or to be used;
e. Information from previous medical examinations of the affected employee that is not otherwise available to the examining physician.

1.6.1.2 Written Medical Opinion

For each worker, a written medical opinion prepared and signed by a licensed physician indicating the following:

a. Summary of the results of the examination.
b. The potential for an existing physiological condition that would place the employee at an increased risk of health impairment from exposure to asbestos.
c. The ability of the individual to wear personal protective equipment, including respirators, while performing strenuous work tasks under cold and/or heat stress conditions.
d. A statement that the employee has been informed of the results of the examination, provided with a copy of the results, informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure, and informed of any medical condition that may result from asbestos exposure.

1.6.2 Medical and Exposure Records

Complete and accurate records shall be maintained of each employee's medical examinations, medical records, and exposure data, as required by 29 CFR 1910, Section 1910.20 and 29 CFR 1926, Section .1101 for a period of 50 years after termination of employment. Records of the required medical examinations and exposure data shall be made available, for inspection and copying, to the Assistant Secretary of Labor for Occupational Safety and Health (OSHA) or authorized representatives of the employee and an employee's physician upon request of the employee or former employee. A copy of the required medical certification for each employee shall be maintained on file at the worksite for review, as requested by the Owner's representatives.

1.7 TRAINING PROGRAM

1.7.1 General Training Requirements

The Contractor shall establish a training program as specified by EPA Model Accreditation Plan (MAP), training requirements at 40 CFR 763, Subpart E, Appendix C, the State of California, OSHA requirements at 29 CFR 1926, Section .1101(k)(9), and this specification. Contractor employees shall complete the required training for the type of work they are to perform and such training shall be documented.

1.7.2 Project Specific Training

Prior to commencement of work, each worker shall be instructed by the Owner's Representative and Competent Person in the following project specific training:

a. The hazards and health effects of the specific types of ACM to be abated;
b. The content and requirements of the Contractor's Accident Prevention Plan to include the Asbestos Hazard Abatement Plan and Activity Hazard Analyses and site-specific safety and health precautions;
c. Hazard Communication Program;
d. Hands-on training for each asbestos abatement technique to be employed;
e. Heat and/or cold stress monitoring specific to this project;
f. Air monitoring program and procedures;
g. Medical surveillance to include medical and exposure record-keeping procedures;
h. The association of cigarette smoke and asbestos-related disease;
i. Security procedures;
j. Specific work practice controls and engineering controls required for each Class of work in accordance with 29 CFR 1926, Section .1101.

1.8 RESPIRATORY PROTECTION PROGRAM

The Contractor shall establish in writing, and implement a respiratory protection program in accordance with 29 CFR 1926, Section .1101, 29 CFR 1910, Section .134, ANSI Z88.2, CGA G-7, CGA G-7.1 and DETAIL SHEET 12. The Contractor shall establish minimum respiratory protection requirements based on measured or anticipated levels of airborne asbestos fiber concentrations encountered during the performance of the asbestos abatement work. The Contractor's respiratory
protection program shall include, but not be limited to, the following elements:

A. The company policy, used for the assignment of individual responsibility, accountability, and implementation of the respiratory protection program.

B. The standard operating procedures covering the selection and use of respirators. Respiratory selection shall be determined by the hazard to which the worker is exposed.

C. Medical evaluation of each user to verify that the worker may be assigned to an activity where respiratory protection is required.

D. Training in the proper use and limitations of respirators.

E. Respirator fit-testing, i.e., quantitative, qualitative and individual functional fit checks.

F. Regular cleaning and disinfection of respirators.

G. Routine inspection of respirators during cleaning and after each use when designated for emergency use.

H. Storage of respirators in convenient, clean, and sanitary locations.

I. Surveillance of regulated area conditions and degree of employee exposure (e.g., through air monitoring).

J. Regular evaluation of the continued effectiveness of the respiratory protection program.

K. Recognition and procedures for the resolution of special problems as they affect respirator use (e.g., no facial hair that comes between the respirator face piece and face or interferes with valve function; prescription eye wear usage; contact lenses usage; etc.).

L. Proper training in putting on and removing respirators.

1.8.1 Respiratory Fit Testing

A qualitative or quantitative fit test conforming to 29 CFR 1926, Section 1101, Appendix C shall be conducted by the Contractor Competent Person for each Contractor worker required to wear a respirator, and for authorized visitors who enter a regulated area where respirators are required to be worn. A respirator fit test shall be performed for each worker wearing a negative-pressure respirator prior to initially wearing a respirator on this project and every 6 months thereafter. The qualitative fit tests may be used only for testing the fit of half-mask respirators where they are permitted to be worn, or of full-facepiece air purifying respirators where they are worn at levels at which half-facepiece air purifying respirators are permitted. If physical changes develop that will affect the fit, a new fit test for the worker shall be performed. Functional fit checks shall be performed by employees each time a respirator is put on and in accordance with the manufacturer's recommendation.

1.8.2 Respirator Selection and Use Requirements

The Contractor shall provide respirators, and ensure that they are used as required by 29 CFR 1926, Section .1101 and in accordance with the manufacturer's recommendations. Respirators shall be jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health (MSHA/NIOSH), or by NIOSH, under the provisions of 42 CFR 84, for use in environments containing airborne asbestos fibers. Personnel who handle ACM, enter regulated areas that require the wearing of a respirator, or who are otherwise carrying out abatement activities that require the wearing of a respirator, shall be provided with approved respirators that are fully protective of the worker at the measured or anticipated airborne asbestos concentration level to be encountered. For air-purifying respirators, the particulate filter portion of the cartridges or canister

approved for use in airborne asbestos environments shall be high-efficiency particulate air (HEPA). The initial respirator selection and the decisions regarding the upgrading or downgrading of respirator type shall be made by the Owner's Representative based on the measured or anticipated airborne asbestos fiber concentrations to be encountered. The Contractor's Designated Competent Person in consultation with the Owner's Representative, shall have the authority to take immediate action to upgrade or downgrade respiratory type when there is an immediate danger to the health and safety of the wearer. Respirators shall be used in the following circumstances:

a. During all Class I asbestos jobs.
b. During all Class II work where the ACM is not removed in a substantially intact state.
c. During all Class II and III work which is not performed using wet methods. Respirators need not be worn during removal of ACM from sloped roofs when a negative exposure assessment has been made and ACM is removed in an intact state.
d. During all Class II and III asbestos jobs where the Contractor does not produce a negative exposure assessment.
e. During all Class III jobs where TSI or surfacing ACM is being disturbed.
f. During all Class IV work performed within regulated areas where employees performing other work are required to wear respirators.
g. During all work where employees are exposed above the PEL-TWA or PEL-Excursion Limit.
h. In emergencies

1.8.3 Class I Work

The Contractor shall provide: (1) a tight-fitting, powered air purifying respirator equipped with high efficiency filters, or (2) a full-facepiece supplied air respirator operated in the pressure demand mode, equipped with HEPA egress cartridges, or (3) an auxiliary positive pressure self-contained breathing apparatus, for all employees within the regulated area where Class I work is being performed; provided that a negative exposure assessment has not been produced, and that the exposure level will not exceed 1 f/cc as an 8-hour time weighted average. A full-facepiece supplied air respirator, operated in the pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus shall be provided under such conditions, if the exposure assessment indicates exposure levels above 1 f/cc as an 8-hour time weighted average.

1.8.4 Class II and III Work

The Contractor shall provide an air purifying respirator, other than a disposable respirator, equipped with high-efficiency filters whenever the employee performs Class II and III asbestos jobs where the Contractor does not produce a negative exposure assessment; and Class III jobs where TSI or surfacing ACM is being disturbed.

1.8.5 Sanitation

Employees who wear respirators shall be permitted to leave work areas to wash their faces and respirator facepieces whenever necessary to prevent skin irritation associated with respirator use.

1.9 HAZARD COMMUNICATION PROGRAM

A hazard communication program shall be established and implemented in accordance with 29 CFR 1926, Section .59. Material safety data sheets (MSDSs) shall be provided for all hazardous materials brought onto the worksite. One copy shall be provided to the Owner's Representative and 1 copy shall be included in the Contractor's Hazard Communication Program.

1.10 LICENSES, PERMITS AND NOTIFICATIONS

1.10.1 General Legal Requirements

Necessary licenses, permits and notifications shall be obtained in conjunction with the project's asbestos abatement, transportation and disposal actions and timely notification furnished of such actions as required by federal, state, regional, and local authorities. The Contractor shall notify the SCAWMD and CalOSHA in writing, at least 14 days prior to the commencement of work, in accordance with 40 CFR 61, Subpart M, and state and local requirements to include the mandatory "Notification of Demolition and Renovation Record" form and other required notification documents. The Contractor shall furnish copies of the notifications to the Owner's Representative at least 3 days prior to the projects scheduled start date. For licenses, permits, and notifications that the Contractor is responsible for obtaining, the Contractor shall pay any associated fees or other costs incurred.

1.10.2 Litigation and Notification

The Contractor shall notify the Owner's Representative if any of the following occur:

a. The Contractor or any of the subcontractors are served with notice of violation of any law, regulation, permit or license which relates to this contract;
b. Proceedings are commenced which could lead to revocation of related permits or licenses; permits, licenses or other Government authorizations relating to this contract are revoked;
c. Litigation is commenced which would affect this contract;
d. The Contractor or any of the subcontractors become aware that their equipment or facilities are not in compliance or may fail to comply in the future with applicable laws or regulations.

1.11 PERSONAL PROTECTIVE EQUIPMENT

Three complete sets of personal protective equipment shall be made available to the authorized visitors for entry to the regulated area. Authorized visitors shall be provided with training equivalent to that provided to Contractor employees in the selection, fitting, and use of the required personal protective equipment and the site safety and health requirements. Contractor workers shall be provided with personal protective clothing and equipment and the Contractor shall ensure that it is worn properly. The Owner's Representative and Designated Competent Person shall select and approve all the required personal protective clothing and equipment to be used.

1.11.1 Respirators

Respirators shall be in accordance with paragraph RESPIRATORY PROTECTION PROGRAM.

1.11.2 Whole Body Protection

Personnel exposed to airborne concentrations of asbestos that exceed the PELs, or for all OSHA Classes of work for which a required negative exposure assessment is not produced, shall be provided with whole body protection and such protection shall be worn properly. The Owner's Representative and Competent Person shall select and approve the whole body protection to be

used. The Competent Person shall examine work suits worn by employees at least once per work shift for rips or tears that may occur during performance of work. When rips or tears are detected while an employee is working, rips and tears shall be immediately mended, or the work suit shall be immediately replaced. Disposable whole body protection shall be disposed of as asbestos contaminated waste upon exiting from the regulated area. Reusable whole body protection worn shall be either disposed of as asbestos contaminated waste upon exiting from the regulated area or be properly laundered in accordance with 29 CFR 1926, Section .1101. Whole body protection used for asbestos abatement shall not be removed from the worksite by a worker to be cleaned. The Contractor's Designated Competent Person, in consultation with the Owner's Representative, has the authority to take immediate action to upgrade or downgrade whole body protection when there is an immediate danger to the health and safety of the wearer.

1.11.2.1 Coveralls: Disposable coveralls with a zipper front shall be provided. Sleeves shall be secured at the wrists, and foot coverings secured at the ankles.

1.11.2.2 Underwear: Disposable underwear shall be provided. If reusable underwear are used, they shall be disposed of as asbestos contaminated waste or laundered in accordance with 29 CFR 1926, Section .1101. Asbestos abatement workers shall not remove contaminated reusable underwear worn during abatement of ACM from the site to be laundered.

1.11.2.3 Work Clothing: An additional coverall shall be provided when the abatement and control method employed does not provide for the exit from the regulated area directly into an attached decontamination unit. Cloth work clothes for wear under the protective coverall, and foot coverings, shall be provided when work is being conducted in low temperature conditions. Cloth work clothes shall be either disposed of as asbestos contaminated waste or properly laundered in accordance with 29 CFR 1926, Section .1101.

1.11.2.4 Gloves: Gloves shall be provided to protect the hands. Where there is the potential for hand injuries (i.e., scrapes, punctures, cuts, etc.) a suitable glove shall be provided and used.

1.11.2.5 Foot Coverings: Cloth socks shall be provided and worn next to the skin. Footwear, as required by OSHA, that is appropriate for safety and health hazards in the area shall be worn. Rubber boots shall be used in moist or wet areas. Reusable footwear removed from the regulated area shall be thoroughly decontaminated or disposed of as ACM waste. Disposable protective foot covering shall be disposed of as ACM waste. If rubber boots are not used, disposable foot covering shall be provided.

1.11.2.6 Head Covering: Hood type disposable head covering shall be provided. In addition, protective head gear (hard hats) shall be provided as required. Hard hats shall only be removed from the regulated area after being thoroughly decontaminated.

1.11.2.7 Protective Eye Wear: Eye protection provided shall be in accordance with ANSI Z87.1.

1.12 HYGIENE FACILITIES AND PRACTICES

The Contractor shall establish a decontamination area for the decontamination of employees, material and equipment. The Contractor shall ensure that employees enter and exit the regulated area through the decontamination area.

1.12.1 Shower Facilities

Shower facilities, when provided, shall comply with 29 CFR 1910, Section 141(d)(3).

1.12.2 3-Stage Decontamination Area

The decontamination unit shall have an equipment room and a clean room separated by a shower that complies with 29 CFR 1910, Section .141 (unless the Contractor can demonstrate that such facilities are not feasible). Equipment and surfaces of containers filled with ACM shall be cleaned prior to removing them from the equipment room or area. Surfaces of the equipment room shall be wet wiped 2 times after each shift. Materials used for wet wiping shall be disposed of as asbestos contaminated waste. Two separate lockers shall be provided for each asbestos worker, one in the equipment room and one in the clean room. [Hot water service may be secured from the building hot water system provided backflow protection is installed by the Contractor at the point of connection. The wastewater pump shall be sized for 1.25 times the showerhead flow-rate at a pressure head sufficient to satisfy the filter head loss and discharge line losses. The pump shall supply a minimum 1.6 L/s 25 gpm flow with 10.7 m35 ft. of pressure head. Used shower water shall be collected and filtered to remove asbestos contamination. Filters and residue shall be disposed of as asbestos contaminated. Filtered water shall be discharged to the sanitary system. Wastewater filters shall be installed in series with the first stage pore size of 20 microns and the second stage pore size of 5 microns. The floor of the decontamination unit's clean room shall be kept dry and clean at all times. Water from the shower shall not be allowed to wet the floor in the clean room. Surfaces of the clean room and shower shall be wet-wiped 2 times after each shift change with a disinfectant solution. Proper housekeeping and hygiene requirements shall be maintained. Soap and towels shall be provided for showering, washing and drying. Any cloth towels provided shall be disposed of as ACM waste or shall be laundered in accordance with 29 CFR 1926, Section .1101.

1.12.3 Load-Out Unit

A temporary load-out unit that is adjacent and connected to the regulated area may be constructed. Utilization of prefabricated units shall have prior approval of the Owner’s Representative. The load-out unit shall be attached in a leak-tight manner to each regulated area. Surfaces of the load-out unit and access tunnel shall be adequately wet-wiped 2 times after each shift change. Materials used for wet wiping shall be disposed of as asbestos contaminated waste.

1.12.4 Decontamination Area Entry Procedures

The Contractor shall ensure that employees entering the decontamination area through the clean room or clean area:

a. Remove street clothing in the clean room or clean area and deposit it in lockers.
b. Put on protective clothing and respiratory protection before leaving the clean room or clean area.
c. Pass through the equipment room to enter the regulated area.

1.12.5 Decontamination Area Exit Procedures

The Contractor shall ensure that the following procedures are followed:

a. Before leaving the regulated area, respirators shall be worn while employees remove all gross contamination and debris from their work clothing using a HEPA vacuum.

b. Employees shall remove their protective clothing in the equipment room and deposit the clothing in labeled impermeable bags or containers for disposal and/or laundering.
c. Employees shall not remove their respirators in the equipment room.
d. Employees shall shower prior to entering the clean room. If a shower has not been located between the equipment room and the clean room or the work is performed outdoors, the Contractor shall ensure that employees engaged in Class I asbestos jobs: a) Remove asbestos contamination from their work suits in the equipment room or decontamination area using a HEPA vacuum before proceeding to a shower that is not adjacent to the work area; or b) Remove their contaminated work suits in the equipment room, without cleaning worksuits, and proceed to a shower that is not adjacent to the work area.
e. After showering, employees shall enter the clean room before changing into street clothes.

1.12.6 Lunch Areas

The Contractor shall provide lunch areas in which the airborne concentrations of asbestos are below 0.01 f/cc.

1.12.7 Smoking

Smoking, shall not be permitted unless in designated areas approved by the Owner.

1.13 REGULATED AREAS

All Class I, II, and III asbestos work shall be conducted within regulated areas. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they shall demarcate the regulated area. Access to regulated areas shall be limited to authorized persons. The Contractor shall control access to regulated areas, ensure that only authorized personnel enter, and verify that Contractor required medical surveillance, training and respiratory protection program requirements are met prior to allowing entrance.

1.14 WARNING SIGNS AND TAPE

Warning signs and tape printed in English and Spanish shall be provided at the regulated boundaries and entrances to regulated areas. The Contractor shall ensure that all personnel working in areas contiguous to regulated areas comprehend the warning signs. Signs shall be located to allow personnel to read the signs and take the necessary protective steps required before entering the area. Warning signs, shall be in vertical format conforming to 29 CFR 1910 and 29 CFR 1926, Section .1101, a minimum of 500 by 350 mm 20 by 14 inches, and displaying the following legend in the lower panel:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE
REQUIRED IN THIS AREA

Spacing between lines shall be at least equal to the height of the upper of any two lines. Warning tape shall be provided.

1.15 WARNING LABELS

Warning labels shall be affixed to all asbestos disposal containers used to contain asbestos materials, scrap, waste debris, and other products contaminated with asbestos. Containers with preprinted warning labels conforming to requirements are acceptable. Warning labels conform to 29 CFR 1926, Section .1101 and shall be of sufficient size to be clearly legible displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

1.16 LOCAL EXHAUST VENTILATION

Local exhaust ventilation units shall conform to ANSI Z9.2 and 29 CFR 1926, Section .1101. Filters on local exhaust system equipment shall conform to ANSI Z9.2 and UL 586. Filter shall be UL labeled.

1.17 TOOLS

Vacuums shall be leak proof to the filter, equipped with HEPA filters, of sufficient capacity and necessary capture velocity at the nozzle or nozzle attachment to efficiently collect, transport and retain the ACM waste material. Power tools shall not be used to remove ACM unless the tool is equipped with effective, integral HEPA filtered exhaust ventilation capture and collection system, or has otherwise been approved for use by the Owner’s Representative. Residual asbestos shall be removed from reusable tools prior to storage and reuse. Reusable tools shall be thoroughly decontaminated prior to being removed from regulated areas.

1.18 RENTAL EQUIPMENT

If rental equipment is to be used, written notification shall be provided to the rental agency, concerning the intended use of the equipment, the possibility of asbestos contamination of the equipment and the steps that will be taken to decontaminate such equipment. A written acceptance of the terms of the Contractor's notification shall be obtained from the rental agency.

1.19 AIR MONITORING EQUIPMENT

The Owner’s Representative shall approve air monitoring equipment to be used to collect personal samples. The equipment shall include, but shall not be limited to:

a. Low-volume, battery powered, body-attachable, portable personal pumps that can be calibrated to a constant airflow up to approximately 3.5 liters per minute when equipped with a sampling train of tubing and filter cassette, and a self-contained rechargeable power pack capable of sustaining the calibrated flow rate for a minimum of 10 hours. The pumps shall also be equipped with an automatic flow control unit which shall maintain a constant flow, even as filter resistance increases due to accumulation of fiber and debris on the filter surface.
b. Single use standard 25 mm diameter cassette, open face, 0.8 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive extension cowl, and shrink bands, to be used with low flow pumps in accordance with 29 CFR 1926, Section .1101 for personal air sampling.
c. Single use standard 25 mm diameter cassette, open face, 0.45 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive cowl, and shrink bands, to be used with high flow pumps when conducting environmental area sampling using NIOSH Pub

No. 84-100 Methods 7400 and 7402, (and the transmission electric microscopy method specified at 40 CFR 763 if required).

d. Appropriate plastic tubing to connect the air sampling pump to the selected filter cassette.
e. A flow calibrator capable of calibration to within plus or minus 2 percent of reading over a temperature range of minus 20 to plus 60 degrees C minus 4 to plus 140 degrees F and traceable to a NIST primary standard.

1.20 EXPENDABLE SUPPLIES

1.20.1 Glovebag: Glovebags shall be provided as described in 29 CFR 1926, Section .1101. The glovebag assembly shall be 0.15 mm 6 mil thick plastic, prefabricated and seamless at the bottom with preprinted OSHA warning label.

1.20.2 Duct Tape: Industrial grade duct tape of appropriate widths suitable for bonding sheet plastic and disposal container shall be provided.

1.20.3 Disposal Container: Leak-tight (defined as solids, liquids, or dust that cannot escape or spill out) disposal containers shall be provided for ACM wastes as required by 29 CFR 1926 Section .1101.

1.20.4 Disposal Bags: Leak-tight bags, 0.15 mm 6 mil thick, shall be provided for placement of asbestos generated waste.

1.20.5 Sheet Plastic: Sheet plastic shall be polyethylene of 0.15 mm 6 mil minimum thickness and shall be provided in the largest sheet size necessary to minimize seams. Film shall be frosted or clear and conform to ASTM D 4397, except as specified below:

1.20.5.1 Flame Resistant: Where a potential for fire exists, flame-resistant sheets shall be provided. Film shall be frosted and shall conform to the requirements of NFPA 701.

1.20.5.2 Reinforced: Reinforced sheets shall be provided where high skin strength is required, such as where it constitutes the only barrier between the regulated area and the outdoor environment. The sheet stock shall consist of translucent, nylon-reinforced or woven-polyethylene thread laminated between 2 layers of polyethylene film. Film shall meet flame resistant standards of NFPA 701.

1.20.6 Amended Water: Amended water shall meet the requirements of ASTM D 1331.

1.20.7 Mastic Removing Solvent: Mastic removing solvent shall be nonflammable and shall not contain methylene chloride, glycol ether, or halogenated hydrocarbons. Solvents used onsite shall have a flash point greater than 60 degrees C. 140 degrees F.

1.20.8 Leak-tight Wrapping: Two layers of 0.15 mm 6 mil minimum thick polyethylene sheet stock shall be used for the containment of removed asbestos-containing components or materials such as reactor vessels, large tanks, boilers, insulated pipe segments and other materials too large to be placed in disposal bags. Upon placement of the ACM component or material, each layer shall be individually leak-tight sealed with duct tape.

1.20.9 Viewing Inspection Window: Where feasible, a minimum of 1 clear, 3 mm 1/8 inch thick, acrylic sheet, 450 by 610 mm 18 by 24 inches, shall be installed as a viewing inspection window at eye level on a wall in each containment enclosure. The windows shall be sealed leak-tight with industrial grade duct tape.

1.20.10 Wetting Agents: Removal encapsulant (a penetrating encapsulant) shall be provided when conducting removal abatement activities that require a longer removal time or are subject to rapid evaporation of amended water. The removal encapsulant shall be capable of wetting the ACM and retarding fiber release during disturbance of the ACM greater than or equal to that provided by amended water. Performance requirements for penetrating encapsulants are specified in paragraph ENCAPSULANTS.

1.21 MISCELLANEOUS ITEMS

A sufficient quantity of other items, such as, but not limited to: scrapers, brushes, brooms, staple guns, tarpaulins, shovels, rubber squeegees, dust pans, other tools, scaffolding, staging, enclosed chutes, wooden ladders, lumber necessary for the construction of containments, UL approved temporary electrical equipment, material and cords, ground fault circuit interrupters, water hoses of sufficient length, fire extinguishers, first aid kits, portable toilets, logbooks, log forms, markers with indelible ink, spray paint in bright color to mark areas, project boundary fencing, etc., shall be provided.

PART 2 PRODUCTS

2.1 ENCAPSULANTS

Encapsulants shall conform to USEPA requirements, shall contain no toxic or hazardous substances and no solvent and shall meet the following requirements:

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol
Life Expectancy, 20 yrs Accelerated Aging Test	ASTM C 732
Permeability, Min. 23 ng per Pa-sec-square m	ASTM E 96

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 730 N/m	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Min. 4.7 N-m (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 730 N/m	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Min.	ASTM D 2794

4.7 N-m (Gardner Impact Test)	
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119
Bond Strength, 1.5 kN/m (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol
Life Expectancy, 20 yrs Accelerated Aging Test	ASTM C 732
Permeability, Minimum 0.4 perms	ASTM E 96

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 50 pounds of force/foot	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Minimum 43 in-lb (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test,	ASTM E 736

50 pounds of force/foot	
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test(Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Minimum 43 in-lb (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test(Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119

ALL ENCAPSULANTS

Requirement	Test Standard
Bond Strength, 100 pounds of force/foot (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

2.2 ENCASEMENT PRODUCTS

This section has been deleted.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Asbestos abatement work tasks shall be performed as summarized in phase-specific Workplans which are to be used in conjunction with this master specification for abatement. The Contractor shall use the engineering controls and work practices required in 29 CFR 1926, Section .1101(g) in all operations regardless of the levels of exposure. Personnel shall wear and utilize protective clothing and equipment as specified. The Contractor shall not permit eating, smoking, drinking, chewing or applying cosmetics in the regulated area. All hot work (burning, cutting, welding, etc.) shall be conducted under controlled conditions in conformance with 29 CFR 1926, Section .352, Fire Prevention. Personnel of other trades, not engaged in asbestos abatement activities, shall not be exposed at any time to airborne concentrations of asbestos unless all the administrative and personal protective provisions of the Contractor's Accident Prevention Plan are complied with. Power to the regulated area shall be locked-out and tagged in accordance with 29 CFR 1910, and temporary electrical service with ground fault circuit interrupters shall be provided as needed. Temporary electrical service shall be disconnected when necessary for wet removal. The Contractor shall stop abatement work in the regulated area immediately when the airborne total fiber concentration: (1) equals or exceeds 0.01 f/cc, or the pre-abatement concentration, whichever is greater, outside the regulated area; or (2) equals or exceeds 1.0 f/cc inside the regulated area. The Contractor shall correct the condition to the satisfaction of the Owner’s Representative, including visual inspection and air sampling. Work shall resume only upon notification by the Owner’s Representative. Corrective actions shall be documented.

3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN

Asbestos abatement shall be performed without damage to or contamination of adjacent work or area. Where such work or area is damaged or contaminated, as verified by the Owner’s Representative using visual inspection or sample analysis, it shall be restored to its original condition or decontaminated by the Contractor at no expense to the Owner, as deemed appropriate by the Owner’s Representative. When satisfactory visual inspection and air sampling analysis results are obtained and have been evaluated by the Owner’s Representative, work shall proceed.

3.3 TEMPORARY POWER

The Contractor shall provide a temporary power system of sufficient capacity to provide for the electrical demand for work covered under this specification.

The Contractor shall shut down and lock out electric power to the entire work area, and any interruption of power to other parts of the building shall be minimal, and coordinated with the Owner.

Contractor shall insure a safe installation (including ground faulting) of temporary power sources and equipment, and; Compliance with all applicable electrical code requirements and Cal-OSHA requirements for temporary electrical systems.

The temporary electrical service shall be sized to provide 150% of the maximum demand of the Contractor's equipment during the performance of the Project. Contractor shall provide a power distribution schedule and amperage calculation for all electrical devices to be used.

Contractor shall ensure that all power cords are free of cuts, nicks or other damage. Power cords shall not be allowed to gather or coil where they may create a trip hazard. Power cords repaired with duct tape will not be permitted inside contained areas.

3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS

Building ventilating systems supplying air into or returning air out of a regulated area shall be shut down and isolated by lockable switch or other positive means in accordance with 29 CFR 1910, Section .147. Air-tight critical barriers shall be installed on building ventilating openings located inside the regulated area that supply or return air from the building ventilation system or serve to exhaust air from the building. The critical barriers shall consist of 2 layers of polyethylene. Edges to wall, ceiling and floor surfaces shall be sealed with industrial grade duct tape. Critical barriers shall be installed.

3.5 TEMPORARY FACILITIES

If it is deemed necessary during the bidding of the project, the abatement contractor will provide a trailer with two separate offices, large enough to serve as the job site office. The offices will be air conditioned and the power will be provided by the Owner. The Owner will direct the Contractor as to the location of said field office.

3.6 METHODS OF COMPLIANCE

3.6.1 Mandated Practices

The Contractor shall employ proper handling procedures in accordance with 29 CFR 1926 and 40 CFR 61, Subpart M, and the specified requirements. The specific abatement techniques and items identified shall be detailed in the Contractor's Asbestos Hazard Abatement Plan including, but not limited to, details of construction materials, equipment, and handling procedures. The Contractor shall use the following engineering controls and work practices in all operations, regardless of the levels of exposure:

a. Vacuum cleaners equipped with HEPA filters to collect debris and dust containing ACM.
b. Wet methods or wetting agents to control employee exposures during asbestos handling, mixing, removal, cutting, application, and cleanup; except where it can be demonstrated that the use of wet methods is unfeasible due to, for example, the creation of electrical hazards, equipment malfunction, and in roofing.
c. Prompt clean-up and disposal in leak-tight containers of wastes and debris contaminated with asbestos.
d. Inspection and repair of polyethylene in work and high traffic areas.
e. Cleaning of equipment and surfaces of containers filled with ACM prior to removing them from the equipment room or area.

3.6.2 Control Methods

The Contractor shall use the following control methods to comply with the PELs:

a. Local exhaust ventilation equipped with HEPA filter dust collection systems;
b. Enclosure or isolation of processes producing asbestos dust;
c. Ventilation of the regulated area to move contaminated air away from the breathing zone of employees and toward a filtration or collection device equipped with a HEPA filter;
d. Use of other work practices and engineering controls;
e. Where the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the PELs, the Contractor shall use them to reduce

employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with paragraph, RESPIRATORY PROTECTION PROGRAM.

3.6.3 Unacceptable Practices

The following work practices and engineering controls shall not be used for work related to asbestos or for work which disturbs ACM, regardless of measured levels of asbestos exposure or the results of initial exposure assessments:

a. High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
b. Compressed air used to remove asbestos, or materials containing asbestos, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.
c. Dry sweeping, shoveling, or other dry clean-up of dust and debris containing ACM.
d. Employee rotation as a means of reducing employee exposure to asbestos.

3.6.4 Class I Work Procedures

In addition to requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the installation and operation of the control system.
b. For jobs involving the removal of more than 7.5 m 25 feet or 0.9 square meters 10 square feet of TSI or surfacing material, the Contractor shall place critical barriers over all openings to the regulated area.
c. HVAC systems shall be isolated in the regulated area by sealing with a double layer of plastic or air-tight rigid covers.
d. Impermeable dropcloths (0.15 mm 6 mil or greater thickness) shall be placed on surfaces beneath all removal activity.
e. Objects within the regulated area shall be handled as specified in paragraph OBJECTS.
f. Where a negative exposure assessment has not been provided or where exposure monitoring shows the PEL was exceeded, the regulated area shall be ventilated to move contaminated air away from the employee's breathing zone toward a HEPA unit or collection device.

3.6.5 Specific Control Methods for Class I Work

In addition to requirements of paragraph Class I Work Procedures, Class I asbestos work shall be performed using the control methods identified in
the subparagraphs below.

3.6.5.1 Negative Pressure Enclosure (NPE) System: The system shall provide at least 4 air changes per hour inside the containment. The local exhaust unit equipment shall be operated 24 hours per day until the containment is removed, and shall be leak-proof to the filter and equipped with HEPA filters. Air movement shall be directed away from the employees and toward a HEPA filtration device. The NPE shall be smoke tested for leaks at the beginning of each shift. Local exhaust equipment shall be sufficient to maintain a minimum pressure differential of minus 0.5 mm 0.02 inch of water column relative to adjacent, unsealed areas. Pressure differential shall be monitored continuously, 24 hours per day, with an automatic manometric recording instrument. Pressure differential recordings shall be provided daily on the same day collected. Readings shall be reviewed by the Contractor's Designated Competent Person and Owner’s Representative. The building ventilation system shall

not be used as the local exhaust system for the regulated area. The local exhaust system shall terminate outdoors unless an alternate arrangement is allowed by the Owner. All filters used shall be new at the beginning of the project and shall be periodically changed as necessary and disposed of as ACM waste.

3.6.5.2 Glovebag Systems: The glovebag system shall be used to remove ACM from straight runs of piping and elbows and other connections. Glovebags shall be used without modification and shall be smoke-tested for leaks and any leaks sealed prior to use. Glovebags shall be installed to completely cover the circumference of pipe or other structures where the work is to be done. Glovebags shall be used only once and shall not be moved. Glovebags shall not be used on surfaces that have temperatures exceeding 66 degrees C. 150 degrees F. Prior to disposal, glovebags shall be collapsed by removing air within them using a HEPA vacuum. Before beginning the operation, loose and friable material adjacent to the glovebag operation shall be wrapped and sealed in 2 layers of plastic or otherwise rendered intact. At least 2 persons shall perform Class I glovebag removal. Asbestos regulated work areas shall be established as specified and shown on detailed drawings and plans for glovebag abatement. Designated boundary limits for the asbestos work shall be established with rope or other continuous barriers and all other requirements for asbestos control areas shall be maintained, including area signage and boundary warning tape.

a. In addition to requirements for negative pressure glovebag systems above, the Contractor shall attach HEPA vacuum systems or other devices to the bag to prevent collapse during removal of ACM from straight runs of piping and elbows and other connections.

b. The negative pressure glove boxes used to remove ACM from pipe runs shall be fitted with gloved apertures and a bagging outlet and constructed with rigid sides from metal or other material which can withstand the weight of the ACM and water used during removal. A negative pressure shall be created in the system using a HEPA filtration system. The box shall be smoke tested for leaks prior to each use.

3.6.5.3 Mini-Enclosures: Mini-containment (small walk-in enclosure)to accommodate no more than 2 persons, may be used if the disturbance or removal can be completely contained by the enclosure with the following specifications and work practices. The mini-enclosure shall be inspected for leaks and smoke tested before each use. Air movement shall be directed away from the employee's breathing zone within the mini-enclosure.

3.6.5.4 Wrap and Cut Operation: Prior to cutting pipe, the asbestos-containing insulation shall be wrapped with polyethylene and securely sealed with duct tape to prevent asbestos becoming airborne as a result of the cutting process. The following steps shall be taken: install glovebag, strip back sections to be cut 150 mm 6 inches from point of cut, and cut pipe into manageable sections.

3.6.6 Class II Work

In addition to the requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the work.
b. For indoor work, critical barriers shall be placed over all openings to the regulated area.
c. Impermeable dropcloths shall be placed on surfaces beneath all removal activity.

3.6.7 Specific Control Methods for Class II Work

In addition to requirements of paragraph Class II Work, Class II work shall be performed using the following methods:

3.6.7.1 Vinyl and Asphalt Flooring Materials: When removing vinyl and asphalt flooring materials [which contain ACM] Resilient sheeting shall be removed by adequately wet methods. Tiles shall be removed intact (if possible); wetting is not required when tiles are heated and removed intact. Flooring or its backing shall not be sanded. Scraping of residual adhesive and/or backing shall be performed using wet methods. Mechanical chipping is prohibited unless performed in a negative pressure enclosure. Dry sweeping is prohibited. The Contractor shall use vacuums equipped with HEPA filter, disposable dust bag, and metal floor tool (no brush) to clean floors.

3.6.7.2 Roofing Material: Roofing material shall be removed in an intact state. Wet methods shall be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards. When removing built-up roofs, with asbestos-containing roofing felts and an aggregate surface, using a power roof cutter, all dust resulting from the cutting operations shall be collected by a HEPA dust collector, or shall be HEPA vacuumed by vacuuming along the cut line. Asbestos-containing roofing material shall not be dropped or thrown to the ground, but shall be lowered to the ground via covered, dust-tight chute, crane, hoist or other method approved by the Owner's Representative. Any ACM that is not intact shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. While the material remains on the roof it shall be kept wet or placed in an impermeable waste bag or wrapped in plastic sheeting. Intact ACM shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. Unwrapped material shall be transferred to a closed receptacle precluding the dispersion of dust. Critical barriers shall be placed over roof level heating and ventilation air intakes.

3.6.7.3 Cementitious Siding and Shingles or Transite Panels: Intentionally cutting, abrading or breaking siding, shingles, or transite panels is prohibited. Each panel or shingle shall be sprayed with amended water prior to removal. Nails shall be cut with flat, sharp instruments. Unwrapped or unbagged panels or shingles shall be immediately lowered to the ground via covered dust-tight chute, crane or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.

3.6.7.4 Gaskets: Gaskets shall be thoroughly wetted with amended water prior to removal and immediately placed in a disposal container. If a gasket is visibly deteriorated and unlikely to be removed intact, removal shall be undertaken within a glovebag. Any scraping to remove residue shall be performed wet.

3.6.7.5 Other Class II Jobs: The Contractor shall use the following work practices when performing Class II removal miscellaneous ACM: The material shall be thoroughly wetted with amended water prior and during its removal. The material shall be removed in an intact state. Cutting, abrading or breaking the material is prohibited. The ACM removed shall be immediately bagged or wrapped.

3.6.8 Specific Control Methods for Class III Work

Class III asbestos work shall be conducted using engineering and work practice controls which minimize the exposure to employees performing the asbestos work and to bystander employees. The work shall be performed using wet methods and, to the extent feasible, using local exhaust ventilation. The Contractor shall use impermeable dropcloths and shall isolate the operation, using mini-enclosures or glovebag systems, where the disturbance involves drilling, cutting, abrading, sanding, chipping, breaking, or sawing of TSI or surfacing material.

3.6.9 Specific Control Methods for Class IV Work

Class IV jobs shall be conducted using wet methods, HEPA vacuums, and prompt clean-up of debris containing ACM. Employees cleaning up debris and waste in a regulated area where respirators are required shall wear the selected respirators.

3.6.10 Alternative Methods for Roofing Materials and Asphaltic Wrap

The Contractor shall use the following engineering controls and work practices when removing, repairing, or maintaining intact pipeline asphaltic wrap, or roof cements, mastics, coatings, or flashings which contain asbestos fibers encapsulated or coated by bituminous or resinous compounds. If during the course of the job the material does not remain intact, the Contractor shall use the procedures described in paragraph Roofing Material. Before work begins, and as needed during the job, the Designated Competent Person shall conduct an inspection and determine that the roofing material is intact and will likely remain intact. The material shall not be sanded, abraded, or ground. Manual methods which would render the material non-intact shall not be used. Roofing material shall not be dropped or thrown to the ground but shall be lowered via covered, dust-tight chute, crane, hoist or other method approved by the Owner's Representative. All such material shall be removed from the roof as soon as practicable, but not later than the end of the work shift. Removal or disturbance of pipeline asphaltic wrap shall be performed using wet methods.

3.6.11 Cleaning After Asbestos Removal

After completion of all asbestos removal work, surfaces from which ACM has been removed shall be wet wiped or sponged clean, or cleaned by some equivalent method to remove all visible residue. Run-off water shall be collected and filtered through a dual filtration system. A first filter shall be provided to remove fibers 20 micrometers and larger, and a final filter provided that removes fibers 5 micrometers and larger. After the gross amounts of asbestos have been removed from every surface, remaining visible accumulations of asbestos on floors shall be collected using plastic shovels, rubber squeegees, rubber dustpans, and HEPA vacuum cleaners as appropriate to maintain the integrity of the regulated area. When TSI and surfacing material has been removed, workmen shall use HEPA vacuum cleaners to vacuum every surface. Surfaces or locations which could harbor accumulations or residual asbestos dust shall be checked after vacuuming to verify that no asbestos-containing material remains; and shall be re-vacuumed as necessary to remove the ACM.

3.7 FINAL CLEANING AND VISUAL INSPECTION

Upon completion of abatement, the regulated area shall be cleaned by collecting, packing, and storing all gross contamination. A final cleaning shall be performed using HEPA vacuum and wet cleaning of all exposed surfaces and objects in the regulated area. Upon completion of the cleaning, the Contractor shall conduct a visual pre-inspection of the cleaned area in preparation for a final inspection before final air clearance monitoring and recleaning, as necessary. Upon completion of the final cleaning, the Contractor and the Owner's Representative shall conduct a final visual inspection of the cleaned regulated area in accordance with ASTM E 1368 and document the results. If the Owner's Representative rejects the clean regulated area as not meeting final cleaning requirements, the Contractor shall reclean as necessary and have a follow-on inspection conducted with the Owner's Representative. Recleaning and follow-up reinspection shall be at the Contractor's expense.

3.8 LOCKDOWN

Prior to removal of plastic barriers and after clean-up of gross contamination and final visual inspection, a post removal (lockdown) encapsulant shall be spray applied to ceiling, walls, floors, and other surfaces in the regulated area.

3.9 EXPOSURE ASSESSMENT AND AIR MONITORING

3.9.1 General Requirements For Exposure

Exposure assessment, air monitoring and analysis of airborne concentration of asbestos fibers shall be performed in accordance with 29 CFR 1926, Section .1101, the Contractor's air monitoring plan, and as specified. Personal exposure air monitoring (collected at the breathing zone) that is representative of the exposure of each employee who is assigned to work within a regulated area shall be performed by the Contractor. Breathing zone samples shall be taken for at least 25 percent of the workers in each shift, or a minimum of 2, whichever is greater. Air monitoring results at the 95 percent confidence level shall be calculated as shown in Table 2 at the end of this section. The Owner's Representative will provide an onsite technician and appropriate equipment to conduct sample analyses of air samples using the methods prescribed in 29 CFR 1926, Section .1101, to include NIOSH Pub No. 84-100 Method 7400.] Preabatement and abatement environmental air monitoring shall be performed by the Owner's Representative. Final clearance environmental air monitoring, shall be performed by the Owner's Representative. Environmental and final clearance air monitoring shall be performed using [NIOSH Pub No. 84-100 Method 7400 (PCM) with optional confirmation of results by the EPA TEM Method specified in 40 CFR 763. For environmental and final clearance, air monitoring shall be conducted at a sufficient velocity and duration to establish the limit of detection of the method used at 0.005 f/cc. Confirmation of asbestos fiber concentrations (asbestos f/cc) from environmental and final clearance samples collected and analyzed by NIOSH Pub No. 84-100 Method 7400 (total f/cc) may be conducted using TEM in accordance with NIOSH Pub No. 84-100 Method 7402. When such confirmation is conducted, it shall be from the same sample filter used for the NIOSH Pub No. 84-100 Method 7400 PCM analysis. For all Contractor required environmental or final clearance air monitoring, confirmation of asbestos fiber concentrations, using NIOSH Pub No. 84-100 Method 7402, shall be at the Contractor's expense. Results of breathing zone samples shall be posted at the job site and made available to the Owner's Representative. The Contractor shall maintain a fiber concentration inside a regulated area less than or equal to 0.1 f/cc expressed as an 8 hour, time-weighted average (TWA) during the conduct of the asbestos abatement. If fiber concentration rises above 0.1 f/cc, work procedures shall be investigated with the Owner's Representative to determine the cause. At the discretion of the Owner's Representative, fiber concentration may exceed 0.1 f/cc but shall not exceed 1.0 f/cc expressed as an 8-hour TWA. The Contractor's workers shall not be exposed to an airborne fiber concentration in excess of 1.0 f/cc, as averaged over a sampling period of 30 minutes. Should either an environmental concentration of 1.0 f/cc expressed as an 8-hour TWA or a personal excursion concentration of 1.0 f/cc expressed as a 30-minute sample occur inside a regulated work area, the Contractor shall stop work immediately, notify the Owner's Representative, and implement additional engineering controls and work practice controls to reduce airborne fiber levels below prescribed limits in the work area. Work shall not restart until authorized by the Owner's Representative.

3.9.2 Initial Exposure Assessment

The Contractor shall conduct an exposure assessment immediately before or at the initiation of an asbestos abatement operation to ascertain expected exposures during that operation. The assessment shall be completed in time to comply with the requirements which are triggered by

exposure data or the lack of a negative exposure assessment, and to provide information necessary to assure that all control systems planned are appropriate for that operation. The assessment shall take into consideration both the monitoring results and all observations, information or calculations which indicate employee exposure to asbestos, including any previous monitoring conducted in the workplace, or of the operations of the Contractor which indicate the levels of airborne asbestos likely to be encountered on the job.

3.9.3 Negative Exposure Assessment

The Contractor shall provide a negative exposure assessment for the specific asbestos job which will be performed. The negative exposure assessment shall be provided within five days of the initiation of the project and conform to the following criteria:

a. Objective Data: Objective data demonstrating that the product or material containing asbestos minerals or the activity involving such product or material cannot release airborne fibers in concentrations exceeding the PEL-TWA and PEL-Excursion Limit under those work conditions having the greatest potential for releasing asbestos.

b. Prior Asbestos Jobs: Where the Contractor has monitored prior asbestos jobs for the PEL and the PEL-Excursion Limit within 12 months of the current job, the monitoring and analysis were performed in compliance with asbestos standard in effect; the data were obtained during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the Contractor's current operations; the operations were conducted by employees whose training and experience are no more extensive than that of employees performing the current job; and these data show that under the conditions prevailing and which will prevail in the current workplace, there is a high degree of certainty that the monitoring covered exposure from employee exposures will not exceed the PEL-TWA and PEL-Excursion Limit.

c. Initial Exposure Monitoring: The results of initial exposure monitoring of the current job, made from breathing zone air samples that are representative of the 8-hour PEL-TWA and 30-minute short-term exposures of each employee. The monitoring covered exposure from operations which are most likely during the performance of the entire asbestos job to result in exposures over the PELs.

3.9.4 Preabatement Environmental Air Monitoring

Preabatement environmental air monitoring shall be established prior to the masking and sealing operations for each regulated area to determine background concentrations before abatement work begins. As a minimum, preabatement air samples shall be collected using NIOSH Pub No. 84-100 Method 7400, PCM at these locations: outside the building; inside the building, but outside the regulated area perimeter; and inside each regulated work area. One sample shall be collected for every 185 square meters 2000 square feet of floor space. At least 2 samples shall be collected outside the building: at the exhaust of the HEPA unit; and downwind from the abatement site. The PCM samples shall be analyzed within 24 hours; and if any result in fiber concentration greater than 0.01 f/cc, asbestos fiber concentration shall be confirmed using NIOSH Pub No. 84-100 Method 7402 (TEM).

3.9.5 Environmental Air Monitoring During Abatement

Environmental air monitoring shall be conducted at locations and frequencies that will accurately characterize any evolving airborne asbestos fiber concentrations. The assessment shall demonstrate that the product or material containing asbestos minerals, or the abatement involving such product or material, cannot release airborne asbestos fibers in concentrations exceeding 0.01 f/cc as a TWA under those work conditions having the greatest potential for releasing asbestos. The monitoring shall be at least once per shift at locations including, but not limited to, close to the work inside a regulated area; preabatement sampling locations; outside entrances to a regulated area; close to glovebag operations; representative locations outside of the perimeter of a regulated area; inside clean room; and at the exhaust discharge point of local exhaust system ducted to the outside of a containment (if used). If the sampling outside regulated area shows airborne fiber levels have exceeded background or 0.01 f/cc, whichever is greater, work shall be stopped immediately, and the Owner's Representative notified. The condition causing the increase shall be corrected. Work shall not restart until authorized by the Owner's Representative.

3.9.6 Final Clearance Air Monitoring

Prior to conducting final clearance air monitoring, the Contractor and the Owner's Representative shall conduct a final visual inspection of the regulated area where asbestos abatement has been completed. Final clearance air monitoring shall not begin until acceptance of the Contractor's final cleaning by the Owner's Representative. The Owner's Representative will] conduct final clearance air monitoring using aggressive air sampling techniques as defined in EPA 560/5-85-024 or as otherwise required by federal or state requirements. The sampling and analytical method used will be NIOSH Pub No. 84-100Method 7400 (PCM.

3.9.6.1 Final Clearance Requirements, NIOSH PCM Method: For PCM sampling and analysis using NIOSH Pub No. 84-100 Method 7400, the fiber concentration inside the abated regulated area, for each airborne sample, shall be less than 0.01 f/cc. The abatement inside the regulated area is considered complete when every PCM final clearance sample is below the clearance limit. If any sample result is greater than 0.01 total f/cc, the asbestos fiber concentration (asbestos f/cc) shall be confirmed from that same filter using NIOSH Pub No. 84-100 Method 7402 (TEM) at Contractor's expense. If any confirmation sample result is greater than 0.01 asbestos f/cc, abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.6.2 Final Clearance Requirements, EPA TEM Method: For EPA TEM sampling and analysis, using the EPA Method specified in 40 CFR 763, abatement inside the regulated area is considered complete when the arithmetic mean asbestos concentration of the 5 inside samples is less than or equal to 70 structures per square millimeter (70 S/mm). When the arithmetic mean is greater than 70 S/mm, the 3 blank samples shall be analyzed. If the 3 blank samples are greater than 70 S/mm, resampling shall be done. If less than 70 S/mm, the 5 outside samples shall be analyzed and a Z-test analysis performed. When the Z-test results are less than 1.65, the decontamination shall be considered complete. If the Z-test results are more than 1.65, the abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.6.3 Air Clearance Failure: If clearance sampling results fail to meet the final clearance requirements, the Contractor shall pay all costs associated with the required recleaning, resampling, and analysis, until final clearance requirements are met.

3.9.7 Air-Monitoring Results and Documentation

Air sample fiber counting shall be completed and results provided within 24 hours (breathing zone samples) after completion of a sampling period. The Owner's Representative shall be notified immediately of any airborne levels of asbestos fibers in excess of established requirements. Written sampling results shall be provided within 5 working days of the date of collection. The written results shall be signed by testing laboratory analyst. The air sampling results shall be documented on a Contractor's daily air monitoring log. The daily air monitoring log shall contain the following information for each sample:

a. Sampling and analytical method used;
b. Date sample collected;
c. Sample number;
d. Sample type: BZ = Breathing Zone (Personal)
e. Activity/name where sample collected;
f. Sampling pump manufacturer, model and serial number, beginning flow rate, end flow rate, average flow rate (L/min);
g. Calibration date, time, method, location, name of calibrator, signature;
h. Sample period (start time, stop time, elapsed time (minutes);
i. Total air volume sampled (liters);
j. Sample results (f/cc and S/mm square)
k. Laboratory name, location, analytical method, analyst, confidence level.

3.10 CLEARANCE CERTIFICATION

When asbestos abatement is complete, ACM waste is removed from the regulated areas, and final clean-up is completed, the Owner's Representative will certify the areas as safe before allowing the warning signs and boundary warning tape to be removed. The Contractor and the Owner's Representative shall visually inspect all surfaces within the containment for residual material or accumulated debris. The Contractor shall reclean all areas showing dust or residual materials. The Owner's Representative will certify in writing that the area is safe before unrestricted entry is permitted.

3.11 CLEANUP AND DISPOSAL

3.11.1 Collection and Disposal of Asbestos

All ACM waste including contaminated wastewater filters, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing, shall be collected and placed in leak-tight containers such as double plastic bags; sealed double wrapped polyethylene sheet: or other approved containers. Waste within the containers shall be wetted in case the container is breeched. Asbestos-containing waste shall be disposed of at an EPA, state and local approved asbestos landfill. For temporary storage, sealed impermeable containers shall be stored in an asbestos waste load-out unit or in a storage/transportation conveyance (i.e., dumpster, roll-off waste boxes, etc.) in a manner acceptable to and in an area assigned by the Owner's Representative. Procedure for hauling and disposal shall comply with 40 CFR 61, Subpart M, state, regional, and local standards.

3.11.2 Asbestos Waste Shipment Record

The Contractor shall complete and provide the Owner's Representative final completed copies of the Waste Shipment Record for all shipments of waste material as specified in 40 CFR 61, Subpart M and other required state waste manifest shipment records, within 3 days of delivery to the landfill. Each Waste Shipment Record shall be signed and dated by the Contractor, Owner or Owner's Representative, the waste transporter and disposal facility operator.

End of Asbestos Abatement Specifications

DIVISION 03. GENERAL REQUIREMENTS FOR LEAD ABATEMENT

PART 1 GENERAL

1.1 REFERENCES

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

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 148	Hazardous Waste Injection Restrictions
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 268	Land Disposal Restrictions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD)

HUD-01 (1996)	Lead-Based Paint: Guidelines for the Availability and Control of Lead-Based Paint Hazards in Housing

CALIFORNIA CODE OF REGULATIONS

Title 17, CCR, Div. 1, Ch. 8	Accreditation, Certification And Work Practices In Lead-Related Construction

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH OSHA Booklet 3142 Lead in Construction

UNDERWRITERS LABORATORIES (UL)

UL 586 (1996)	High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

A. Abatement: "Abatement" means any set of measures designed to reduce or eliminate lead hazards.

B. Accreditation: The Department has reviewed and finds acceptable a training provider's written application for accreditation, and has conducted and finds acceptable, an on-site audit as specified in Subsection 35078(f).

C. Accredited Training Provider: "Accredited training provider" means any individual, corporation, partnership or other unincorporated association or public entity to which the Department has granted accreditation or provisional accreditation to offer lead-related construction courses and continuing education instruction.

D. Certified Lead Supervisor: "Certified lead supervisor" means an individual who is responsible for implementing lead-related construction work and enforcing work practices that ensure worker safety in residential or public buildings and who has received a certificate or an interim certificate from the Department as a "certified lead supervisor".

E. Certified Lead Worker: "Certified lead worker" means an individual who performs lead-related construction work in residential or public buildings under the direction of a certified lead supervisor and has received a certificate from the Department as a "certified lead worker".

F. Clearance Inspection: "Clearance inspection" means an on-site limited investigation, as described in Chapter 15: Clearance, Sections II-VI, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.

G. Component: "Component" means a structural element or fixture, including a wall, floor, ceiling, door, window, molding, trim, trestle, tank, stair, railing, cabinet, gutter, or downspout.

H. Containment: "Containment" means a system, process, or barrier used to contain lead hazards inside a work area as described in "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, Chapter 8, "Containment and Barrier Systems," Table 8.1, Table 8.2, and Table 8.3.

I. Department: "Department" means the California Department of Health Services (DHS).

J. Deteriorated Paint: Deteriorated paint" means paint or surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, or otherwise separating from a component.

K. DHS-Approved Course: "DHS-Approved course" means any lead-related construction course that satisfies the requirements specified in Sections, 35056, 35057, 35061, 35065, 35066, or 35067 as determined by DHS pursuant to Sections 35076 and 35078.

L. Interim Certificate: "Interim certificate" means the document issued by the Department to an individual who meets requirements for interim certification as described in Section 35093.

M. Job Tasks: "Job tasks" mean the specific activities performed in the context of work.

N. Lead-Based Paint: Lead-based paint" means paint or other surface coatings that contain an amount of lead equal to, or in excess of one milligram per square centimeter (1.0 mg/cm2) or more than half of one percent (0.5%) by weight.

O. Lead-Contaminated Dust: "Lead-contaminated dust" means dust that contains an amount of lead equal to, or in excess of, one hundred micrograms per square foot (100_g/ft2) for floor surfaces and five hundred micrograms per square foot (500 _g/ft2) for horizontal window surfaces.

P. Lead-Contaminated Soil: "Lead-contaminated soil" means bare soil that contains an amount of lead equal to, or in excess of, four hundred parts per million (400 ppm) in children's play areas and one thousand parts per million (1000 ppm) in all other areas.

Q. Lead Hazard: "Lead hazard" means deteriorated lead-based paint, lead contaminated dust, lead contaminated soil, disturbing lead-based paint or presumed lead-based paint without containment, or any other nuisance which results in environmental lead contamination.

R. Lead-Related Construction Work: "Lead-related construction work" means any construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential or public building, including preparation and cleanup, that, by using or disturbing lead-containing material or soil, may result in significant exposure of adults or children to lead.

S. Presumed Lead-Based Paint: "Presumed lead-based paint" means paint or surface coating affixed to a component in or on a structure, excluding paint or surface coating affixed to a component in or on a residential dwelling constructed on or after January 1, 1978.

T. Public Building: "Public building" means a structure which is generally accessible to the public, including but not limited to, schools, daycare centers, museums, airports, hospitals, stores, convention centers, government facilities, office buildings and any other building which is not an industrial building or a residential building.

U. Residential Building; "Residential building" means a structure which is used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of one or more persons.

V. Work Area: "Work area" means an area where lead-based paint or presumed lead-based paint is disturbed, or abatement is conducted.

1.3 DESCRIPTION OF WORK

The scope of this project is to remove LBP and lead ceramics where they are to be impacted by the planned modernizations. Lead components likely to be impacted identified at the site include the exterior door frames on Buildings A, B, C, E and F, exterior doors in Buildings B, C and E, exterior window frames in Buildings A, E and F, Ceramic Wall Tile in Restrooms, Ceramic Baseboard Tile, Wood Baseboard Restrooms, and Restroom Doorframes in Building A.

1.4 SUBMITTALS

1.4.1 Lead-Based Paint (LBP) Management Plan; The Contractor shall prepare a detailed LBP Management Plan that identifies the work procedures, health, and safety measures to be used in LBP abatement. The plan shall address the various sources of lead and the methods to be undertaken to abate the lead hazards to include the following key elements:

a. Abatement methods for each LBP containing component.
b. Training requirements as required by Federal, state, and local regulations.
c. Unique problems associated with the LBP abatement project.
d. Eating, drinking, smoking, and rest room procedures.

e. Sequencing of LBP related work.
f. Personnel protective equipment; respiratory protection program and controls.
g. Engineering controls, containment structures and safety measures.
h. Worker exposure assessment procedures.
i. Work Practice controls.
j. Housekeeping.
k. Hygiene facilities and practice.
l. Medical surveillance, including medical removal protection.
m. Sampling, testing and analytical methods to include personal air sampling requirements of 29 CFR 1926 Section .62 and toxicity characteristic leaching procedure (TCLP) of the waste material in accordance with 40 CFR 261. Procedures must include frequency, locations, and sampling and analytical methods to be used.

1.6.1 Emergency Contingency Plan; An emergency contingency plan shall be prepared in accordance with 40 CFR 261. Procedure must address the following LBP abatement hazards as appropriate to the project:

a. Negative air pressure system failure.
b. Major breech of containment barriers.
c. Detection of unexpected lead levels on adjacent grounds.
d. Spilling of lead debris bags or containers.
e. Phone numbers for project manager, local fire, police and medical personnel.

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

a. Identification or documentation of potential hazardous wastes associated with the work.
b. Names and qualifications of each Contractor that will be transporting, storing, treating, and disposing of the wastes; the facility location, phone number, and name of a 24-hour point of contact shall be included. Two copies of EPA, state, and local hazardous waste permit applications, permits, and EPA identification numbers.
c. Names and qualifications (experience and training) of personnel who will be working onsite with hazardous waste.
d. Spill prevention, containment, and clean-up contingency measures to be implemented.
g. Work plan and schedule for waste containment, removal, and disposal. Waste shall be cleaned up and containerized daily.

1.6.2 Sampling Result; A daily log of the personal air sampling test results shall be reviewed by the Competent Person 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. Documentation of results that exceed specified limits (personal air samples that exceed 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.

1.5 QUALITY ASSURANCE

1.5.1 Qualifications

a. Contractor: Certification that the Contractor has prior experience on LBP abatement projects similar in nature and extent to ensure the capability to perform the abatement in a satisfactory manner.
b. Competent Person: Certification that the Contractor's full-time onsite Competent Person meets the competent person requirements of 29 CFR 1926 Section .62 and Title 8 and is experienced in administration and supervision of LBP abatement projects, including work practices, protective measures for building and personnel, disposal procedures, etc. This person shall have completed a Contractor Supervisor LBP abatement course by an EPA Training Center or an equivalent certification course, and have had a minimum of 2 years on-the-job experience.

c. Testing Laboratory: The name, address, and telephone number of the independent testing laboratory selected to perform analysis] for personal air samples and TCLP analysis. Documentation that the laboratory performing the analysis is an EPA National Lead Laboratory Accreditation Program (NLLAP) and California ELAP accredited laboratory and that it is rated proficient in the NIOSH/EPA Environmental Lead Proficiency Analytical Testing Program (ELPAT). 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.

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.

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); High Efficiency Particulate Air (HEPA) filtration capabilities for all cartridges, filters, and HEPA vacuum systems.

1.5.4 Medical Records: Certification that employees who are involved in LBP abatement work have received medical examinations and will receive continued medical surveillance, including biological monitoring, as required by 29 CFR 1926 Section .62 and by the state and local regulations pertaining to such work. Records shall be retained, at Contractor expense, in accordance with 29

1.5.5 Training: Training certification shall be provided prior to the start of work involving LBP abatement, for all of the Contractors' workers, supervisors and Competent Person. Training shall meet the requirements of 29 CFR 1926 Section .62, 29 CFR 1926 Section .59 and 49 CFR 172, and that required by EPA or the state LBP course for the work to be performed. Training shall be provided prior to the time of job assignment and, at least, annually.

1.6 RESPIRATORY PROTECTION PROGRAM

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

1.7 HAZARD COMMUNICATION PROGRAM

A Hazard Communication Program shall be implemented in accordance with 29 CFR 1926 Section .59. Material safety data sheets (MSDSs) shall be provided for all hazardous materials brought onto the worksite. One copy shall be provided to the Owner’s Representative and 1 copy shall be included in the Contractor's Hazard Communication Program.

1.8 SAFETY AND HEALTH OVERSIGHT

The Competent Person shall be the onsite person responsible for coordination, safety, security and execution of the work. The Competent Person shall be able to identify existing and predictable lead hazards and shall have the authority to take corrective measures to eliminate them. The Competent Person shall be responsible for personal sampling.

PART 2 PRODUCTS

2.1 SUBSTITUTION OF MATERIALS AND/ OR METHODS

A. Any substitution in materials or methods to those specified shall be approved by the Owner's Representative prior to use. Any requests for substitution shall be provided in writing to the Consultant and the Owner. The request shall clearly state the rationale for the substitution.

B. Submit to the Owner's Representative and the Owner product data and samples of all materials to be considered as an alternate.

C. Product data shall consist of manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, material safety data sheets (MSDS) and other standard descriptive data. Submittal data shall be clearly marked to identify pertinent materials, products or models and show performance characteristics and capacities. Samples shall be of sufficient size and quantity to clearly illustrate the functional characteristics of the product or material with integrally related parts and attachment devices.

D. No work shall begin which requires submittal for approval until the Owner's Representative has "approved" or "approved as noted" the submittal.

2.2 INTRODUCTION

2.2.1 Materials and Equipment

A. The work of this Section, without limiting the generality thereof, includes the furnishing of labor, materials, tools, equipment, services and incidentals necessary to complete all Lead Based Paint Abatement in accordance with the Plans and Specifications. These Plans and Specifications are intended to describe, and provide for a finished and complete piece of work; work which is described by any portion of these documents shall be complete in every detail and in accordance with established trade practice, notwithstanding whether or not every item or detail necessarily involved is particularly mentioned.

B. Approvals and Inspections. All temporary facilities, work procedures, equipment, materials, services, and agreements must strictly adhere to and meet this Section along with EPA, OSHA, NIOSH, HUD regulations recommendations, and guidelines, as well as any other federal state, and local regulations. Where there exists an overlap of these regulations and guidelines, the most stringent one applies. All work performed by the Abatement Contractor is further subject to approval of the Owner, and/ or Owner's Representative.

2.2.2 Materials

A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description.

B. Damaged or deteriorating materials shall not be used and shall be removed from the premises.

C. Polyethylene sheet in a roll size to minimize the frequency of joints shall be delivered to job site with factory label indicating 6 mil.

D. Polyethylene disposable bags shall be six (6) mil with pre- printed label. Tie wraps for bags shall be plastic, five (5) inches long (minimum), pointed and looped to secure filled plastic bags.

E. Tape or adhesive spray will be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.

F. Impermeable containers are to be used to receive and retain any lead containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with EPA and DOT standards.

G. HEPA filtered exhaust systems shall be used during any dust generating abatement operations.

H. All caustics shall be properly labeled and containerized in leak- tight containers.

I. Machine Sanding Equipment - Sanders shall be of the dual action, rotary action, orbital or straight line system type, fitted with a high efficiency particulate air (HEPA) dust pick- up system. Air compressors utilized to operate this equipment shall be designed to continuously provide 90 to 110 p. s. i. or as recommended by the manufacturer.

J. Heat Blower Gun Equipment - Electrically- operated, heat- blower gun shall be a flameless electrical paint softener type. Heat- blower shall have electronically controlled temperature settings to allow usage below a temperature of 1,100 degrees Fahrenheit. Heat- blower shall be DI type (non-grounded) 120 V, AC application. Heat- blower shall be equipped with various nozzles to cover all common applications (cone, fan, glass protector, spoon reflector, etc.).

K. Chemical Stripping Removers - Chemical removers shall contain no methylene chloride products. Chemical removers shall be compatible with, and not harmful to the substrate that they are applied to. Chemical removers used on masonry surfaces shall contain anti- stain formulation that inhibits discoloration of stone, granite, brick and other masonry construction. Chemical removers used on interior surfaces shall not raise or discolor the surface being abated.

L. Chemical Stripping Agent Neutralizer - Chemical stripping agent neutralizers may be used on exterior surfaces only. Neutralizers shall be compatible with and not harmful to the substrate that they are applied to. Neutralizers shall be compatible with the stripping agent that has been applied to the surface substrate.

2.2.3 TOOLS AND EQUIPMENT

A. Provide suitable tools for all abatement operations.

B. The Abatement Contractor shall have available sufficient inventory or dated purchase orders for materials necessary for the job including protective clothing, respirators, filter cartridges, polyethylene sheeting of proper size and thickness, tape, and air filters.

C. The Abatement Contractor shall have available power cables or sources such as generators (where required).

D. Vacuum units, of suitable size and capacities for project, shall have HEPA filter(s) capable of trapping and retaining at least 99.97% of all monodispersed particles of 0.3 micrometers in diameter.

E. The Abatement Contractor will have reserve units so that the station system will operate continuously.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Abatement shall:

A. Be conducted only by a certified lead supervisor or a certified lead worker. A certified lead supervisor shall be onsite during all work site preparation and during the post-abatement cleanup of work areas. At all other times when abatement is conducted, the certified lead supervisor shall be onsite or available by telephone, pager or answering service, and able to be present at the work area in no more than two hours.

B. Be conducted using containment and in a manner which does not result in contamination of non-work areas with lead-contaminated dust, lead-contaminated soil, or lead-based paint debris.

C. Be conducted according to the procedures specified in:

1. Chapter 12: Abatement, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, if the abatement is designed to reduce lead paint or lead hazards for a minimum of twenty years; or

1 Chapter 11: Interim Controls, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, if the abatement is designed to reduce lead paint or lead hazards for less than twenty yearS.

3.2 WORK AREA SET UP

3.2.1 General

A. Site Safety. The Abatement Contractor is responsible for all safety at the work site. This includes, but is not limited to electrical safety, mechanical (tool) safety, fire safety, and personnel protective safety. Safety requirements are, for the most part, common sense and sound business practice; however, the Abatement Contractor is advised that federal, state and local regulations exist which govern safety on the work site. Therefore, in addition to the following, the Abatement Contractor is responsible for adhering to the most stringent requirements in affect by any of the following entities or these Specifications.

B. A primary concern in this type of work is to ensure that adequate exits exist in the event of an emergency and conversely, that adequate entrances exist for emergency personnel. The nature of this work requires sealing entrances and the extensive use of six- mil polyethylene sheeting; however, the Abatement Contractor should never permanently seal (i. e., nail, bolt, hard cover) any potential escape exits and should take extra care to clearly identify potential exits and inform the workers.

C. Work Site Safety Plan. Prior to the initiation of the abatement work, the following tasks must be completed by the Contractor:

The Abatement Contractor shall establish a work site safety plan which includes a set of emergency procedures and shall post them in a conspicuous place at the work site. The safety plan should include provisions for the following:

1) Evacuation of injured workers

2) Emergency and fire exit routes from all work areas, including local telephone numbers for fire and medical emergency personnel

3) Copies of applicable insurance certificates

4) Employee work logs

The Abatement Contractor is responsible for training all workers in safety procedures. At a minimum, one employee on site shall be trained and certified in basic first aid by the American Red Cross or equivalent. A general first aid kit may be maintained in the containment for treating minor medical problems.

D. Access to Work Areas

1. The Owner will provide specific access as required during the project to the Abatement Contractor and personnel assigned to the project. The Abatement Contractor will be responsible for the security of each building or portion thereof involved in the abatement project. It will also be the Abatement Contractor's responsibility to allow only authorized personnel as defined below in Section 3.5 into the work area, and to secure all assigned entrances and exits at the end of the work day so as to prevent unauthorized entry.

2. The Abatement Contractor shall maintain a bound log book in which any person entering or leaving the lead abatement work area must sign and enter the dates and times of entry and departure.

3. Use of waste containers on- site shall be controlled under the following requirements:

   (a) Location of waste containers on- site shall be coordinated with the Owner and Owner's Representative.
   (b) The waste containers shall be solid enclosed containers, lined with two layers of six- mil polyethylene sheeting and locked and secured at all times.
   (c) The Abatement Contractor shall comply with all federal, state and local regulations and ordinances regarding lead waste storage.

4. The Abatement Contractor, supervisor will not allow anyone access to the dwelling unless they have successfully passed an approved training program.

3.2.2 Abatement Preparation

A. Prior to the commencement of any abatement procedures, notification requirements must be met; required signs shall be posted and moveable objects shall be moved a minimum of four feet from the perimeter walls of the room.

B. Pre-abatement work shall be performed prior to any abatement or component removal commencing on each side of the building.

C. Decontamination Unit. At a minimum, the Abatement Contractor shall construct a two- stage decontamination unit. This unit shall be directly adjacent to the abatement area for the decontamination of workers contaminated with lead. The decontamination unit shall consist of an equipment room, dirty room, and wash area in series. The Contractor shall ensure that employees use the worker decontamination chamber prior to leaving the work area.

   1. The decontamination unit shall be constructed with six-mil polyethylene sheeting on floors, walls and ceiling. Doors through this unit shall be constructed as described above.

D. Clean area. The Abatement Contractor shall select a clean area outside the abatement area for the workers to change into protective equipment. This area shall contain warm water hand washing facilities (potable water), clean cloths, storage for a HEPA vacuum, and respirator storage space. Table, chairs and a rest facility shall also be available at this location. Contaminated equipment or personnel shall not be permitted in this area.

E. Abatement area.

1. The Abatement Contractor shall pre-clean all surfaces with a HEPA vacuum and protect occupants' belongings by covering with one layer of six mil polyethylene and have joints taped. All debris gathered during this clean- up shall be disposed of properly. In addition, any existing loose paint or paint bearing materials found in the buildings are to be assumed hazardous and packaged and disposed of properly. The amount of the material should be estimated during the pre-bid walkthrough.

2. The Abatement Contractor shall prepare the area as follows:

   a) Doors and Windows: Doors and windows upon which a dust- generating method is being used, and on the same floor and all floors below, must be closed and covered with six- mil thick polyethylene sheeting.

   b) Plants and Ground: The ground and any plants or shrubs in the area in which exterior abatement is occurring shall be covered with a waterproof canvas tarp and weighted at all edges so as to prevent blowing. Such covering shall cover from the side of the structure to a point at least eight feet away from the structure. The covering shall be taped or otherwise attached to the structure.

      (1) The waterproof canvas tarp shall always be placed in a manner that traps all debris and water. This is best accomplished by elevating the edges.

      (2) The waterproof canvas tarp shall be properly disposed of and not re-used.

3. Special Areas. Any abatement project being performed on any structure other than a building shall be arranged, equipped and operated in a manner which will eliminate the possibility of lead contaminants or lead contaminated materials escaping from the work area.

   a) The Abatement Contractor shall maintain polyethylene barriers, and a clean area as long as needed for the safe and proper completion of the work. Any openings or tears in the work area barriers shall be corrected by the Abatement Contractor at the beginning of each work day and as necessary during the workday with such openings or tears reported immediately to the Owner. Work will not be allowed to commence until all barriers are in place and acceptable to the Owner's Representative.

4. Barriers shall not be removed until the work areas are thoroughly cleaned, and the area approved by the Owner's Representative. All debris must be properly bagged and removed from work areas, and the lead surface wipe samples must have passed final clearance tests, in accordance with provisions detailed in the Specification prior to barrier removal.

5. At the Owner's and Owner's Representative's approval, the Abatement Contractor may utilize a portable mini-isolation chamber to create an isolated work area around single components to be removed. This chamber shall still be equipped with an adjacent clean room, and become an isolated work area sealed at all seams to where it is attached to adjacent surfaces. It shall also satisfy all requirements for a work area and satisfy all clearance criteria, as identified in this Section and Local Law.

F. Signs. Prior to the preparation of a dwelling for abatement, the Abatement Contractor shall place warning signs immediately outside all entrances and exits to the dwelling, warning that abatement work is being conducted in the vicinity. The signs shall be at least 20" x 14" and read:

WARNING:
LEAD PAINT REMOVAL HAZARD
UNAUTHORIZED ENTRY PROHIBITED
NO SMOKING, EATING OR DRINKING ALLOWED IN THE WORK AREA

Signs shall be in bold lettering with lettering not smaller than two inches tall.

G. Construct and maintain suitable polyethylene barriers within the building to isolate the exterior work area from the interior of the building.

H. The polyethylene barriers termed "critical barriers" for the removal of windows shall consist of the following:

1. Pre- Clean all interior window surfaces with a HEPA- equipped vacuum.

2. Seal duct tape lip to inner most sill, casing and header surfaces of the window.

3. Seal two layers of six mil polyethylene sheeting from the duct tape lip on the inside sill of the dwelling unit window and extend up to the inside surface of the top interior casing. The first layer of sheeting applied shall be sealed to the inside faces of the window casing. The polyethylene sheeting shall be sealed to a piece of three- inch wide duct tape forming a lip attached to the interior window perimeter of the window casing.

4. There shall be no cavity in the polyethylene sheeting created that would allow lead dust to accumulate, which cannot be removed with HEPA vacuuming. This shall allow for removal of this polyethylene sheeting from the exterior of the building, without the generation of lead dust, once the window is removed and cleanup is complete.

5. The second layer of polyethylene sheeting shall be applied over the first layer and sealed directly to the inner face of the cut tape lip and window sill and casing.

6. This sealing of windows shall be done from the interior prior to the beginning of any exterior work.

I. The critical barriers for the removal of doors and door jambs, casing, and associated trim, shall consist of the following:

1. After precleaning activities of HEPA vacuuming floor and surfaces to be abated, seal with duct tape one layer of polyethylene sheeting over a 4’ x 4’ floor area extending in from the entrance doorway. This floor sheeting shall extend a minimum of six inches up the adjacent wall.

2. Remove the entrance door as described in this section.

3. Construct a mini- containment chamber with a double layer of six- mil polyethylene sheeting to isolate the inside door frame from the interior of the unit.

4. Seal mini- containment chamber to the interior wall a minimum of six inches from the interior door casing. Seal walls of the chamber to the floor poly. Cover ceiling with one layer of six- mil polyethylene. A prefabricated containment system may be used if approved by the Owner’s Representative.

5. Allow sufficient clearance around the door frame and casing to permit workers adequate access to remove the components without breaching the containment system.

J. Maintain polyethylene barriers, as long as needed for the safe and proper completion of the work. Any breeches in the work area barriers shall be corrected immediately and as necessary during the work day with such breeches reported immediately to the Owner. Work will not be allowed to commence until all barriers are in place and acceptable to the Owner's Representative.

3.3 PROTECTIVE PROCEDURES

3.3.1 Personal Air monitoring. Both personal air and area (ambient) air sampling will occur periodically throughout the project. The Abatement Contractor is advised of the following sampling:

A. Owner's Representative will perform clean area air monitoring sampling and analysis for all phases of the work in this Section. The Contractor is responsible for performance of personal air monitoring of Abatement Contractor employees.

B. Air samples may also be collected by the Owner's Representative outside critical barriers of the work area in the clean room, and in areas adjacent to the clean room.

C. The Owner's Representative will also collect wipe samples both within the abatement area and outside.

D. Any adjustment, tampering, and/ or deliberate interference with Owner's Representative air monitoring equipment by the Abatement Contractor's personnel will not be tolerated. Furthermore, the Abatement Contractor may be held liable for prosecution under applicable laws and regulations for attempting to falsify test results.

3.3.2 Worker Protection Requirements

A. Biological Monitoring. All workers must have baseline and post- abatement blood lead level measurements determined by the whole blood lead method, utilizing the Vena-Puncture technique with results provided to the Owner and Owner's Representative. This screening shall be performed every two months for the first six (6) months, and every six months thereafter if blood lead levels do not increase by more than 10 «g/ dl. In addition, the Abatement Contractor shall have a medical examination performed on each employee. This medical examination must be performed before workers begin lead contaminated work area and at the termination of an employee's employment or yearly, whichever comes first. A worker shall be removed from the job whenever three blood sampling tests average more than 25 «g/ dl or if a single test exceeds 30 «g/ dl. A formal investigation shall occur whenever a worker's blood lead level rises more than 10 «g/ dl over the baseline level. The Abatement Contractor shall be responsible for medical surveillance and record keeping, as defined in the OSHA Lead in Construction Standard (29 CFR 1926.62) and Local Law.

B. Training Requirements. All workers and supervisors shall have successfully completed a course provided by a licensed training provider meeting all requirements of EPA and Local Law. Supervisors shall be licensed by the responsible Local State Agency responsible. The Abatement Contractor will adhere to the requirements of OSHA regulations CFR 1910.1200 and 1926.62.

C. Supervision. The Abatement Contractor shall provide one site supervisor whose responsibilities include coordination, safety, security and execution of all phases of the lead removal project. The supervisor shall not be used as a lead removal worker, and shall be assigned full time to the project. The supervisor shall be fully qualified in all aspects of lead abatement practices and procedures, and have a three- day training course provided by a certified training provider and approved by the responsible Local State Agency within the previous year prior to commencement of lead-related work.

D. Respirators and Personal Protective Equipment (PPE)

1) Personal protection in the form of disposable coveralls and NIOSH and MSHA approved respirators, is required for all workers, supervisors, and authorized visitors entering the work area during the abatement and cleaning operations. A half- face negative pressure respirator is required until air monitoring data proves otherwise. Authorized visitors (i. e., federal, state, and local inspectors) must provide a current health and medical report certifying them as approved to wear half- face respirators, and must wear PAPRs until air monitoring data permits the use of half face respirators.

2) Each worker shall be supplied with a minimum of two (2) complete disposable suits every day. Removal workers shall not be limited to two (2) suits, and the Abatement Contractor will be required to supply additional suits as is necessary. In addition to disposable suits for the workers, the Abatement Contractor shall also supply suits for the Owner's Representative and other personnel who are authorized to inspect the worksite. Contractor must consider this cost in the bid. Disposable suits, such as TYVEK suits, and other personal protective equipment (PPE) must be donned prior to entering work area. A clean area will be provided for workers to put on suits and other personal protective equipment and to store their street clothes.

Suits will be worn inside the work area after the area passes pre- abatement inspection and shall remain in use until the area passes final clearance inspection. Light weight nylon clothes may be worn under the suit, but these clothes must be changed before leaving the work area and should be laundered separately.

3) Work clothes shall consist of moisture repellent, disposable full- body suits, head covers, gloves with cuffs extending outside the sleeves of the protective suit, boot or shoe covers, a face shield and eye protection. Hard hats shall be worn when deemed necessary. In addition, when caustic paste is used as an abatement agent, full-body suits and gloves impervious to caustics, glove extenders, face shields and boot or shoe covers are required.

4) Eye protection to personnel engaged in lead operations shall be furnished when the use of a full face respirator is not required.

5) Goggles with side shields will be worn when working with a material that may splash or fragment, or if protective eye wear is specified on the Material Safety Data Sheet (MSDS) for that product.

6) Additional respiratory protection by supplemental filters, such as organic vapor cartridges, may be needed when handling some coating products. Consult the Material Safety Data Sheets (MSDS) and obtain the proper filters as necessary.

7) The Abatement Contractor shall provide portable eyewash stations inside all work areas where caustic paste is to be used.

The stations should be capable of providing a flow of water for at least five minutes. The Abatement Contractor shall provide another station capable of providing a flow of water for at least fifteen minutes in the clean area. Squeeze bottles are not sufficient eyewash stations.

8) The Abatement Contractor shall supply workers and supervisory personnel with NIOSH and MSHA approved respirators and HEPA filters. Respiratory protection shall be implemented for all work performed by the Abatement Contractor under this Section. The respirators shall be sanitized and maintained according to the manufacturer's specifications. Disposable respirators shall not be considered acceptable under any circumstances. The Abatement Contractor will maintain on- site a sufficient supply of HEPA filters to allow workers and supervisory personnel to change contaminated

filters per manufacturer's recommendations or when breathing resistance is encountered. The Abatement Contractor is solely responsible for means and methods used and for compliance with applicable regulations:

(a) Half- mask, negative pressure, air purifying respirators equipped with high efficiency filters for airborne lead dust levels not in excess of 0.5 mg/ m3 (10 times the Permissible Exposure Limit) shall be used during component removal and enclosure abatement methods, with the exception of surface preparation for enclosures.

(b) Full- face Powered Air Purifying Respirators (PAPRs) with high efficiency filters for airborne dust levels not in excess of 2.5 mg/ m3 (50 time the Permissible Exposure Limit) will be required during all abatement demolition methods and encapsulation surface preparation methods and as required by OSHA 1926.62.

(c) Pressure demand, full face, supplied air respirators are required when airborne lead dust concentrations are expected to meet or exceed 50 mg/ m3 (1000 times the Permissible Exposure Limit). Respirators will not be removed until the worker enters the washing area of the decontamination chamber.

9) Respirators shall be individually assigned to removal workers for their exclusive use. All respiratory protection shall be provided to workers in accordance with the approved respiratory protection program, which includes all items in OSHA 29 CFR 1910.134 (B),(D),(E), & (F), and the OSHA lead standard 29 CFR 1926.62. A copy of this program shall be kept at the worksite, and shall be posted in the clean area.

10) Workers must perform negative and positive pressure fit checks each time a respirator is put on, whenever the respirator design so permits.

11) Powered air purifying respirators (PAPR) shall be tested for adequate flow as specified by the manufacturer.

12) Workers shall be given a qualitative fit test in accordance with procedures detailed in OSHA 29 CFR 1910.1025, Appendix D, Qualitative Fit Test Protocols, for all respirators to be used on this abatement project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.

13) If a question exists as to the proper selection of respirators, the Contractor may consult the OSHA Lead in Construction Standard (29 CFR 1926.62).

14) Upon leaving the active work area, cartridges must be removed, and respirators cleaned in a disinfectant solution and clean water rinsed.

15) Clean respirators should be stored in plastic bags when not in use.

16) The Abatement Contractor shall inspect respirators daily for broken, missing, or damaged parts.

17) The Abatement Contractor shall provide personal sampling to check personal exposure levels. Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken every day but must be taken in accordance with 29 CFR 1926.62. Sampling will determine eight- hour Time- Weighted Average exposures (TWA). Results shall be provided to the Owner and Owner's Representatives within 48 hours of the sampling.

18) Abatement Contractor shall comply with all OSHA, state, or other applicable requirements of worker medical examinations for approval to wear respiratory protection, and shall submit document of such approval to the Owner.

E. Exposure Conditions.

If air monitoring data, gathered by the Abatement Contractor or Owner's Representative shows that worker exposure to airborne lead exceeds 50 «g/ m3, the following conditions apply:

1) Clothing. Street clothes cannot be worn into containment. Workers must wear nylon shorts, TYVEK shorts, or nothing under disposable suit.

2) Showers. Showers must be provided. Shower water must pass through at least a 5.0 micron filter before returning to the public waste system.

(a) All workers must shower upon leaving the work area.

(b) A five- stage decontamination unit must be constructed of six- mil polyethylene sheeting and consisting of a dirty room, airlock, shower, airlock, and clean room.

3.3.3 Personal Air Sampling

A. General. The Abatement Contractor is required to perform the personal air sampling activities during all lead paint abatement work. The results of such sampling shall be posted, provided to individual workers, and submitted to Owner and Owner's Representative as described herein.

B. Sampling. Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken every day after the first day if working conditions remain unchanged, but must be taken every time there is a change in the removal operation, either in terms of the location or the type of work. Sampling will be used to determine eight- hour Time-Weighted Averages (TWA). The Abatement Contractor is responsible for personal sampling as outlined in OSHA Standard 29 CFR 1926.62. This sampling will determine the degree of respirator protection required, subject to the regulations.

C. Sampling Results. Air sampling results shall be transmitted to the Owner and individual workers in written form no more than forty- eight (48) hours after the completion of a sampling cycle. The reporting document shall list each sample's result, sampling time and date, personnel monitored and their social security numbers, flow rate, sample duration, sample yield, cassette size, and analysts' name and company, and shall include an interpretation of the results. Air sample analysis results will be reported in micrograms of lead per cubic meter of air («g/ m3).

D. Testing Laboratory. The Abatement Contractor's testing lab shall be certified for lead air sample by the American Industrial Hygiene Association. Abatement Contractor shall submit for the Owner's and Owner's Representative's review and acceptance the name and address of the laboratory, certification(s) of accreditation for heavy metal analysis, and a listing of relevant experience in air lead analysis, and presentation of a documented Quality Assurance and Quality Control program.

E. Air Monitoring Frequency. The air monitoring frequency for Abatement Contractor operations will be established in accordance with the requirements set forth in 29 CFR 1926.62.

3.4 WORKER HYGIENE PRACTICES

In order to avoid possible exposure to dangerous levels of lead and to prevent possible contamination of areas outside the demarcated work area, work shall follow the general guidelines listed below:

3.4.1. Work Area Entry. At no time shall a worker or other authorized personnel entering the work area go further than the Clean Area without proper respiratory protection and protective clothing.

3.4.2. Work Area Departure. The worker shall remove all gross contamination, debris and dust from the disposable suit by completely HEPA vacuuming them before leaving work area.

3.4.3 Personal Protective Equipment. All persons leaving the work area must remove their personal protective equipment (except respirators) before leaving the containment. Suits shall be removed "inside out" to minimize the dispersal of lead dust.

3.4.4 Wash Facilities. All workers must wash upon leaving the work area. Wash facilities will be provided by the abatement Contractor. This wash facility will consist of, at least, warm running potable water, soap, and towels. All waste water must be contained and disposed of in accordance with this Specification.

3.4.5 Equipment. All equipment used by the workers inside the work area shall be either left in the work area or thoroughly decontaminated before being removed from the area. Extra work clothing (in addition to the disposable suits supplied by the Abatement Contractor) shall be left in the clean area until the completion of work in that area. The clean area shall be cleaned of all visible debris and disposable materials daily.

3.4.6. Prohibited Activities. Under no circumstances shall workers or supervisory personnel eat, drink, smoke, chew gum, or chew tobacco or remove their respirators in the work area. To do so shall be grounds for the Owner and/ or Owner's Representative to STOP all removal operations. Only in the case of life threatening emergency shall workers or supervisory personnel be allowed to remove their protective respirators while in the work area. In this situation, respirators are to be removed for as short a duration as possible.

3.4.7 Footwear. As with additional clothing, all work footwear shall be left inside the decontamination area until the completion of the job and then shall be HEPA vacuumed and wiped or discarded as contaminated waste.

3.4.8 Shock Hazards. The Abatement Contractor is responsible for using safe procedures to avoid electrical hazards. Power will be shut off and checked before work begins when a hazard exists. all extension cords and power tools used within the work area shall be attached to Ground Fault Circuit Interrupters (GFCI).

3.5 CONTROL OVER ABATEMENT WORK

All work procedures shall be continuously controlled and monitored by the Contractor to assure that the building will not be further contaminated. The following controls shall be instituted on each working day:

3.5.1 Start Up. Prior to work on any given day, the Contractor's designated project supervisor will discuss the day's work schedule with his work force to evaluate job tasks with respect to safety procedures and requirements specified to prevent contamination of the other parts of the building or the employees. This includes a visual survey of the work area and the decontamination enclosure systems.

3.5.2 Access. The Contractor shall maintain control of and be responsible for access to all work areas to ensure the following requirements:

A. Non- authorized personnel are prohibited from entering the area at all times of day and night;

B. All authorized personnel entering the work area shall be familiar with the worker protection procedures contained in this specification and shall be equipped with properly fitted respirators and protective clothing;

C. All personnel who are exiting from the decontamination enclosure system shall be properly decontaminated;

D. Lead waste which is taken out of the work area must be properly handled in accordance with these specifications. The surface of any waste containers, removed from the work area, shall be wiped down with a minimum of a 5% solution of tri-sodium phosphate or other equivalent cleaning agent prior to removing it from the work area.

E. Building components with lead painted surfaces shall be removed from the work area and placed directly into a labeled and secured disposal container or a designated storage area.

3.6 VISUAL INSPECTIONS

The Abatement Contractor shall request a visual inspection by the Owner's Representative. If the area does not pass a visual inspection (e. g., no visible dust or debris), the Abatement Subcontractor shall reclean the area. Clearance monitoring shall be conducted according to the procedures specified in Chapter 15: Clearance, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.

3.6.1 Post-abatement Visual Inspection. The Owner's Representative shall confirm job completeness by determining whether all surfaces have been abated according to the approved abatement plan and project specification. The Owner's Representative will then determine if the building has been adequately cleaned by examining all surfaces for dust and debris. If dust is found, the work area should be recleaned, and the damp cloth test repeated.

3.6.2 Post- abatement Clearance. When all surfaces have passed visual inspection, and the building rehabilitation is complete, clearance wipe samples shall be performed by the Owner's Representative. The standards for passing a wipe test are outlined in the HUD Guidelines. Should laboratory results indicate that the wipe test clearance level is exceeded, the Abatement Subcontractor shall re-clean the affected area, at no additional cost to the Owner, utilizing the methods specified above. Retesting will then be performed to verify compliance with the mandated levels. Abatement Contractor shall pay for all additional testing and provide, at no additional cost, a recleaning of an effected area and personal belongings until the clearance level is achieved.

3.7 DISPOSAL

The waste generated by this procedure will be profiled and disposed of in compliance AB 2784 and all other current standards.

The following testing must be performed by a laboratory properly certified by the State of California. The name of the laboratory must be supplied to the Owner prior to the initiation of the testing.

TCLP Test. Testing on lead- based paint abatement waste materials by use of the Toxicity Characteristic Leaching Procedure (TCLP) will be completed and paid by the Abatement Contractor, and results shall be supplied to the Owner's Representative and Owner.

The testing of material shall be performed as obtained to minimize the storage of "assumed" hazardous material. In absence of written official state guidance, the Abatement Contractor shall take at least one (1) composite sample of the items listed below for the RCRA eight (8) heavy metals. The Abatement Contractor shall also determine if additional testing for other compounds, such as pH, flashpoint, etc., are required for disposal at a particular landfill. The following materials shall be tested to determine whether or not they are hazardous:

1. Waste water.
2. Dust from HEPA filters.
3. Metals that have not been previously tested.
4. Plastic sheets, duct tape, or tape used to cover floors and other services during the lead- based paint removal.
5. Solvents and caustics used during the stripping process.
6. Liquid waste, such as wash water used to decontaminate wood after solvents have been used, and liquid waste from exterior (or interior) water blasting.
7. Rags, sponges, mops, scrapers, and other materials used for testing, abatement, and clean- up.
8. Disposable work clothes and respirator filters cartridges.
9. Any other items contaminated with lead- based paint or items produced as a result of lead- based paint abatement activity, such as the water filters.

End of Lead Abatement Specifications

January 21, 2009

San Bernardino City Unified School District
Facilities Management
777 North "F" Street
San Bernardino, California 92410

Attention: Michael Plunkett

Subject: Budgets for Abatement at Highland Pacific Elementary School

Dear Mr. Plunkett:

Pacific Environmental Company conducted a hazardous materials survey for Highland Pacific Elementary School in anticipation of modernizations per your request.

Asbestos-containing floor tile mastic, penetration mastic and window putty materials were identified at the site and must be removed prior to the modernization work if they are going to be impacted, otherwise they can be managed in place since they are in good condition. Current EPA regulations require that ACM be removed from a building prior to renovation or demolition or renovation that will impact the ACM. ACM and ACCM must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

Lead-based paints (LBP) were also identified at the site. Lead abatement, treatment and/or recycling should be conducted in full compliance with the Cal-OSHA Lead-Related Construction Standard. Paints containing lead greater than 0.5% lead by weight that are to be scraped, sanded, torched, or otherwise disturbed during the demolition should be removed or stabilized prior to the demolition by a licensed contractor and workers with California Department of Health Services (DHS) certification in lead-related construction. Waste streams must be characterized to ensure appropriate disposal methods.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures and transformers should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and Department of Toxic Substances Control (DTSC) guidelines. The batteries stored on site should be recycled.

For planning purposes, we have prepared the following preliminary estimates for abatement. This is not a bid to do the work, rather a planning tool based on our site observations, current industry trends and discussions with abatement contractors regarding the project.

Building	Material	Location	Estimated Qty.	Unit Cost	Abatement Estimate
A Building	Black Flooring Mastic	Work Room Hall, Room A2	500 SF	$10	$5,000
All Buildings	Roof Penetration Mastics	Roof Penetrations, Patches and ACs	300 SF	$20	$3,000
All Buildings	Window Putty	Exterior Windows	840 SF	$10	$8,400
Estimated Total for Asbestos Abatement					$16,400.00
Lead painted components					$20,000.00
PCB Ballasts and Miscellaneous					$5,000.00
Project Compliance Monitoring and Inspections					$5,000.00
Subtotal					$46,400.00
Contingency (10%)					$4,640.00
Total Estimate					**$51,040.00**

If you have any questions or require additional information, please call me at (800)303-6484 extension 701.

Respectfully,

Pacific Environmental Company



Michael Lyssy
President



Pacific Environmental Company

Limited Asbestos and Lead Survey Report

Barton Elementary School Modernization Project
2214 Pumalo Street
San Bernardino, California 92404

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 19, 2009

Project Number: 09016

Limited Asbestos and Lead Survey Report

Barton Elementary School Modernization Project
2214 Pumalo Street
San Bernardino, California 92404

Executive Summary

Pacific Environmental Company conducted a limited asbestos and lead survey in anticipation of modernizations at Barton Elementary School, which is located at 2214 Pumalo Street in the City of San Bernardino, California. All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

This executive summary is not to be utilized as a stand-alone document. The report shall be read in its entirety. The reader must review the detailed information provided in the accompanying text. Any interpretation, use, or conclusions resulting from the data contained in this report is the responsibility of the reader. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations. Based on our review of the modernization plans prepared by HMC Group, only Building E is going to be impacted by the renovations.

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos as determined by PLM, however, the California Department of Occupational Safety and Health (CalOSHA) classifies any material as having greater than one tenth of one percent asbestos as asbestos-containing construction material (ACCM).

ACCM identified during our inspection includes the following:

Material	Location	Estimated Quantity	Comments
Exterior Wall Texture	Building E Metal Walls	1,400 SF	Good condition, not likely to be impacted by the modernizations

Current OSHA and Cal OSHA regulations require that the asbestos-containing construction materials be removed prior to demolition or renovation, if they are going to be impacted. If the exterior wall materials are to be impacted by the renovations, then they must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

A licensed and certified asbestos abatement contractor must perform any asbestos abatement that takes place at the subject property. Waste generated from the asbestos abatement must be properly transported and disposed of.

Based on our XRF sampling, there were no lead components identified at the portions of the subject site that are going to be impacted by the proposed modernizations.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and DTSC guidelines.

Pacific Environmental recommends that all future renovation, demolition, construction or abatement activities with the potential for disturbing the identified ACCM, be performed by properly trained and qualified personnel. These activities should employ state-of-the-art techniques, and be conducted in accordance with all applicable local, State and Federal laws and regulations.

Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition or renovation activities, please call us and we will sample and analyze accordingly. This survey was limited to the materials that are going to be impacted by the modernization activities, as detailed in the provided plans.

The presence of the identified hazardous materials should be brought to the attention of contractors and personnel involved in the project at the subject site. Specifications have been prepared for the removal and handling of specific hazardous materials, such as those containing asbestos and lead.

Any employees, visitors, or contractors entering this building should be notified of the presence and condition of the asbestos-containing materials, lead-based paints, and other hazardous materials (including those listed under Proposition 65), in accordance with applicable regulations.

Table of Contents

Introduction	1
Quality Control Procedures	2
Site Description	2
Asbestos Inspection and Sampling Procedures	3
Asbestos Inspection Results	5
Summary and Recommendations for Asbestos-Containing Materials	5
Lead Inspection and Sampling Procedures	6
Lead Inspection Results	7
Other Hazardous Materials	7
Limitations	7
References	8

Appendix A	Site Plans
Appendix B	Bulk Sample Summary Table
Appendix C	Asbestos Sample Analysis Reports and Chain of Custody
Appendix D	XRF Sampling Results
Appendix E	DHS Form 8552
Appendix F	XRF Performance Characteristics Sheet

Limited Asbestos and Lead Survey Report

Barton Elementary School Modernization Project
2214 Pumalo Street
San Bernardino, California 92404

Introduction

Pacific Environmental Company was retained by the San Bernardino City Unified School District to conduct a limited investigation to identify the presence of asbestos-containing materials, lead-based paints and other lead laden components that will require abatement or treatment, in conjunction with the school modernizations at Barton Elementary School, which is located at 2214 Pumalo Street in San Bernardino, California.

All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

Field Services for the inspection were conducted on January 14, 2009. The project team included David Tillema, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Raed Sahawneh, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Thomas Gannon, a Cal/OSHA Certified Site Surveillance Technician, and Michael Lyssy, a State Certified Asbestos Consultant and Registered Environmental Assessor.

The scope of work for this project included the following key elements:

- Review, verification and incorporation of the original AHERA inspection and re-inspection data, demolition plans prepared by HMC Group, and any subsequent reports detailing the results of prior asbestos and lead testing at the School into this report.
- Inspection and assessment of asbestos-containing materials, lead-based paints, lead glazed ceramics and PCB light ballasts
- Preparation of a final report that is suitable for inclusion in the District's specifications for abatement of hazardous building materials.

Prior to our asbestos assessments, we evaluated the site conditions and demolition plans provided by HMC Group in order to developed our sampling strategy to ensure identification of all asbestos-containing materials that are going to be affected by the modernization work. Representative sampling of homogeneous materials in areas that are being impacted by the project was conducted per SCAQMD guidelines, and all identifiable suspect materials were sampled. Asbestos analysis was performed by an independent, State Certified, NVLAP Accredited Laboratory. Bulk samples were analyzed by polarized light microscopy (PLM), EPA Method 600/R-93/116. This report details the specific site conditions and estimated quantities of Asbestos Containing Material (ACM) for the project. Areas affected by destructive sampling were repaired so as not to cause hazards to school personnel, survey crew, visitors and the general public.

Testing for lead-based paint was performed using an EDAX Map-4 portable X-ray fluorescence (XRF) spectrum analyzer. Testing was modeled after the protocol outlined in the Department of Housing and Urban Developments document titled

Lead-Based Paint: Interim Guidelines For Hazard Identification and Abatement in Public and Indian Housing (1997 Revision).

Quality Control Procedures

Pacific Environmental Company's integrated resources, technologies, discipline, and expertise combine to ensure that the inspection and analysis for each project is conducted based on the following principles:

- All applicable regulations are addressed in order to ensure that our field inspectors and lab personnel meet their responsibilities, do so cost-effectively, and are equipped with the practical knowledge they need in order to understand and comply with regulations that affect them.
- Care is taken to make certain that the information provided and actions recommended are practical and cost effective in achieving regulatory compliance.

The 'management' approach utilized for this project assured that all work was performed using the highest standard of quality. All project results, reports and recommendations are reviewed for accuracy, content and quality prior to presentation. We recognize that, for each assignment we undertake, the information we develop and the conclusions and advice we provide, will be used to support important management decisions.

Pacific Environmental Company's Quality Assurance Program requires that all personnel:

- Provide specific objectives so that project activities can be evaluated with regard to precision, accuracy, reproducibility, completeness, and comparability.
- Provide specific guidance on the proper methodology for all activities.
- Be provided with ongoing training to enhance their technical skills.
- Be trained in QA/QC procedures and QC activities.
- Review all reports until they are acceptable in terms of technical and editorial quality, and all quality assurance activities have been successfully performed.

Site Description

Based on our review of the modernization plans for he Barton Elementary School Site, only the E Building is going to be renovated.

Classroom Building E is a metal structure that houses three classrooms. Interior finishes include metal walls, drywall behind the exterior metal walls, suspended 2x4 fiberglass ceiling tile, and vinyl and carpet floorings.

The school was occupied at the time of our assessment and we worked after hours in an effort to characterize the site conditions. If any additional suspect materials are identified during the modernizations, please contact us to perform supplemental sampling.

Asbestos Inspection and Sampling Procedures

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos, as determined by polarized light microscopy (PLM). Title 8, Section 1529, of the California Code of Regulations, however, defines asbestos-containing construction material (ACCM) as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight.

We reviewed the District's asbestos records on file and the demolition plans prepared by HMC in order to formulate our sampling strategy. The only documentation on file for the site was an inventory from Power Master's original AHERA survey which was on file at the M&O Offices. This inventory has been utilized for reinspection purposes over the years and indicates that the floorings were assumed to be ACM at the site. The demolition plans indicate that the scope of the demolition at this site will include replacement of windows, removal of VCT floorings and removal of sinks and casework. We collected additional samples to confirm the original AHERA findings and to characterize materials that were not originally tested.

Subsequent to our review of the prior report, a visual assessment of the suspect building materials located throughout the subject facility was completed prior to the collection of samples. During the visual assessment, the building materials suspected of containing asbestos were categorized by homogeneous areas. Materials are classified as homogenous when they appear uniform, have a consistent texture, and appear to have been installed at the same time.

The laboratory testing for the bulk samples was conducted in accordance with the recommended EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993).

The field investigation began with an initial site walk-through and identification of homogenous building materials suspected of containing asbestos. Samples were collected based on building layout, structural features, and mechanical and plumbing systems. Pacific Environmental then performed the following tasks:

- Evaluated whether materials suspected of containing asbestos were present at the site.
- Collected bulk samples, as required, to adequately characterize the suspect materials.
- Identified approximate sample locations and locations of identified ACM on field drawings or with photographs.
- Estimated the amount of ACM, where access allowed.
- Assessed the condition of the suspected and known ACMs.

At the time of inspection, suspect materials are assessed to be in good, damaged, or significantly damaged condition based on the following criteria:

> Good Condition - No or very limited visible damage or deterioration observed.
>
> Damaged Condition - Crumbling, blistering, water damage, gouges or other damage observed over less than 25% of the materials (one-tenth if evenly distributed); or accumulation of suspect powder, dust or debris observed below the material.
>
> Significantly Damaged - Crumbling, blistering, water damage, gouges or other damage observed over greater than 25% of the materials (one-tenth if evenly distributed); material delaminating or showing adhesive failure; or accumulation of suspect powder, dust or debris observed below the material.

The assessment process also includes classifying the material as Friable ACM or Non-Friable ACM. Friable ACM is the term given to any material that contains more than one percent (1%) asbestos by weight, which can be crumbled, pulverized, or reduced to powder by hand or mechanical pressure. The word "Friability" refers to a material's likeliness to release airborne fibers when in situ, or under mechanical pressure. There is a greater possibility that a friable material will

release fibers into the air when disturbed than will a non-friable material (i.e., floor tiles, roofing materials, etc.), thereby causing a potential hazard.

After identifying those materials suspected of containing asbestos, the materials were grouped into homogeneous sampling areas. A homogeneous sampling area includes building materials that are uniform in texture and color and appear identical in every other respect. A modified AHERA protocol was used in estimating the number of samples to be collected. Actual samples collected were determined by field conditions. A total of five (5) bulk samples were collected and analyzed.

Bulk samples were collected by wetting the suspect material with amended water and cutting, scraping or coring it from its substrate using an appropriate sampling tool. Sampling tools were cleaned before and after each use to prevent cross contamination between sampling events. Small quantities of material, approximately 1/2 square inch each, were extracted from suspect materials and placed in sterile, airtight bags or vials, and sealed. Each sample was labeled with a unique identification number, utilizing a sequential numbering system. The sample was logged in on the bulk survey sheet and a description noted on the type of sample. Each sample container was then placed inside a larger sterile, airtight bag. As other samples were taken from each area, they were also placed inside this larger airtight bag. Sample locations were repaired using caulk, spray glue, encapsulant, or patching material as needed, but were not always returned to their original condition. The samples were transported under chain-of-custody to an independent NVLAP participating laboratory for analysis utilizing polarized light microscopy.

The laboratory testing was conducted in accordance with the EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993). Samples were examined for homogeneity, and non-homogeneous samples were ground to ensure homogeneity. Microscopic slides were prepared from each sample using a refractive index liquid, such as trisection and ethyl cinnamate, having a refractive index of 1.550; 1-bromo-naphthalene and 1-Iodonaphthalene, having a refractive index of 1.680; or hydrogenated terthenyl and 1-bromonaphtahlene, having a refractive index of 1.605. The slides were then examined for the presence of asbestos, utilizing polarized light microscopy (PLM) and dispersion staining techniques.

The percentage of asbestos was estimated by visual examination of fibers greater than five microns in length and with an aspect ratio of 3:1 or greater. The aspect ratio of 3:1 refers to the length of the fiber being three times as long as its width. If present, the identity of asbestos fibers was confirmed with appropriate refractive index liquids, application of dispersion staining and other techniques. The results were tabulated and detailed in the laboratory reports, which are included in the appendices of this report.

Asbestos Inspection Results

ACCM identified during our inspection includes the following:

Material	Location	Estimated Quantity	Comments
Exterior Wall Texture	Building E Metal Walls	1,400 SF	Good condition, not likely to be impacted by the modernizations

Summary and Recommendations for Asbestos-Containing Materials

All ACCM that will be impacted by the planned modernizations must be removed pursuant to Rule 1403 of the South Coast Air Quality Management District's and CalOSHA Asbestos Regulations.

Abatement activities must be conducted in compliance with all applicable regulations, standards and generally accepted environmental and safety practices, including Federal OSHA (29 CFR 1926.58), EPA NESHAPS (40 CFR Part 61), and Toxic Substances Control Act (TSCA) Title II AHERA/ASHARA (40 CFR Part 763) Asbestos Regulations, the Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101, and Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard.

All asbestos waste must be properly disposed of and documented. Waste Manifests must be submitted at the end of a project. Disposing of a known hazardous waste is illegal in the State of California. Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition activities, we will arrange to sample and analyze them accordingly.

Lead Inspection and Sampling Procedures

Lead-based paint and lead glazing on ceramics is of concern both as a source of direct exposure through ingestion of paint chips, and as a contributor to lead interior dust and exterior soil. Lead was widely used as a major ingredient in most interior and exterior oil-based paints prior to 1950. Lead compounds continued to be used as corrosion inhibitors, pigments and drying agents beginning in the early 1950's. In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5000 ppm) and, in 1978, to 0.06% (600 ppm). It has also been used extensively as a glaze on ceramic and porcelain finishes.

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) define an inspection as a surface-by-surface investigation to determine the presence of lead-based paint (see 40 CFR part 745 and Title X of the 1992 Housing and Community Development Act).

As per the EPA & HUD guidelines, lead-based paint is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm2 or 0.5 percent by weight. Lead paint amounts were reported in mg/cm2 because this unit of measurement does not depend on the number of layers of non-lead based paint.

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections because of their demonstrated abilities to:

1. Determine if lead is present on many different types of surfaces

2. Measure the paint without destructive sampling or paint removal

3. Provide sample results immediately and at a relatively low cost per sample

Portable XRF instruments expose a building component to X-rays or gamma radiation, which causes lead to emit X-rays with a characteristic frequency or energy. The intensity of this radiation is measured by the XRF instrument. The inspector must then compare this displayed value (reading) with the inconclusive range or threshold specified in the XRF Performance Characteristic Sheet for the specific substrate beneath the painted surface. If the reading is less than the lower boundary of the inconclusive range, or less than the threshold, then the reading is considered negative. If the reading is greater than the upper boundary of the inconclusive range, or greater or equal to the threshold, then the reading is considered positive. Readings within the inconclusive range, including its boundary values, are considered inconclusive. Because the inconclusive ranges and/or thresholds shown in the Performance Characteristic Sheet are based on 1.0 mg/cm2, positive and negative readings are consistent with the HUD definition of lead-based paint for identification and disclosure purposes. The method employed for paint testing for this project was X-Ray Fluorescence (XRF) using an EDAX MAP4 lead paint analyzer (Serial Number M41509) with the capability to measure the lead content in dry paint films in the range of 0 to 50 milligrams per square centimeter.

The instrument's calibration was verified according to the manufacturer's specifications, in compliance with the Performance Characteristic Sheet (PCS) developed for this instrument. The PCS is located in Appendix F of this report. The readings from this instrument produce a 95% confidence level that the "lead" reading accurately reflects the actual level of lead in the tested surfaces, relative to the federal action level. Current industry standards suggest that, when it is determined that paint abatement and/or interim control activities will be performed on components, they should be performed according to practices that are in the HUD Guidelines and the regulations under section 402 of the Toxic Substances Control Act (TSCA), 15 USC 2682.

Lead Inspection Results

Sampling for this inspection was representative and any components that were not tested, but are similar to those components that tested positive for lead, should be considered and treated as lead laden.

No lead components identified at the subject site during our inspection.

A complete listing of our assays in included within the appendices of this report.

Other Hazardous Materials

During our assessment of the structures, we visually inspected the locations of fluorescent light tubes and PCB ballasts. There are fluorescent fixtures throughout the campus with ballasts that are assumed to contain PCB's and fluorescent tubes. All PCB's and spent fluorescent light tubes should be handled, packaged and disposed of in compliance with current California Environmental Protection Agency, Department of Toxic Substances Control Guidelines.

Limitations

This report is not intended to identify all hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and Pacific Environmental's experience in performing this type of assessment. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations

Pacific Environmental has performed this survey in a professional manner, using the degree of skill and care exercised for similar projects, under similar conditions, by reputable and competent environmental consultants. Pacific Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

Pacific Environmental further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved as a consequence of this report, or impacted by information not properly disclosed to Pacific at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

References

AHERA Summary, prepared by Power Masters, Inc.

Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards

Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead

"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," US Department of Housing and Urban Development, June 1995

South Coast Air Quality Management District Requirements (Rule 1403)

National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, M

Occupational Safety and Health Administration, Asbestos in the Workplace, 29 CFR 1910.1001

Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101

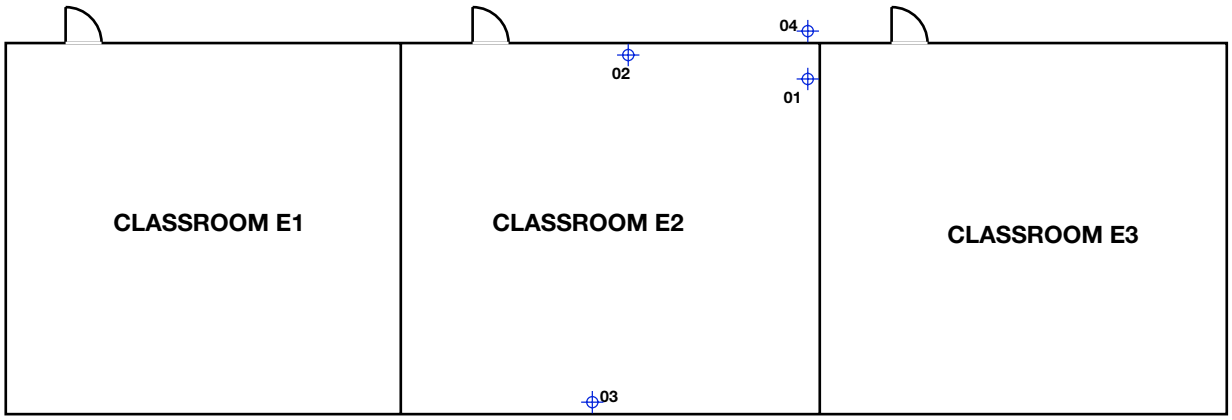
Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard

Appendix A

Site Plan

A

D



B

indicates approximate sample location

C

N

DATE PREPARED: 1/16/2009	DRAWN BY: C.T.
REVISION:	SOURCE:
PROJECT NO: 09016	OTHER:

DRAWING TITLE:
Sample Location Plan
Barton Elementary School
2214 Pumalo Street
San Bernardino, California 92404

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
1

Appendix B

Bulk Sample Summary Table

BARTON ELEMENTARY SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09016

Sample No.	Sample Description	Sample Location	Asbestos %
001	Brown Basevcove	E2 - Northeast entrance	No Asbestos Detected
001	Mastic for Brown Basevcove	E2 - Northeast entrance	No Asbestos Detected
002	Gypsum Board	E2 - Behind Metal Wall Pane	No Asbestos Detected
003	Beige 12"x12" Vinyl Floor Tile	E2 - South Side of Classroom	No Asbestos Detected
004	Exterior Texture	Building E2 Exterior Walls	<1% Chrysotile

Appendix C

Asbestos Sample Analysis Reports and Chain of Custody

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/15/09
Date Examined 01/15/09
AmeriSci Job # 909011490
P.O. #

RE: SBSUSD; Barton Ele. School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011490-01.1	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Brown Basecove Mastic / @ Entrance NE Wall Rm E-2		
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
01	909011490-01.2	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Brown Basecove Mastic / @ Entrance NE Wall Rm E-2		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011490-02	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Gypsum Board / Behind Metal Wall Pane E-2		
	Analyst Description: White/Brown, Homogeneous, Fibrous, Drywall		
	Asbestos Types:		
	Other Material: Cellulose 15 %, Non-fibrous 85 %		
03	909011490-03	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12"x Biege FT / Class Rm E-2 S. Side E-2		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
04	909011490-04	*Yes*	Trace (<1 %) (by CVES) by Paola Ducoing on 01/15/09
	Location: Exterior Metal Texture / N. Side		
	Analyst Description: Beige/Pink, Homogeneous, Non-Fibrous, Texturing		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBSUSD; Barton Ele. School

Reporting Notes:

Analyzed By: Paola Ducoing ; Date Analyzed: 1/15/2009 1/15/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/15/09

909011490-

PACIFIC ENVIRONMENTAL

Date:	01 / 14 /2009
Client:	SBSUSD
Site:	BARTON ELEMENTARY SCHOOL
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
01	BROWN base coat MASTIC	@ ENTRANCE NE WALL Rm E-2	E-2 ≈110 LF.
02	Gypsum BOARD	Behind Metal WALL PANEL	E-2 ~~1,100~~ 1,100
03	12"X BEIGE FT	CLASS Rm E-2 S. side	E-2 ≈900
04	Exterior Metal TEXTURE	N. side	1,400 ft
05			
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			

Analytical Method: PLM

Turn Around Time: 24 hr. TAT

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		01 / 14 /2009
	RECEIVED JAN 15 2009	
Name	Signature	Date/Time

Appendix D

XRF Sampling Results

FIELD DATA REPORT

PROJECT NAME: Barton Elementary School

PROJECT NO.:09016

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
E	Exterior	Wall	D	Metal	Intact	Beige	0.0	Negative
E	Exterior	Door	D	Metal	Intact	Green	0.6	Negative
E	Exterior	Door Frame	C	Metal	Intact	Green	0.0	Negative
E	Exterior	Downspout	D	Metal	Intact	Beige	0.0	Negative
E	E1	Wall	A	Metal	Intact	Beige	0.0	Negative
E	E1	Wall	B	Metal	Intact	Beige	0.1	Negative
E	E1	Wall	C	Metal	Intact	Beige	0.0	Negative
E	E1	Wall	D	Metal	Intact	Beige	0.0	Negative
E	E1	Door	A	Metal	Intact	Green	0.0	Negative
E	E1	Door Frame	A	Metal	Intact	Green	0.0	Negative
E	E2	Wall	A	Metal	Intact	Beige	0.0	Negative
E	E2	Wall	B	Metal	Intact	Beige	0.1	Negative
E	E2	Wall	C	Metal	Intact	Beige	0.0	Negative
E	E2	Wall	D	Metal	Intact	Beige	0.0	Negative
E	E2	Door	A	Metal	Intact	Green	0.0	Negative
E	E2	Door Frame	A	Metal	Intact	Green	0.0	Negative
E	E3	Wall	A	Metal	Intact	Beige	0.0	Negative
E	E3	Wall	B	Metal	Intact	Beige	0.1	Negative
E	E3	Wall	C	Metal	Intact	Beige	0.0	Negative
E	E3	Wall	D	Metal	Intact	Beige	0.0	Negative
E	E3	Door	A	Metal	Intact	Green	0.0	Negative
E	E3	Door Frame	A	Metal	Intact	Green	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

Appendix E

DHS Form 8552

State of California – Health and Human Services Agency

California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 – Date of Lead Hazard Evaluation 1/14/1009

Section 2 – Type of Lead Hazard Evaluation (Check one box only)

☑ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 – Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
2214 Pumalo Street	San Bernardino	San Bernardino	92404

Construction date (year) of structure	Type of structure (check one box only)
1960	☐ Multi-unit building ☑ School or daycare ☐ Single family dwelling ☐ Other (specify)_____

Section 4 – Owner of Structure (If business/agency, list contact person)

Name	Telephone number
San Bernardino City Unified School District	909-381-1238

Address [number, street, apartment (if applicable)]	City	State	Zip Code
777 North F Street	San Bernardino	CA	92401

Section 5 – Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected. ☑ Lead-based paint detected.

☐ No lead hazards detected. ☐ Lead hazards detected.

Section 6 – Individual Conducting Lead Hazard Evaluation

Name	Telephone number
David Tillema	800.303.6484

Address [number, street, apartment (if applicable)]	City	State	Zip Code
28202 Cabot Road #300	Laguna Niguel	CA	92677

CDPH certification number	Signature	Date
17740		1/19/2009

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 – Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

CDPH 8552 (6/07)

Appendix F

XRF Performance Characteristics Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: June 26, 1996 **EDITION NO.: 3**

MANUFACTURER AND MODEL:

Make: *Scitec Corporation*
Model: *MAP-4*
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS

Test mode, Screen mode, or Unlimited mode.

XRF CALIBRATION CHECK LIMITS

0.6 to 1.2 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

When using Unlimited mode, substrate correction recommended for:

None

When using Unlimited mode, substrate correction not recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

When using Screen or Test mode, for XRF results below 4.0 mg/cm^2, substrate correction recommended for:

Drywall, Metal, and Wood

When using Screen or Test mode, substrate correction not recommended for:

Brick, Concrete, and Plaster

INCONCLUSIVE RANGE OR THRESHOLD

UNLIMITED MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm^2)
Results not corrected for substrate bias for unlimited mode readings	Brick	0.91 to 1.19
	Concrete	0.91 to 1.19
	Drywall	0.91 to 1.19
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.19
	Wood	0.91 to 1.19

SCREEN MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm²)
Results corrected for substrate bias for screen mode readings on drywall, metal, and wood substrates only	Brick	0.91 to 1.09
	Concrete	0.91 to 1.09
	Drywall	0.91 to 1.39
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.09
	Wood	0.91 to 1.29

TEST MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)	INCONCLUSIVE RANGE (mg/cm²)
Readings corrected for substrate bias for test mode readings on drywall, metal, and wood substrates only	Brick	0.9	None
	Concrete	0.9	None
	Drywall	None	0.91 to 1.39
	Metal	None	0.91 to 1.09
	Plaster	0.9	None
	Wood	None	0.91 to 1.29

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from an EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations. All of the test locations were tested in February 1996 using two different instruments. One instrument had a new source installed in July 1994 and its strength at the time of testing was calculated as 9.4 mCi. The other instrument had a new source installed in September 1994 and its strength at the time of testing was calculated as 10.6 mCi.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds

SUBSTRATE CORRECTION VALUE COMPUTATION

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

- Using the same XRF instrument, take three readings on a bare substrate area covered with the

NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

- Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

  For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\left.\begin{matrix}\text{Correction}\\ \text{Value}\end{matrix}\right\} = \frac{1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th}\ \text{Reading}}{6} - 1.02 mg/cm^2$$

- Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either 15-second readings or 60-second readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES

For screen, test, and confirm modes, the MAP 4 instrument tests until a K-shell result is obtained relative to a level of precision. A result is "positive", "negative" or "retest" as displayed by indicator lights. For the unlimited mode, the MAP 4 instrument tests until a K-shell result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the the reading is terminated by releasing the trigger. A few unlimited mode readings were terminated because they exceeded the two-minute limit used for archive testing. The following tables provide testing time information for three testing modes. Insufficient information is available to provide this information for confirm mode. All times have been scaled to match an initial 12 miC source. Note that source strength and factors such as substrate may affect testing times.

UNLIMITED MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	3	4	6	4	13	3
Metal	3	4	8	4	9	3
Brick Concrete Plaster	4	5	8	6	6	3

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

SCREEN MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	6	7	5	6	7
Metal	4	5	6	5	5	5
Brick Concrete Plaster	11	11	13	11	11	11

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

TEST MODE TESTING TIMES (Seconds)						
SUBSTRATE	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm²)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	17	22	27	21	20	28
Metal	13	20	23	20	20	20
Brick Concrete Plaster	41	42	52	41	46	43

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

BIAS AND PRECISION

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with laboratory-measured lead levels less than 4.0 mg/cm² lead. There were 15 testing locations taken in the screen mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were 15 testing locations taken in the test mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were not any testing locations taken in the confirm mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. There were 15 testing locations taken in the unlimited mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². All testing was done in February 1996 with two different instruments. The following data are for illustrative purposes only. Actual bias must be determined on the site. Inconclusive ranges provided above already account for bias and precision.

SCREEN MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.1	0.2
	Metal	0.1	0.3
	Plaster	-0.1	0.3
	Wood	0.0	0.2
0.5 mg/cm²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	0.1	0.4
	Concrete	0.1	0.4
	Drywall	0.5	0.6
	Metal	0.3	0.3
	Plaster	0.1	0.4
	Wood	0.4	0.6

2.0 mg/cm²	Brick	0.4	0.5
	Concrete	0.4	0.5
	Drywall	0.9	0.8
	Metal	0.5	0.3
	Plaster	0.4	0.5
	Wood	0.7	0.8

*Precision at 1 standard deviation

TEST MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.2
	Concrete	-0.1	0.2
	Drywall	0.1	0.1
	Metal	0.1	0.2
	Plaster	-0.1	0.2
	Wood	0.0	0.1
0.5 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.2
	Plaster	-0.1	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.5	0.6
	Metal	0.3	0.2
	Plaster	-0.1	0.3
	Wood	0.4	0.6
2.0 mg/cm²	Brick	0.0	0.4
	Concrete	0.0	0.4
	Drywall	1.0	0.8
	Metal	0.5	0.2
	Plaster	0.0	0.4
	Wood	0.8	0.8

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristics Sheet is a joint product of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD). The issuance of this sheet does not constitute rulemaking. The information provided here is intended solely as guidance to be used in conjunction with Chapter 7, Lead-Based Paint Inspection, of the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. EPA and HUD reserve the right to revise this guidance. Please address questions and comments on this sheet to: Director, Office of Lead Hazard Control (L), U.S. Department of Housing and Urban Development, 451 Seventh St, S.W., Washington, DC 20410.

Pacific Environmental Company

ACCM Abatement Workplan

Barton Elementary School Modernization Project
2214 Pumalo Street
San Bernardino, California 92404

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 19, 2009

Project Number: 09016

ACCM Abatement Workplan

Barton Elementary School Modernization Project
2214 Pumalo Street
San Bernardino, California 92404

Background

The San Bernardino City Unified School District is requesting proposals from qualified hazardous materials abatement contractors for the removal the identified asbestos containing construction materials in anticipation of modernizations to Barton Elementary School

The contractor's responsibilities will include the following key components:

- ACCM Abatement
- Notifications to all appropriate agencies
- All permits, fees and other incidentals required to carry out the specified work
- Inspections if required

Contract Documents

This Workplan is to be used in conjunction with the Project Specifications prepared for the District for this site. The specifications are to be made available to the bidders without cost. Additional copies may be obtained at the cost of reproduction.

Discrepancies

1. Each bidder shall visit the site of the proposed work and fully acquaint himself with the conditions relating to the construction and labor so that he may fully understand the facilities, difficulties, and restrictions attending the execution of the work under the contract. Bidders shall thoroughly examine and be familiar with the Contract Documents including the drawings and specifications. The failure or omission of any bidder to receive or examine any contract document, form, instrument, addenda, or other document, or to visit the site and acquaint himself with the conditions there existing shall not relieve any bidder from any obligations with respect to his bid or to the contract. The submission of a bid shall be taken as prima facie evidence of compliance with this section.

2. If, during the bidding period, a bidder observes errors, discrepancies, ambiguities or omissions in, or requires clarification as to the meaning of the Contract Documents, he immediately informs the Owner who in turn will send written addenda to all prospective bidders.

3. Requests for clarification's will be made to the Owner's offices.

4. Bidders communications will not receive consideration unless they are received by the Owner at least two days prior to the day bids are due and the Owner will not issue addenda later than one day preceding the day bids are due.

5. Neither the Owner nor Owner's Representative will be responsible for oral explanations and instructions.

6. The contents of all addenda shall become part of the Contract Documents.

7. Bidders are responsible for verification of quantities, change orders will not be approved on the basis of understated quantities.

Substitutions

Bidders shall feel free to recommend substitutions of items and procedures specified, but recommendations shall be made in letter form independent of the basis lump sum bid. The recommendations shall state the corresponding changes in the base bid amount in the event recommendations are approved.

Contract Requirements

1. Contractor shall supply the necessary materials, equipment, transportation, workers, supervisors, insurance and expertise to perform the services outlined in their bid proposal.

2. The Contractor shall base his pricing on his own take-off quantities required to perform the work. No change orders will be allowed on the basis that the quantities are considered inaccurate.

3. The Contractor shall perform all Work in compliance with the most recent edition of all applicable federal, state, and local regulations, standards and codes governing demolition, asbestos and lead abatement, transport, and disposal of asbestos and lead containing/contaminated materials.

4. Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

5. In addition to the above, do all the other work as required by the Specifications, job walk and addenda.

6. Unless exempt under Business & Professions Code §7028.15, no bidder who is not licensed as a Contractor to perform the Work of the Contract shall submit a bid therefore and at the time the Contract is awarded to a bidder, the bidder shall possess a valid and in good standing California Contractors License in the Classification of ASB. In addition, no bid will be considered from a bidder who is not certified and registered in accordance with California Business & Professions Code §7058.5 and California Labor Code §6501.5 to perform asbestos-related work.

7. Each bidder shall submit a list of the proposed subcontractors on this project as required by the Subletting and Subcontracting Fair Practices Act.

8. In accordance with the provisions of §3700 of the Labor Code, Contractor shall secure the payment of compensation to his employees. Contractor shall sign the following certificate prior to performing the work under this contract: "I am aware of the provisions of §3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Code, and I will comply with such provisions before commencing the performance of the work of this contract." The form of such certificate is included as part of the contract documents.

9. The Contractor hereby assures that it will comply with Subchapter VI of the Civil Rights Act of 1964, 42 USC Sections 2000 (e) through 2000 (e) (17), to the end that no person, on the grounds of race, creed, color, sex, or national origin be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination under this Agreement or under any project, program, or activity supported by this Agreement. The Contractor agrees to comply with applicable Federal and California laws against discrimination. Additionally the Contractor agrees to require like compliance by any subcontractors employed on the work by him.

10. The Contractor hereby assures that it will comply with the Americans with Disabilities Act of 1990, 42 USC Sections 12010 et. seq., to ensure that disabled individuals shall be reasonably accommodated in accordance with the Act, and the Contractor shall not exclude from participation in, or deny the benefit of, or otherwise subject a disabled individual to discrimination under this Agreement, or under any project, program, or activity supported by this Agreement.

11. The successful Contractor shall provide Comprehensive General Liability Insurance in the amount specified at the mandatory job walk. Contractor shall name the Owner as additional insured on the liability insurance which shall be endorsed so that the Owner will receive a thirty (30) day prior written notice in the event of cancellation or material change.

12. Public funds are being used for this project and as such, prevailing wage and certified payroll reporting requirements will apply.

Description of Work

The scope of work for this project includes the removal of all of the asbestos containing construction materials, fluorescent light tubes, and pcb light ballasts in anticipation of the Modernizations at the Site.

Materials that are to be removed to facilitate the demolition include the following:

ACCM – Exterior Wall Texture, Building E

Fluorescent light tubes and pcb light ballasts – where occurs

All demolition required to carry out the abatement is the responsibility of the abatement contractor. Patching of surfaces is not required.

Please refer to the original survey report for further details on the survey process and results.

Submittals

Pre-Job Submittals: Prior to commencement of work, Contractor shall submit (two copies) to Owner's Representative documentation that includes, without limitation, the following:

- Submit copies of licenses and registrations required by these specifications (include copies of subcontractors licenses).
- Submit copies of written notification to the appropriate regulatory agencies.
- Submit proof that required permits, site location and arrangements for transport and disposal of hazardous waste materials have been made.
- Submit proof of legal right to use patented equipment or processes.
- Manufacturer's certification that HEPA vacuums, differential pressure air filtration devices and other local exhaust ventilation equipment conform to ANSI Z9.2-79.
- Submit a construction schedule indicating milestones and dates of completion for each phase of the Work.
- Submit documentation that Contractor's employees, including foreman, supervisor, and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received training as required by 29 CFR 1926.1101.
- Submit documentation from Physician that all employees or agents who may be exposed to airborne asbestos fibers in excess of background levels have received medical monitoring to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. The Contractor must be aware of and provide information to the examining physician about unusual conditions in the workplace environment (e.g. high temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities.
- Submit documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. This fit-testing shall be in accordance with qualitative procedures as required by OSHA regulations or be quantitative in nature.

- Submit a project specific work plan.
- Submit an emergency preparedness plan.

Ongoing Submittals: During abatement activities, Contractor shall submit to Owner's Representative documentation that includes, without limitation, the following:

- Submit copies of the work area entry/exit log book. Log book must record name, affiliation, time in, and time out for each entry into the work area.
- Submit copies of logs documenting filter changes on respirators, HEPA vacuums, differential pressure air filtration devices, water filtration device, and other engineering controls.
- Submit copies of Material Safety Data Sheets (MSDS) for solvents, encapsulants, wetting agents and replacement materials, as necessary.
- Submit results of all required OSHA air monitoring. Results shall be available prior to the start of the following shift and within 24 hours of completion of the last shift.
- Submit copies of all accident/incident reports where injury or damage has occurred on or to the Owner's property.
- Submit copies of all transport manifests, trip tickets and disposal receipts for all hazardous waste materials removed from the work area within 24 hours of the transport.

Technical Specifications

All work shall be preformed in accordance with the guidelines of all prevailing local and state regulations including but not limited to local air quality management authority requirements. The Contractor and all its employees shall be licensed certified and trained to perform work in California.

Contractor is required to provide written legal notification of its intent to perform asbestos and lead related work to all regulatory agencies as required. Contractor shall pay permit fees required for the work.

The Contractor shall be required to furnish and maintain on the Site as a minimum all legally required job postings include but not limited to: evidence of licensure and certificates for the Contractor and its employees. A daily supervisor's log maintained by the on-site supervisor, daily worker sign-in logs, all workers current asbestos and lead related training certificates, medical clearance, respirator fit testing records, and notifications sent to regulatory agencies. In addition, the Contractor shall be required to provide all personal air monitoring results to the Owner and Owner's Representative, either within five working days form the time the samples are collected or the required statutory time, whichever is less.

It is the responsibility of the Contractor to provide respiratory protection and personal protective equipment for his worker's in accordance with all current regulations.

All ACCM asbestos work shall be conducted within regulated areas. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they shall demarcate the regulated area. Access to regulated areas shall be limited to authorized persons. The Contractor shall control access to regulated areas, ensure that only authorized personnel enter, and verify that Contractor required medical surveillance, training and respiratory protection program requirements are met prior to allowing entrance.

Warning signs and tape printed in English and Spanish shall be provided at the regulated boundaries and entrances to regulated areas. The Contractor shall ensure that all personnel working in areas contiguous to regulated areas comprehend the warning signs. Signs shall be located to allow personnel to read the signs and take the necessary protective steps required before entering the area.

Per Title 8 of the California Code of Regulations, ACCM must be handled in compliance with the CalOSHA requirements which specify contractor registration requirements, worker protection through appropriate personal protective equipment, engineering controls and exposure assessment. This material is not an Asbestos Containing Material for the purpose of disposal and does not have a corresponding EPA category.

The wall texture materials shall be removed by adequately wet methods. While full containment is not required, the work area is to be regulated, visual barriers will be required and exposure assessment monitoring will be conducted. Waste is to be disposed of in leak-tight containers.

January 21, 2009

San Bernardino City Unified School District
Facilities Management
777 North "F" Street
San Bernardino, California 92410

Attention: Michael Plunkett

Subject: Budgets for Abatement at Barton Elementary School

Dear Mr. Plunkett:

Pacific Environmental Company conducted a hazardous materials survey for Barton Elementary School in anticipation of modernizations per your request.

ACCM exterior wall texture materials were identified at the site and must be removed prior to the modernization work if they are going to be impacted, otherwise they can be managed in place since they are in good condition. Current EPA regulations require that ACM be removed from a building prior to renovation or demolition or renovation that will impact the ACCM. ACM and ACCM must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures and transformers should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and Department of Toxic Substances Control (DTSC) guidelines. The batteries stored on site should be recycled.

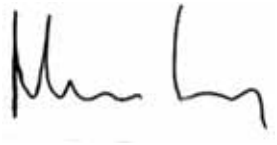
For planning purposes, we have prepared the following preliminary estimates for abatement. This is not a bid to do the work, rather a planning tool based on our site observations, current industry trends and discussions with abatement contractors regarding the project.

Building	Material	Location	Estimated Qty.	Unit Cost	Abatement Estimate
E Building	Exterior Wall Texture	Exterior Walls	1,400	$10	$14,000
Estimated Total for Asbestos Abatement					$14,000.00
PCB Ballasts and Miscellaneous					$5,000.00
Project Compliance Monitoring and Inspections					$5,000.00
Subtotal					**$24,000.00**
Contingency (10%)					**$2,400.00**
Total Estimate					**$26,400.00**

If you have any questions or require additional information, please call me at (800)303-6484 extension 701.

Respectfully,

Pacific Environmental Company



Michael Lyssy
President

Pacific Environmental Company

Limited Asbestos and Lead Survey Report

Burbank Elementary School Modernization Project
198 West Mill Street
San Bernardino, California 92408

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 21, 2009

Project Number: 09013

Limited Asbestos and Lead Survey Report

Burbank Elementary School Modernization Project
198 West Mill Street
San Bernardino, California 92408

Executive Summary

Pacific Environmental Company conducted a limited asbestos and lead survey in anticipation of modernizations at Burbank Elementary School, which is located at 198 West Mill Street in the City of San Bernardino, California. All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

This executive summary is not to be utilized as a stand-alone document. The report shall be read in its entirety. The reader must review the detailed information provided in the accompanying text. Any interpretation, use, or conclusions resulting from the data contained in this report is the responsibility of the reader. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations.

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos as determined by PLM, however, the California Department of Occupational Safety and Health (CalOSHA) classifies any material as having greater than one tenth of one percent asbestos as asbestos-containing construction material (ACCM).

ACM and ACCM that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Drywall Ceiling Systems	Building A	1,200 SF	Will require abatement where impacted by Modernization Work
Dark Brown 12" x 12" Floor Tile and Mastic	Building A Prep Room (A113)	200 SF	Will require abatement where impacted by Modernization Work
Black Mastic for Basecove	Buildings A, B, C, D and K	2,500 SF	Will require abatement where impacted by Modernization Work
Various Floor Tile and Mastic	A114, B1, B3, B4, B5, C2, C4, K1 and Special Services	2,400 SF	This material was sampled and determined to be ACM by GEMS in 1998
Flex Joint	D3 FAU Unit	1 ea.	This was noted on the PMI Summary

Current EPA regulations require that the asbestos-containing building materials be removed prior to demolition or renovation, if they are going to be impacted. If any of the identified ACM or ACCMs are to be impacted by the renovations, then they must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

A licensed and certified asbestos abatement contractor must perform any asbestos abatement that takes place at the subject property. Waste generated from the asbestos abatement must be properly transported and disposed of.

Lead components that are likely to be impacted by the modernizations identified at the subject site during our inspection include the following:

Location	Lead-Containing Components
B Building	Door Frames
D Building	Restroom Door Frames
K Building	Ceramic Baseboard Tile

The lead-based paint and lead tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and DTSC guidelines.

Pacific Environmental recommends that all future renovation, demolition, construction or abatement activities with the potential for disturbing the identified ACM or lead-laden components, be performed by properly trained and qualified personnel. These activities should employ state-of-the-art techniques, and be conducted in accordance with all applicable local, State and Federal laws and regulations.

Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition or renovation activities, please call us and we will sample and analyze accordingly. This survey was limited to the materials that are going to be impacted by the modernization activities, as detailed in the provided plans.

The presence of the identified hazardous materials should be brought to the attention of contractors and personnel involved in the project at the subject site. Specifications have been prepared for the removal and handling of specific hazardous materials, such as those containing asbestos and lead.

Any employees, visitors, or contractors entering this building should be notified of the presence and condition of the asbestos-containing materials, lead-based paints, and other hazardous materials (including those listed under Proposition 65), in accordance with applicable regulations.

Table of Contents

Introduction	1
Quality Control Procedures	2
Site Description	2
Asbestos Inspection and Sampling Procedures	3
Asbestos Inspection Results	5
Summary and Recommendations for Asbestos-Containing Materials	5
Lead Inspection and Sampling Procedures	6
Lead Inspection Results	7
Lead Summary and Recommendations	7
Other Hazardous Materials	7
Limitations	8
References	9

Appendix A	Site Plans
Appendix B	Bulk Sample Summary Table
Appendix C	Asbestos Sample Analysis Reports and Chain of Custody
Appendix D	XRF Sampling Results
Appendix E	DHS Form 8552
Appendix F	XRF Performance Characteristics Sheet

Pacific Environmental Company

Limited Asbestos and Lead Survey Report

Burbank Elementary School Modernization Project
198 West Mill Street
San Bernardino, California 92408

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 21, 2009

Project Number: 09013

Limited Asbestos and Lead Survey Report

Burbank Elementary School Modernization Project
198 West Mill Street
San Bernardino, California 92408

Executive Summary

Pacific Environmental Company conducted a limited asbestos and lead survey in anticipation of modernizations at Burbank Elementary School, which is located at 198 West Mill Street in the City of San Bernardino, California. All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

This executive summary is not to be utilized as a stand-alone document. The report shall be read in its entirety. The reader must review the detailed information provided in the accompanying text. Any interpretation, use, or conclusions resulting from the data contained in this report is the responsibility of the reader. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations.

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos as determined by PLM, however, the California Department of Occupational Safety and Health (CalOSHA) classifies any material as having greater than one tenth of one percent asbestos as asbestos-containing construction material (ACCM).

ACM and ACCM that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Drywall Ceiling Systems	Building A	1,200 SF	Will require abatement where impacted by Modernization Work
Dark Brown 12" x 12" Floor Tile and Mastic	Building A Prep Room (A113)	200 SF	Will require abatement where impacted by Modernization Work
Black Mastic for Basecove	Buildings A, B, C, D and K	2,500 SF	Will require abatement where impacted by Modernization Work
Various Floor Tile and Mastic	A114, B1, B3, B4, B5, C2, C4, K1 and Special Services	2,400 SF	This material was sampled and determined to be ACM by GEMS in 1998
Flex Joint	D3 FAU Unit	1 ea.	This was noted on the PMI Summary

Current EPA regulations require that the asbestos-containing building materials be removed prior to demolition or renovation, if they are going to be impacted. If any of the identified ACM or ACCMs are to be impacted by the renovations, then they must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

A licensed and certified asbestos abatement contractor must perform any asbestos abatement that takes place at the subject property. Waste generated from the asbestos abatement must be properly transported and disposed of.

Lead components that are likely to be impacted by the modernizations identified at the subject site during our inspection include the following:

Location	Lead-Containing Components
B Building	Door Frames
D Building	Restroom Door Frames
K Building	Ceramic Baseboard Tile

The lead-based paint and lead tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and DTSC guidelines.

Pacific Environmental recommends that all future renovation, demolition, construction or abatement activities with the potential for disturbing the identified ACM or lead-laden components, be performed by properly trained and qualified personnel. These activities should employ state-of-the-art techniques, and be conducted in accordance with all applicable local, State and Federal laws and regulations.

Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition or renovation activities, please call us and we will sample and analyze accordingly. This survey was limited to the materials that are going to be impacted by the modernization activities, as detailed in the provided plans.

The presence of the identified hazardous materials should be brought to the attention of contractors and personnel involved in the project at the subject site. Specifications have been prepared for the removal and handling of specific hazardous materials, such as those containing asbestos and lead.

Any employees, visitors, or contractors entering this building should be notified of the presence and condition of the asbestos-containing materials, lead-based paints, and other hazardous materials (including those listed under Proposition 65), in accordance with applicable regulations.

Table of Contents

Introduction	1
Quality Control Procedures	2
Site Description	2
Asbestos Inspection and Sampling Procedures	3
Asbestos Inspection Results	5
Summary and Recommendations for Asbestos-Containing Materials	5
Lead Inspection and Sampling Procedures	6
Lead Inspection Results	7
Lead Summary and Recommendations	7
Other Hazardous Materials	7
Limitations	8
References	9

Appendix A	Site Plans
Appendix B	Bulk Sample Summary Table
Appendix C	Asbestos Sample Analysis Reports and Chain of Custody
Appendix D	XRF Sampling Results
Appendix E	DHS Form 8552
Appendix F	XRF Performance Characteristics Sheet

Limited Asbestos and Lead Survey Report

Burbank Elementary School Modernization Project
198 West Mill Street
San Bernardino, California 92408

Introduction

Pacific Environmental Company was retained by the San Bernardino City Unified School District to conduct a limited investigation to identify the presence of asbestos-containing materials, lead-based paints and other lead laden components that will require abatement or treatment, in conjunction with the school modernizations at Burbank Elementary School, which is located at 198 West Mill Street in the City of San Bernardino, California.

All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

Field Services for the inspection were conducted on January 16, 2009. The project team included David Tillema, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Raed Sahawneh, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Thomas Gannon, a Cal/OSHA Certified Site Surveillance Technician, and Michael Lyssy, a State Certified Asbestos Consultant and Registered Environmental Assessor.

The scope of work for this project included the following key elements:

- Review, verification and incorporation of the original AHERA inspection and re-inspection data and any subsequent reports detailing the results of prior asbestos and lead testing at the School into this report.
- Inspection and assessment of asbestos-containing materials, lead-based paints, lead glazed ceramics and PCB light ballasts
- Preparation of a final report that is suitable for inclusion in the District's specifications for abatement of hazardous building materials.

Prior to our asbestos assessments, we evaluated the site conditions and demolition plans provided by HMC Architects in order to developed our sampling strategy to ensure identification of all asbestos-containing materials that are going to be affected by the modernization work. Representative sampling of homogeneous materials in areas that are being impacted by the project was conducted per SCAQMD guidelines, and all identifiable suspect materials were sampled. Asbestos analysis was performed by an independent, State Certified, NVLAP Accredited Laboratory. Bulk samples were analyzed by polarized light microscopy (PLM), EPA Method 600/R-93/116. This report details the specific site conditions and estimated quantities of Asbestos Containing Material (ACM) for the project. Areas affected by destructive sampling were repaired so as not to cause hazards to school personnel, survey crew, visitors and the general public.

Testing for lead-based paint was performed using an EDAX Map-4 portable X-ray fluorescence (XRF) spectrum analyzer. Testing was modeled after the protocol outlined in the Department of Housing and Urban Developments document titled

Lead-Based Paint: Interim Guidelines For Hazard Identification and Abatement in Public and Indian Housing (1997 Revision).

Quality Control Procedures

Pacific Environmental Company's integrated resources, technologies, discipline, and expertise combine to ensure that the inspection and analysis for each project is conducted based on the following principles:

- All applicable regulations are addressed in order to ensure that our field inspectors and lab personnel meet their responsibilities, do so cost-effectively, and are equipped with the practical knowledge they need in order to understand and comply with regulations that affect them.
- Care is taken to make certain that the information provided and actions recommended are practical and cost effective in achieving regulatory compliance.

The 'management' approach utilized for this project assured that all work was performed using the highest standard of quality. All project results, reports and recommendations are reviewed for accuracy, content and quality prior to presentation. We recognize that, for each assignment we undertake, the information we develop and the conclusions and advice we provide, will be used to support important management decisions.

Pacific Environmental Company's Quality Assurance Program requires that all personnel:

- Provide specific objectives so that project activities can be evaluated with regard to precision, accuracy, reproducibility, completeness, and comparability.
- Provide specific guidance on the proper methodology for all activities.
- Be provided with ongoing training to enhance their technical skills.
- Be trained in QA/QC procedures and QC activities.
- Review all reports until they are acceptable in terms of technical and editorial quality, and all quality assurance activities have been successfully performed.

Site Description

Burbank Elementary School consists of several permanent buildings (A, B, C, D and K) and several portable buildings. The buildings that are being impacted by the planned modernization work per the HMC Architect's plans include the A, B, C, D and K buildings.

Interior finishes that are likely to be impacted by the modernization work include carpet and vinyl floorings, ceiling tiles, covebase, drywall, window components and plaster.

The school was occupied at the time of our assessment and we worked after hours in an effort to characterize the site conditions. If any additional suspect materials are identified during the modernizations, please contact us to perform supplemental sampling.

Asbestos Inspection and Sampling Procedures

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos, as determined by polarized light microscopy (PLM). Title 8, Section 1529, of the California Code of Regulations, however, defines asbestos-containing construction material (ACCM) as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight.

We reviewed the District's asbestos records on file and the demolition plans prepared by HMC in order to formulate our sampling strategy. The only documentation on file for the site was an inventory from Power Master's original AHERA survey which was on file at the M&O Offices and supplemental flooring samples by GEMS in 1998. The demolition plans indicate that the scope of the demolition at this site will include removal of floorings, removal of sinks and casework, renovation of several doors and windows and the removal of portions of walls. We collected additional samples to confirm the original AHERA findings and to characterize materials that were not originally tested.

Subsequent to our review of the prior report, a visual assessment of the suspect building materials located throughout the subject facility was completed prior to the collection of samples. During the visual assessment, the building materials suspected of containing asbestos were categorized by homogeneous areas. Materials are classified as homogenous when they appear uniform, have a consistent texture, and appear to have been installed at the same time.

The laboratory testing for the bulk samples was conducted in accordance with the recommended EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993).

The field investigation began with an initial site walk-through and identification of homogenous building materials suspected of containing asbestos. Samples were collected based on building layout, structural features, and mechanical and plumbing systems. Pacific Environmental then performed the following tasks:

- Evaluated whether materials suspected of containing asbestos were present at the site.
- Collected bulk samples, as required, to adequately characterize the suspect materials.
- Identified approximate sample locations and locations of identified ACM on field drawings or with photographs.
- Estimated the amount of ACM, where access allowed.
- Assessed the condition of the suspected and known ACMs.

At the time of inspection, suspect materials are assessed to be in good, damaged, or significantly damaged condition based on the following criteria:

> Good Condition - No or very limited visible damage or deterioration observed.
>
> Damaged Condition - Crumbling, blistering, water damage, gouges or other damage observed over less than 25% of the materials (one-tenth if evenly distributed); or accumulation of suspect powder, dust or debris observed below the material.
>
> Significantly Damaged - Crumbling, blistering, water damage, gouges or other damage observed over greater than 25% of the materials (one-tenth if evenly distributed); material delaminating or showing adhesive failure; or accumulation of suspect powder, dust or debris observed below the material.

The assessment process also includes classifying the material as Friable ACM or Non-Friable ACM. Friable ACM is the term given to any material that contains more than one percent (1%) asbestos by weight, which can be crumbled, pulverized, or reduced to powder by hand or mechanical pressure. The word "Friability" refers to a material's likeliness to release airborne fibers when in situ, or under mechanical pressure. There is a greater possibility that a friable material will

release fibers into the air when disturbed than will a non-friable material (i.e., floor tiles, roofing materials, etc.), thereby causing a potential hazard.

After identifying those materials suspected of containing asbestos, the materials were grouped into homogeneous sampling areas. A homogeneous sampling area includes building materials that are uniform in texture and color and appear identical in every other respect. A modified AHERA protocol was used in estimating the number of samples to be collected. Actual samples collected were determined by field conditions. A total of eleven (11) bulk samples were collected and analyzed.

Bulk samples were collected by wetting the suspect material with amended water and cutting, scraping or coring it from its substrate using an appropriate sampling tool. Sampling tools were cleaned before and after each use to prevent cross contamination between sampling events. Small quantities of material, approximately 1/2 square inch each, were extracted from suspect materials and placed in sterile, airtight bags or vials, and sealed. Each sample was labeled with a unique identification number, utilizing a sequential numbering system. The sample was logged in on the bulk survey sheet and a description noted on the type of sample. Each sample container was then placed inside a larger sterile, airtight bag. As other samples were taken from each area, they were also placed inside this larger airtight bag. Sample locations were repaired using caulk, spray glue, encapsulant, or patching material as needed, but were not always returned to their original condition. The samples were transported under chain-of-custody to an independent NVLAP participating laboratory for analysis utilizing polarized light microscopy.

The laboratory testing was conducted in accordance with the EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993). Samples were examined for homogeneity, and non-homogeneous samples were ground to ensure homogeneity. Microscopic slides were prepared from each sample using a refractive index liquid, such as trisection and ethyl cinnamate, having a refractive index of 1.550; 1-bromo-naphthalene and 1-Iodonaphthalene, having a refractive index of 1.680; or hydrogenated terthenyl and 1-bromonaphtahlene, having a refractive index of 1.605. The slides were then examined for the presence of asbestos, utilizing polarized light microscopy (PLM) and dispersion staining techniques.

The percentage of asbestos was estimated by visual examination of fibers greater than five microns in length and with an aspect ratio of 3:1 or greater. The aspect ratio of 3:1 refers to the length of the fiber being three times as long as its width. If present, the identity of asbestos fibers was confirmed with appropriate refractive index liquids, application of dispersion staining and other techniques. The results were tabulated and detailed in the laboratory reports, which are included in the appendices of this report.

Asbestos Inspection Results

ACM and ACCM that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Drywall Ceiling Systems	Building A	1,200 SF	Will require abatement where impacted by Modernization Work
Dark Brown 12" x 12" Floor Tile and Mastic	Building A Prep Room (A113)	200 SF	Will require abatement where impacted by Modernization Work
Black Mastic for Basecove	Buildings A, B, C, D and K	2,500 SF	Will require abatement where impacted by Modernization Work
Various Floor Tile and Mastic	A114, B1, B3, B4, B5, C2, C4, K1 and Special Services	2,400 SF	This material was sampled and determined to be ACM by GEMS in 1998
Flex Joint	D3 FAU Unit	1 ea.	This was noted on the PMI Summary

Approximate sample locations have been plotted on site plans that we prepared for this assessment. The Bulk Sample Summary Table, which identifies each sample and the corresponding analytical results, is included in Appendix B. The laboratory reports and chain of custody forms are included in Appendix C.

Summary and Recommendations for Asbestos-Containing Materials

All ACM and ACCM that will be impacted by the planned modernizations must be removed pursuant to Rule 1403 of the South Coast Air Quality Management District's and CalOSHA Asbestos Regulations.

Abatement activities must be conducted in compliance with all applicable regulations, standards and generally accepted environmental and safety practices, including Federal OSHA (29 CFR 1926.58), EPA NESHAPS (40 CFR Part 61), and Toxic Substances Control Act (TSCA) Title II AHERA/ASHARA (40 CFR Part 763) Asbestos Regulations, the Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101, and Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard.

All asbestos waste must be properly disposed of and documented. Waste Manifests must be submitted at the end of a project. Disposing of a known hazardous waste is illegal in the State of California. Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition activities, we will arrange to sample and analyze them accordingly.

Lead Inspection and Sampling Procedures

Lead-based paint and lead glazing on ceramics is of concern both as a source of direct exposure through ingestion of paint chips, and as a contributor to lead interior dust and exterior soil. Lead was widely used as a major ingredient in most interior and exterior oil-based paints prior to 1950. Lead compounds continued to be used as corrosion inhibitors, pigments and drying agents beginning in the early 1950's. In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5000 ppm) and, in 1978, to 0.06% (600 ppm). It has also been used extensively as a glaze on ceramic and porcelain finishes.

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) define an inspection as a surface-by-surface investigation to determine the presence of lead-based paint (see 40 CFR part 745 and Title X of the 1992 Housing and Community Development Act).

As per the EPA & HUD guidelines, lead-based paint is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm2 or 0.5 percent by weight. Lead paint amounts were reported in mg/cm2 because this unit of measurement does not depend on the number of layers of non-lead based paint.

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections because of their demonstrated abilities to:

1. Determine if lead is present on many different types of surfaces

2. Measure the paint without destructive sampling or paint removal

3. Provide sample results immediately and at a relatively low cost per sample

Portable XRF instruments expose a building component to X-rays or gamma radiation, which causes lead to emit X-rays with a characteristic frequency or energy. The intensity of this radiation is measured by the XRF instrument. The inspector must then compare this displayed value (reading) with the inconclusive range or threshold specified in the XRF Performance Characteristic Sheet for the specific substrate beneath the painted surface. If the reading is less than the lower boundary of the inconclusive range, or less than the threshold, then the reading is considered negative. If the reading is greater than the upper boundary of the inconclusive range, or greater or equal to the threshold, then the reading is considered positive. Readings within the inconclusive range, including its boundary values, are considered inconclusive. Because the inconclusive ranges and/or thresholds shown in the Performance Characteristic Sheet are based on 1.0 mg/cm2, positive and negative readings are consistent with the HUD definition of lead-based paint for identification and disclosure purposes. The method employed for paint testing for this project was X-Ray Fluorescence (XRF) using an EDAX MAP4 lead paint analyzer (Serial Number M41509) with the capability to measure the lead content in dry paint films in the range of 0 to 50 milligrams per square centimeter.

The instrument's calibration was verified according to the manufacturer's specifications, in compliance with the Performance Characteristic Sheet (PCS) developed for this instrument. The PCS is located in Appendix F of this report. The readings from this instrument produce a 95% confidence level that the "lead" reading accurately reflects the actual level of lead in the tested surfaces, relative to the federal action level. Current industry standards suggest that, when it is determined that paint abatement and/or interim control activities will be performed on components, they should be performed according to practices that are in the HUD Guidelines and the regulations under section 402 of the Toxic Substances Control Act (TSCA), 15 USC 2682.

Lead Inspection Results

Sampling for this inspection was representative and any components that were not tested, but are similar to those components that tested positive for lead, should be considered and treated as lead laden.

Lead components that are likely to be impacted by the modernizations identified at the subject site during our inspection include the following:

Location	Lead-Containing Components
B Building	Door Frames
D Building	Restroom Door Frames
K Building	Ceramic Baseboard Tile

The lead-based paint and lead tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Lead Summary and Recommendations

The federal and CAL/OSHA regulations for lead in construction do not specify a level of a lead in paint that classifies it as LBP. However, federal and state OSHA regulations specify ***airborne lead levels*** that should not be exceeded during construction without appropriate protection and training.

The action level for lead is 30 micrograms per cubic meter of air (µg/m3), and the permissible exposure limit (PEL) is 50 µg/m3. These airborne lead levels can be exceeded during construction activities such as scraping, sanding, grinding, blasting, and torching LBP surfaces, even when levels of lead in paint are far below the HUD definition of LBP of 1.0 mg/cm2 or 0.5 percent lead by weight. The XRF is designed to accurately quantify paint around the set abatement level (1.0 mg/cm2, 5,000 parts per million, or 0.5 percent by weight). However, painted surfaces tested with XRF that result in instrument readings much less than 1.0 mg/cm2 (even 0.0 mg/cm2 and negative results) may contain amounts of lead that could create an airborne hazard to workers during construction.

Based on the levels of lead in the components identified in the limited survey, Pacific Environmental recommends that only properly trained and equipped individuals be assigned tasks that would involve treatment or demolition of these components. Procedures and engineering controls must be designed to follow CAL/OSHA and Department of Health Services (State of California) requirements, and workers must wear appropriate personal protective equipment during the work.

Other Hazardous Materials

During our assessment of the structures, we visually inspected the locations of fluorescent light tubes and PCB ballasts. There are fluorescent fixtures throughout the campus with ballasts that are assumed to contain PCB's and fluorescent tubes. All PCB's and spent fluorescent light tubes should be handled, packaged and disposed of in compliance with current California Environmental Protection Agency, Department of Toxic Substances Control Guidelines.

Limitations

This report is not intended to identify all hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and Pacific Environmental's experience in performing this type of assessment. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations

Pacific Environmental has performed this survey in a professional manner, using the degree of skill and care exercised for similar projects, under similar conditions, by reputable and competent environmental consultants. Pacific Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

Pacific Environmental further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved as a consequence of this report, or impacted by information not properly disclosed to Pacific at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

References

AHERA Summary, prepared by Power Masters, Inc.

General Environmental Management Services (GEMS) Summary 1998

Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards

Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead

"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," US Department of Housing and Urban Development, June 1995

South Coast Air Quality Management District Requirements (Rule 1403)

National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, M

Occupational Safety and Health Administration, Asbestos in the Workplace, 29 CFR 1910.1001

Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101

Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard

Appendix A

Site Plan

Appendix B

Bulk Sample Summary Table

Appendix C

Asbestos Sample Analysis Reports and Chain of Custody

Appendix D

XRF Sampling Results

Appendix E

DHS Form 8552

Appendix F

XRF Performance Characteristics Sheet

Lead-Based Paint: Interim Guidelines For Hazard Identification and Abatement in Public and Indian Housing (1997 Revision).

Quality Control Procedures

Pacific Environmental Company's integrated resources, technologies, discipline, and expertise combine to ensure that the inspection and analysis for each project is conducted based on the following principles:

- All applicable regulations are addressed in order to ensure that our field inspectors and lab personnel meet their responsibilities, do so cost-effectively, and are equipped with the practical knowledge they need in order to understand and comply with regulations that affect them.
- Care is taken to make certain that the information provided and actions recommended are practical and cost effective in achieving regulatory compliance.

The 'management' approach utilized for this project assured that all work was performed using the highest standard of quality. All project results, reports and recommendations are reviewed for accuracy, content and quality prior to presentation. We recognize that, for each assignment we undertake, the information we develop and the conclusions and advice we provide, will be used to support important management decisions.

Pacific Environmental Company's Quality Assurance Program requires that all personnel:

- Provide specific objectives so that project activities can be evaluated with regard to precision, accuracy, reproducibility, completeness, and comparability.
- Provide specific guidance on the proper methodology for all activities.
- Be provided with ongoing training to enhance their technical skills.
- Be trained in QA/QC procedures and QC activities.
- Review all reports until they are acceptable in terms of technical and editorial quality, and all quality assurance activities have been successfully performed.

Site Description

Burbank Elementary School consists of several permanent buildings (A, B, C, D and K) and several portable buildings. The buildings that are being impacted by the planned modernization work per the HMC Architect's plans include the A, B, C, D and K buildings.

Interior finishes that are likely to be impacted by the modernization work include carpet and vinyl floorings, ceiling tiles, covebase, drywall, window components and plaster.

The school was occupied at the time of our assessment and we worked after hours in an effort to characterize the site conditions. If any additional suspect materials are identified during the modernizations, please contact us to perform supplemental sampling.

Asbestos Inspection and Sampling Procedures

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos, as determined by polarized light microscopy (PLM). Title 8, Section 1529, of the California Code of Regulations, however, defines asbestos-containing construction material (ACCM) as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight.

We reviewed the District's asbestos records on file and the demolition plans prepared by HMC in order to formulate our sampling strategy. The only documentation on file for the site was an inventory from Power Master's original AHERA survey which was on file at the M&O Offices and supplemental flooring samples by GEMS in 1998. The demolition plans indicate that the scope of the demolition at this site will include removal of floorings, removal of sinks and casework, renovation of several doors and windows and the removal of portions of walls. We collected additional samples to confirm the original AHERA findings and to characterize materials that were not originally tested.

Subsequent to our review of the prior report, a visual assessment of the suspect building materials located throughout the subject facility was completed prior to the collection of samples. During the visual assessment, the building materials suspected of containing asbestos were categorized by homogeneous areas. Materials are classified as homogenous when they appear uniform, have a consistent texture, and appear to have been installed at the same time.

The laboratory testing for the bulk samples was conducted in accordance with the recommended EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993).

The field investigation began with an initial site walk-through and identification of homogenous building materials suspected of containing asbestos. Samples were collected based on building layout, structural features, and mechanical and plumbing systems. Pacific Environmental then performed the following tasks:

- Evaluated whether materials suspected of containing asbestos were present at the site.
- Collected bulk samples, as required, to adequately characterize the suspect materials.
- Identified approximate sample locations and locations of identified ACM on field drawings or with photographs.
- Estimated the amount of ACM, where access allowed.
- Assessed the condition of the suspected and known ACMs.

At the time of inspection, suspect materials are assessed to be in good, damaged, or significantly damaged condition based on the following criteria:

> Good Condition - No or very limited visible damage or deterioration observed.
>
> Damaged Condition - Crumbling, blistering, water damage, gouges or other damage observed over less than 25% of the materials (one-tenth if evenly distributed); or accumulation of suspect powder, dust or debris observed below the material.
>
> Significantly Damaged - Crumbling, blistering, water damage, gouges or other damage observed over greater than 25% of the materials (one-tenth if evenly distributed); material delaminating or showing adhesive failure; or accumulation of suspect powder, dust or debris observed below the material.

The assessment process also includes classifying the material as Friable ACM or Non-Friable ACM. Friable ACM is the term given to any material that contains more than one percent (1%) asbestos by weight, which can be crumbled, pulverized, or reduced to powder by hand or mechanical pressure. The word "Friability" refers to a material's likeliness to release airborne fibers when in situ, or under mechanical pressure. There is a greater possibility that a friable material will

release fibers into the air when disturbed than will a non-friable material (i.e., floor tiles, roofing materials, etc.), thereby causing a potential hazard.

After identifying those materials suspected of containing asbestos, the materials were grouped into homogeneous sampling areas. A homogeneous sampling area includes building materials that are uniform in texture and color and appear identical in every other respect. A modified AHERA protocol was used in estimating the number of samples to be collected. Actual samples collected were determined by field conditions. A total of eleven (11) bulk samples were collected and analyzed.

Bulk samples were collected by wetting the suspect material with amended water and cutting, scraping or coring it from its substrate using an appropriate sampling tool. Sampling tools were cleaned before and after each use to prevent cross contamination between sampling events. Small quantities of material, approximately 1/2 square inch each, were extracted from suspect materials and placed in sterile, airtight bags or vials, and sealed. Each sample was labeled with a unique identification number, utilizing a sequential numbering system. The sample was logged in on the bulk survey sheet and a description noted on the type of sample. Each sample container was then placed inside a larger sterile, airtight bag. As other samples were taken from each area, they were also placed inside this larger airtight bag. Sample locations were repaired using caulk, spray glue, encapsulant, or patching material as needed, but were not always returned to their original condition. The samples were transported under chain-of-custody to an independent NVLAP participating laboratory for analysis utilizing polarized light microscopy.

The laboratory testing was conducted in accordance with the EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993). Samples were examined for homogeneity, and non-homogeneous samples were ground to ensure homogeneity. Microscopic slides were prepared from each sample using a refractive index liquid, such as trisection and ethyl cinnamate, having a refractive index of 1.550; 1-bromo-naphthalene and 1-Iodonaphthalene, having a refractive index of 1.680; or hydrogenated terthenyl and 1-bromonaphtahlene, having a refractive index of 1.605. The slides were then examined for the presence of asbestos, utilizing polarized light microscopy (PLM) and dispersion staining techniques.

The percentage of asbestos was estimated by visual examination of fibers greater than five microns in length and with an aspect ratio of 3:1 or greater. The aspect ratio of 3:1 refers to the length of the fiber being three times as long as its width. If present, the identity of asbestos fibers was confirmed with appropriate refractive index liquids, application of dispersion staining and other techniques. The results were tabulated and detailed in the laboratory reports, which are included in the appendices of this report.

Asbestos Inspection Results

ACM and ACCM that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Drywall Ceiling Systems	Building A	1,200 SF	Will require abatement where impacted by Modernization Work
Dark Brown 12" x 12" Floor Tile and Mastic	Building A Prep Room (A113)	200 SF	Will require abatement where impacted by Modernization Work
Black Mastic for Basecove	Buildings A, B, C, D and K	2,500 SF	Will require abatement where impacted by Modernization Work
Various Floor Tile and Mastic	A114, B1, B3, B4, B5, C2, C4, K1 and Special Services	2,400 SF	This material was sampled and determined to be ACM by GEMS in 1998
Flex Joint	D3 FAU Unit	1 ea.	This was noted on the PMI Summary

Approximate sample locations have been plotted on site plans that we prepared for this assessment. The Bulk Sample Summary Table, which identifies each sample and the corresponding analytical results, is included in Appendix B. The laboratory reports and chain of custody forms are included in Appendix C.

Summary and Recommendations for Asbestos-Containing Materials

All ACM and ACCM that will be impacted by the planned modernizations must be removed pursuant to Rule 1403 of the South Coast Air Quality Management District's and CalOSHA Asbestos Regulations.

Abatement activities must be conducted in compliance with all applicable regulations, standards and generally accepted environmental and safety practices, including Federal OSHA (29 CFR 1926.58), EPA NESHAPS (40 CFR Part 61), and Toxic Substances Control Act (TSCA) Title II AHERA/ASHARA (40 CFR Part 763) Asbestos Regulations, the Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101, and Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard.

All asbestos waste must be properly disposed of and documented. Waste Manifests must be submitted at the end of a project. Disposing of a known hazardous waste is illegal in the State of California. Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition activities, we will arrange to sample and analyze them accordingly.

Lead Inspection and Sampling Procedures

Lead-based paint and lead glazing on ceramics is of concern both as a source of direct exposure through ingestion of paint chips, and as a contributor to lead interior dust and exterior soil. Lead was widely used as a major ingredient in most interior and exterior oil-based paints prior to 1950. Lead compounds continued to be used as corrosion inhibitors, pigments and drying agents beginning in the early 1950's. In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5000 ppm) and, in 1978, to 0.06% (600 ppm). It has also been used extensively as a glaze on ceramic and porcelain finishes.

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) define an inspection as a surface-by-surface investigation to determine the presence of lead-based paint (see 40 CFR part 745 and Title X of the 1992 Housing and Community Development Act).

As per the EPA & HUD guidelines, lead-based paint is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm2 or 0.5 percent by weight. Lead paint amounts were reported in mg/cm2 because this unit of measurement does not depend on the number of layers of non-lead based paint.

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections because of their demonstrated abilities to:

1. Determine if lead is present on many different types of surfaces

2. Measure the paint without destructive sampling or paint removal

3. Provide sample results immediately and at a relatively low cost per sample

Portable XRF instruments expose a building component to X-rays or gamma radiation, which causes lead to emit X-rays with a characteristic frequency or energy. The intensity of this radiation is measured by the XRF instrument. The inspector must then compare this displayed value (reading) with the inconclusive range or threshold specified in the XRF Performance Characteristic Sheet for the specific substrate beneath the painted surface. If the reading is less than the lower boundary of the inconclusive range, or less than the threshold, then the reading is considered negative. If the reading is greater than the upper boundary of the inconclusive range, or greater or equal to the threshold, then the reading is considered positive. Readings within the inconclusive range, including its boundary values, are considered inconclusive. Because the inconclusive ranges and/or thresholds shown in the Performance Characteristic Sheet are based on 1.0 mg/cm2, positive and negative readings are consistent with the HUD definition of lead-based paint for identification and disclosure purposes. The method employed for paint testing for this project was X-Ray Fluorescence (XRF) using an EDAX MAP4 lead paint analyzer (Serial Number M41509) with the capability to measure the lead content in dry paint films in the range of 0 to 50 milligrams per square centimeter.

The instrument's calibration was verified according to the manufacturer's specifications, in compliance with the Performance Characteristic Sheet (PCS) developed for this instrument. The PCS is located in Appendix F of this report. The readings from this instrument produce a 95% confidence level that the "lead" reading accurately reflects the actual level of lead in the tested surfaces, relative to the federal action level. Current industry standards suggest that, when it is determined that paint abatement and/or interim control activities will be performed on components, they should be performed according to practices that are in the HUD Guidelines and the regulations under section 402 of the Toxic Substances Control Act (TSCA), 15 USC 2682.

Lead Inspection Results

Sampling for this inspection was representative and any components that were not tested, but are similar to those components that tested positive for lead, should be considered and treated as lead laden.

Lead components identified at the subject site during our inspection include the following:

Location	Lead-Containing Components
B Building	Door Frames
D Building	Restroom Door Frames
K Building	Ceramic Baseboard Tile

The lead-based paint and lead tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Lead Summary and Recommendations

The federal and CAL/OSHA regulations for lead in construction do not specify a level of a lead in paint that classifies it as LBP. However, federal and state OSHA regulations specify ***airborne lead levels*** that should not be exceeded during construction without appropriate protection and training.

The action level for lead is 30 micrograms per cubic meter of air (µg/m3), and the permissible exposure limit (PEL) is 50 µg/m3. These airborne lead levels can be exceeded during construction activities such as scraping, sanding, grinding, blasting, and torching LBP surfaces, even when levels of lead in paint are far below the HUD definition of LBP of 1.0 mg/cm2 or 0.5 percent lead by weight. The XRF is designed to accurately quantify paint around the set abatement level (1.0 mg/cm2, 5,000 parts per million, or 0.5 percent by weight). However, painted surfaces tested with XRF that result in instrument readings much less than 1.0 mg/cm2 (even 0.0 mg/cm2 and negative results) may contain amounts of lead that could create an airborne hazard to workers during construction.

Based on the levels of lead in the components identified in the limited survey, Pacific Environmental recommends that only properly trained and equipped individuals be assigned tasks that would involve treatment or demolition of these components. Procedures and engineering controls must be designed to follow CAL/OSHA and Department of Health Services (State of California) requirements, and workers must wear appropriate personal protective equipment during the work.

Other Hazardous Materials

During our assessment of the structures, we visually inspected the locations of fluorescent light tubes and PCB ballasts. There are fluorescent fixtures throughout the campus with ballasts that are assumed to contain PCB's and fluorescent tubes. All PCB's and spent fluorescent light tubes should be handled, packaged and disposed of in compliance with current California Environmental Protection Agency, Department of Toxic Substances Control Guidelines.

Limitations

This report is not intended to identify all hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and Pacific Environmental's experience in performing this type of assessment. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations

Pacific Environmental has performed this survey in a professional manner, using the degree of skill and care exercised for similar projects, under similar conditions, by reputable and competent environmental consultants. Pacific Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

Pacific Environmental further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved as a consequence of this report, or impacted by information not properly disclosed to Pacific at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

References

AHERA Summary, prepared by Power Masters, Inc.

General Environmental Management Services (GEMS) Summary 1998

Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards

Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead

"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," US Department of Housing and Urban Development, June 1995

South Coast Air Quality Management District Requirements (Rule 1403)

National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, M

Occupational Safety and Health Administration, Asbestos in the Workplace, 29 CFR 1910.1001

Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101

Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard

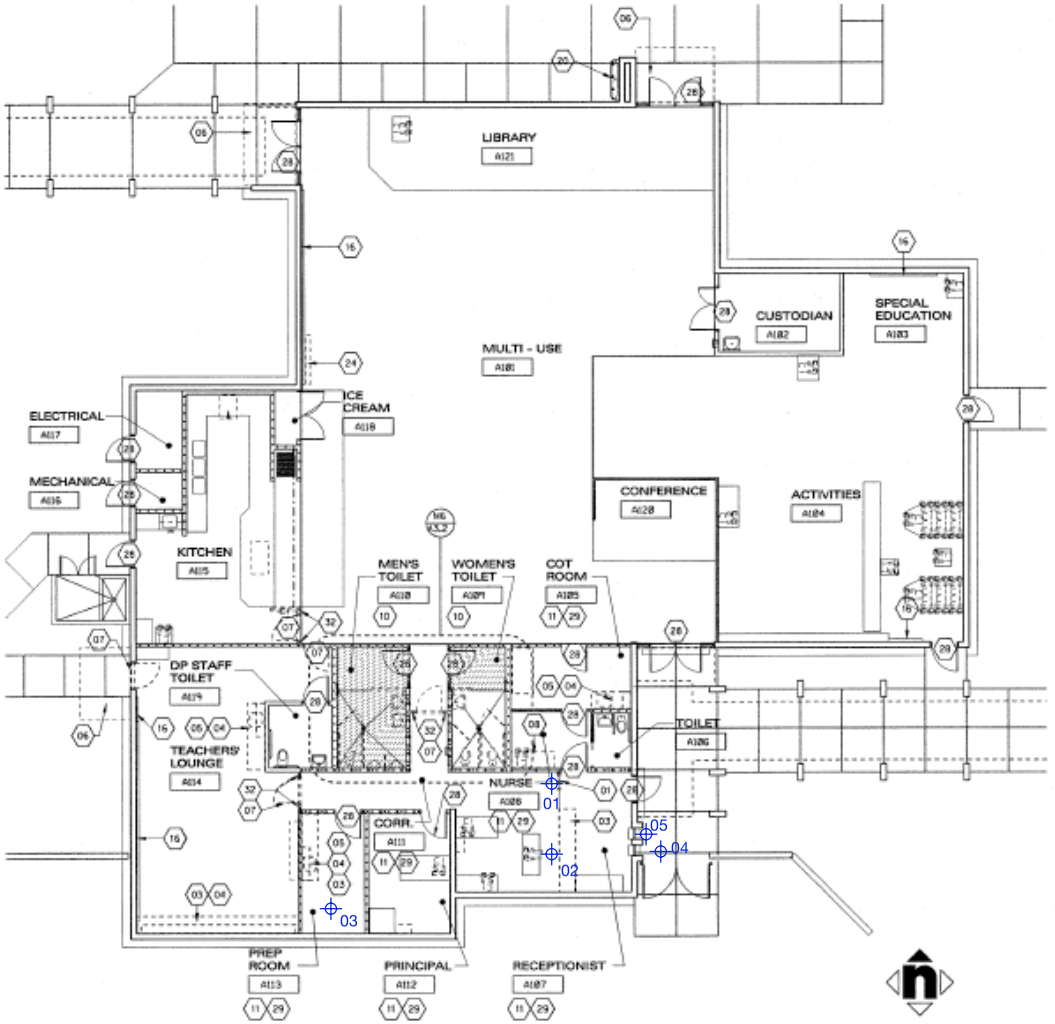
Appendix A

Site Plan

C

B

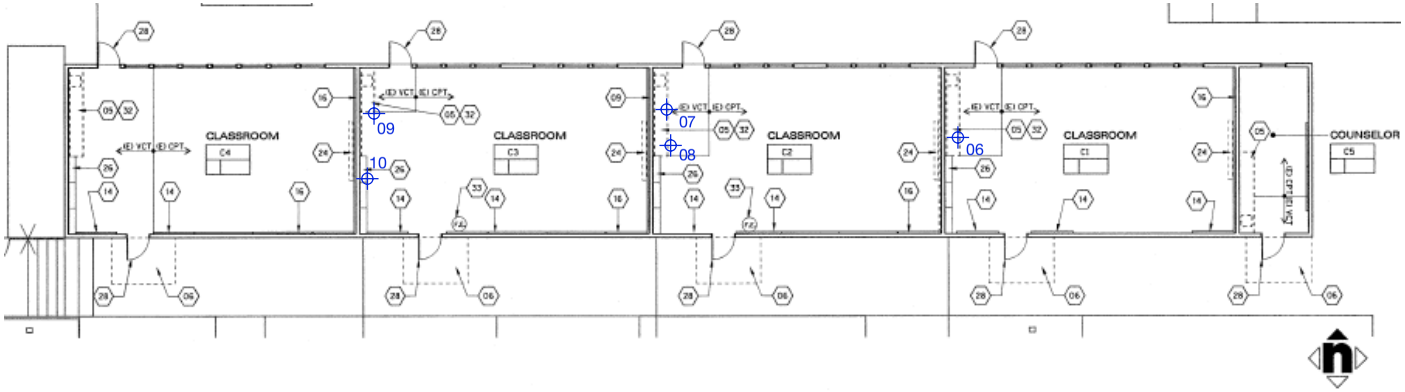
D

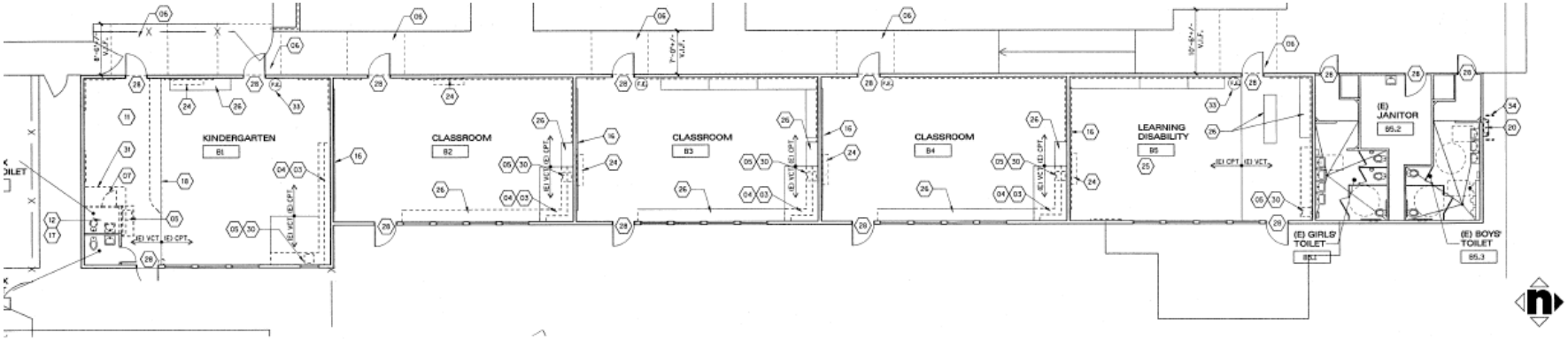


A

indicates approximate sample location

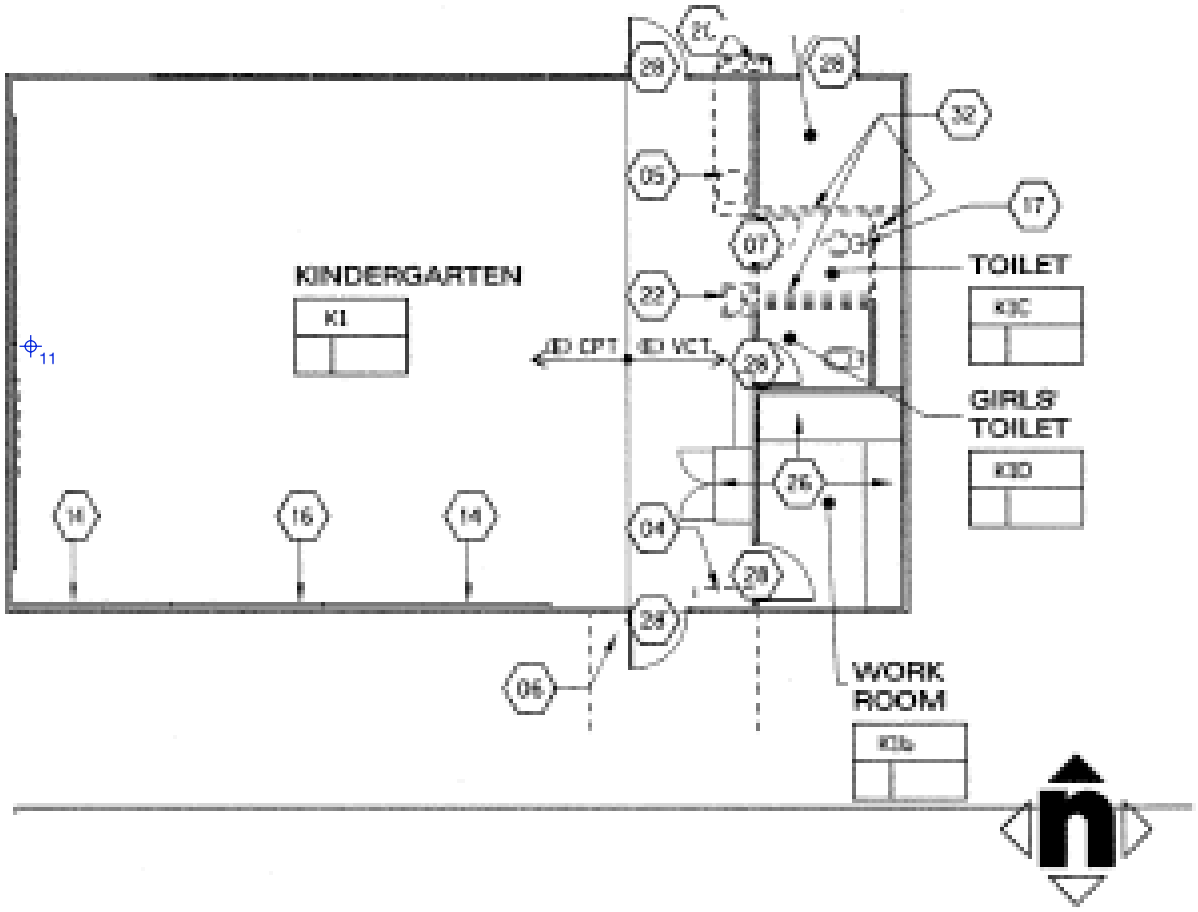
DATE PREPARED: 1/20/2009	DRAWN BY: C.T.	DRAWING TITLE: Sample Location Plan A Building Burbank Elementary School 198 West Mill Street San Bernardino, California 92408
REVISION:	SOURCE:	
PROJECT NO: 09013	OTHER:	
PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations	CLIENT: San Bernardino City Unified School District	FIGURE NO. 1





indicates approximate sample location

DATE PREPARED: 1/20/2009	DRAWN BY: C.T.	DRAWING TITLE: Sample Location Plan B & C Buildings Burbank Elementary School 198 West Mill Street San Bernardino, California 92408
REVISION:	SOURCE:	
PROJECT NO: 09013	OTHER:	
PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations	CLIENT: San Bernardino City Unified School District	FIGURE NO. 2



indicates approximate sample location

DATE PREPARED: 1/20/2009	DRAWN BY: C.T.	DRAWING TITLE: Sample Location Plan K Building Burbank Elementary School 198 West Mill Street San Bernardino, California 92408
REVISION:	SOURCE:	
PROJECT NO: 09013	OTHER:	FIGURE NO. 3
PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations		CLIENT: San Bernardino City Unified School District

Appendix B

Bulk Sample Summary Table

HIGHLAND PACIFIC ELEMENTARY SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09019

Sample No.	Sample Description	Sample Location	Asbestos %
01	Drywall/Joint Compound	A Building Administration	2% Chyrsotile
02	Carpet Glue	A Building Administration	No Asbestos Detected
03	Dark Brown 12"x12" Floor Tile and Mastic	A Building Prep Room	2% Chrysotile
04	Beige 12"x12" Floor Tile and Mastic	A Building Foyer	No Asbestos Detected
05	4" Basecove, Brown	A Building Foyer	No Asbestos Detected
06	Wall Plaster	C Building Room C1	No Asbestos Detected
07	Wall Plaster	C Building Room C2	No Asbestos Detected
08	4" Basecove, Brown	C Building Room C2	No Asbestos Detected
09	Wall Plaster	C Building Room C3	5% Chrysotile
10	4" Basecove, Brown	C Building Room C3	No Asbestos Detected
11	4" Basecove, Brown	K Building Room K1	Dark Brown Mastic is <1% Anthophyllite
NA	Vinyl Floorings	Throughout	Previously determined to be ACM (1998 GEMS)

Appendix C

Asbestos Sample Analysis Reports and Chain of Custody

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/17/09
Date Examined 01/19/09

RE: SBCUSD; Burbank Ele.

AmeriSci Job # 909011579
P.O. #

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011579-01	*Yes*	2 % (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Drywall / Joint Comp. / Bldg A - Admin		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 2.0 %		
	Other Material: Non-fibrous 98 %		
02	909011579-02	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Carpet Glue / Bldg A - Admin		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Glue		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
03	909011579-03L1	*Yes*	2 % (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Ft Dk. Brown / Bldg A - Prep Rm		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types: Chrysotile 2.0 %		
	Other Material: Non-fibrous 98 %		
03	909011579-03L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Ft Dk. Brown / Bldg A - Prep Rm		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
04	909011579-04L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: 12x Ft Beige / Bldg. A Foyer		
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Burbank Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
04	909011579-04L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: 12x Ft Beige / Bldg. A Foyer			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
04	909011579-04L3	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: 12x Ft Beige / Bldg. A Foyer			
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
05	909011579-05L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Base Cove Brown 4" / Bldg. A Foyer			
Analyst Description: Tan, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
05	909011579-05L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Base Cove Brown 4" / Bldg. A Foyer			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
06	909011579-06	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Interior Plaster Wall / Bldg. C Rm 1 @ Sink			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Plaster **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
07	909011579-07	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
Location: Interior Plaster Wall / Bldg. C Rm 2 @ Sink			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Plaster **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Burbank Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
08	909011579-08L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove Brown 4" / Bldg. C Rm 2 @ Sink		
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
08	909011579-08L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove Brown 4" / Bldg. C Rm 2 @ Sink		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
09	909011579-09	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Interior Plaster / Bldg. C Rm 3 @ Sink		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
10	909011579-10L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove Brown 4" / Bldg. C Rm 3 @ Sink		
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
10	909011579-10L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove Brown 4" / Bldg. C Rm 3 @ Sink		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
11	909011579-11L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/19/09
	Location: Base Cove Brown 4" / Bldg. K K-1		
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Burbank Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
11	909011579-11L2	***No***	NAD
	Location: Base Cove Brown 4" / Bldg. K K-1		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
11	909011579-11L3	***Yes***	Trace (<1 %)
	Location: Base Cove Brown 4" / Bldg. K K-1		(by CVES) by Arturo A. Aldana on 01/19/09
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types: Anthophyllite <1. %		
	Other Material: Non-fibrous 100 %		

Reporting Notes:

Analyzed By: Arturo A. Aldana aaldana; Date Analyzed: 1/19/2009 1-19-09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/19/09

909011579

PACIFIC ENVIRONMENTAL

Date:	01 / 16 /2009
Client:	SBCUSD
Site:	BURBANK ELE.
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location		Condition/ Quantity
01	Drywall / Joint Comp	Bldg A -	Admin	
02	CARPET GLUE	"	"	
03	12X FT Dk. Brown	"	" Prep Rm	
04	12X FT Beige	"	" FOYER	
05	BASECOVE Brown 4"	"	" FOYER	
06	Interior Plaster Wall	Bldg C	Rm 1 @ sink	
07	" "	"	" Rm 2 @ sink	
08	Basecove Brown 4"	"	" Rm 2 @ sink	
09	Interior Plaster	Bldg C	Rm 3 @ sink	
10	Basecove Brown 4"	"	" " "	
11	Basecove Brown 4"	Bldg K-	K-1	
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

Analytical Method: PLM

Turn Around Time: 24 hr.

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		01/16/2009

RECEIVED
JAN 17 2009
0910
K. ARELLANO

Appendix D

XRF Sampling Results

FIELD DATA REPORT

PROJECT NAME: Burbank Elementary School

PROJECT NO.:09013

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
A	Staff Lounge	Wall	A	Brick	Intact	White	0.0	Negative
A	Staff Lounge	Door	D	Wood	Intact	Red	0.0	Negative
A	Staff Lounge	Door Frame	D	Metal	Intact	Red	0.0	Negative
A	Room A113	Door	D	Wood	Intact	Red	0.0	Negative
A	Room A113	Door	B	Metal	Intact	Blue	0.0	Negative
A	Room A113	Door Frame	D	Metal	Intact	Red	0.1	Negative
A	Staff Lounge RR	Wall	A	Drywall	Intact	White	0.0	Negative
A	Staff Lounge RR	Wall	B	Drywall	Intact	White	0.0	Negative
A	Staff Lounge RR	Wall	C	Drywall	Intact	White	0.0	Negative
A	Staff Lounge RR	Wall	D	Drywall	Intact	White	0.0	Negative
A	Staff Lounge RR	Baseboard	D	Ceramic	Intact	White	0.0	Negative
A	Staff Lounge RR	Door	C	Wood	Intact	Red	0.0	Negative
A	Staff Lounge RR	Door Frame	C	Metal	Intact	Red	0.0	Negative
A	Main Office	Door	C	Wood	Intact	Red	0.1	Negative
A	Main Office	Principal's Door	A	Wood	Intact	Red	0.3	Negative
A	Main Office	Door	D	Metal	Intact	Blue	0.0	Negative
A	Main Office	Door Frame	C	Metal	Intact	Red	0.0	Negative
A	Main Office	Princiapl's Door Frame	A	Metal	Intact	Red	0.0	Negative
A	Main Office	Door Frame	D	Metal	Intact	Red	0.0	Negative
A	Nurses Office	Wall	A	Wallpaper	Intact	White	0.0	Negative
A	Nurses Office	Wall	B	Wallpaper	Intact	White	0.0	Negative
A	Nurses Office	Wall	C	Wallpaper	Intact	White	0.0	Negative
A	Nurses Office	Wall	D	Wallpaper	Intact	White	0.0	Negative
A	Nurses Office	Door	D	Metal	Intact	Red	0.0	Negative
A	Nurses Office	Door Frame	C	Metal	Intact	Red	0.0	Negative
A	Nurses Office	Ceiling	-	Drywall	Intact	White	0.0	Negative
B	B1	Wall	A	Brick	Intact	White	0.0	Negative
B	B1	Wall	B	Brick	Intact	White	0.0	Negative
B	B1	Wall	C	Brick	Intact	White	0.0	Negative
B	B1	Wall	D	Brick	Intact	White	0.0	Negative
B	B1	Door	B	Wood	Intact	Blue	0.0	Negative
B	**B1**	**Door Frame**	**B**	**Wood**	**Intact**	**Red**	**3.4**	**Positive**
B	B1	Lower Cabinet	C	Wood	Intact	White	0.0	Negative
B	B2	Wall	A	Brick	Intact	White	0.0	Negative
B	B2	Wall	B	Brick	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Burbank Elementary School

PROJECT NO.:09013

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
B	B2	Wall	C	Brick	Intact	White	0.0	Negative
B	B2	Wall	D	Brick	Intact	White	0.0	Negative
B	B2	Door	B	Wood	Intact	Blue	0.0	Negative
B	**B2**	**Door Frame**	**B**	**Wood**	**Intact**	**Red**	**1.9**	**Positive**
B	B2	Lower Cabinet	C	Wood	Intact	White	0.0	Negative
B	B3	Wall	A	Brick	Intact	White	0.0	Negative
B	B3	Wall	B	Brick	Intact	White	0.0	Negative
B	B3	Wall	C	Brick	Intact	White	0.0	Negative
B	B3	Wall	D	Brick	Intact	White	0.0	Negative
B	B3	Door	B	Wood	Intact	Blue	0.0	Negative
B	**B3**	**Door Frame**	**B**	**Wood**	**Intact**	**Red**	**2.6**	**Positive**
B	B3	Lower Cabinet	C	Wood	Intact	White	0.0	Negative
B	B4	Wall	A	Brick	Intact	White	0.0	Negative
B	B4	Wall	B	Brick	Intact	White	0.0	Negative
B	B4	Wall	C	Brick	Intact	White	0.0	Negative
B	B4	Wall	D	Brick	Intact	White	0.0	Negative
B	B4	Door	B	Wood	Intact	Blue	0.0	Negative
B	**B4**	**Door Frame**	**B**	**Wood**	**Intact**	**Red**	**3.4**	**Positive**
B	B4	Lower Cabinet	C	Wood	Intact	White	0.0	Negative
B	B5	Wall	A	Brick	Intact	White	0.0	Negative
B	B5	Wall	B	Brick	Intact	White	0.0	Negative
B	B5	Wall	C	Brick	Intact	White	0.0	Negative
B	B5	Wall	D	Brick	Intact	White	0.0	Negative
B	B5	Door	B	Wood	Intact	Blue	0.0	Negative
B	**B5**	**Door Frame**	**B**	**Wood**	**Intact**	**Red**	**2.6**	**Positive**
B	B5	Lower Cabinet	C	Wood	Intact	White	0.0	Negative
C	C1	Wall	A	Plaster	Intact	White	0.0	Negative
C	C1	Wall	B	Plaster	Intact	White	0.3	Negative
C	C1	Wall	C	Plaster	Intact	White	0.1	Negative
C	C1	Wall	D	Plaster	Intact	White	0.4	Negative
C	C1	Door	B	Wood	Intact	Blue	0.0	Negative
C	C1	Door Frame	B	Wood	Intact	Red	0.3	Negative
C	C1	Lower Cabinet	C	Wood	Intact	Red	0.2	Negative
C	C2	Wall	A	Plaster	Intact	White	0.0	Negative
C	C2	Wall	B	Plaster	Intact	White	0.3	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Burbank Elementary School

PROJECT NO.:09013

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
C	C2	Wall	C	Plaster	Intact	White	0.1	Negative
C	C2	Wall	D	Plaster	Intact	White	0.2	Negative
C	C2	Door	B	Wood	Intact	Blue	0.0	Negative
C	C2	Door Frame	B	Wood	Intact	Red	0.3	Negative
C	C2	Lower Cabinet	C	Wood	Intact	Red	0.2	Negative
C	C3	Wall	A	Plaster	Intact	White	0.0	Negative
C	C3	Wall	B	Plaster	Intact	White	0.3	Negative
C	C3	Wall	C	Plaster	Intact	White	0.1	Negative
C	C3	Wall	D	Plaster	Intact	White	0.3	Negative
C	C3	Door	B	Wood	Intact	Blue	0.0	Negative
C	C3	Door Frame	B	Wood	Intact	Red	0.3	Negative
C	C4	Wall	A	Plaster	Intact	White	0.0	Negative
C	C4	Wall	B	Plaster	Intact	White	0.2	Negative
C	C4	Wall	C	Plaster	Intact	White	0.1	Negative
C	C4	Wall	D	Plaster	Intact	White	0.4	Negative
C	C4	Door	B	Wood	Intact	Blue	0.0	Negative
C	C4	Door Frame	B	Wood	Intact	Red	0.2	Negative
C	C4	Lower Cabinet	C	Wood	Intact	Red	0.1	Negative
D	Boys Restroom	Wall	B	Ceramic	Intact	Gray	0.0	Negative
D	Boys Restroom	Door	D	Metal	Intact	Gray	0.0	Negative
D	**Boys Restroom**	**Door Frame**	**D**	**Metal**	**Intact**	**Gray**	**1.2**	**Positive**
K	K1	Wall	A	Metal	Intact	White	0.1	Negative
K	K1	Wall	B	Metal	Intact	White	0.1	Negative
K	K1	Wall	C	Metal	Intact	White	0.1	Negative
K	K1	Wall	D	Metal	Intact	White	0.1	Negative
K	**K1**	**Baseboard**	**A**	**Ceramic**	**Intact**	**Blue**	**14.2**	**Positive**
K	K1	Door	B	Metal	Intact	Tan	0.0	Negative
K	K1	Door Frame	B	Metal	Intact	Tan	0.3	Negative
K	K1	Floor Tile	-	Ceramic	Intact	Blue	0.3	Negative
K	K1	Lower Cabinet	D	Wood	Intact	Tan	0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

Appendix E

DHS Form 8552

State of California – Health and Human Services Agency | California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 – Date of Lead Hazard Evaluation 1/16/2009

Section 2 – Type of Lead Hazard Evaluation (Check one box only)

☑ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 – Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
198 West Mill Street	San Bernardino	San Bernardino	92408

Construction date (year) of structure	Type of structure (check one box only)
1965	☐ Multi-unit building ☑ School or daycare ☐ Single family dwelling ☐ Other (specify)_____

Section 4 – Owner of Structure (If business/agency, list contact person)

Name	Telephone number
San Bernardino City Unified School District	909-381-1238

Address [number, street, apartment (if applicable)]	City	State	Zip Code
777 North F Street	San Bernardino	CA	92401

Section 5 – Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected. ☑ Lead-based paint detected.

☐ No lead hazards detected. ☐ Lead hazards detected.

Section 6 – Individual Conducting Lead Hazard Evaluation

Name	Telephone number
David Tillema	800.303.6484

Address [number, street, apartment (if applicable)]	City	State	Zip Code
28202 Cabot Road #300	Laguna Niguel	CA	92677

CDPH certification number	Signat	Date
17740		1/20/2009

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 – Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

CDPH 8552 (6/07)

Appendix F

XRF Performance Characteristics Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: June 26, 1996 **EDITION NO.: 3**

MANUFACTURER AND MODEL:

Make: *Scitec Corporation*
Model: *MAP-4*
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS

Test mode, Screen mode, or Unlimited mode.

XRF CALIBRATION CHECK LIMITS

0.6 to 1.2 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

When using Unlimited mode, substrate correction recommended for:

None

When using Unlimited mode, substrate correction not recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

When using Screen or Test mode, for XRF results below 4.0 mg/cm^2, substrate correction recommended for:

Drywall, Metal, and Wood

When using Screen or Test mode, substrate correction not recommended for:

Brick, Concrete, and Plaster

INCONCLUSIVE RANGE OR THRESHOLD

UNLIMITED MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm^2)
Results not corrected for substrate bias for unlimited mode readings	Brick	0.91 to 1.19
	Concrete	0.91 to 1.19
	Drywall	0.91 to 1.19
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.19
	Wood	0.91 to 1.19

SCREEN MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm²)
Results corrected for substrate bias for screen mode readings on drywall, metal, and wood substrates only	Brick	0.91 to 1.09
	Concrete	0.91 to 1.09
	Drywall	0.91 to 1.39
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.09
	Wood	0.91 to 1.29

TEST MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)	INCONCLUSIVE RANGE (mg/cm²)
Readings corrected for substrate bias for test mode readings on drywall, metal, and wood substrates only	Brick	0.9	None
	Concrete	0.9	None
	Drywall	None	0.91 to 1.39
	Metal	None	0.91 to 1.09
	Plaster	0.9	None
	Wood	None	0.91 to 1.29

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from an EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations. All of the test locations were tested in February 1996 using two different instruments. One instrument had a new source installed in July 1994 and its strength at the time of testing was calculated as 9.4 mCi. The other instrument had a new source installed in September 1994 and its strength at the time of testing was calculated as 10.6 mCi.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds

SUBSTRATE CORRECTION VALUE COMPUTATION

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

- Using the same XRF instrument, take three readings on a bare substrate area covered with the

NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

- Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

  For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\left.\begin{matrix}\text{Correction}\\ \text{Value}\end{matrix}\right\} = \frac{1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th}\ \text{Reading}}{6} - 1.02 mg/cm^2$$

- Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either 15-second readings or 60-second readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES

For screen, test, and confirm modes, the MAP 4 instrument tests until a K-shell result is obtained relative to a level of precision. A result is "positive", "negative" or "retest" as displayed by indicator lights. For the unlimited mode, the MAP 4 instrument tests until a K-shell result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the the reading is terminated by releasing the trigger. A few unlimited mode readings were terminated because they exceeded the two-minute limit used for archive testing. The following tables provide testing time information for three testing modes. Insufficient information is available to provide this information for confirm mode. All times have been scaled to match an initial 12 miC source. Note that source strength and factors such as substrate may affect testing times.

UNLIMITED MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	3	4	6	4	13	3
Metal	3	4	8	4	9	3
Brick Concrete Plaster	4	5	8	6	6	3

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

SCREEN MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	6	7	5	6	7
Metal	4	5	6	5	5	5
Brick Concrete Plaster	11	11	13	11	11	11

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

TEST MODE TESTING TIMES (Seconds)						
SUBSTRATE	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm²)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	17	22	27	21	20	28
Metal	13	20	23	20	20	20
Brick Concrete Plaster	41	42	52	41	46	43

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

BIAS AND PRECISION

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with laboratory-measured lead levels less than 4.0 mg/cm² lead. There were 15 testing locations taken in the screen mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were 15 testing locations taken in the test mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were not any testing locations taken in the confirm mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. There were 15 testing locations taken in the unlimited mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². All testing was done in February 1996 with two different instruments. The following data are for illustrative purposes only. Actual bias must be determined on the site. Inconclusive ranges provided above already account for bias and precision.

SCREEN MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.1	0.2
	Metal	0.1	0.3
	Plaster	-0.1	0.3
	Wood	0.0	0.2
0.5 mg/cm²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	0.1	0.4
	Concrete	0.1	0.4
	Drywall	0.5	0.6
	Metal	0.3	0.3
	Plaster	0.1	0.4
	Wood	0.4	0.6

2.0 mg/cm²	Brick	0.4	0.5
	Concrete	0.4	0.5
	Drywall	0.9	0.8
	Metal	0.5	0.3
	Plaster	0.4	0.5
	Wood	0.7	0.8

*Precision at 1 standard deviation

TEST MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.2
	Concrete	-0.1	0.2
	Drywall	0.1	0.1
	Metal	0.1	0.2
	Plaster	-0.1	0.2
	Wood	0.0	0.1
0.5 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.2
	Plaster	-0.1	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.5	0.6
	Metal	0.3	0.2
	Plaster	-0.1	0.3
	Wood	0.4	0.6
2.0 mg/cm²	Brick	0.0	0.4
	Concrete	0.0	0.4
	Drywall	1.0	0.8
	Metal	0.5	0.2
	Plaster	0.0	0.4
	Wood	0.8	0.8

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristics Sheet is a joint product of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD). The issuance of this sheet does not constitute rulemaking. The information provided here is intended solely as guidance to be used in conjunction with Chapter 7, Lead-Based Paint Inspection, of the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. EPA and HUD reserve the right to revise this guidance. Please address questions and comments on this sheet to: Director, Office of Lead Hazard Control (L), U.S. Department of Housing and Urban Development, 451 Seventh St, S.W., Washington, DC 20410.

Pacific Environmental Company

Asbestos and Lead Abatement Specifications

Burbank Elementary School Modernization Project
198 West Mill Street
San Bernardino, California 92408

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 21, 2009

Project Number: 09013



Pacific Environmental Company

Table of Contents

DIVISION 02. GENERAL REQUIREMENTS FOR ASBESTOS ABATEMENT

DIVISION 03. GENERAL REQUIREMENTS FOR LEAD ABATEMENT

DIVISION 2. GENERAL REQUIREMENTS FOR ASBESTOS ABATEMENT

PART 1 GENERAL

1.1 REFERENCES
1.2 DEFINITIONS
1.3 DESCRIPTION OF WORK
1.4 SUBMITTALS
1.5 QUALIFICATIONS
1.6 MEDICAL REQUIREMENTS
1.7 TRAINING PROGRAM
1.8 RESPIRATORY PROTECTION PROGRAM
1.9 HAZARD COMMUNICATION PROGRAM
1.10 LICENSES, PERMITS AND NOTIFICATIONS
1.11 PERSONAL PROTECTIVE EQUIPMENT
1.12 HYGIENE FACILITIES AND PRACTICES
1.13 REGULATED AREAS
1.14 WARNING SIGNS AND TAPE
1.15 WARNING LABELS
1.16 LOCAL EXHAUST VENTILATION
1.17 TOOLS
1.18 RENTAL EQUIPMENT
1.19 AIR MONITORING EQUIPMENT
1.20 EXPENDABLE SUPPLIES
1.21 MISCELLANEOUS ITEMS

PART 2 PRODUCTS

2.1 ENCAPSULANTS
2.2 ENCASEMENT PRODUCTS

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS
3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN
3.3 TEMPORARY POWER
3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS
3.5 TEMPORARY FACILITIES
3.6 METHODS OF COMPLIANCE
3.7 FINAL CLEANING AND VISUAL INSPECTION
3.8 LOCKDOWN
3.9 EXPOSURE ASSESSMENT AND AIR MONITORING
3.10 CLEARANCE CERTIFICATION
3.11 CLEANUP AND DISPOSAL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below 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)

ANSI Z9.2 (1979; R 1991)	Fundamentals Governing the Design and Operation of Local Exhaust Systems
ANSI Z87.1 (1989; Errata; Z87.1a)	Occupational and Educational Eye and Face Protection
ANSI Z88.2 (1992)	Respiratory Protection

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 732 (1995)	Aging Effects of Artificial Weathering on Latex Sealants
ASTM D 522 (1993a)	Mandrel Bend Test of Attached Organic Coatings
ASTM D 1331 (1989; R 1995)	Surface and Interfacial Tension of Solutions of Surface-ActiveAgents
ASTM D 2794 (1993)	Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
ASTM D 4397 (1996)	Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
ASTM E 84 (1996a)	Surface Burning Characteristics of Building Materials
ASTM E 96 (1995)	Water Vapor Transmission of Materials
ASTM E 119 (1995a)	Fire Tests of Building Construction and Materials
ASTM E 736 (1992)	Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members
ASTM E 1368 (1997)	Visual Inspection of Asbestos Abatement Projects

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 61	National Emissions Standards for Hazardous Air Pollutants
40 CFR 763	Asbestos
42 CFR 84	Approval of Respiratory Protective Devices
49 CFR 107	Hazardous Materials Program Procedures
49 CFR 171	General Information, Regulations and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packagings

COMPRESSED GAS ASSOCIATION (CGA)

CGA G-7 (1990)	Compressed Air for Human Respiration
CGA G-7.1 (1989)	Commodity Specification for Air

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 340/1-90-018 (1990)	Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance
EPA 340/1-90-019 (1990)	Asbestos/NESHAP Adequately Wet Guidance
EPA 560/5-85-024 (1985)	Guidance for Controlling Asbestos-Containing Materials in Buildings
SCAQMD Rule 1403	Asbestos Emissions from Renovation/Demolition Activities

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 701 (1996)	Methods of Fire Test for Flame-Resistant Textiles and Films

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 84-100 (1984; Supple 1985, 1987, 1988 & 1990)
NIOSH Manual of Analytical Methods

UNDERWRITERS LABORATORIES (UL)

UL 586 (1996)	High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

A. Adequately Wet: A term defined in 40 CFR 61, Subpart M, and EPA 340/1-90-019 meaning to sufficiently mix or penetrate with liquid to prevent the release of particulate. If visible emissions are observed coming from asbestos-containing material (ACM), then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wetted.

B. Aggressive Method: Removal or disturbance of building material by sanding, abrading, grinding, or other method that breaks, crumbles, or disintegrates intact asbestos-containing material (ACM).

C. Amended Water: Water containing a wetting agent or surfactant with a surface tension of at least 29 dynes per square centimeter when tested in accordance with ASTM D 1331.

D. Asbestos: Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophylite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered.

E. Asbestos-Containing Material (ACM): Any materials containing more than one percent asbestos.

F. Asbestos Fiber: A particulate form of asbestos, 5 micrometers or longer, with a length-to-width ratio of at least 3 to 1.

G. Authorized Person: Any person authorized by the Contractor and required by work duties to be present in the regulated areas.

H. Building Inspector: Individual who inspects buildings for asbestos and has EPA Model Accreditation Plan (MAP) "Building Inspector" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

I. Certified Industrial Hygienist (CIH): An Industrial Hygienist certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

J. Class I Asbestos Work: Activities defined by OSHA involving the removal of thermal system insulation (TSI) and surfacing ACM.

K. Class II Asbestos Work: Activities defined by OSHA involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos- containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic. Certain "incidental" roofing materials such as mastic, flashing and cements when they are still intact are excluded from Class II asbestos work. Removal of small amounts of these materials which would fit into a glovebag may be classified as a Class III job.

L. Class III Asbestos Work: Activities defined by OSHA that involve repair and maintenance operations, where ACM, including TSI and surfacing ACM, is likely to be disturbed. Operations may include drilling, abrading, cutting a hole, cable pulling, crawling through tunnels or attics and spaces above the ceiling, where asbestos is actively disturbed or asbestos-containing debris is actively disturbed.

M. Class IV Asbestos Work: Maintenance and custodial construction activities during which employees contact but do not disturb ACM and activities to clean-up dust, waste and debris resulting from Class I, II, and III activities. This may include dusting surfaces where ACM waste and debris and accompanying dust exists and cleaning up loose ACM debris from TSI or surfacing ACM following construction.

N. Clean room: An uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

O. Competent Person: In addition to the definition in 29 CFR 1926, Section .32(f), a person who is capable of identifying existing asbestos hazards as defined in 29 CFR 1926, Section .1101, selecting the appropriate control strategy, has the authority to take prompt corrective measures to eliminate them and has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

P. Contractor/Supervisor: Individual who supervises asbestos abatement work and has EPA Model Accreditation Plan "Contractor/Supervisor" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

Q. Critical Barrier: One or more layers of plastic sealed over all openings into a regulated area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a regulated area from migrating to an adjacent area.

R. Decontamination Area: An enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

S. Demolition: The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

T. Disposal Bag: A 0.15 mm 6 mil thick, leak-tight plastic bag, pre-labeled in accordance with 29 CFR 1926, Section .1101, used for transporting asbestos waste from containment to disposal site.

U. Disturbance: Activities that disrupt the matrix of ACM, crumble or pulverize ACM, or generate visible debris from ACM. Disturbance includes cutting away small amounts of ACM, no greater than the amount which can be contained in 1 standard sized glovebag or waste bag, not larger than 1.5 m 60 inches in length and width in order to access a building component.

V. Equipment Room or Area: An area adjacent to the regulated area used for the decontamination of employees and their equipment.

W. Employee Exposure: That exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

X. Fiber: A fibrous particulate, 5 micrometers or longer, with a length to width ratio of at least 3 to 1.

Y. Friable ACM: A term defined in 40 CFR 61, Subpart M and EPA 340/1-90-018 meaning any material which contains more than 1percent asbestos, as determined using the method specified in 40 CFR 763, Subpart E, Appendix A, Section 1, Polarized Light Microscopy (PLM), that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent, as determined by a method other than point counting by PLM, the asbestos content is verified by point counting using PLM.

Z. Glovebag: Not more than a 1.5 by 1.5 m 60 by 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

AA. High-Efficiency Particulate Air (HEPA) Filter: A filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

BB. Homogeneous Area: An area of surfacing material or thermal system insulation that is uniform in color and texture.

CC. Industrial Hygienist: A professional qualified by education, training, and experience to anticipate, recognize, evaluate, and develop controls for occupational health hazards.

DD. Intact: ACM which has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix. Removal of "intact" asphaltic, resinous, cementitious products does not render the ACM non-intact simply by being separated into smaller pieces.

EE. Model Accreditation Plan (MAP): USEPA training accreditation requirements for persons who work with asbestos as specified in 40 CFR 763, Subpart E, Appendix C.

FF. Modification: A changed or altered procedure, material or component of a control system, which replaces a procedure, material or component of a required system.

GG. Negative Exposure Assessment: A demonstration by the Contractor to show that employee exposure during an operation is expected to be consistently below the OSHA Permissible Exposure Limits (PELs).

HH. NESHAP: National Emission Standards for Hazardous Air Pollutants. The USEPA NESHAP regulation for asbestos is at 40 CFR 61, Subpart M.

II. Nonfriable ACM: A NESHAP term defined in 40 CFR 61, Subpart M and EPA 340/1-90-018 meaning any material containing more than 1 percent asbestos, as determined using the method specified in 40 CFR 763, Subpart E, Appendix A, Section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

JJ. Nonfriable ACM (Category I): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90-018 meaning asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in 40 CFR 763, Subpart F, Appendix A, Section 1, Polarized Light Microscopy.

KK. Nonfriable ACM (Category II): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90-018 meaning any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos, as determined using the methods specified in 40 CFR 763, Subpart F, Appendix A, Section 1, Polarized Light Microscopy, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

LL. Permissible Exposure Limits (PELs):

(1) PEL-Time weighted average(TWA): Concentration of asbestos not in excess of 0.1 fibers per cubic centimeter of air (f/cc) as an 8 hour time weighted average (TWA), as determined by the method prescribed in 29 CFR 1926, Section .1101, Appendix A, or the current version of NIOSH Pub No. 84-100 analytical method 7400.

(2) PEL-Excursion Limit: An airborne concentration of asbestos not in excess of 1.0 f/cc of air as averaged over a sampling period of 30 minutes as determined by the method prescribed in 29 CFR 1926, Section .1101, Appendix A, or the current version of NIOSH Pub No. 84-100 analytical method 7400.

MM. Regulated Area: An OSHA term defined in 29 CFR 1926, Section .1101 meaning an area established by the Contractor to demarcate areas where Class I, II, and III asbestos work is conducted; also any adjoining area where debris and waste from such asbestos work accumulate; and an area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit.

NN. Removal: All operations where ACM is taken out or stripped from structures or substrates, and includes demolition operations.

OO. Repair: Overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM attached to structures or substrates. If the amount of asbestos so "disturbed" cannot be contained in 1 standard glovebag or waste bag, Class I precautions are required.

PP. Spills/Emergency Cleanups: Cleanup of sizable amounts of asbestos waste and debris which has occurred, for example, when water damage occurs in a building, and sizable amounts of ACM are dislodged. A Competent Person evaluates the site and ACM to be handled, and based on the type, condition and extent of the dislodged material, classifies the cleanup as Class I, II, or III. Only if the material was intact and the cleanup involves mere contact of ACM, rather than disturbance, could there be a Class IV classification.

QQ. Surfacing ACM: Asbestos-containing material which contains more than 1% asbestos and is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

RR. Thermal system insulation (TSI) ACM: ACM which contains more than 1% asbestos and is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain or water condensation.

SS. Transite: A generic name for asbestos cement wallboard and pipe.

TT. Worker: Individual (not designated as the Competent Person or a supervisor) who performs asbestos work and has completed asbestos worker training required by 29 CFR 1926, Section .1101, to include EPA Model Accreditation Plan (MAP) "Worker" training; accreditation required by 40 CFR 763, Subpart E, Appendix C, if required by the OSHA Class of work to be performed or by the state where the work is to be performed.

1.3 DESCRIPTION OF WORK

1.3.1 The work covered by this section includes the removal of the asbestos-containing materials and demolition services required to facilitate access to the ACM, where the ACM is impacted by the planned modernization work. ACM and ACCM that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity
Drywall Ceiling Systems	Building A	1,200 SF
Dark Brown 12” x 12” Floor Tile and Mastic	Building A Prep Room (A113)	200 SF
Black Mastic for Basecove	Buildings A, B, C, D and K	2,500 SF
Various Floor Tile and Mastic	A114, B1, B3, B4, B5, C2, C4, K1 and Special Services	2,400 SF
Flex Joint	D3 FAU Unit	1 ea.

1.3.2 All work described or included in paragraph 1.3.1 shall be performed by the hazardous materials abatement contractor utilizing trained and AHERA certified asbestos workers. The only exception to this requirement may be the removal of intact non-asbestos-containing furnishings and equipment from the building prior to initiating any demolition activity and when such removal of intact materials or equipment does not have the potential for disturbing asbestos-containing materials.

1.3.3 The Work shall be performed in phases so as to maximize safety and minimize the potential for mixing hazardous and non-hazardous waste streams during their removal, transportation and disposal.

1.4 SUBMITTALS

1.4.1 Pre-Job Submittals: Prior to commencement of work, Contractor shall submit (two copies) to Owner's Representative documentation that includes, without limitation, the following:

A. Submit copies of licenses and registrations required by these specifications (include copies of subcontractor’s licenses).

B. The Contractor shall carry comprehensive bodily injury and property damage liability insurance provided by an A-rated California Admitted Carrier with a combined single limit of $2,000,000.00 per occurrence. The insurance policy shall provide coverage for all liability arising out of or related to the Project or to the performance of the Work including asbestos and unintentional release of hazardous materials. The Contractor's insurance policies shall contain a 30-day Notice of Cancellation clause and shall list the following individuals and entities as Certificate holders and Additional Insured, San Bernardino City Unified School District and Pacific Environmental Company.

C. Submit copies written notification to the appropriate regulatory agencies (SCAQMD and CalOSHA).

D. Submit proof that required permits, site location and arrangements for transport and disposal of asbestos-containing waste materials have been made.

E. Submit proof of legal right to use patented equipment or processes.

F. Manufacturer's certification that HEPA vacuums, differential pressure air filtration devices and other local exhaust ventilation equipment conform to ANSI Z9.2-79.

G. Submit a construction schedule indicating milestones and dates of completion for each phase of the Work.

H. Submit documentation that Contractor's employees, including foreman, supervisor, and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received training as required by 29 CFR 1926.1101.

I. Submit documentation from Physician that all employees or agents who may be exposed to airborne asbestos fibers in excess of background levels have received medical monitoring to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. The Contractor must be aware of and provide information to the examining physician about unusual conditions in the workplace environment (e.g. high temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities.

J. Submit documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. This fit-testing shall be in accordance with qualitative procedures as required by OSHA regulations or be quantitative in nature.

K. Submit a project specific work plan.

L. Submit an emergency preparedness plan.

1.4.2 Ongoing Submittals: During abatement activities, Contractor shall submit to Owner's Representative documentation that includes, without limitation, the following:

A. Submit copies of the work area entry/exit log book. Log book must record name, affiliation, time in, and time out for each entry into the work area.

B. Submit copies of logs documenting filter changes on respirators, HEPA vacuums, differential pressure air filtration devices, water filtration device, and other engineering controls.

C. Submit copies of Material Safety Data Sheets (MSDS) for solvents, encapsulants, wetting agents and replacement materials, as necessary.

D. Submit results of all required OSHA air monitoring. Results shall be available prior to the start of the following shift and within 24 hours of completion of the last shift.

E. Submit copies of all accident/incident reports where injury or damage has occurred on or to the Owner's property.

F. Submit copies of all transport manifests, trip tickets and disposal receipts for all asbestos waste materials removed from the work area within 24 hours of the transport.

1.5 QUALIFICATIONS

1.5.1 Written Qualifications and Organization Report

The Contractor shall furnish a written qualifications and organization report providing evidence of qualifications of the Contractor, Contractor's Project Supervisor, Designated Competent Person, supervisors and workers; independent testing laboratory: all subcontractors to be used including disposal transportation and disposal facility firms, subcontractor supervisors, subcontractor workers; and any others assigned to perform asbestos abatement and support activities. The report shall include an organization chart showing the Contractor's staff organization for this project by name and title, chain of command and reporting relationship with all subcontractors. The report shall be signed by the Contractor, the Contractor's onsite project manager, Designated Competent Person, designated testing laboratory and the principals of all subcontractors to be used. The Contractor shall include the following statement in the report: "By signing this report I certify that the personnel I am responsible for during the course of this project fully understand the contents of 29 CFR 1926, Section .1101, 40 CFR 61, Subpart M, and the federal, state and local requirements specified in paragraph SAFETY AND HEALTH PROGRAM AND PLANS for those asbestos abatement activities that they will be involved in."

1.5.2 Specific Requirements

The Contractor shall designate in writing, personnel meeting the following qualifications:

A. Designated Competent Person: The name, address, telephone number, and resume of the Contractor's Designated Competent Person shall be provided. Evidence that the full-time Designated Competent Person is qualified in accordance with 29 CFR 1926, Sections .32 and .1101, has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by 40 CFR 763, Subpart E, Appendix C, and is experienced in the administration and supervision of asbestos abatement projects, including exposure assessment and monitoring, work practices, abatement methods, protective measures for personnel, setting up and inspecting asbestos abatement work areas, evaluating the integrity of containment barriers, placement and operation of local exhaust systems, ACM generated waste containment and disposal procedures, decontamination units installation and maintenance requirements, site safety and health requirements, notification of other employees onsite, etc. The duties of the Competent Person shall include the following: controlling entry to and exit from the regulated area; supervising any employee exposure monitoring required by 29 CFR 1926, Section .1101; ensuring that all employees working within a regulated area wear the appropriate personal protective equipment (PPE), are trained in the use of appropriate methods of exposure control, and use the hygiene facilities and decontamination

procedures specified; and ensuring that engineering controls in use are in proper operating conditions and are functioning properly. The Designated Competent Person shall be responsible for compliance with applicable federal, state and local requirements, the Contractor's Accident Prevention Plan and Asbestos Hazard Abatement Plan. The Designated Competent Person shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that this person has a minimum of 2 years of on-the-job asbestos abatement experience relevant to OSHA competent person requirements. The Designated Competent Person shall be onsite at all times during the conduct of this project.

B. Project and Other Supervisors: The Contractor shall provide the name, address, telephone number, and resume of the Project Supervisor and other supervisors who have responsibility to implement the Accident Prevention Plan, including the Asbestos Hazard Abatement Plan and Activity Hazard Analyses, the authority to direct work performed under this contract and verify compliance, and have EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by 40 CFR 763, Subpart E, Appendix C. The Project Supervisor and other supervisors shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that the Project Supervisor has a minimum of 2 years of on-the-job asbestos abatement experience relevant to project supervisor responsibilities and the other supervisors have a minimum of 1 year on-the-job asbestos abatement experience commensurate with the responsibilities they will have on this project.

C. Asbestos Abatement Workers: Asbestos abatement workers shall meet the requirements contained in 29 CFR 1926, Section .1101, 40 CFR 61, Subpart M, and other applicable federal, state and local requirements. Worker training documentation shall be provided as required on the "Certificate of Workers Acknowledgment" in this paragraph.

D. Worker Training and Certification of Worker Acknowledgment: Training documentation will be required for each employee who will perform OSHA Class I, Class II, Class III, or Class IV asbestos abatement operations. Such documentation shall be submitted on a Contractor generated form titled "Certificate of Workers Acknowledgment", to be completed for each employee in the same format and containing the same information as the example certificate at the end of this section. Training course completion certificates (initial and most recent update refresher) required by the information checked on the form shall be attached.

E. First Aid and CPR Trained Persons: The names of at least 2 persons who are currently trained in first aid and CPR by the American Red Cross or other approved agency shall be designated and shall be onsite at all times during site operations. They shall be trained in universal precautions and the use of PPE as described in the Bloodborne Pathogens Standard of 29 CFR 1910, Section. These persons may perform other duties but shall be immediately available to render first aid when needed. A copy of each designated person's current valid First Aid and CPR certificate shall be provided.

F. Disposal Facility, Transporter: The Contractor shall provide written evidence that the landfill to be used is approved for asbestos disposal by the USEPA, state and local regulatory agencies. Copies of signed agreements between the Contractor (including subcontractors and transporters) and the asbestos waste disposal facility to accept and dispose of all asbestos containing waste generated during the performance of this contract shall be provided. Qualifications shall be provided for each subcontractor or transporter to be used, indicating previous experience in transport and disposal of asbestos waste to include all required state and local waste hauler requirements for asbestos. The

Contractor and transporters shall meet the DOT requirements of 49 CFR 171, 49 CFR 172, and 49 CFR 173 as well as registration requirements of 49 CFR 107 and other applicable state or local requirements. The disposal facility shall meet the requirements of 40 CFR 61, Sections .154 or .155, as required in 40 CFR 61, Section .150(b), and other applicable state or local requirements.

1.5.3 Federal, State or Local Citations on Previous Projects

The Contractor and all subcontractors shall submit a statement, signed by an officer of the company, containing a record of any citations issued by Federal, State or local regulatory agencies relating to asbestos activities (including projects, dates, and resolutions); a list of penalties incurred through non-compliance with asbestos project specifications, including liquidated damages, overruns in scheduled time limitations and resolutions; and situations in which an asbestos-related contract has been terminated (including projects, dates, and reasons for terminations). If there are none, a negative declaration signed by an officer of the company shall be provided.

1.6 MEDICAL REQUIREMENTS

Medical requirements shall conform to 29 CFR 1926, Section .1101.

1.6.1 Medical Examination

Before being exposed to airborne asbestos fibers, workers shall be provided with a medical examination as required by 29 CFR 1926, Section .1101 and other pertinent state or local requirements. This requirement shall have been satisfied within the last 12 months. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos and within 30 calendar days before or after the termination of employment in such occupation. X-ray films of asbestos workers shall be identified to the consulting radiologist and medical record jackets shall be marked with the word "asbestos."

1.6.1.1 Information Provided to the Physician

The Contractor shall provide the following information in writing to the examining physician:

a. A copy of 29 CFR 1926, Section .1101 and Appendices D, E, G, and I;
b. A description of the affected employee's duties as they relate to the employee's exposure;
c. The employee's representative exposure level or anticipated exposure level;
d. A description of any personal protective and respiratory equipment used or to be used;
e. Information from previous medical examinations of the affected employee that is not otherwise available to the examining physician.

1.6.1.2 Written Medical Opinion

For each worker, a written medical opinion prepared and signed by a licensed physician indicating the following:

a. Summary of the results of the examination.
b. The potential for an existing physiological condition that would place the employee at an increased risk of health impairment from exposure to asbestos.
c. The ability of the individual to wear personal protective equipment, including respirators, while performing strenuous work tasks under cold and/or heat stress conditions.

d. A statement that the employee has been informed of the results of the examination, provided with a copy of the results, informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure, and informed of any medical condition that may result from asbestos exposure.

1.6.2 Medical and Exposure Records

Complete and accurate records shall be maintained of each employee's medical examinations, medical records, and exposure data, as required by 29 CFR 1910, Section 1910.20 and 29 CFR 1926, Section .1101 for a period of 50 years after termination of employment. Records of the required medical examinations and exposure data shall be made available, for inspection and copying, to the Assistant Secretary of Labor for Occupational Safety and Health (OSHA) or authorized representatives of the employee and an employee's physician upon request of the employee or former employee. A copy of the required medical certification for each employee shall be maintained on file at the worksite for review, as requested by the Owner's representatives.

1.7 TRAINING PROGRAM

1.7.1 General Training Requirements

The Contractor shall establish a training program as specified by EPA Model Accreditation Plan (MAP), training requirements at 40 CFR 763, Subpart E, Appendix C, the State of California, OSHA requirements at 29 CFR 1926, Section .1101(k)(9), and this specification. Contractor employees shall complete the required training for the type of work they are to perform and such training shall be documented.

1.7.2 Project Specific Training

Prior to commencement of work, each worker shall be instructed by the Owner's Representative and Competent Person in the following project specific training:

a. The hazards and health effects of the specific types of ACM to be abated;
b. The content and requirements of the Contractor's Accident Prevention Plan to include the Asbestos Hazard Abatement Plan and Activity Hazard Analyses and site-specific safety and health precautions;
c. Hazard Communication Program;
d. Hands-on training for each asbestos abatement technique to be employed;
e. Heat and/or cold stress monitoring specific to this project;
f. Air monitoring program and procedures;
g. Medical surveillance to include medical and exposure record-keeping procedures;
h. The association of cigarette smoke and asbestos-related disease;
i. Security procedures;
j. Specific work practice controls and engineering controls required for each Class of work in accordance with 29 CFR 1926, Section .1101.

1.8 RESPIRATORY PROTECTION PROGRAM

The Contractor shall establish in writing, and implement a respiratory protection program in accordance with 29 CFR 1926, Section .1101, 29 CFR 1910, Section .134, ANSI Z88.2, CGA G-7, CGA G-7.1 and DETAIL SHEET 12. The Contractor shall establish minimum respiratory protection requirements based on measured

or anticipated levels of airborne asbestos fiber concentrations encountered during the performance of the asbestos abatement work. The Contractor's respiratory
protection program shall include, but not be limited to, the following elements:

A. The company policy, used for the assignment of individual responsibility, accountability, and implementation of the respiratory protection program.

B. The standard operating procedures covering the selection and use of respirators. Respiratory selection shall be determined by the hazard to which the worker is exposed.

C. Medical evaluation of each user to verify that the worker may be assigned to an activity where respiratory protection is required.

D. Training in the proper use and limitations of respirators.

E. Respirator fit-testing, i.e., quantitative, qualitative and individual functional fit checks.

F. Regular cleaning and disinfection of respirators.

G. Routine inspection of respirators during cleaning and after each use when designated for emergency use.

H. Storage of respirators in convenient, clean, and sanitary locations.

I. Surveillance of regulated area conditions and degree of employee exposure (e.g., through air monitoring).

J. Regular evaluation of the continued effectiveness of the respiratory protection program.

K. Recognition and procedures for the resolution of special problems as they affect respirator use (e.g., no facial hair that comes between the respirator face piece and face or interferes with valve function; prescription eye wear usage; contact lenses usage; etc.).

L. Proper training in putting on and removing respirators.

1.8.1 Respiratory Fit Testing

A qualitative or quantitative fit test conforming to 29 CFR 1926, Section 1101, Appendix C shall be conducted by the Contractor Competent Person for each Contractor worker required to wear a respirator, and for authorized visitors who enter a regulated area where respirators are required to be worn. A respirator fit test shall be performed for each worker wearing a negative-pressure respirator prior to initially wearing a respirator on this project and every 6 months thereafter. The qualitative fit tests may be used only for testing the fit of half-mask respirators where they are permitted to be worn, or of full-facepiece air purifying respirators where they are worn at levels at which half-facepiece air purifying respirators are permitted. If physical changes develop that will affect the fit, a new fit test for the worker shall be performed. Functional fit checks shall be performed by employees each time a respirator is put on and in accordance with the manufacturer's recommendation.

1.8.2 Respirator Selection and Use Requirements

The Contractor shall provide respirators, and ensure that they are used as required by 29 CFR 1926, Section .1101 and in accordance with the manufacturer's recommendations. Respirators shall be jointly approved by the Mine Safety and Health Administration and the National Institute for

Occupational Safety and Health (MSHA/NIOSH), or by NIOSH, under the provisions of 42 CFR 84, for use in environments containing airborne asbestos fibers. Personnel who handle ACM, enter regulated areas that require the wearing of a respirator, or who are otherwise carrying out abatement activities that require the wearing of a respirator, shall be provided with approved respirators that are fully protective of the worker at the measured or anticipated airborne asbestos concentration level to be encountered. For air-purifying respirators, the particulate filter portion of the cartridges or canister approved for use in airborne asbestos environments shall be high-efficiency particulate air (HEPA). The initial respirator selection and the decisions regarding the upgrading or downgrading of respirator type shall be made by the Owner's Representative based on the measured or anticipated airborne asbestos fiber concentrations to be encountered. The Contractor's Designated Competent Person in consultation with the Owner's Representative, shall have the authority to take immediate action to upgrade or downgrade respiratory type when there is an immediate danger to the health and safety of the wearer. Respirators shall be used in the following circumstances:

a. During all Class I asbestos jobs.
b. During all Class II work where the ACM is not removed in a substantially intact state.
c. During all Class II and III work which is not performed using wet methods. Respirators need not be worn during removal of ACM from sloped roofs when a negative exposure assessment has been made and ACM is removed in an intact state.
d. During all Class II and III asbestos jobs where the Contractor does not produce a negative exposure assessment.
e. During all Class III jobs where TSI or surfacing ACM is being disturbed.
f. During all Class IV work performed within regulated areas where employees performing other work are required to wear respirators.
g. During all work where employees are exposed above the PEL-TWA or PEL-Excursion Limit.
h. In emergencies

1.8.3 Class I Work

The Contractor shall provide: (1) a tight-fitting, powered air purifying respirator equipped with high efficiency filters, or (2) a full-facepiece supplied air respirator operated in the pressure demand mode, equipped with HEPA egress cartridges, or (3) an auxiliary positive pressure self-contained breathing apparatus, for all employees within the regulated area where Class I work is being performed; provided that a negative exposure assessment has not been produced, and that the exposure level will not exceed 1 f/cc as an 8-hour time weighted average. A full-facepiece supplied air respirator, operated in the pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus shall be provided under such conditions, if the exposure assessment indicates exposure levels above 1 f/cc as an 8-hour time weighted average.

1.8.4 Class II and III Work

The Contractor shall provide an air purifying respirator, other than a disposable respirator, equipped with high-efficiency filters whenever the employee performs Class II and III asbestos jobs where the Contractor does not produce a negative exposure assessment; and Class III jobs where TSI or surfacing ACM is being disturbed.

1.8.5 Sanitation

Employees who wear respirators shall be permitted to leave work areas to wash their faces and respirator facepieces whenever necessary to prevent skin irritation associated with respirator use.

1.9 HAZARD COMMUNICATION PROGRAM

A hazard communication program shall be established and implemented in accordance with 29 CFR 1926, Section .59. Material safety data sheets (MSDSs) shall be provided for all hazardous materials brought onto the worksite. One copy shall be provided to the Owner's Representative and 1 copy shall be included in the Contractor's Hazard Communication Program.

1.10 LICENSES, PERMITS AND NOTIFICATIONS

1.10.1 General Legal Requirements

Necessary licenses, permits and notifications shall be obtained in conjunction with the project's asbestos abatement, transportation and disposal actions and timely notification furnished of such actions as required by federal, state, regional, and local authorities. The Contractor shall notify the SCAWMD and CalOSHA in writing, at least 14 days prior to the commencement of work, in accordance with 40 CFR 61, Subpart M, and state and local requirements to include the mandatory "Notification of Demolition and Renovation Record" form and other required notification documents. The Contractor shall furnish copies of the notifications to the Owner's Representative at least 3 days prior to the projects scheduled start date. For licenses, permits, and notifications that the Contractor is responsible for obtaining, the Contractor shall pay any associated fees or other costs incurred.

1.10.2 Litigation and Notification

The Contractor shall notify the Owner's Representative if any of the following occur:

a. The Contractor or any of the subcontractors are served with notice of violation of any law, regulation, permit or license which relates to this contract;
b. Proceedings are commenced which could lead to revocation of related permits or licenses; permits, licenses or other Government authorizations relating to this contract are revoked;
c. Litigation is commenced which would affect this contract;
d. The Contractor or any of the subcontractors become aware that their equipment or facilities are not in compliance or may fail to comply in the future with applicable laws or regulations.

1.11 PERSONAL PROTECTIVE EQUIPMENT

Three complete sets of personal protective equipment shall be made available to the authorized visitors for entry to the regulated area. Authorized visitors shall be provided with training equivalent to that provided to Contractor employees in the selection, fitting, and use of the required personal protective equipment and the site safety and health requirements. Contractor workers shall be provided with personal protective clothing and equipment and the Contractor shall ensure that it is worn properly. The Owner's Representative and Designated Competent Person shall select and approve all the required personal protective clothing and equipment to be used.

1.11.1 Respirators

Respirators shall be in accordance with paragraph RESPIRATORY PROTECTION PROGRAM.

1.11.2 Whole Body Protection

Personnel exposed to airborne concentrations of asbestos that exceed the PELs, or for all OSHA Classes of work for which a required negative exposure assessment is not produced, shall be provided with whole body protection and such protection shall be worn properly. The Owner's Representative and Competent Person shall select and approve the whole body protection to be used. The Competent Person shall examine work suits worn by employees at least once per work shift for rips or tears that may occur during performance of work. When rips or tears are detected while an employee is working, rips and tears shall be immediately mended, or the work suit shall be immediately replaced. Disposable whole body protection shall be disposed of as asbestos contaminated waste upon exiting from the regulated area. Reusable whole body protection worn shall be either disposed of as asbestos contaminated waste upon exiting from the regulated area or be properly laundered in accordance with 29 CFR 1926, Section .1101. Whole body protection used for asbestos abatement shall not be removed from the worksite by a worker to be cleaned. The Contractor's Designated Competent Person, in consultation with the Owner's Representative, has the authority to take immediate action to upgrade or downgrade whole body protection when there is an immediate danger to the health and safety of the wearer.

1.11.2.1 Coveralls: Disposable coveralls with a zipper front shall be provided. Sleeves shall be secured at the wrists, and foot coverings secured at the ankles.

1.11.2.2 Underwear: Disposable underwear shall be provided. If reusable underwear are used, they shall be disposed of as asbestos contaminated waste or laundered in accordance with 29 CFR 1926, Section .1101. Asbestos abatement workers shall not remove contaminated reusable underwear worn during abatement of ACM from the site to be laundered.

1.11.2.3 Work Clothing: An additional coverall shall be provided when the abatement and control method employed does not provide for the exit from the regulated area directly into an attached decontamination unit. Cloth work clothes for wear under the protective coverall, and foot coverings, shall be provided when work is being conducted in low temperature conditions. Cloth work clothes shall be either disposed of as asbestos contaminated waste or properly laundered in accordance with 29 CFR 1926, Section .1101.

1.11.2.4 Gloves: Gloves shall be provided to protect the hands. Where there is the potential for hand injuries (i.e., scrapes, punctures, cuts, etc.) a suitable glove shall be provided and used.

1.11.2.5 Foot Coverings: Cloth socks shall be provided and worn next to the skin. Footwear, as required by OSHA, that is appropriate for safety and health hazards in the area shall be worn. Rubber boots shall be used in moist or wet areas. Reusable footwear removed from the regulated area shall be thoroughly decontaminated or disposed of as ACM waste. Disposable protective foot covering shall be disposed of as ACM waste. If rubber boots are not used, disposable foot covering shall be provided.

1.11.2.6 Head Covering: Hood type disposable head covering shall be provided. In addition, protective head gear (hard hats) shall be provided as required. Hard hats shall only be removed from the regulated area after being thoroughly decontaminated.

1.11.2.7 Protective Eye Wear: Eye protection provided shall be in accordance with ANSI Z87.1.

1.12 HYGIENE FACILITIES AND PRACTICES

The Contractor shall establish a decontamination area for the decontamination of employees, material and equipment. The Contractor shall ensure that employees enter and exit the regulated area through the decontamination area.

1.12.1 Shower Facilities

Shower facilities, when provided, shall comply with 29 CFR 1910, Section 141(d)(3).

1.12.2 3-Stage Decontamination Area

The decontamination unit shall have an equipment room and a clean room separated by a shower that complies with 29 CFR 1910, Section .141 (unless the Contractor can demonstrate that such facilities are not feasible). Equipment and surfaces of containers filled with ACM shall be cleaned prior to removing them from the equipment room or area. Surfaces of the equipment room shall be wet wiped 2 times after each shift. Materials used for wet wiping shall be disposed of as asbestos contaminated waste. Two separate lockers shall be provided for each asbestos worker, one in the equipment room and one in the clean room. [Hot water service may be secured from the building hot water system provided backflow protection is installed by the Contractor at the point of connection. The wastewater pump shall be sized for 1.25 times the showerhead flow-rate at a pressure head sufficient to satisfy the filter head loss and discharge line losses. The pump shall supply a minimum 1.6 L/s 25 gpm flow with 10.7 m35 ft. of pressure head. Used shower water shall be collected and filtered to remove asbestos contamination. Filters and residue shall be disposed of as asbestos contaminated. Filtered water shall be discharged to the sanitary system. Wastewater filters shall be installed in series with the first stage pore size of 20 microns and the second stage pore size of 5 microns. The floor of the decontamination unit's clean room shall be kept dry and clean at all times. Water from the shower shall not be allowed to wet the floor in the clean room. Surfaces of the clean room and shower shall be wet-wiped 2 times after each shift change with a disinfectant solution. Proper housekeeping and hygiene requirements shall be maintained. Soap and towels shall be provided for showering, washing and drying. Any cloth towels provided shall be disposed of as ACM waste or shall be laundered in accordance with 29 CFR 1926, Section .1101.

1.12.3 Load-Out Unit

A temporary load-out unit that is adjacent and connected to the regulated area may be constructed. Utilization of prefabricated units shall have prior approval of the Owner’s Representative. The load-out unit shall be attached in a leak-tight manner to each regulated area. Surfaces of the load-out unit and access tunnel shall be adequately wet-wiped 2 times after each shift change. Materials used for wet wiping shall be disposed of as asbestos contaminated waste.

1.12.4 Decontamination Area Entry Procedures

The Contractor shall ensure that employees entering the decontamination area through the clean room or clean area:

a. Remove street clothing in the clean room or clean area and deposit it in lockers.
b. Put on protective clothing and respiratory protection before leaving the clean room or clean area.
c. Pass through the equipment room to enter the regulated area.

1.12.5 Decontamination Area Exit Procedures

The Contractor shall ensure that the following procedures are followed:

a. Before leaving the regulated area, respirators shall be worn while employees remove all gross contamination and debris from their work clothing using a HEPA vacuum.
b. Employees shall remove their protective clothing in the equipment room and deposit the clothing in labeled impermeable bags or containers for disposal and/or laundering.
c. Employees shall not remove their respirators in the equipment room.
d. Employees shall shower prior to entering the clean room. If a shower has not been located between the equipment room and the clean room or the work is performed outdoors, the Contractor shall ensure that employees engaged in Class I asbestos jobs: a) Remove asbestos contamination from their work suits in the equipment room or decontamination area using a HEPA vacuum before proceeding to a shower that is not adjacent to the work area; or b) Remove their contaminated work suits in the equipment room, without cleaning worksuits, and proceed to a shower that is not adjacent to the work area.
e. After showering, employees shall enter the clean room before changing into street clothes.

1.12.6 Lunch Areas

The Contractor shall provide lunch areas in which the airborne concentrations of asbestos are below 0.01 f/cc.

1.12.7 Smoking

Smoking, shall not be permitted unless in designated areas approved by the Owner.

1.13 REGULATED AREAS

All Class I, II, and III asbestos work shall be conducted within regulated areas. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they shall demarcate the regulated area. Access to regulated areas shall be limited to authorized persons. The Contractor shall control access to regulated areas, ensure that only authorized personnel enter, and verify that Contractor required medical surveillance, training and respiratory protection program requirements are met prior to allowing entrance.

1.14 WARNING SIGNS AND TAPE

Warning signs and tape printed in English and Spanish shall be provided at the regulated boundaries and entrances to regulated areas. The Contractor shall ensure that all personnel working in areas contiguous to regulated areas comprehend the warning signs. Signs shall be located to allow personnel to read the signs and take the necessary protective steps required before entering the area. Warning signs, shall be in vertical format conforming to 29 CFR 1910 and 29 CFR 1926, Section .1101, a minimum of 500 by 350 mm 20 by 14 inches, and displaying the following legend in the lower panel:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE
REQUIRED IN THIS AREA

Spacing between lines shall be at least equal to the height of the upper of any two lines. Warning tape shall be provided.

1.15 WARNING LABELS

Warning labels shall be affixed to all asbestos disposal containers used to contain asbestos materials, scrap, waste debris, and other products contaminated with asbestos. Containers with preprinted warning labels conforming to requirements are acceptable. Warning labels conform to 29 CFR 1926, Section .1101 and shall be of sufficient size to be clearly legible displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

1.16 LOCAL EXHAUST VENTILATION

Local exhaust ventilation units shall conform to ANSI Z9.2 and 29 CFR 1926, Section .1101. Filters on local exhaust system equipment shall conform to ANSI Z9.2 and UL 586. Filter shall be UL labeled.

1.17 TOOLS

Vacuums shall be leak proof to the filter, equipped with HEPA filters, of sufficient capacity and necessary capture velocity at the nozzle or nozzle attachment to efficiently collect, transport and retain the ACM waste material. Power tools shall not be used to remove ACM unless the tool is equipped with effective, integral HEPA filtered exhaust ventilation capture and collection system, or has otherwise been approved for use by the Owner’s Representative. Residual asbestos shall be removed from reusable tools prior to storage and reuse. Reusable tools shall be thoroughly decontaminated prior to being removed from regulated areas.

1.18 RENTAL EQUIPMENT

If rental equipment is to be used, written notification shall be provided to the rental agency, concerning the intended use of the equipment, the possibility of asbestos contamination of the equipment and the steps that will be taken to decontaminate such equipment. A written acceptance of the terms of the Contractor's notification shall be obtained from the rental agency.

1.19 AIR MONITORING EQUIPMENT

The Owner’s Representative shall approve air monitoring equipment to be used to collect personal samples. The equipment shall include, but shall not be limited to:

a. Low-volume, battery powered, body-attachable, portable personal pumps that can be calibrated to a constant airflow up to approximately 3.5 liters per minute when equipped with a sampling train of tubing and filter cassette, and a self-contained rechargeable power pack capable of sustaining the calibrated flow rate for a minimum of 10 hours. The pumps shall also be equipped with an automatic flow control unit which shall maintain a constant flow, even as filter resistance increases due to accumulation of fiber and debris on the filter surface.

b. Single use standard 25 mm diameter cassette, open face, 0.8 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive extension cowl, and shrink bands, to be used with low flow pumps in accordance with 29 CFR 1926, Section .1101 for personal air sampling.
c. Single use standard 25 mm diameter cassette, open face, 0.45 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive cowl, and shrink bands, to be used with high flow pumps when conducting environmental area sampling using NIOSH Pub No. 84-100 Methods 7400 and 7402, (and the transmission electric microscopy method specified at 40 CFR 763 if required).
d. Appropriate plastic tubing to connect the air sampling pump to the selected filter cassette.
e. A flow calibrator capable of calibration to within plus or minus 2 percent of reading over a temperature range of minus 20 to plus 60 degrees C minus 4 to plus 140 degrees F and traceable to a NIST primary standard.

1.20 EXPENDABLE SUPPLIES

1.20.1 Glovebag: Glovebags shall be provided as described in 29 CFR 1926, Section .1101. The glovebag assembly shall be 0.15 mm 6 mil thick plastic, prefabricated and seamless at the bottom with preprinted OSHA warning label.

1.20.2 Duct Tape: Industrial grade duct tape of appropriate widths suitable for bonding sheet plastic and disposal container shall be provided.

1.20.3 Disposal Container: Leak-tight (defined as solids, liquids, or dust that cannot escape or spill out) disposal containers shall be provided for ACM wastes as required by 29 CFR 1926 Section .1101.

1.20.4 Disposal Bags: Leak-tight bags, 0.15 mm 6 mil thick, shall be provided for placement of asbestos generated waste.

1.20.5 Sheet Plastic: Sheet plastic shall be polyethylene of 0.15 mm 6 mil minimum thickness and shall be provided in the largest sheet size necessary to minimize seams. Film shall be frosted or clear and conform to ASTM D 4397, except as specified below:

1.20.5.1 Flame Resistant: Where a potential for fire exists, flame-resistant sheets shall be provided. Film shall be frosted and shall conform to the requirements of NFPA 701.

1.20.5.2 Reinforced: Reinforced sheets shall be provided where high skin strength is required, such as where it constitutes the only barrier between the regulated area and the outdoor environment. The sheet stock shall consist of translucent, nylon-reinforced or woven-polyethylene thread laminated between 2 layers of polyethylene film. Film shall meet flame resistant standards of NFPA 701.

1.20.6 Amended Water: Amended water shall meet the requirements of ASTM D 1331.

1.20.7 Mastic Removing Solvent: Mastic removing solvent shall be nonflammable and shall not contain methylene chloride, glycol ether, or halogenated hydrocarbons. Solvents used onsite shall have a flash point greater than 60 degrees C. 140 degrees F.

1.20.8 Leak-tight Wrapping: Two layers of 0.15 mm 6 mil minimum thick polyethylene sheet stock shall be used for the containment of removed asbestos-containing components or materials such as reactor vessels, large tanks, boilers, insulated pipe segments and other materials too large to be placed in

disposal bags. Upon placement of the ACM component or material, each layer shall be individually leak-tight sealed with duct tape.

1.20.9 Viewing Inspection Window: Where feasible, a minimum of 1 clear, 3 mm 1/8 inch thick, acrylic sheet, 450 by 610 mm 18 by 24 inches, shall be installed as a viewing inspection window at eye level on a wall in each containment enclosure. The windows shall be sealed leak-tight with industrial grade duct tape.

1.20.10 Wetting Agents: Removal encapsulant (a penetrating encapsulant) shall be provided when conducting removal abatement activities that require a longer removal time or are subject to rapid evaporation of amended water. The removal encapsulant shall be capable of wetting the ACM and retarding fiber release during disturbance of the ACM greater than or equal to that provided by amended water. Performance requirements for penetrating encapsulants are specified in paragraph ENCAPSULANTS.

1.21 MISCELLANEOUS ITEMS

A sufficient quantity of other items, such as, but not limited to: scrapers, brushes, brooms, staple guns, tarpaulins, shovels, rubber squeegees, dust pans, other tools, scaffolding, staging, enclosed chutes, wooden ladders, lumber necessary for the construction of containments, UL approved temporary electrical equipment, material and cords, ground fault circuit interrupters, water hoses of sufficient length, fire extinguishers, first aid kits, portable toilets, logbooks, log forms, markers with indelible ink, spray paint in bright color to mark areas, project boundary fencing, etc., shall be provided.

PART 2 PRODUCTS

2.1 ENCAPSULANTS

Encapsulants shall conform to USEPA requirements, shall contain no toxic or hazardous substances and no solvent and shall meet the following requirements:

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol
Life Expectancy, 20 yrs Accelerated Aging Test	ASTM C 732
Permeability, Min. 23 ng per Pa-sec-square m	ASTM E 96

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 730 N/m	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Min. 4.7 N-m (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 730 N/m	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Min.	ASTM D 2794

4.7 N-m (Gardner Impact Test)	
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119
Bond Strength, 1.5 kN/m (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol
Life Expectancy, 20 yrs Accelerated Aging Test	ASTM C 732
Permeability, Minimum 0.4 perms	ASTM E 96

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 50 pounds of force/foot	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Minimum 43 in-lb (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test,	ASTM E 736

50 pounds of force/foot	
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test(Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Minimum 43 in-lb (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test(Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119

ALL ENCAPSULANTS

Requirement	Test Standard
Bond Strength, 100 pounds of force/foot (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

2.2 ENCASEMENT PRODUCTS

This section has been deleted.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Asbestos abatement work tasks shall be performed as summarized in phase-specific Workplans which are to be used in conjunction with this master specification for abatement. The Contractor shall use the engineering controls and work practices required in 29 CFR 1926, Section .1101(g) in all operations regardless of the levels of exposure. Personnel shall wear and utilize protective clothing and equipment as specified. The Contractor shall not permit eating, smoking, drinking, chewing or applying cosmetics in the regulated area. All hot work (burning, cutting, welding, etc.) shall be conducted under controlled conditions in conformance with 29 CFR 1926, Section .352, Fire Prevention. Personnel of other trades, not engaged in asbestos abatement activities, shall not be exposed at any time to airborne concentrations of asbestos unless all the administrative and personal protective provisions of the Contractor's Accident Prevention Plan are complied with. Power to the regulated area shall be locked-out and tagged in accordance with 29 CFR 1910, and temporary electrical service with ground fault circuit interrupters shall be provided as needed. Temporary electrical service shall be disconnected when necessary for wet removal. The Contractor shall stop abatement work in the regulated area immediately when the airborne total fiber concentration: (1) equals or exceeds 0.01 f/cc, or the pre-abatement concentration, whichever is greater, outside the regulated area; or (2) equals or exceeds 1.0 f/cc inside the regulated area. The Contractor shall correct the condition to the satisfaction of the Owner’s Representative, including visual inspection and air sampling. Work shall resume only upon notification by the Owner’s Representative. Corrective actions shall be documented.

3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN

Asbestos abatement shall be performed without damage to or contamination of adjacent work or area. Where such work or area is damaged or contaminated, as verified by the Owner’s Representative using visual inspection or sample analysis, it shall be restored to its original condition or decontaminated by the Contractor at no expense to the Owner, as deemed appropriate by the Owner’s Representative. When satisfactory visual inspection and air sampling analysis results are obtained and have been evaluated by the Owner’s Representative, work shall proceed.

3.3 TEMPORARY POWER

The Contractor shall provide a temporary power system of sufficient capacity to provide for the electrical demand for work covered under this specification.

The Contractor shall shut down and lock out electric power to the entire work area, and any interruption of power to other parts of the building shall be minimal, and coordinated with the Owner.

Contractor shall insure a safe installation (including ground faulting) of temporary power sources and equipment, and; Compliance with all applicable electrical code requirements and Cal-OSHA requirements for temporary electrical systems.

The temporary electrical service shall be sized to provide 150% of the maximum demand of the Contractor's equipment during the performance of the Project. Contractor shall provide a power distribution schedule and amperage calculation for all electrical devices to be used.

Contractor shall ensure that all power cords are free of cuts, nicks or other damage. Power cords shall not be allowed to gather or coil where they may create a trip hazard. Power cords repaired with duct tape will not be permitted inside contained areas.

3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS

Building ventilating systems supplying air into or returning air out of a regulated area shall be shut down and isolated by lockable switch or other positive means in accordance with 29 CFR 1910, Section .147. Air-tight critical barriers shall be installed on building ventilating openings located inside the regulated area that supply or return air from the building ventilation system or serve to exhaust air from the building. The critical barriers shall consist of 2 layers of polyethylene. Edges to wall, ceiling and floor surfaces shall be sealed with industrial grade duct tape. Critical barriers shall be installed.

3.5 TEMPORARY FACILITIES

If it is deemed necessary during the bidding of the project, the abatement contractor will provide a trailer with two separate offices, large enough to serve as the job site office. The offices will be air conditioned and the power will be provided by the Owner. The Owner will direct the Contractor as to the location of said field office.

3.6 METHODS OF COMPLIANCE

3.6.1 Mandated Practices

The Contractor shall employ proper handling procedures in accordance with 29 CFR 1926 and 40 CFR 61, Subpart M, and the specified requirements. The specific abatement techniques and items identified shall be detailed in the Contractor's Asbestos Hazard Abatement Plan including, but not limited to, details of construction materials, equipment, and handling procedures. The Contractor shall use the following engineering controls and work practices in all operations, regardless of the levels of exposure:

a. Vacuum cleaners equipped with HEPA filters to collect debris and dust containing ACM.
b. Wet methods or wetting agents to control employee exposures during asbestos handling, mixing, removal, cutting, application, and cleanup; except where it can be demonstrated that the use of wet methods is unfeasible due to, for example, the creation of electrical hazards, equipment malfunction, and in roofing.
c. Prompt clean-up and disposal in leak-tight containers of wastes and debris contaminated with asbestos.
d. Inspection and repair of polyethylene in work and high traffic areas.
e. Cleaning of equipment and surfaces of containers filled with ACM prior to removing them from the equipment room or area.

3.6.2 Control Methods

The Contractor shall use the following control methods to comply with the PELs:

a. Local exhaust ventilation equipped with HEPA filter dust collection systems;
b. Enclosure or isolation of processes producing asbestos dust;
c. Ventilation of the regulated area to move contaminated air away from the breathing zone of employees and toward a filtration or collection device equipped with a HEPA filter;
d. Use of other work practices and engineering controls;
e. Where the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the PELs, the Contractor shall use them to reduce

employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with paragraph, RESPIRATORY PROTECTION PROGRAM.

3.6.3 Unacceptable Practices

The following work practices and engineering controls shall not be used for work related to asbestos or for work which disturbs ACM, regardless of measured levels of asbestos exposure or the results of initial exposure assessments:

a. High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
b. Compressed air used to remove asbestos, or materials containing asbestos, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.
c. Dry sweeping, shoveling, or other dry clean-up of dust and debris containing ACM.
d. Employee rotation as a means of reducing employee exposure to asbestos.

3.6.4 Class I Work Procedures

In addition to requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the installation and operation of the control system.
b. For jobs involving the removal of more than 7.5 m 25 feet or 0.9 square meters 10 square feet of TSI or surfacing material, the Contractor shall place critical barriers over all openings to the regulated area.
c. HVAC systems shall be isolated in the regulated area by sealing with a double layer of plastic or air-tight rigid covers.
d. Impermeable dropcloths (0.15 mm 6 mil or greater thickness) shall be placed on surfaces beneath all removal activity.
e. Objects within the regulated area shall be handled as specified in paragraph OBJECTS.
f. Where a negative exposure assessment has not been provided or where exposure monitoring shows the PEL was exceeded, the regulated area shall be ventilated to move contaminated air away from the employee's breathing zone toward a HEPA unit or collection device.

3.6.5 Specific Control Methods for Class I Work

In addition to requirements of paragraph Class I Work Procedures, Class I asbestos work shall be performed using the control methods identified in
the subparagraphs below.

3.6.5.1 Negative Pressure Enclosure (NPE) System: The system shall provide at least 4 air changes per hour inside the containment. The local exhaust unit equipment shall be operated 24 hours per day until the containment is removed, and shall be leak-proof to the filter and equipped with HEPA filters. Air movement shall be directed away from the employees and toward a HEPA filtration device. The NPE shall be smoke tested for leaks at the beginning of each shift. Local exhaust equipment shall be sufficient to maintain a minimum pressure differential of minus 0.5 mm 0.02 inch of water column relative to adjacent, unsealed areas. Pressure differential shall be monitored continuously, 24 hours per day, with an automatic manometric recording instrument. Pressure differential recordings shall be provided daily on the same day collected. Readings shall be reviewed by the Contractor's Designated Competent Person and Owner’s Representative. The building ventilation system shall

not be used as the local exhaust system for the regulated area. The local exhaust system shall terminate outdoors unless an alternate arrangement is allowed by the Owner. All filters used shall be new at the beginning of the project and shall be periodically changed as necessary and disposed of as ACM waste.

3.6.5.2 Glovebag Systems: The glovebag system shall be used to remove ACM from straight runs of piping and elbows and other connections. Glovebags shall be used without modification and shall be smoke-tested for leaks and any leaks sealed prior to use. Glovebags shall be installed to completely cover the circumference of pipe or other structures where the work is to be done. Glovebags shall be used only once and shall not be moved. Glovebags shall not be used on surfaces that have temperatures exceeding 66 degrees C. 150 degrees F. Prior to disposal, glovebags shall be collapsed by removing air within them using a HEPA vacuum. Before beginning the operation, loose and friable material adjacent to the glovebag operation shall be wrapped and sealed in 2 layers of plastic or otherwise rendered intact. At least 2 persons shall perform Class I glovebag removal. Asbestos regulated work areas shall be established as specified and shown on detailed drawings and plans for glovebag abatement. Designated boundary limits for the asbestos work shall be established with rope or other continuous barriers and all other requirements for asbestos control areas shall be maintained, including area signage and boundary warning tape.

a. In addition to requirements for negative pressure glovebag systems above, the Contractor shall attach HEPA vacuum systems or other devices to the bag to prevent collapse during removal of ACM from straight runs of piping and elbows and other connections.

b. The negative pressure glove boxes used to remove ACM from pipe runs shall be fitted with gloved apertures and a bagging outlet and constructed with rigid sides from metal or other material which can withstand the weight of the ACM and water used during removal. A negative pressure shall be created in the system using a HEPA filtration system. The box shall be smoke tested for leaks prior to each use.

3.6.5.3 Mini-Enclosures: Mini-containment (small walk-in enclosure)to accommodate no more than 2 persons, may be used if the disturbance or removal can be completely contained by the enclosure with the following specifications and work practices. The mini-enclosure shall be inspected for leaks and smoke tested before each use. Air movement shall be directed away from the employee's breathing zone within the mini-enclosure.

3.6.5.4 Wrap and Cut Operation: Prior to cutting pipe, the asbestos-containing insulation shall be wrapped with polyethylene and securely sealed with duct tape to prevent asbestos becoming airborne as a result of the cutting process. The following steps shall be taken: install glovebag, strip back sections to be cut 150 mm 6 inches from point of cut, and cut pipe into manageable sections.

3.6.6 Class II Work

In addition to the requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the work.
b. For indoor work, critical barriers shall be placed over all openings to the regulated area.
c. Impermeable dropcloths shall be placed on surfaces beneath all removal activity.

3.6.7 Specific Control Methods for Class II Work

In addition to requirements of paragraph Class II Work, Class II work shall be performed using the following methods:

3.6.7.1 Vinyl and Asphalt Flooring Materials: When removing vinyl and asphalt flooring materials [which contain ACM] Resilient sheeting shall be removed by adequately wet methods. Tiles shall be removed intact (if possible); wetting is not required when tiles are heated and removed intact. Flooring or its backing shall not be sanded. Scraping of residual adhesive and/or backing shall be performed using wet methods. Mechanical chipping is prohibited unless performed in a negative pressure enclosure. Dry sweeping is prohibited. The Contractor shall use vacuums equipped with HEPA filter, disposable dust bag, and metal floor tool (no brush) to clean floors.

3.6.7.2 Roofing Material: Roofing material shall be removed in an intact state. Wet methods shall be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards. When removing built-up roofs, with asbestos-containing roofing felts and an aggregate surface, using a power roof cutter, all dust resulting from the cutting operations shall be collected by a HEPA dust collector, or shall be HEPA vacuumed by vacuuming along the cut line. Asbestos-containing roofing material shall not be dropped or thrown to the ground, but shall be lowered to the ground via covered, dust-tight chute, crane, hoist or other method approved by the Owner's Representative. Any ACM that is not intact shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. While the material remains on the roof it shall be kept wet or placed in an impermeable waste bag or wrapped in plastic sheeting. Intact ACM shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. Unwrapped material shall be transferred to a closed receptacle precluding the dispersion of dust. Critical barriers shall be placed over roof level heating and ventilation air intakes.

3.6.7.3 Cementitious Siding and Shingles or Transite Panels: Intentionally cutting, abrading or breaking siding, shingles, or transite panels is prohibited. Each panel or shingle shall be sprayed with amended water prior to removal. Nails shall be cut with flat, sharp instruments. Unwrapped or unbagged panels or shingles shall be immediately lowered to the ground via covered dust-tight chute, crane or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.

3.6.7.4 Gaskets: Gaskets shall be thoroughly wetted with amended water prior to removal and immediately placed in a disposal container. If a gasket is visibly deteriorated and unlikely to be removed intact, removal shall be undertaken within a glovebag. Any scraping to remove residue shall be performed wet.

3.6.7.5 Other Class II Jobs: The Contractor shall use the following work practices when performing Class II removal miscellaneous ACM: The material shall be thoroughly wetted with amended water prior and during its removal. The material shall be removed in an intact state. Cutting, abrading or breaking the material is prohibited. The ACM removed shall be immediately bagged or wrapped.

3.6.8 Specific Control Methods for Class III Work

Class III asbestos work shall be conducted using engineering and work practice controls which minimize the exposure to employees performing the asbestos work and to bystander employees. The work shall be performed using wet methods and, to the extent feasible, using local exhaust ventilation. The Contractor shall use impermeable dropcloths and shall isolate the operation, using mini-enclosures or glovebag systems, where the disturbance involves drilling, cutting, abrading, sanding, chipping, breaking, or sawing of TSI or surfacing material.

3.6.9 Specific Control Methods for Class IV Work

Class IV jobs shall be conducted using wet methods, HEPA vacuums, and prompt clean-up of debris containing ACM. Employees cleaning up debris and waste in a regulated area where respirators are required shall wear the selected respirators.

3.6.10 Alternative Methods for Roofing Materials and Asphaltic Wrap

The Contractor shall use the following engineering controls and work practices when removing, repairing, or maintaining intact pipeline asphaltic wrap, or roof cements, mastics, coatings, or flashings which contain asbestos fibers encapsulated or coated by bituminous or resinous compounds. If during the course of the job the material does not remain intact, the Contractor shall use the procedures described in paragraph Roofing Material. Before work begins, and as needed during the job, the Designated Competent Person shall conduct an inspection and determine that the roofing material is intact and will likely remain intact. The material shall not be sanded, abraded, or ground. Manual methods which would render the material non-intact shall not be used. Roofing material shall not be dropped or thrown to the ground but shall be lowered via covered, dust-tight chute, crane, hoist or other method approved by the Owner's Representative. All such material shall be removed from the roof as soon as practicable, but not later than the end of the work shift. Removal or disturbance of pipeline asphaltic wrap shall be performed using wet methods.

3.6.11 Cleaning After Asbestos Removal

After completion of all asbestos removal work, surfaces from which ACM has been removed shall be wet wiped or sponged clean, or cleaned by some equivalent method to remove all visible residue. Run-off water shall be collected and filtered through a dual filtration system. A first filter shall be provided to remove fibers 20 micrometers and larger, and a final filter provided that removes fibers 5 micrometers and larger. After the gross amounts of asbestos have been removed from every surface, remaining visible accumulations of asbestos on floors shall be collected using plastic shovels, rubber squeegees, rubber dustpans, and HEPA vacuum cleaners as appropriate to maintain the integrity of the regulated area. When TSI and surfacing material has been removed, workmen shall use HEPA vacuum cleaners to vacuum every surface. Surfaces or locations which could harbor accumulations or residual asbestos dust shall be checked after vacuuming to verify that no asbestos-containing material remains; and shall be re-vacuumed as necessary to remove the ACM.

3.7 FINAL CLEANING AND VISUAL INSPECTION

Upon completion of abatement, the regulated area shall be cleaned by collecting, packing, and storing all gross contamination. A final cleaning shall be performed using HEPA vacuum and wet cleaning of all exposed surfaces and objects in the regulated area. Upon completion of the cleaning, the Contractor shall conduct a visual pre-inspection of the cleaned area in preparation for a final inspection before final air clearance monitoring and recleaning, as necessary. Upon completion of the final cleaning, the Contractor and the Owner's Representative shall conduct a final visual inspection of the cleaned regulated area in accordance with ASTM E 1368 and document the results. If the Owner's Representative rejects the clean regulated area as not meeting final cleaning requirements, the Contractor shall reclean as necessary and have a follow-on inspection conducted with the Owner's Representative. Recleaning and follow-up reinspection shall be at the Contractor's expense.

3.8 LOCKDOWN

Prior to removal of plastic barriers and after clean-up of gross contamination and final visual inspection, a post removal (lockdown) encapsulant shall be spray applied to ceiling, walls, floors, and other surfaces in the regulated area.

3.9 EXPOSURE ASSESSMENT AND AIR MONITORING

3.9.1 General Requirements For Exposure

Exposure assessment, air monitoring and analysis of airborne concentration of asbestos fibers shall be performed in accordance with 29 CFR 1926, Section .1101, the Contractor's air monitoring plan, and as specified. Personal exposure air monitoring (collected at the breathing zone) that is representative of the exposure of each employee who is assigned to work within a regulated area shall be performed by the Contractor. Breathing zone samples shall be taken for at least 25 percent of the workers in each shift, or a minimum of 2, whichever is greater. Air monitoring results at the 95 percent confidence level shall be calculated as shown in Table 2 at the end of this section. The Owner's Representative will provide an onsite technician and appropriate equipment to conduct sample analyses of air samples using the methods prescribed in 29 CFR 1926, Section .1101, to include NIOSH Pub No. 84-100 Method 7400.] Preabatement and abatement environmental air monitoring shall be performed by the Owner's Representative. Final clearance environmental air monitoring, shall be performed by the Owner's Representative. Environmental and final clearance air monitoring shall be performed using [NIOSH Pub No. 84-100 Method 7400 (PCM) with optional confirmation of results by the EPA TEM Method specified in 40 CFR 763. For environmental and final clearance, air monitoring shall be conducted at a sufficient velocity and duration to establish the limit of detection of the method used at 0.005 f/cc. Confirmation of asbestos fiber concentrations (asbestos f/cc) from environmental and final clearance samples collected and analyzed by NIOSH Pub No. 84-100 Method 7400 (total f/cc) may be conducted using TEM in accordance with NIOSH Pub No. 84-100 Method 7402. When such confirmation is conducted, it shall be from the same sample filter used for the NIOSH Pub No. 84-100 Method 7400 PCM analysis. For all Contractor required environmental or final clearance air monitoring, confirmation of asbestos fiber concentrations, using NIOSH Pub No. 84-100 Method 7402, shall be at the Contractor's expense. Results of breathing zone samples shall be posted at the job site and made available to the Owner's Representative. The Contractor shall maintain a fiber concentration inside a regulated area less than or equal to 0.1 f/cc expressed as an 8 hour, time-weighted average (TWA) during the conduct of the asbestos abatement. If fiber concentration rises above 0.1 f/cc, work procedures shall be investigated with the Owner's Representative to determine the cause. At the discretion of the Owner's Representative, fiber concentration may exceed 0.1 f/cc but shall not exceed 1.0 f/cc expressed as an 8-hour TWA. The Contractor's workers shall not be exposed to an airborne fiber concentration in excess of 1.0 f/cc, as averaged over a sampling period of 30 minutes. Should either an environmental concentration of 1.0 f/cc expressed as an 8-hour TWA or a personal excursion concentration of 1.0 f/cc expressed as a 30-minute sample occur inside a regulated work area, the Contractor shall stop work immediately, notify the Owner's Representative, and implement additional engineering controls and work practice controls to reduce airborne fiber levels below prescribed limits in the work area. Work shall not restart until authorized by the Owner's Representative.

3.9.2 Initial Exposure Assessment

The Contractor shall conduct an exposure assessment immediately before or at the initiation of an asbestos abatement operation to ascertain expected exposures during that operation. The assessment shall be completed in time to comply with the requirements which are triggered by

exposure data or the lack of a negative exposure assessment, and to provide information necessary to assure that all control systems planned are appropriate for that operation. The assessment shall take into consideration both the monitoring results and all observations, information or calculations which indicate employee exposure to asbestos, including any previous monitoring conducted in the workplace, or of the operations of the Contractor which indicate the levels of airborne asbestos likely to be encountered on the job.

3.9.3 Negative Exposure Assessment

The Contractor shall provide a negative exposure assessment for the specific asbestos job which will be performed. The negative exposure assessment shall be provided within five days of the initiation of the project and conform to the following criteria:

a. Objective Data: Objective data demonstrating that the product or material containing asbestos minerals or the activity involving such product or material cannot release airborne fibers in concentrations exceeding the PEL-TWA and PEL-Excursion Limit under those work conditions having the greatest potential for releasing asbestos.

b. Prior Asbestos Jobs: Where the Contractor has monitored prior asbestos jobs for the PEL and the PEL-Excursion Limit within 12 months of the current job, the monitoring and analysis were performed in compliance with asbestos standard in effect; the data were obtained during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the Contractor's current operations; the operations were conducted by employees whose training and experience are no more extensive than that of employees performing the current job; and these data show that under the conditions prevailing and which will prevail in the current workplace, there is a high degree of certainty that the monitoring covered exposure from employee exposures will not exceed the PEL-TWA and PEL-Excursion Limit.

c. Initial Exposure Monitoring: The results of initial exposure monitoring of the current job, made from breathing zone air samples that are representative of the 8-hour PEL-TWA and 30-minute short-term exposures of each employee. The monitoring covered exposure from operations which are most likely during the performance of the entire asbestos job to result in exposures over the PELs.

3.9.4 Preabatement Environmental Air Monitoring

Preabatement environmental air monitoring shall be established prior to the masking and sealing operations for each regulated area to determine background concentrations before abatement work begins. As a minimum, preabatement air samples shall be collected using NIOSH Pub No. 84-100 Method 7400, PCM at these locations: outside the building; inside the building, but outside the regulated area perimeter; and inside each regulated work area. One sample shall be collected for every 185 square meters 2000 square feet of floor space. At least 2 samples shall be collected outside the building: at the exhaust of the HEPA unit; and downwind from the abatement site. The PCM samples shall be analyzed within 24 hours; and if any result in fiber concentration greater than 0.01 f/cc, asbestos fiber concentration shall be confirmed using NIOSH Pub No. 84-100 Method 7402 (TEM).

3.9.5 Environmental Air Monitoring During Abatement

Environmental air monitoring shall be conducted at locations and frequencies that will accurately characterize any evolving airborne asbestos fiber concentrations. The assessment shall demonstrate that the product or material containing asbestos minerals, or the abatement involving such product or material, cannot release airborne asbestos fibers in concentrations exceeding 0.01 f/cc as a TWA under those work conditions having the greatest potential for releasing asbestos. The monitoring shall be at least once per shift at locations including, but not limited to, close to the work inside a regulated area; preabatement sampling locations; outside entrances to a regulated area; close to glovebag operations; representative locations outside of the perimeter of a regulated area; inside clean room; and at the exhaust discharge point of local exhaust system ducted to the outside of a containment (if used). If the sampling outside regulated area shows airborne fiber levels have exceeded background or 0.01 f/cc, whichever is greater, work shall be stopped immediately, and the Owner's Representative notified. The condition causing the increase shall be corrected. Work shall not restart until authorized by the Owner's Representative.

3.9.6 Final Clearance Air Monitoring

Prior to conducting final clearance air monitoring, the Contractor and the Owner's Representative shall conduct a final visual inspection of the regulated area where asbestos abatement has been completed. Final clearance air monitoring shall not begin until acceptance of the Contractor's final cleaning by the Owner's Representative. The Owner's Representative will] conduct final clearance air monitoring using aggressive air sampling techniques as defined in EPA 560/5-85-024 or as otherwise required by federal or state requirements. The sampling and analytical method used will be NIOSH Pub No. 84-100Method 7400 (PCM.

3.9.6.1 Final Clearance Requirements, NIOSH PCM Method: For PCM sampling and analysis using NIOSH Pub No. 84-100 Method 7400, the fiber concentration inside the abated regulated area, for each airborne sample, shall be less than 0.01 f/cc. The abatement inside the regulated area is considered complete when every PCM final clearance sample is below the clearance limit. If any sample result is greater than 0.01 total f/cc, the asbestos fiber concentration (asbestos f/cc) shall be confirmed from that same filter using NIOSH Pub No. 84-100 Method 7402 (TEM) at Contractor's expense. If any confirmation sample result is greater than 0.01 asbestos f/cc, abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.6.2 Final Clearance Requirements, EPA TEM Method: For EPA TEM sampling and analysis, using the EPA Method specified in 40 CFR 763, abatement inside the regulated area is considered complete when the arithmetic mean asbestos concentration of the 5 inside samples is less than or equal to 70 structures per square millimeter (70 S/mm). When the arithmetic mean is greater than 70 S/mm, the 3 blank samples shall be analyzed. If the 3 blank samples are greater than 70 S/mm, resampling shall be done. If less than 70 S/mm, the 5 outside samples shall be analyzed and a Z-test analysis performed. When the Z-test results are less than 1.65, the decontamination shall be considered complete. If the Z-test results are more than 1.65, the abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.6.3 Air Clearance Failure: If clearance sampling results fail to meet the final clearance requirements, the Contractor shall pay all costs associated with the required recleaning, resampling, and analysis, until final clearance requirements are met.

3.9.7 Air-Monitoring Results and Documentation

Air sample fiber counting shall be completed and results provided within 24 hours (breathing zone samples) after completion of a sampling period. The Owner's Representative shall be notified immediately of any airborne levels of asbestos fibers in excess of established requirements. Written sampling results shall be provided within 5 working days of the date of collection. The written results shall be signed by testing laboratory analyst. The air sampling results shall be documented on a Contractor's daily air monitoring log. The daily air monitoring log shall contain the following information for each sample:

a. Sampling and analytical method used;
b. Date sample collected;
c. Sample number;
d. Sample type: BZ = Breathing Zone (Personal)
e. Activity/name where sample collected;
f. Sampling pump manufacturer, model and serial number, beginning flow rate, end flow rate, average flow rate (L/min);
g. Calibration date, time, method, location, name of calibrator, signature;
h. Sample period (start time, stop time, elapsed time (minutes);
i. Total air volume sampled (liters);
j. Sample results (f/cc and S/mm square)
k. Laboratory name, location, analytical method, analyst, confidence level.

3.10 CLEARANCE CERTIFICATION

When asbestos abatement is complete, ACM waste is removed from the regulated areas, and final clean-up is completed, the Owner's Representative will certify the areas as safe before allowing the warning signs and boundary warning tape to be removed. The Contractor and the Owner's Representative shall visually inspect all surfaces within the containment for residual material or accumulated debris. The Contractor shall reclean all areas showing dust or residual materials. The Owner's Representative will certify in writing that the area is safe before unrestricted entry is permitted.

3.11 CLEANUP AND DISPOSAL

3.11.1 Collection and Disposal of Asbestos

All ACM waste including contaminated wastewater filters, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing, shall be collected and placed in leak-tight containers such as double plastic bags; sealed double wrapped polyethylene sheet: or other approved containers. Waste within the containers shall be wetted in case the container is breeched. Asbestos-containing waste shall be disposed of at an EPA, state and local approved asbestos landfill. For temporary storage, sealed impermeable containers shall be stored in an asbestos waste load-out unit or in a storage/transportation conveyance (i.e., dumpster, roll-off waste boxes, etc.) in a manner acceptable to and in an area assigned by the Owner's Representative. Procedure for hauling and disposal shall comply with 40 CFR 61, Subpart M, state, regional, and local standards.

3.11.2 Asbestos Waste Shipment Record

The Contractor shall complete and provide the Owner's Representative final completed copies of the Waste Shipment Record for all shipments of waste material as specified in 40 CFR 61, Subpart M and other required state waste manifest shipment records, within 3 days of delivery to the landfill. Each Waste Shipment Record shall be signed and dated by the Contractor, Owner or Owner's Representative, the waste transporter and disposal facility operator.

End of Asbestos Abatement Specifications

DIVISION 03. GENERAL REQUIREMENTS FOR LEAD ABATEMENT

PART 1 GENERAL

1.1 REFERENCES

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

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 148	Hazardous Waste Injection Restrictions
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 268	Land Disposal Restrictions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD)

HUD-01 (1996)	Lead-Based Paint: Guidelines for the Availability and Control of Lead-Based Paint Hazards in Housing

CALIFORNIA CODE OF REGULATIONS

Title 17, CCR, Div. 1, Ch. 8	Accreditation, Certification And Work Practices In Lead-Related Construction

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH OSHA Booklet 3142 Lead in Construction

UNDERWRITERS LABORATORIES (UL)

UL 586 (1996)	High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

A. Abatement: "Abatement" means any set of measures designed to reduce or eliminate lead hazards.

B. Accreditation: The Department has reviewed and finds acceptable a training provider's written application for accreditation, and has conducted and finds acceptable, an on-site audit as specified in Subsection 35078(f).

C. Accredited Training Provider: "Accredited training provider" means any individual, corporation, partnership or other unincorporated association or public entity to which the Department has granted accreditation or provisional accreditation to offer lead-related construction courses and continuing education instruction.

D. Certified Lead Supervisor: "Certified lead supervisor" means an individual who is responsible for implementing lead-related construction work and enforcing work practices that ensure worker safety in residential or public buildings and who has received a certificate or an interim certificate from the Department as a "certified lead supervisor".

E. Certified Lead Worker: "Certified lead worker" means an individual who performs lead-related construction work in residential or public buildings under the direction of a certified lead supervisor and has received a certificate from the Department as a "certified lead worker".

F. Clearance Inspection: "Clearance inspection" means an on-site limited investigation, as described in Chapter 15: Clearance, Sections II-VI, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.

G. Component: "Component" means a structural element or fixture, including a wall, floor, ceiling, door, window, molding, trim, trestle, tank, stair, railing, cabinet, gutter, or downspout.

H. Containment: "Containment" means a system, process, or barrier used to contain lead hazards inside a work area as described in "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, Chapter 8, "Containment and Barrier Systems," Table 8.1, Table 8.2, and Table 8.3.

I. Department: "Department" means the California Department of Health Services (DHS).

J. Deteriorated Paint: Deteriorated paint" means paint or surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, or otherwise separating from a component.

K. DHS-Approved Course: "DHS-Approved course" means any lead-related construction course that satisfies the requirements specified in Sections, 35056, 35057, 35061, 35065, 35066, or 35067 as determined by DHS pursuant to Sections 35076 and 35078.

L. Interim Certificate: "Interim certificate" means the document issued by the Department to an individual who meets requirements for interim certification as described in Section 35093.

M. Job Tasks: "Job tasks" mean the specific activities performed in the context of work.

N. Lead-Based Paint: Lead-based paint" means paint or other surface coatings that contain an amount of lead equal to, or in excess of one milligram per square centimeter (1.0 mg/cm2) or more than half of one percent (0.5%) by weight.

O. Lead-Contaminated Dust: "Lead-contaminated dust" means dust that contains an amount of lead equal to, or in excess of, one hundred micrograms per square foot (100_g/ft2) for floor surfaces and five hundred micrograms per square foot (500 _g/ft2) for horizontal window surfaces.

P. Lead-Contaminated Soil: "Lead-contaminated soil" means bare soil that contains an amount of lead equal to, or in excess of, four hundred parts per million (400 ppm) in children's play areas and one thousand parts per million (1000 ppm) in all other areas.

Q. Lead Hazard: "Lead hazard" means deteriorated lead-based paint, lead contaminated dust, lead contaminated soil, disturbing lead-based paint or presumed lead-based paint without containment, or any other nuisance which results in environmental lead contamination.

R. Lead-Related Construction Work: "Lead-related construction work" means any construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential or public building, including preparation and cleanup, that, by using or disturbing lead-containing material or soil, may result in significant exposure of adults or children to lead.

S. Presumed Lead-Based Paint: "Presumed lead-based paint" means paint or surface coating affixed to a component in or on a structure, excluding paint or surface coating affixed to a component in or on a residential dwelling constructed on or after January 1, 1978.

T. Public Building: "Public building" means a structure which is generally accessible to the public, including but not limited to, schools, daycare centers, museums, airports, hospitals, stores, convention centers, government facilities, office buildings and any other building which is not an industrial building or a residential building.

U. Residential Building; "Residential building" means a structure which is used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of one or more persons.

V. Work Area: "Work area" means an area where lead-based paint or presumed lead-based paint is disturbed, or abatement is conducted.

1.3 DESCRIPTION OF WORK

The scope of this project is to remove LBP and lead ceramics where they are to be impacted by the planned modernizations. Lead components likely to be impacted identified at the site include the door frames on Building B, Restroom door frames in Building D and the ceramic baseboard tile in the K Building.

1.4 SUBMITTALS

1.4.1 Lead-Based Paint (LBP) Management Plan; The Contractor shall prepare a detailed LBP Management Plan that identifies the work procedures, health, and safety measures to be used in LBP abatement. The plan shall address the various sources of lead and the methods to be undertaken to abate the lead hazards to include the following key elements:

a. Abatement methods for each LBP containing component.
b. Training requirements as required by Federal, state, and local regulations.
c. Unique problems associated with the LBP abatement project.
d. Eating, drinking, smoking, and rest room procedures.
e. Sequencing of LBP related work.
f. Personnel protective equipment; respiratory protection program and controls.

g. Engineering controls, containment structures and safety measures.
h. Worker exposure assessment procedures.
i. Work Practice controls.
j. Housekeeping.
k. Hygiene facilities and practice.
l. Medical surveillance, including medical removal protection.
m. Sampling, testing and analytical methods to include personal air sampling requirements of 29 CFR 1926 Section .62 and toxicity characteristic leaching procedure (TCLP) of the waste material in accordance with 40 CFR 261. Procedures must include frequency, locations, and sampling and analytical methods to be used.

1.6.1 Emergency Contingency Plan; An emergency contingency plan shall be prepared in accordance with 40 CFR 261. Procedure must address the following LBP abatement hazards as appropriate to the project:

a. Negative air pressure system failure.
b. Major breech of containment barriers.
c. Detection of unexpected lead levels on adjacent grounds.
d. Spilling of lead debris bags or containers.
e. Phone numbers for project manager, local fire, police and medical personnel.

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

a. Identification or documentation of potential hazardous wastes associated with the work.
b. Names and qualifications of each Contractor that will be transporting, storing, treating, and disposing of the wastes; the facility location, phone number, and name of a 24-hour point of contact shall be included. Two copies of EPA, state, and local hazardous waste permit applications, permits, and EPA identification numbers.
c. Names and qualifications (experience and training) of personnel who will be working onsite with hazardous waste.
d. Spill prevention, containment, and clean-up contingency measures to be implemented.
g. Work plan and schedule for waste containment, removal, and disposal. Waste shall be cleaned up and containerized daily.

1.6.2 Sampling Result; A daily log of the personal air sampling test results shall be reviewed by the Competent Person 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. Documentation of results that exceed specified limits (personal air samples that exceed 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.

1.5 QUALITY ASSURANCE

1.5.1 Qualifications

a. Contractor: Certification that the Contractor has prior experience on LBP abatement projects similar in nature and extent to ensure the capability to perform the abatement in a satisfactory manner.
b. Competent Person: Certification that the Contractor's full-time onsite Competent Person meets the competent person requirements of 29 CFR 1926 Section .62 and Title 8 and is experienced in administration and supervision of LBP abatement projects, including work practices, protective measures for building and personnel, disposal procedures, etc. This person shall have completed a Contractor Supervisor LBP abatement course by an EPA Training Center or an equivalent certification course, and have had a minimum of 2 years on-the-job experience.

c. Testing Laboratory: The name, address, and telephone number of the independent testing laboratory selected to perform analysis] for personal air samples and TCLP analysis. Documentation that the laboratory performing the analysis is an EPA National Lead Laboratory Accreditation Program (NLLAP) and California ELAP accredited laboratory and that it is rated proficient in the NIOSH/EPA Environmental Lead Proficiency Analytical Testing Program (ELPAT). 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.

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.

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); High Efficiency Particulate Air (HEPA) filtration capabilities for all cartridges, filters, and HEPA vacuum systems.

1.5.4 Medical Records: Certification that employees who are involved in LBP abatement work have received medical examinations and will receive continued medical surveillance, including biological monitoring, as required by 29 CFR 1926 Section .62 and by the state and local regulations pertaining to such work. Records shall be retained, at Contractor expense, in accordance with 29

1.5.5 Training: Training certification shall be provided prior to the start of work involving LBP abatement, for all of the Contractors' workers, supervisors and Competent Person. Training shall meet the requirements of 29 CFR 1926 Section .62, 29 CFR 1926 Section .59 and 49 CFR 172, and that required by EPA or the state LBP course for the work to be performed. Training shall be provided prior to the time of job assignment and, at least, annually.

1.6 RESPIRATORY PROTECTION PROGRAM

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

1.7 HAZARD COMMUNICATION PROGRAM

A Hazard Communication Program shall be implemented in accordance with 29 CFR 1926 Section .59. Material safety data sheets (MSDSs) shall be provided for all hazardous materials brought onto the worksite. One copy shall be provided to the Owner's Representative and 1 copy shall be included in the Contractor's Hazard Communication Program.

1.8 SAFETY AND HEALTH OVERSIGHT

The Competent Person shall be the onsite person responsible for coordination, safety, security and execution of the work. The Competent Person shall be able to identify existing and predictable lead hazards and shall have the authority to take corrective measures to eliminate them. The Competent Person shall be responsible for personal sampling.

PART 2 PRODUCTS

2.1 SUBSTITUTION OF MATERIALS AND/ OR METHODS

A. Any substitution in materials or methods to those specified shall be approved by the Owner's Representative prior to use. Any requests for substitution shall be provided in writing to the Consultant and the Owner. The request shall clearly state the rationale for the substitution.

B. Submit to the Owner's Representative and the Owner product data and samples of all materials to be considered as an alternate.

C. Product data shall consist of manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, material safety data sheets (MSDS) and other standard descriptive data. Submittal data shall be clearly marked to identify pertinent materials, products or models and show performance characteristics and capacities. Samples shall be of sufficient size and quantity to clearly illustrate the functional characteristics of the product or material with integrally related parts and attachment devices.

D. No work shall begin which requires submittal for approval until the Owner's Representative has "approved" or "approved as noted" the submittal.

2.2 INTRODUCTION

2.2.1 Materials and Equipment

A. The work of this Section, without limiting the generality thereof, includes the furnishing of labor, materials, tools, equipment, services and incidentals necessary to complete all Lead Based Paint Abatement in accordance with the Plans and Specifications. These Plans and Specifications are intended to describe, and provide for a finished and complete piece of work; work which is described by any portion of these documents shall be complete in every detail and in accordance with established trade practice, notwithstanding whether or not every item or detail necessarily involved is particularly mentioned.

B. Approvals and Inspections. All temporary facilities, work procedures, equipment, materials, services, and agreements must strictly adhere to and meet this Section along with EPA, OSHA, NIOSH, HUD regulations recommendations, and guidelines, as well as any other federal state, and local regulations. Where there exists an overlap of these regulations and guidelines, the most stringent one applies. All work performed by the Abatement Contractor is further subject to approval of the Owner, and/ or Owner's Representative.

2.2.2 Materials

A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description.

B. Damaged or deteriorating materials shall not be used and shall be removed from the premises.

C. Polyethylene sheet in a roll size to minimize the frequency of joints shall be delivered to job site with factory label indicating 6 mil.

D. Polyethylene disposable bags shall be six (6) mil with pre- printed label. Tie wraps for bags shall be plastic, five (5) inches long (minimum), pointed and looped to secure filled plastic bags.

E. Tape or adhesive spray will be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.

F. Impermeable containers are to be used to receive and retain any lead containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with EPA and DOT standards.

G. HEPA filtered exhaust systems shall be used during any dust generating abatement operations.

H. All caustics shall be properly labeled and containerized in leak- tight containers.

I. Machine Sanding Equipment - Sanders shall be of the dual action, rotary action, orbital or straight line system type, fitted with a high efficiency particulate air (HEPA) dust pick- up system. Air compressors utilized to operate this equipment shall be designed to continuously provide 90 to 110 p. s. i. or as recommended by the manufacturer.

J. Heat Blower Gun Equipment - Electrically- operated, heat- blower gun shall be a flameless electrical paint softener type. Heat- blower shall have electronically controlled temperature settings to allow usage below a temperature of 1,100 degrees Fahrenheit. Heat- blower shall be DI type (non-grounded) 120 V, AC application. Heat- blower shall be equipped with various nozzles to cover all common applications (cone, fan, glass protector, spoon reflector, etc.).

K. Chemical Stripping Removers - Chemical removers shall contain no methylene chloride products. Chemical removers shall be compatible with, and not harmful to the substrate that they are applied to. Chemical removers used on masonry surfaces shall contain anti- stain formulation that inhibits discoloration of stone, granite, brick and other masonry construction. Chemical removers used on interior surfaces shall not raise or discolor the surface being abated.

L. Chemical Stripping Agent Neutralizer - Chemical stripping agent neutralizers may be used on exterior surfaces only. Neutralizers shall be compatible with and not harmful to the substrate that they are applied to. Neutralizers shall be compatible with the stripping agent that has been applied to the surface substrate.

2.2.3 TOOLS AND EQUIPMENT

A. Provide suitable tools for all abatement operations.

B. The Abatement Contractor shall have available sufficient inventory or dated purchase orders for materials necessary for the job including protective clothing, respirators, filter cartridges, polyethylene sheeting of proper size and thickness, tape, and air filters.

C. The Abatement Contractor shall have available power cables or sources such as generators (where required).

D. Vacuum units, of suitable size and capacities for project, shall have HEPA filter(s) capable of trapping and retaining at least 99.97% of all monodispersed particles of 0.3 micrometers in diameter.

E. The Abatement Contractor will have reserve units so that the station system will operate continuously.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Abatement shall:

A. Be conducted only by a certified lead supervisor or a certified lead worker. A certified lead supervisor shall be onsite during all work site preparation and during the post-abatement cleanup of work areas. At all other times when abatement is conducted, the certified lead supervisor shall be onsite or available by telephone, pager or answering service, and able to be present at the work area in no more than two hours.

B. Be conducted using containment and in a manner which does not result in contamination of non-work areas with lead-contaminated dust, lead-contaminated soil, or lead-based paint debris.

C. Be conducted according to the procedures specified in:

1. Chapter 12: Abatement, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, if the abatement is designed to reduce lead paint or lead hazards for a minimum of twenty years; or

1 Chapter 11: Interim Controls, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, if the abatement is designed to reduce lead paint or lead hazards for less than twenty yearS.

3.2 WORK AREA SET UP

3.2.1 General

A. Site Safety. The Abatement Contractor is responsible for all safety at the work site. This includes, but is not limited to electrical safety, mechanical (tool) safety, fire safety, and personnel protective safety. Safety requirements are, for the most part, common sense and sound business practice; however, the Abatement Contractor is advised that federal, state and local regulations exist which govern safety on the work site. Therefore, in addition to the following, the Abatement Contractor is responsible for adhering to the most stringent requirements in affect by any of the following entities or these Specifications.

B. A primary concern in this type of work is to ensure that adequate exits exist in the event of an emergency and conversely, that adequate entrances exist for emergency personnel. The nature of this work requires sealing entrances and the extensive use of six- mil polyethylene sheeting; however, the Abatement Contractor should never permanently seal (i. e., nail, bolt, hard cover) any potential escape exits and should take extra care to clearly identify potential exits and inform the workers.

C. Work Site Safety Plan. Prior to the initiation of the abatement work, the following tasks must be completed by the Contractor:

The Abatement Contractor shall establish a work site safety plan which includes a set of emergency procedures and shall post them in a conspicuous place at the work site. The safety plan should include provisions for the following:

1) Evacuation of injured workers

2) Emergency and fire exit routes from all work areas, including local telephone numbers for fire and medical emergency personnel

3) Copies of applicable insurance certificates

4) Employee work logs

The Abatement Contractor is responsible for training all workers in safety procedures. At a minimum, one employee on site shall be trained and certified in basic first aid by the American Red Cross or equivalent. A general first aid kit may be maintained in the containment for treating minor medical problems.

D. Access to Work Areas

1. The Owner will provide specific access as required during the project to the Abatement Contractor and personnel assigned to the project. The Abatement Contractor will be responsible for the security of each building or portion thereof involved in the abatement project. It will also be the Abatement Contractor's responsibility to allow only authorized personnel as defined below in Section 3.5 into the work area, and to secure all assigned entrances and exits at the end of the work day so as to prevent unauthorized entry.

2. The Abatement Contractor shall maintain a bound log book in which any person entering or leaving the lead abatement work area must sign and enter the dates and times of entry and departure.

3. Use of waste containers on- site shall be controlled under the following requirements:

   (a) Location of waste containers on- site shall be coordinated with the Owner and Owner's Representative.
   (b) The waste containers shall be solid enclosed containers, lined with two layers of six- mil polyethylene sheeting and locked and secured at all times.
   (c) The Abatement Contractor shall comply with all federal, state and local regulations and ordinances regarding lead waste storage.

4. The Abatement Contractor, supervisor will not allow anyone access to the dwelling unless they have successfully passed an approved training program.

3.2.2 Abatement Preparation

A. Prior to the commencement of any abatement procedures, notification requirements must be met; required signs shall be posted and moveable objects shall be moved a minimum of four feet from the perimeter walls of the room.

B. Pre-abatement work shall be performed prior to any abatement or component removal commencing on each side of the building.

C. Decontamination Unit. At a minimum, the Abatement Contractor shall construct a two- stage decontamination unit. This unit shall be directly adjacent to the abatement area for the decontamination of workers contaminated with lead. The decontamination unit shall consist of an equipment room, dirty room, and wash area in series. The Contractor shall ensure that employees use the worker decontamination chamber prior to leaving the work area.

   1. The decontamination unit shall be constructed with six-mil polyethylene sheeting on floors, walls and ceiling. Doors through this unit shall be constructed as described above.

D. Clean area. The Abatement Contractor shall select a clean area outside the abatement area for the workers to change into protective equipment. This area shall contain warm water hand washing facilities (potable water), clean cloths, storage for a HEPA vacuum, and respirator storage space. Table, chairs and a rest facility shall also be available at this location. Contaminated equipment or personnel shall not be permitted in this area.

E. Abatement area.

1. The Abatement Contractor shall pre-clean all surfaces with a HEPA vacuum and protect occupants' belongings by covering with one layer of six mil polyethylene and have joints taped. All debris gathered during this clean- up shall be disposed of properly. In addition, any existing loose paint or paint bearing materials found in the buildings are to be assumed hazardous and packaged and disposed of properly. The amount of the material should be estimated during the pre-bid walkthrough.

2. The Abatement Contractor shall prepare the area as follows:

   a) Doors and Windows: Doors and windows upon which a dust- generating method is being used, and on the same floor and all floors below, must be closed and covered with six- mil thick polyethylene sheeting.

   b) Plants and Ground: The ground and any plants or shrubs in the area in which exterior abatement is occurring shall be covered with a waterproof canvas tarp and weighted at all edges so as to prevent blowing. Such covering shall cover from the side of the structure to a point at least eight feet away from the structure. The covering shall be taped or otherwise attached to the structure.

      (1) The waterproof canvas tarp shall always be placed in a manner that traps all debris and water. This is best accomplished by elevating the edges.

      (2) The waterproof canvas tarp shall be properly disposed of and not re-used.

3. Special Areas. Any abatement project being performed on any structure other than a building shall be arranged, equipped and operated in a manner which will eliminate the possibility of lead contaminants or lead contaminated materials escaping from the work area.

   a) The Abatement Contractor shall maintain polyethylene barriers, and a clean area as long as needed for the safe and proper completion of the work. Any openings or tears in the work area barriers shall be corrected by the Abatement Contractor at the beginning of each work day and as necessary during the workday with such openings or tears reported immediately to the Owner. Work will not be allowed to commence until all barriers are in place and acceptable to the Owner's Representative.

4. Barriers shall not be removed until the work areas are thoroughly cleaned, and the area approved by the Owner's Representative. All debris must be properly bagged and removed from work areas, and the lead surface wipe samples must have passed final clearance tests, in accordance with provisions detailed in the Specification prior to barrier removal.

5. At the Owner's and Owner's Representative's approval, the Abatement Contractor may utilize a portable mini-isolation chamber to create an isolated work area around single components to be removed. This chamber shall still be equipped with an adjacent clean room, and become an isolated work area sealed at all seams to where it is attached to adjacent surfaces. It shall also satisfy all requirements for a work area and satisfy all clearance criteria, as identified in this Section and Local Law.

F. Signs. Prior to the preparation of a dwelling for abatement, the Abatement Contractor shall place warning signs immediately outside all entrances and exits to the dwelling, warning that abatement work is being conducted in the vicinity. The signs shall be at least 20" x 14" and read:

WARNING:
LEAD PAINT REMOVAL HAZARD
UNAUTHORIZED ENTRY PROHIBITED
NO SMOKING, EATING OR DRINKING ALLOWED IN THE WORK AREA

Signs shall be in bold lettering with lettering not smaller than two inches tall.

G. Construct and maintain suitable polyethylene barriers within the building to isolate the exterior work area from the interior of the building.

H. The polyethylene barriers termed "critical barriers" for the removal of windows shall consist of the following:

1. Pre- Clean all interior window surfaces with a HEPA- equipped vacuum.

2. Seal duct tape lip to inner most sill, casing and header surfaces of the window.

3. Seal two layers of six mil polyethylene sheeting from the duct tape lip on the inside sill of the dwelling unit window and extend up to the inside surface of the top interior casing. The first layer of sheeting applied shall be sealed to the inside faces of the window casing. The polyethylene sheeting shall be sealed to a piece of three- inch wide duct tape forming a lip attached to the interior window perimeter of the window casing.

4. There shall be no cavity in the polyethylene sheeting created that would allow lead dust to accumulate, which cannot be removed with HEPA vacuuming. This shall allow for removal of this polyethylene sheeting from the exterior of the building, without the generation of lead dust, once the window is removed and cleanup is complete.

5. The second layer of polyethylene sheeting shall be applied over the first layer and sealed directly to the inner face of the cut tape lip and window sill and casing.

6. This sealing of windows shall be done from the interior prior to the beginning of any exterior work.

I. The critical barriers for the removal of doors and door jambs, casing, and associated trim, shall consist of the following:

1. After precleaning activities of HEPA vacuuming floor and surfaces to be abated, seal with duct tape one layer of polyethylene sheeting over a 4’ x 4’ floor area extending in from the entrance doorway. This floor sheeting shall extend a minimum of six inches up the adjacent wall.

2. Remove the entrance door as described in this section.

3. Construct a mini- containment chamber with a double layer of six- mil polyethylene sheeting to isolate the inside door frame from the interior of the unit.

4. Seal mini- containment chamber to the interior wall a minimum of six inches from the interior door casing. Seal walls of the chamber to the floor poly. Cover ceiling with one layer of six- mil polyethylene. A prefabricated containment system may be used if approved by the Owner’s Representative.

5. Allow sufficient clearance around the door frame and casing to permit workers adequate access to remove the components without breaching the containment system.

J. Maintain polyethylene barriers, as long as needed for the safe and proper completion of the work. Any breeches in the work area barriers shall be corrected immediately and as necessary during the work day with such breeches reported immediately to the Owner. Work will not be allowed to commence until all barriers are in place and acceptable to the Owner's Representative.

3.3 PROTECTIVE PROCEDURES

3.3.1 Personal Air monitoring. Both personal air and area (ambient) air sampling will occur periodically throughout the project. The Abatement Contractor is advised of the following sampling:

A. Owner's Representative will perform clean area air monitoring sampling and analysis for all phases of the work in this Section. The Contractor is responsible for performance of personal air monitoring of Abatement Contractor employees.

B. Air samples may also be collected by the Owner's Representative outside critical barriers of the work area in the clean room, and in areas adjacent to the clean room.

C. The Owner's Representative will also collect wipe samples both within the abatement area and outside.

D. Any adjustment, tampering, and/ or deliberate interference with Owner's Representative air monitoring equipment by the Abatement Contractor's personnel will not be tolerated. Furthermore, the Abatement Contractor may be held liable for prosecution under applicable laws and regulations for attempting to falsify test results.

3.3.2 Worker Protection Requirements

A. Biological Monitoring. All workers must have baseline and post- abatement blood lead level measurements determined by the whole blood lead method, utilizing the Vena-Puncture technique with results provided to the Owner and Owner's Representative. This screening shall be performed every two months for the first six (6) months, and every six months thereafter if blood lead levels do not increase by more than 10 «g/ dl. In addition, the Abatement Contractor shall have a medical examination performed on each employee. This medical examination must be performed before workers begin lead contaminated work area and at the termination of an employee's employment or yearly, whichever comes first. A worker shall be removed from the job whenever three blood sampling tests average more than 25 «g/ dl or if a single test exceeds 30 «g/ dl. A formal investigation shall occur whenever a worker's blood lead level rises more than 10 «g/ dl over the baseline level. The Abatement Contractor shall be responsible for medical surveillance and record keeping, as defined in the OSHA Lead in Construction Standard (29 CFR 1926.62) and Local Law.

B. Training Requirements. All workers and supervisors shall have successfully completed a course provided by a licensed training provider meeting all requirements of EPA and Local Law. Supervisors shall be licensed by the responsible Local State Agency responsible. The Abatement Contractor will adhere to the requirements of OSHA regulations CFR 1910.1200 and 1926.62.

C. Supervision. The Abatement Contractor shall provide one site supervisor whose responsibilities include coordination, safety, security and execution of all phases of the lead removal project. The supervisor shall not be used as a lead removal worker, and shall be assigned full time to the project. The supervisor shall be fully qualified in all aspects of lead abatement practices and procedures, and have a three- day training course provided by a certified training provider and approved by the responsible Local State Agency within the previous year prior to commencement of lead-related work.

D. Respirators and Personal Protective Equipment (PPE)

1) Personal protection in the form of disposable coveralls and NIOSH and MSHA approved respirators, is required for all workers, supervisors, and authorized visitors entering the work area during the abatement and cleaning operations. A half- face negative pressure respirator is required until air monitoring data proves otherwise. Authorized visitors (i. e., federal, state, and local inspectors) must provide a current health and medical report certifying them as approved to wear half- face respirators, and must wear PAPRs until air monitoring data permits the use of half face respirators.

2) Each worker shall be supplied with a minimum of two (2) complete disposable suits every day. Removal workers shall not be limited to two (2) suits, and the Abatement Contractor will be required to supply additional suits as is necessary. In addition to disposable suits for the workers, the Abatement Contractor shall also supply suits for the Owner's Representative and other personnel who are authorized to inspect the worksite. Contractor must consider this cost in the bid. Disposable suits, such as TYVEK suits, and other personal protective equipment (PPE) must be donned prior to entering work area. A clean area will be provided for workers to put on suits and other personal protective equipment and to store their street clothes.

Suits will be worn inside the work area after the area passes pre- abatement inspection and shall remain in use until the area passes final clearance inspection. Light weight nylon clothes may be worn under the suit, but these clothes must be changed before leaving the work area and should be laundered separately.

3) Work clothes shall consist of moisture repellent, disposable full- body suits, head covers, gloves with cuffs extending outside the sleeves of the protective suit, boot or shoe covers, a face shield and eye protection. Hard hats shall be worn when deemed necessary. In addition, when caustic paste is used as an abatement agent, full-body suits and gloves impervious to caustics, glove extenders, face shields and boot or shoe covers are required.

4) Eye protection to personnel engaged in lead operations shall be furnished when the use of a full face respirator is not required.

5) Goggles with side shields will be worn when working with a material that may splash or fragment, or if protective eye wear is specified on the Material Safety Data Sheet (MSDS) for that product.

6) Additional respiratory protection by supplemental filters, such as organic vapor cartridges, may be needed when handling some coating products. Consult the Material Safety Data Sheets (MSDS) and obtain the proper filters as necessary.

7) The Abatement Contractor shall provide portable eyewash stations inside all work areas where caustic paste is to be used.

The stations should be capable of providing a flow of water for at least five minutes. The Abatement Contractor shall provide another station capable of providing a flow of water for at least fifteen minutes in the clean area. Squeeze bottles are not sufficient eyewash stations.

8) The Abatement Contractor shall supply workers and supervisory personnel with NIOSH and MSHA approved respirators and HEPA filters. Respiratory protection shall be implemented for all work performed by the Abatement Contractor under this Section. The respirators shall be sanitized and maintained according to the manufacturer's specifications. Disposable respirators shall not be considered acceptable under any circumstances. The Abatement Contractor will maintain on- site a sufficient supply of HEPA filters to allow workers and supervisory personnel to change contaminated

filters per manufacturer's recommendations or when breathing resistance is encountered. The Abatement Contractor is solely responsible for means and methods used and for compliance with applicable regulations:

(a) Half- mask, negative pressure, air purifying respirators equipped with high efficiency filters for airborne lead dust levels not in excess of 0.5 mg/ m3 (10 times the Permissible Exposure Limit) shall be used during component removal and enclosure abatement methods, with the exception of surface preparation for enclosures.

(b) Full- face Powered Air Purifying Respirators (PAPRs) with high efficiency filters for airborne dust levels not in excess of 2.5 mg/ m3 (50 time the Permissible Exposure Limit) will be required during all abatement demolition methods and encapsulation surface preparation methods and as required by OSHA 1926.62.

(c) Pressure demand, full face, supplied air respirators are required when airborne lead dust concentrations are expected to meet or exceed 50 mg/ m3 (1000 times the Permissible Exposure Limit). Respirators will not be removed until the worker enters the washing area of the decontamination chamber.

9) Respirators shall be individually assigned to removal workers for their exclusive use. All respiratory protection shall be provided to workers in accordance with the approved respiratory protection program, which includes all items in OSHA 29 CFR 1910.134 (B),(D),(E), & (F), and the OSHA lead standard 29 CFR 1926.62. A copy of this program shall be kept at the worksite, and shall be posted in the clean area.

10) Workers must perform negative and positive pressure fit checks each time a respirator is put on, whenever the respirator design so permits.

11) Powered air purifying respirators (PAPR) shall be tested for adequate flow as specified by the manufacturer.

12) Workers shall be given a qualitative fit test in accordance with procedures detailed in OSHA 29 CFR 1910.1025, Appendix D, Qualitative Fit Test Protocols, for all respirators to be used on this abatement project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.

13) If a question exists as to the proper selection of respirators, the Contractor may consult the OSHA Lead in Construction Standard (29 CFR 1926.62).

14) Upon leaving the active work area, cartridges must be removed, and respirators cleaned in a disinfectant solution and clean water rinsed.

15) Clean respirators should be stored in plastic bags when not in use.

16) The Abatement Contractor shall inspect respirators daily for broken, missing, or damaged parts.

17) The Abatement Contractor shall provide personal sampling to check personal exposure levels. Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken every day but must be taken in accordance with 29 CFR 1926.62. Sampling will determine eight- hour Time- Weighted Average exposures (TWA). Results shall be provided to the Owner and Owner's Representatives within 48 hours of the sampling.

18) Abatement Contractor shall comply with all OSHA, state, or other applicable requirements of worker medical examinations for approval to wear respiratory protection, and shall submit document of such approval to the Owner.

E. Exposure Conditions.

If air monitoring data, gathered by the Abatement Contractor or Owner's Representative shows that worker exposure to airborne lead exceeds 50 «g/ m3, the following conditions apply:

1) Clothing. Street clothes cannot be worn into containment. Workers must wear nylon shorts, TYVEK shorts, or nothing under disposable suit.

2) Showers. Showers must be provided. Shower water must pass through at least a 5.0 micron filter before returning to the public waste system.

(a) All workers must shower upon leaving the work area.

(b) A five- stage decontamination unit must be constructed of six- mil polyethylene sheeting and consisting of a dirty room, airlock, shower, airlock, and clean room.

3.3.3 Personal Air Sampling

A. General. The Abatement Contractor is required to perform the personal air sampling activities during all lead paint abatement work. The results of such sampling shall be posted, provided to individual workers, and submitted to Owner and Owner's Representative as described herein.

B. Sampling. Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken every day after the first day if working conditions remain unchanged, but must be taken every time there is a change in the removal operation, either in terms of the location or the type of work. Sampling will be used to determine eight- hour Time-Weighted Averages (TWA). The Abatement Contractor is responsible for personal sampling as outlined in OSHA Standard 29 CFR 1926.62. This sampling will determine the degree of respirator protection required, subject to the regulations.

C. Sampling Results. Air sampling results shall be transmitted to the Owner and individual workers in written form no more than forty- eight (48) hours after the completion of a sampling cycle. The reporting document shall list each sample's result, sampling time and date, personnel monitored and their social security numbers, flow rate, sample duration, sample yield, cassette size, and analysts' name and company, and shall include an interpretation of the results. Air sample analysis results will be reported in micrograms of lead per cubic meter of air («g/ m3).

D. Testing Laboratory. The Abatement Contractor's testing lab shall be certified for lead air sample by the American Industrial Hygiene Association. Abatement Contractor shall submit for the Owner's and Owner's Representative's review and acceptance the name and address of the laboratory, certification(s) of accreditation for heavy metal analysis, and a listing of relevant experience in air lead analysis, and presentation of a documented Quality Assurance and Quality Control program.

E. Air Monitoring Frequency. The air monitoring frequency for Abatement Contractor operations will be established in accordance with the requirements set forth in 29 CFR 1926.62.

3.4 WORKER HYGIENE PRACTICES

In order to avoid possible exposure to dangerous levels of lead and to prevent possible contamination of areas outside the demarcated work area, work shall follow the general guidelines listed below:

3.4.1. Work Area Entry. At no time shall a worker or other authorized personnel entering the work area go further than the Clean Area without proper respiratory protection and protective clothing.

3.4.2. Work Area Departure. The worker shall remove all gross contamination, debris and dust from the disposable suit by completely HEPA vacuuming them before leaving work area.

3.4.3 Personal Protective Equipment. All persons leaving the work area must remove their personal protective equipment (except respirators) before leaving the containment. Suits shall be removed "inside out" to minimize the dispersal of lead dust.

3.4.4 Wash Facilities. All workers must wash upon leaving the work area. Wash facilities will be provided by the abatement Contractor. This wash facility will consist of, at least, warm running potable water, soap, and towels. All waste water must be contained and disposed of in accordance with this Specification.

3.4.5 Equipment. All equipment used by the workers inside the work area shall be either left in the work area or thoroughly decontaminated before being removed from the area. Extra work clothing (in addition to the disposable suits supplied by the Abatement Contractor) shall be left in the clean area until the completion of work in that area. The clean area shall be cleaned of all visible debris and disposable materials daily.

3.4.6. Prohibited Activities. Under no circumstances shall workers or supervisory personnel eat, drink, smoke, chew gum, or chew tobacco or remove their respirators in the work area. To do so shall be grounds for the Owner and/ or Owner's Representative to STOP all removal operations. Only in the case of life threatening emergency shall workers or supervisory personnel be allowed to remove their protective respirators while in the work area. In this situation, respirators are to be removed for as short a duration as possible.

3.4.7 Footwear. As with additional clothing, all work footwear shall be left inside the decontamination area until the completion of the job and then shall be HEPA vacuumed and wiped or discarded as contaminated waste.

3.4.8 Shock Hazards. The Abatement Contractor is responsible for using safe procedures to avoid electrical hazards. Power will be shut off and checked before work begins when a hazard exists. all extension cords and power tools used within the work area shall be attached to Ground Fault Circuit Interrupters (GFCI).

3.5 CONTROL OVER ABATEMENT WORK

All work procedures shall be continuously controlled and monitored by the Contractor to assure that the building will not be further contaminated. The following controls shall be instituted on each working day:

3.5.1 Start Up. Prior to work on any given day, the Contractor's designated project supervisor will discuss the day's work schedule with his work force to evaluate job tasks with respect to safety procedures and requirements specified to prevent contamination of the other parts of the building or the employees. This includes a visual survey of the work area and the decontamination enclosure systems.

3.5.2 Access. The Contractor shall maintain control of and be responsible for access to all work areas to ensure the following requirements:

A. Non- authorized personnel are prohibited from entering the area at all times of day and night;

B. All authorized personnel entering the work area shall be familiar with the worker protection procedures contained in this specification and shall be equipped with properly fitted respirators and protective clothing;

C. All personnel who are exiting from the decontamination enclosure system shall be properly decontaminated;

D. Lead waste which is taken out of the work area must be properly handled in accordance with these specifications. The surface of any waste containers, removed from the work area, shall be wiped down with a minimum of a 5% solution of tri-sodium phosphate or other equivalent cleaning agent prior to removing it from the work area.

E. Building components with lead painted surfaces shall be removed from the work area and placed directly into a labeled and secured disposal container or a designated storage area.

3.6 VISUAL INSPECTIONS

The Abatement Contractor shall request a visual inspection by the Owner's Representative. If the area does not pass a visual inspection (e. g., no visible dust or debris), the Abatement Subcontractor shall reclean the area. Clearance monitoring shall be conducted according to the procedures specified in Chapter 15: Clearance, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.

3.6.1 Post-abatement Visual Inspection. The Owner's Representative shall confirm job completeness by determining whether all surfaces have been abated according to the approved abatement plan and project specification. The Owner's Representative will then determine if the building has been adequately cleaned by examining all surfaces for dust and debris. If dust is found, the work area should be recleaned, and the damp cloth test repeated.

3.6.2 Post- abatement Clearance. When all surfaces have passed visual inspection, and the building rehabilitation is complete, clearance wipe samples shall be performed by the Owner's Representative. The standards for passing a wipe test are outlined in the HUD Guidelines. Should laboratory results indicate that the wipe test clearance level is exceeded, the Abatement Subcontractor shall re-clean the affected area, at no additional cost to the Owner, utilizing the methods specified above. Retesting will then be performed to verify compliance with the mandated levels. Abatement Contractor shall pay for all additional testing and provide, at no additional cost, a recleaning of an effected area and personal belongings until the clearance level is achieved.

3.7 DISPOSAL

The waste generated by this procedure will be profiled and disposed of in compliance AB 2784 and all other current standards.

The following testing must be performed by a laboratory properly certified by the State of California. The name of the laboratory must be supplied to the Owner prior to the initiation of the testing.

TCLP Test. Testing on lead- based paint abatement waste materials by use of the Toxicity Characteristic Leaching Procedure (TCLP) will be completed and paid by the Abatement Contractor, and results shall be supplied to the Owner's Representative and Owner.

The testing of material shall be performed as obtained to minimize the storage of "assumed" hazardous material. In absence of written official state guidance, the Abatement Contractor shall take at least one (1) composite sample of the items listed below for the RCRA eight (8) heavy metals. The Abatement Contractor shall also determine if additional testing for other compounds, such as pH, flashpoint, etc., are required for disposal at a particular landfill. The following materials shall be tested to determine whether or not they are hazardous:

1. Waste water.
2. Dust from HEPA filters.
3. Metals that have not been previously tested.
4. Plastic sheets, duct tape, or tape used to cover floors and other services during the lead- based paint removal.
5. Solvents and caustics used during the stripping process.
6. Liquid waste, such as wash water used to decontaminate wood after solvents have been used, and liquid waste from exterior (or interior) water blasting.
7. Rags, sponges, mops, scrapers, and other materials used for testing, abatement, and clean- up.
8. Disposable work clothes and respirator filters cartridges.
9. Any other items contaminated with lead- based paint or items produced as a result of lead- based paint abatement activity, such as the water filters.

End of Lead Abatement Specifications

January 21, 2009

San Bernardino City Unified School District
Facilities Management
777 North "F" Street
San Bernardino, California 92410

Attention: Michael Plunkett

Subject: Budgets for Abatement at Burbank Elementary School

Dear Mr. Plunkett:

Pacific Environmental Company conducted a hazardous materials survey for Burbank Elementary School in anticipation of modernizations per your request.

Asbestos-containing drywall ceiling systems, flooring, basecove and flex joint materials were identified at the site and must be removed prior to the modernization work if they are going to be impacted, otherwise they can be managed in place since they are in good condition. Current EPA regulations require that ACM be removed from a building prior to renovation or demolition or renovation that will impact the ACM. Asbestos-containing materials must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

Lead-based paints (LBP) were also identified at the site. Lead abatement, treatment and/or recycling should be conducted in full compliance with the Cal-OSHA Lead-Related Construction Standard. Paints containing lead greater than 0.5% lead by weight that are to be scraped, sanded, torched, or otherwise disturbed during the demolition should be removed or stabilized prior to the demolition by a licensed contractor and workers with California Department of Health Services (DHS) certification in lead-related construction. Waste streams must be characterized to ensure appropriate disposal methods.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures and transformers should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and Department of Toxic Substances Control (DTSC) guidelines. The batteries stored on site should be recycled.

For planning purposes, we have prepared the following preliminary estimates for abatement. This is not a bid to do the work, rather a planning tool based on our site observations, current industry trends and discussions with abatement contractors regarding the project.

Building	Material	Location	Estimated Qty.	Unit Cost	Abatement Estimate
A Building	Drywall Ceiling Systems	Ceilings	1,200 SF	$8	$9,600
A, B, C and K Buildings	Vinyl Floorings and Mastic	A113, A114, B1, B3, B4, B5, C2, C4, K1 and Special Services	2,600 SF	$5	$13,000
A, B, C, D and K Buildings	Black Mastic for Basecove	Basecove Throughout	2,500 SF	$2	$5,000
D Building	Flex Gasket	D3 FAU Unit	1	$500	$500
Estimated Total for Asbestos Abatement					$28,100.00
Lead painted components					$8,000.00
PCB Ballasts and Miscellaneous					$5,000.00
Project Compliance Monitoring and Inspections					$5,000.00
Subtotal					**$46,100.00**
Contingency (10%)					**$4,610.00**
Total Estimate					**$50,710.00**

If you have any questions or require additional information, please call me at (800)303-6484 extension 701.

Respectfully,

Pacific Environmental Company



Michael Lyssy
President

Pacific Environmental Company

Limited Asbestos and Lead Survey Report

Emmerton Elementary School Modernization Project
1888 Arden Street
San Bernardino, California 92404

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 20, 2009

Project Number: 09018

Limited Asbestos and Lead Survey Report

Emmerton Elementary School Modernization Project
1888 Arden Avenue
San Bernardino, California 92404

Executive Summary

Pacific Environmental Company conducted a limited asbestos and lead survey in anticipation of modernizations at Emmerton Elementary School, which is located at 1888 Arden Avenue in the City of San Bernardino, California. All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

This executive summary is not to be utilized as a stand-alone document. The report shall be read in its entirety. The reader must review the detailed information provided in the accompanying text. Any interpretation, use, or conclusions resulting from the data contained in this report is the responsibility of the reader. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations.

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos as determined by PLM, however, the California Department of Occupational Safety and Health (CalOSHA) classifies any material as having greater than one tenth of one percent asbestos as asbestos-containing construction material (ACCM).

Asbestos-containing construction materials identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Black Mastic under VCT	Corridors, Cafeteria and portions of Classrooms	17,000 SF	ACCM, non-friable and in good condition

Current EPA regulations require that the asbestos-containing building materials be removed prior to demolition or renovation, if they are going to be impacted. If any of the identified asbestos-containing construction materials are to be impacted by the renovations, then they must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

A licensed and certified asbestos abatement contractor must perform any asbestos abatement that takes place at the subject property. Waste generated from the asbestos abatement must be properly transported and disposed of.

Lead components identified at the subject site during our inspection include the following:

Location	Lead-Containing Components
Interior	Gray Restroom Ceramic Wall Tile in various restrooms throughout

The lead tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and DTSC guidelines.

Pacific Environmental recommends that all future renovation, demolition, construction or abatement activities with the potential for disturbing the identified ACM or lead-laden components, be performed by properly trained and qualified personnel. These activities should employ state-of-the-art techniques, and be conducted in accordance with all applicable local, State and Federal laws and regulations.

Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition or renovation activities, please call us and we will sample and analyze accordingly. This survey was limited to the materials that are going to be impacted by the modernization activities, as detailed in the provided plans.

The presence of the identified hazardous materials should be brought to the attention of contractors and personnel involved in the project at the subject site. Specifications have been prepared for the removal and handling of specific hazardous materials, such as those containing asbestos and lead.

Any employees, visitors, or contractors entering this building should be notified of the presence and condition of the asbestos-containing materials, lead-based paints, and other hazardous materials (including those listed under Proposition 65), in accordance with applicable regulations.

Table of Contents

Introduction	1
Quality Control Procedures	2
Site Description	2
Asbestos Inspection and Sampling Procedures	3
Asbestos Inspection Results	5
Summary and Recommendations for Asbestos-Containing Materials	5
Lead Inspection and Sampling Procedures	6
Lead Inspection Results	7
Lead Summary and Recommendations	7
Other Hazardous Materials	7
Limitations	8
References	9

Appendix A	Site Plans
Appendix B	Bulk Sample Summary Table
Appendix C	Asbestos Sample Analysis Reports and Chain of Custody
Appendix D	XRF Sampling Results
Appendix E	DHS Form 8552
Appendix F	XRF Performance Characteristics Sheet

Limited Asbestos and Lead Survey Report

Emmerton Elementary School Modernization Project
1888 Arden Avenue
San Bernardino, California 92404

Introduction

Pacific Environmental Company was retained by the San Bernardino City Unified School District to conduct a limited investigation to identify the presence of asbestos-containing materials, lead-based paints and other lead laden components that will require abatement or treatment, in conjunction with the school modernizations at Emmerton Elementary School, which is located at 1888 Arden Avenue in the City of San Bernardino, California.

All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

Field Services for the inspection were conducted on January 14, 2009. The project team included David Tillema, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Raed Sahawneh, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Thomas Gannon, a Cal/OSHA Certified Site Surveillance Technician, and Michael Lyssy, a State Certified Asbestos Consultant and Registered Environmental Assessor.

The scope of work for this project included the following key elements:

- Review, verification and incorporation of the original AHERA inspection and re-inspection data and any subsequent reports detailing the results of prior asbestos and lead testing at the School into this report.
- Inspection and assessment of asbestos-containing materials, lead-based paints, lead glazed ceramics and PCB light ballasts
- Preparation of a final report that is suitable for inclusion in the District's specifications for abatement of hazardous building materials.

Prior to our asbestos assessments, we evaluated the site conditions and demolition plans provided by HMC Group in order to developed our sampling strategy to ensure identification of all asbestos-containing materials that are going to be affected by the modernization work. Representative sampling of homogeneous materials in areas that are being impacted by the project was conducted per SCAQMD guidelines, and all identifiable suspect materials were sampled. Asbestos analysis was performed by an independent, State Certified, NVLAP Accredited Laboratory. Bulk samples were analyzed by polarized light microscopy (PLM), EPA Method 600/R-93/116. This report details the specific site conditions and estimated quantities of Asbestos Containing Material (ACM) for the project. Areas affected by destructive sampling were repaired so as not to cause hazards to school personnel, survey crew, visitors and the general public.

Testing for lead-based paint was performed using an EDAX Map-4 portable X-ray fluorescence (XRF) spectrum analyzer. Testing was modeled after the protocol outlined in the Department of Housing and Urban Developments document titled

Lead-Based Paint: Interim Guidelines For Hazard Identification and Abatement in Public and Indian Housing (1997 Revision).

Quality Control Procedures

Pacific Environmental Company's integrated resources, technologies, discipline, and expertise combine to ensure that the inspection and analysis for each project is conducted based on the following principles:

- All applicable regulations are addressed in order to ensure that our field inspectors and lab personnel meet their responsibilities, do so cost-effectively, and are equipped with the practical knowledge they need in order to understand and comply with regulations that affect them.
- Care is taken to make certain that the information provided and actions recommended are practical and cost effective in achieving regulatory compliance.

The 'management' approach utilized for this project assured that all work was performed using the highest standard of quality. All project results, reports and recommendations are reviewed for accuracy, content and quality prior to presentation. We recognize that, for each assignment we undertake, the information we develop and the conclusions and advice we provide, will be used to support important management decisions.

Pacific Environmental Company's Quality Assurance Program requires that all personnel:

- Provide specific objectives so that project activities can be evaluated with regard to precision, accuracy, reproducibility, completeness, and comparability.
- Provide specific guidance on the proper methodology for all activities.
- Be provided with ongoing training to enhance their technical skills.
- Be trained in QA/QC procedures and QC activities.
- Review all reports until they are acceptable in terms of technical and editorial quality, and all quality assurance activities have been successfully performed.

Site Description

The Emmerton Elementary School is a metal framed, brick veneer structure that houses classrooms, a multipurpose room, offices and other educational spaces. It is a semi-open floor plan with demountable walls in some of the classrooms to allow for re-configuration of class spaces.

Interior finishes that are likely to be impacted by the modernization work include carpet and vinyl floorings, many of which are suspected to be overlaying the original ACCM floor tile mastic that was likely removed in some areas during past re-flooring operations, plaster walls and a combination of 2'x4 suspended ceilings and 1'x1' concealed spline ceiling tiles.

The school was occupied at the time of our assessment and we worked after hours in an effort to characterize the site conditions. If any additional suspect materials are identified during the modernizations, please contact us to perform supplemental sampling.

Asbestos Inspection and Sampling Procedures

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos, as determined by polarized light microscopy (PLM). Title 8, Section 1529, of the California Code of Regulations, however, defines asbestos-containing construction material (ACCM) as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight.

We reviewed the District's asbestos records on file and the demolition plans prepared by HMC in order to formulate our sampling strategy. The only documentation on file for the site was an inventory from Power Master's original AHERA survey which was on file at the M&O Offices. This inventory has been utilized for reinspection purposes over the years and indicates that the floorings were assumed to be ACM. The demolition plans indicate that the scope of the demolition at this site will include removal of VCT and quarry tile floorings, removal of sinks and casework, removal of several doors and windows and the removal of portions of both the brick veneer walls and the demountable partitions.. We collected additional samples to confirm the original AHERA findings and to characterize materials that were not originally tested.

Subsequent to our review of the prior report, a visual assessment of the suspect building materials located throughout the subject facility was completed prior to the collection of samples. During the visual assessment, the building materials suspected of containing asbestos were categorized by homogeneous areas. Materials are classified as homogenous when they appear uniform, have a consistent texture, and appear to have been installed at the same time.

The laboratory testing for the bulk samples was conducted in accordance with the recommended EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993).

The field investigation began with an initial site walk-through and identification of homogenous building materials suspected of containing asbestos. Samples were collected based on building layout, structural features, and mechanical and plumbing systems. Pacific Environmental then performed the following tasks:

- Evaluated whether materials suspected of containing asbestos were present at the site.
- Collected bulk samples, as required, to adequately characterize the suspect materials.
- Identified approximate sample locations and locations of identified ACM on field drawings or with photographs.
- Estimated the amount of ACM, where access allowed.
- Assessed the condition of the suspected and known ACMs.

At the time of inspection, suspect materials are assessed to be in good, damaged, or significantly damaged condition based on the following criteria:

> Good Condition - No or very limited visible damage or deterioration observed.
>
> Damaged Condition - Crumbling, blistering, water damage, gouges or other damage observed over less than 25% of the materials (one-tenth if evenly distributed); or accumulation of suspect powder, dust or debris observed below the material.
>
> Significantly Damaged - Crumbling, blistering, water damage, gouges or other damage observed over greater than 25% of the materials (one-tenth if evenly distributed); material delaminating or showing adhesive failure; or accumulation of suspect powder, dust or debris observed below the material.

The assessment process also includes classifying the material as Friable ACM or Non-Friable ACM. Friable ACM is the term given to any material that contains more than one percent (1%) asbestos by weight, which can be crumbled, pulverized, or reduced to powder by hand or mechanical pressure. The word "Friability" refers to a material's likeliness to re-

lease airborne fibers when in situ, or under mechanical pressure. There is a greater possibility that a friable material will release fibers into the air when disturbed than will a non-friable material (i.e., floor tiles, roofing materials, etc.), thereby causing a potential hazard.

After identifying those materials suspected of containing asbestos, the materials were grouped into homogeneous sampling areas. A homogeneous sampling area includes building materials that are uniform in texture and color and appear identical in every other respect. A modified AHERA protocol was used in estimating the number of samples to be collected. Actual samples collected were determined by field conditions. A total of eighteen (18) bulk samples were collected and analyzed.

Bulk samples were collected by wetting the suspect material with amended water and cutting, scraping or coring it from its substrate using an appropriate sampling tool. Sampling tools were cleaned before and after each use to prevent cross contamination between sampling events. Small quantities of material, approximately 1/2 square inch each, were extracted from suspect materials and placed in sterile, airtight bags or vials, and sealed. Each sample was labeled with a unique identification number, utilizing a sequential numbering system. The sample was logged in on the bulk survey sheet and a description noted on the type of sample. Each sample container was then placed inside a larger sterile, airtight bag. As other samples were taken from each area, they were also placed inside this larger airtight bag. Sample locations were repaired using caulk, spray glue, encapsulant, or patching material as needed, but were not always returned to their original condition. The samples were transported under chain-of-custody to an independent NVLAP participating laboratory for analysis utilizing polarized light microscopy.

The laboratory testing was conducted in accordance with the EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993). Samples were examined for homogeneity, and non-homogeneous samples were ground to ensure homogeneity. Microscopic slides were prepared from each sample using a refractive index liquid, such as trisection and ethyl cinnamate, having a refractive index of 1.550; 1-bromo-naphthalene and 1-Iodonaphthalene, having a refractive index of 1.680; or hydrogenated terthenyl and 1-bromonaphtahlene, having a refractive index of 1.605. The slides were then examined for the presence of asbestos, utilizing polarized light microscopy (PLM) and dispersion staining techniques.

The percentage of asbestos was estimated by visual examination of fibers greater than five microns in length and with an aspect ratio of 3:1 or greater. The aspect ratio of 3:1 refers to the length of the fiber being three times as long as its width. If present, the identity of asbestos fibers was confirmed with appropriate refractive index liquids, application of dispersion staining and other techniques. The results were tabulated and detailed in the laboratory reports, which are included in the appendices of this report.

Asbestos Inspection Results

Asbestos-containing construction materials identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Black Mastic under VCT	Corridors, Cafeteria and portions of Classrooms	17,000 SF	ACCM, non-friable and in good condition

It appears that the original vinyl floorings were replaced over the years but that some of the original adhesives (mastics) were floored over. It is impossible to determine the extent of the original mastic without removing the existing floorings and therefore it must be assumed to be present throughout the site, under the existing vinyl tile finishes.

Summary and Recommendations for Asbestos-Containing Materials

All ACM and ACCM that will be impacted by the planned modernizations must be removed pursuant to Rule 1403 of the South Coast Air Quality Management District's and CalOSHA Asbestos Regulations.

Abatement activities must be conducted in compliance with all applicable regulations, standards and generally accepted environmental and safety practices, including Federal OSHA (29 CFR 1926.58), EPA NESHAPS (40 CFR Part 61), and Toxic Substances Control Act (TSCA) Title II AHERA/ASHARA (40 CFR Part 763) Asbestos Regulations, the Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101, and Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard.

All asbestos waste must be properly disposed of and documented. Waste Manifests must be submitted at the end of a project. Disposing of a known hazardous waste is illegal in the State of California. Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition activities, we will arrange to sample and analyze them accordingly.

Lead Inspection and Sampling Procedures

Lead-based paint and lead glazing on ceramics is of concern both as a source of direct exposure through ingestion of paint chips, and as a contributor to lead interior dust and exterior soil. Lead was widely used as a major ingredient in most interior and exterior oil-based paints prior to 1950. Lead compounds continued to be used as corrosion inhibitors, pigments and drying agents beginning in the early 1950's. In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5000 ppm) and, in 1978, to 0.06% (600 ppm). It has also been used extensively as a glaze on ceramic and porcelain finishes.

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) define an inspection as a surface-by-surface investigation to determine the presence of lead-based paint (see 40 CFR part 745 and Title X of the 1992 Housing and Community Development Act).

As per the EPA & HUD guidelines, lead-based paint is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm2 or 0.5 percent by weight. Lead paint amounts were reported in mg/cm2 because this unit of measurement does not depend on the number of layers of non-lead based paint.

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections because of their demonstrated abilities to:

1. Determine if lead is present on many different types of surfaces

2. Measure the paint without destructive sampling or paint removal

3. Provide sample results immediately and at a relatively low cost per sample

Portable XRF instruments expose a building component to X-rays or gamma radiation, which causes lead to emit X-rays with a characteristic frequency or energy. The intensity of this radiation is measured by the XRF instrument. The inspector must then compare this displayed value (reading) with the inconclusive range or threshold specified in the XRF Performance Characteristic Sheet for the specific substrate beneath the painted surface. If the reading is less than the lower boundary of the inconclusive range, or less than the threshold, then the reading is considered negative. If the reading is greater than the upper boundary of the inconclusive range, or greater or equal to the threshold, then the reading is considered positive. Readings within the inconclusive range, including its boundary values, are considered inconclusive. Because the inconclusive ranges and/or thresholds shown in the Performance Characteristic Sheet are based on 1.0 mg/cm2, positive and negative readings are consistent with the HUD definition of lead-based paint for identification and disclosure purposes. The method employed for paint testing for this project was X-Ray Fluorescence (XRF) using an EDAX MAP4 lead paint analyzer (Serial Number M41509) with the capability to measure the lead content in dry paint films in the range of 0 to 50 milligrams per square centimeter.

The instrument's calibration was verified according to the manufacturer's specifications, in compliance with the Performance Characteristic Sheet (PCS) developed for this instrument. The PCS is located in Appendix F of this report. The readings from this instrument produce a 95% confidence level that the "lead" reading accurately reflects the actual level of lead in the tested surfaces, relative to the federal action level. Current industry standards suggest that, when it is determined that paint abatement and/or interim control activities will be performed on components, they should be performed according to practices that are in the HUD Guidelines and the regulations under section 402 of the Toxic Substances Control Act (TSCA), 15 USC 2682.

Lead Inspection Results

Sampling for this inspection was representative and any components that were not tested, but are similar to those components that tested positive for lead, should be considered and treated as lead laden.

Lead components identified at the subject site during our inspection include the following:

Location	Lead-Containing Components
Interior	Gray Restroom Ceramic Wall Tile in various restrooms throughout

The lead tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Lead Summary and Recommendations

The federal and CAL/OSHA regulations for lead in construction do not specify a level of a lead in paint that classifies it as LBP. However, federal and state OSHA regulations specify ***airborne lead levels*** that should not be exceeded during construction without appropriate protection and training.

The action level for lead is 30 micrograms per cubic meter of air (µg/m3), and the permissible exposure limit (PEL) is 50 µg/m3. These airborne lead levels can be exceeded during construction activities such as scraping, sanding, grinding, blasting, and torching LBP surfaces, even when levels of lead in paint are far below the HUD definition of LBP of 1.0 mg/cm2 or 0.5 percent lead by weight. The XRF is designed to accurately quantify paint around the set abatement level (1.0 mg/cm2, 5,000 parts per million, or 0.5 percent by weight). However, painted surfaces tested with XRF that result in instrument readings much less than 1.0 mg/cm2 (even 0.0 mg/cm2 and negative results) may contain amounts of lead that could create an airborne hazard to workers during construction.

Based on the levels of lead in the components identified in the limited survey, Pacific Environmental recommends that only properly trained and equipped individuals be assigned tasks that would involve treatment or demolition of these components. Procedures and engineering controls must be designed to follow CAL/OSHA and Department of Health Services (State of California) requirements, and workers must wear appropriate personal protective equipment during the work.

Other Hazardous Materials

During our assessment of the structures, we visually inspected the locations of fluorescent light tubes and PCB ballasts. There are fluorescent fixtures throughout the campus with ballasts that are assumed to contain PCB's and fluorescent tubes. All PCB's and spent fluorescent light tubes should be handled, packaged and disposed of in compliance with current California Environmental Protection Agency, Department of Toxic Substances Control Guidelines.

Limitations

This report is not intended to identify all hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and Pacific Environmental's experience in performing this type of assessment. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations

Pacific Environmental has performed this survey in a professional manner, using the degree of skill and care exercised for similar projects, under similar conditions, by reputable and competent environmental consultants. Pacific Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

Pacific Environmental further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved as a consequence of this report, or impacted by information not properly disclosed to Pacific at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

References

AHERA Summary, prepared by Power Masters, Inc.

Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards

Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead

"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," US Department of Housing and Urban Development, June 1995

South Coast Air Quality Management District Requirements (Rule 1403)

National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, M

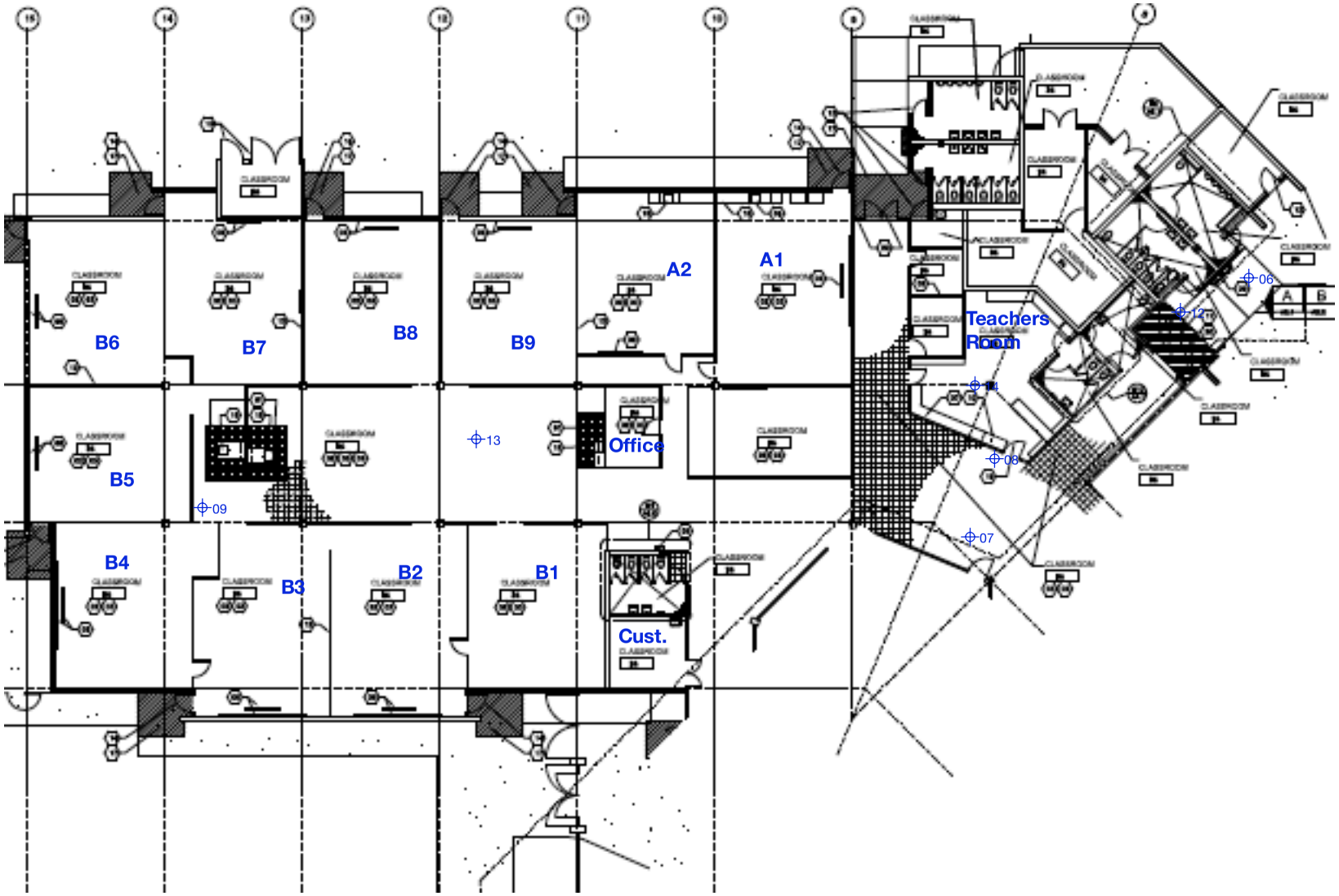
Occupational Safety and Health Administration, Asbestos in the Workplace, 29 CFR 1910.1001

Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101

Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard

Appendix A

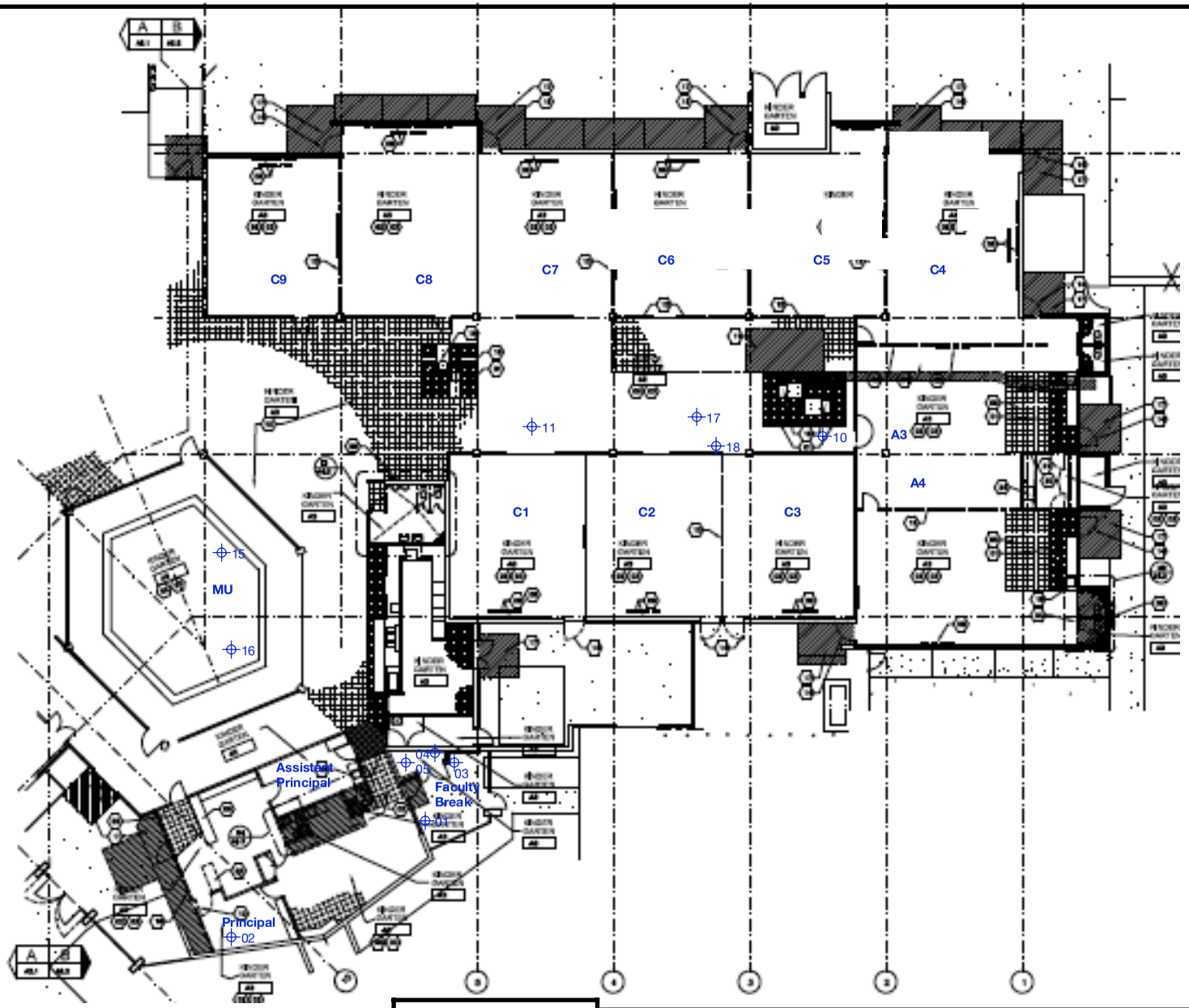
Site Plan



⌖ indicates approximate sample location

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.	DRAWING TITLE: Sample Location Plan A & B Buildings Emmerton Elementary School 1888 Arden Avenue San Bernardino, California 92404
REVISION:	SOURCE:	
PROJECT NO: 09018	OTHER:	
PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations		CLIENT: San Bernardino City Unified School District

FIGURE NO. 1



⌖ indicates approximate sample location

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.
REVISION:	SOURCE:
PROJECT NO: 09018	OTHER:

DRAWING TITLE:
Sample Location Plan
C & M.U. Buildings
Emmerton Elementary School
1888 Arden Avenue
San Bernardino, California 92404

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
2

Appendix B

Bulk Sample Summary Table

EMMERTON ELEMENTARY SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09018

Sample No.	Sample Description	Sample Location	Asbestos %
01	12"X12" Floor Tile, Light Brown	Faculty Room, South	No Asbestos Detected
02	Carpet Mastic	Principal's Office	No Asbestos Detected
03	4" Basecove, Brown	Faculty Room, North	No Asbestos Detected
04	Plaster	Faculty Room, North	No Asbestos Detected
05	12"x12" Spline Ceiling Tile, Fissured	Break Room, Faculty	No Asbestos Detected
06	12"x12" Floor Tile, Beige	At Girls' RR Foyer	NAD (Tile); <1% Chrysotile (Mastic)
07	12"x12" Floor Tile, Beige	Common Area, North	No Asbestos Detected
08	Plaster Wall	Common Area at Teachers' Room	No Asbestos Detected
09	Plaster Wall	Common Area by Rm B-5	No Asbestos Detected
10	Spline Ceiling Tile	Common Area N. By Rms A-3/A-4	No Asbestos Detected
11	Spline Ceiling Tile	Common Area, South	No Asbestos Detected
12	Wall Covering	By Men's RR West, Off Common Area	No Asbestos Detected
13	2'x4' Ceiling Tile, Fissured	Common Area, North	No Asbestos Detected
14	Carpet Mastic / Glue	Teachers' Rm., Northeast Corner	No Asbestos Detected
15	Carpet Mastic	M.V.	No Asbestos Detected
16	4" Basecove, Brown	M.V.	No Asbestos Detected
17	4" Basecove, Brown	Common Area, South End	No Asbestos Detected
18	12"x12" Floor Tile, Beige	Common Area, South End	No Asbestos Detected

Appendix C

Asbestos Sample Analysis Reports and Chain of Custody

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/15/09
Date Examined 01/15/09
AmeriSci Job # 909011492
P.O. #

RE: SBCUSD; Emmerton School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011492-01L1	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12"x12" Lt Brown / Faculty Rm S.		
Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
01	909011492-01L2	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12"x12" Lt Brown / Faculty Rm S.		
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
01	909011492-01L3	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12"x12" Lt Brown / Faculty Rm S.		
Analyst Description: Grey, Homogeneous, Non-Fibrous, Underlayment **Asbestos Types:** **Other Material:** Cellulose 5 %, Non-fibrous 95 %			
02	909011492-02	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Carpet Mastic / Principals Off.		
Analyst Description: Brown, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 % **Comment:** Carpet mastic not found in sample.			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Emmerton School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
03	909011492-03L1	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
Location: Basecove Brown 4" / Faculty Rm N.			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
03	909011492-03L2	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
Location: Basecove Brown 4" / Faculty Rm N.			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
04	909011492-04	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
Location: Plaster / Faculty Rm			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
05	909011492-05	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
Location: 12x12 Spline CT Fissured / Break Rm - Faculty			
Analyst Description: White/Grey, Homogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 45 %, Fibrous glass 20 %, Non-fibrous 35 %			
06	909011492-06L1	*No*	NAD (by CVES) by Paola Ducoing on 01/15/09
Location: 12x12 Biege FT / @ Girls RR Foyer			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
06	909011492-06L2	*Yes*	Trace (<1 %) (by CVES) by Paola Ducoing on 01/15/09
Location: 12x12 Biege FT / @ Girls RR Foyer			
Analyst Description: Yellow/Black, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types: Chrysotile <1. %			
Other Material: Cellulose 3 %, Non-fibrous 97 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Emmerton School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
07	909011492-07L1	***No***	NAD
Location: 12x12 Biege FT / N. Common Area			(by CVES) by Paola Ducoing on 01/15/09
Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
07	909011492-07L2	***No***	NAD
Location: 12x12 Biege FT / N. Common Area			(by CVES) by Paola Ducoing on 01/15/09
Analyst Description: Black/Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 2 %, Non-fibrous 98 %			
08	909011492-08	***No***	NAD
Location: Plaster Wall / Common Area & Teachers Rm			(by CVES) by Paola Ducoing on 01/15/09
Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
09	909011492-09	***No***	NAD
Location: Plaster Wall / Common Area By Rm B-5			(by CVES) by Paola Ducoing on 01/15/09
Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
10	909011492-10	***No***	NAD
Location: Spline CT / Common Area N. By Rm A-3 A-4			(by CVES) by Paola Ducoing on 01/15/09
Analyst Description: White/Grey, Homogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 45 %, Fibrous glass 20 %, Non-fibrous 35 %			
11	909011492-11	***No***	NAD
Location: Spline CT / Common Area S. By Rm A-3 A-4			(by CVES) by Paola Ducoing on 01/15/09
Analyst Description: White/Grey, Homogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 45 %, Fibrous glass 20 %, Non-fibrous 35 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Emmerton School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
12	909011492-12	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Wall Covering / By Men's Rm W. Of Common Area		
	Analyst Description: White, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 20 %, Non-fibrous 80 %		
13	909011492-13	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 2x4 CT Fissured / Common Area N		
	Analyst Description: Grey, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 45 %, Fibrous glass 20 %, Non-fibrous 35 %		
14	909011492-14L1	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Carpet Mastic/Glue / Teachers Rm NE Center		
	Analyst Description: Multi-Colored, Homogeneous, Fibrous, Carpet		
	Asbestos Types:		
	Other Material: Synthetic fibers 85 %, Non-fibrous 15 %		
14	909011492-14L2	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Carpet Mastic/Glue / Teachers Rm NE Center		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
15	909011492-15L1	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Carpet Mastic / MV		
	Analyst Description: Multi-Colored, Homogeneous, Fibrous, Carpet		
	Asbestos Types:		
	Other Material: Synthetic fibers 85 %, Non-fibrous 15 %		
15	909011492-15L2	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Carpet Mastic / MV		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Emmerton School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
16	909011492-16	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Basecove Brown 4" / MV		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
17	909011492-17	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: Basecove Brown 4" / Common Area S. End		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
18	909011492-18	***No***	NAD (by CVES) by Paola Ducoing on 01/15/09
	Location: 12x12 Biege FT / Common Area S. End		
	Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

Reporting Notes:

Analyzed By: Paola Ducoing ; Date Analyzed: 1/15/2009 1/15/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/16/09

909 011492-

PACIFIC ENVIRONMENTAL

Date:	01 / 14 /2009
Client:	SBCUSD
Site:	EMMERTON SCHOOL
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
01	12"x12" LT BROWN	FACULTY Rm. S.	
02	CARPET MASTIC	Principals Off.	
03	Base cove Brown 4"	FACULTY Rm N	
04	Plaster	" "	
05	12x12 Spline CT Fissured	Break Rm - FACULTY	
06	12x12 Biege FT	@ Girls RR FOYER	
07	" " "	N. Common Area	
08	Plaster WALL	Common Area @ Teacher Rm	
09	Plaster WALL	" " by Rm B-5	
10	Spline CT	Common Area N by Rms	A-3 A-4
11	Spline CT	" " S.	
12	WALL Covering	by Mens Rm W of Common Area	
13	2x4 CT fissured	Common Area N	
14	CARPET MASTIC/GLUE	Teachers Rm NE Corner	
15	CARPET MASTIC	MU	
16	Base cove Brown 4"	MU	
17	" "	Common Area S.End	
18	12x12 Biege FT	Common Area S. end	
19			
20			
21			
22			
23			
24			

Analytical Method: PLM

Turn Around Time: 24 hr

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Thomas Gannon — 01 / 14 / 2009
Name — Signature — Date/Time

RECEIVED
JAN 15 2009
S. TAHVILDARI

Name — Signature — Date/Time

Appendix D

XRF Sampling Results

FIELD DATA REPORT

PROJECT NAME: Emmerton Elementary School

PROJECT NO.:09018

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Administration	Principal's Office	Door	A	Wood	Intact	Blue	0.0	Negative
Administration	Principal's Office	Door Frame	A	Wood	Intact	Blue	0.1	Negative
Administration	Staff Lounge	Wall	A	Plaster	Intact	Green	0.0	Negative
Administration	Staff Lounge	Wall	B	Plaster	Intact	Green	0.0	Negative
Administration	Staff Lounge	Wall	C	Plaster	Intact	Green	0.0	Negative
Administration	Staff Lounge	Wall	D	Brick	Intact	Green	0.0	Negative
Administration	Staff Lounge	Door	A	Wood	Intact	Green	0.1	Negative
Administration	Staff Lounge	Door	C	Metal	Intact	Green	0.0	Negative
Administration	Staff Lounge	Door Frame	A	Wood	Intact	Green	0.0	Negative
Administration	Staff Lounge	Door Frame	C	Metal	Intact	Green	0.1	Negative
Administration	Staff Lounge	Window Frame	C	Metal	Intact	Green	0.1	Negative
Administration	Unisex RR (Front Office)	Wall	A	Plaster	Intact	White	0.0	Negative
Administration	**Unisex RR (Front Office)**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Grey**	**17.6**	**Positive**
Administration	**Unisex RR (Front Office)**	**Baseboard**	**A**	**Ceramic Tile**	**Intact**	**Grey**	**17.8**	**Positive**
Administration	Unisex RR (Front Office)	Door	A	Wood	Intact	Blue	0.0	Negative
Administration	Unisex RR (Front Office)	Door Frame	A	Wood	Intact	Blue	0.0	Negative
Administration	Unisex RR (Front Office)	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Brown	0.0	Negative
C Bldg	C-1	Wall	D	Brick	Intact	White	0.0	Negative
C Bldg	C-1	Door	D	Metal	Intact	Red	0.0	Negative
C Bldg	C-1	Door Frame	D	Metal	Intact	Red	0.1	Negative
C Bldg	C-4	Door	B	Metal	Intact	Red	0.1	Negative
C Bldg	C-4	Door Frame	B	Metal	Intact	Red	0.0	Negative
C Bldg	C-4	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Red	0.0	Negative
C Bldg	C-4 Girls'/Boys' RR	Wall	D	Plaster	Intact	White	0.1	Negative
C Bldg	**C-4 Girls'/Boys' RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Grey**	**17.2**	**Positive**
C Bldg	C-4 Girls'/Boys' RR	Door	A	Wood	Intact	Red	0.1	Negative
C Bldg	C-4 Girls'/Boys' RR	Door Frame	A	Metal	Intact	Red	0.0	Negative
C Bldg	C-4 Girls'/Boys' RR	Ceiling	N/A	Plaster	Intact	White	0.0	Negative
C Bldg	C-4 Girls'/Boys' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Brown	0.0	Negative
C Bldg	C-8	Wall	D	Brick	Intact	White	0.0	Negative
C Bldg	C-8	Door	D	Metal	Intact	Red	0.1	Negative
C Bldg	C-8	Door Frame	D	Metal	Intact	Red	0.0	Negative
C Bldg	C-9	Wall	D	Brick	Intact	White	0.1	Negative
C Bldg	C-9	Door	D	Metal	Intact	Red	0.0	Negative
C Bldg	C-9	Door Frame	D	Metal	Intact	Red	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Emmerton Elementary School

PROJECT NO.:09018

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Kitchen/Lunch Area	Kitchen	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Red	0.0	Negative
SW Side of Bldg	Teachers' Room	Door	C	Wood	Intact	Blue	0.1	Negative
SW Side of Bldg	Teachers' Room	Door Frame	C	Metal	Intact	Blue	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Emmerton Elementary School

PROJECT NO.:09018

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Administration	Unisex RR (Front Office)	Wall	B	Ceramic Tile	Intact	Grey	17.6
Administration	Unisex RR (Front Office)	Baseboard	A	Ceramic Tile	Intact	Grey	17.8
C Bldg	C-4 Girls'/Boys' RR	Wall	D	Ceramic Tile	Intact	Grey	17.2

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

Appendix E

DHS Form 8552

State of California – Health and Human Services Agency

California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 – Date of Lead Hazard Evaluation 1/14/2009

Section 2 – Type of Lead Hazard Evaluation (Check one box only)

☑ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 – Structure Where Lead Hazard Evaluation Was Conducted

Address (number, street, apartment (if applicable))	City	County	Zip Code
1888 Arden Avenue	San Bernardino	San Bernardino	92404

Construction date (year) of structure	Type of structure (check one box only)
1968	☐ Multi-unit building ☑ School or daycare ☐ Single family dwelling ☐ Other (specify)_____

Section 4 – Owner of Structure (If business/agency, list contact person)

Name	Telephone number
San Bernardino City Unified School District	909-381-1238

Address (number, street, apartment (if applicable))	City	State	Zip Code
777 North F Street	San Bernardino	CA	92401

Section 5 – Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected. ☑ Lead-based paint detected.

☐ No lead hazards detected. ☐ Lead hazards detected.

Section 6 – Individual Conducting Lead Hazard Evaluation

Name	Telephone number
David Tillema	800.303.6484

Address (number, street, apartment (if applicable))	City	State	Zip Code
28202 Cabot Road #300	Laguna Niguel	CA	92677

CDPH certification number	Signature	Date
17740		1/19/2009

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 – Attachments

A. A foundation diagram or sketch of the structure indicating the specific locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

CDPH 8552 (6/07)

Appendix F

XRF Performance Characteristics Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: June 26, 1996 **EDITION NO.: 3**

MANUFACTURER AND MODEL:

Make: *Scitec Corporation*
Model: *MAP-4*
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS

Test mode, Screen mode, or Unlimited mode.

XRF CALIBRATION CHECK LIMITS

0.6 to 1.2 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

When using Unlimited mode, substrate correction recommended for:

None

When using Unlimited mode, substrate correction not recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

When using Screen or Test mode, for XRF results below 4.0 mg/cm^2, substrate correction recommended for:

Drywall, Metal, and Wood

When using Screen or Test mode, substrate correction not recommended for:

Brick, Concrete, and Plaster

INCONCLUSIVE RANGE OR THRESHOLD

UNLIMITED MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm^2)
Results not corrected for substrate bias for unlimited mode readings	Brick	0.91 to 1.19
	Concrete	0.91 to 1.19
	Drywall	0.91 to 1.19
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.19
	Wood	0.91 to 1.19

SCREEN MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm²)
Results corrected for substrate bias for screen mode readings on drywall, metal, and wood substrates only	Brick	0.91 to 1.09
	Concrete	0.91 to 1.09
	Drywall	0.91 to 1.39
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.09
	Wood	0.91 to 1.29

TEST MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)	INCONCLUSIVE RANGE (mg/cm²)
Readings corrected for substrate bias for test mode readings on drywall, metal, and wood substrates only	Brick	0.9	None
	Concrete	0.9	None
	Drywall	None	0.91 to 1.39
	Metal	None	0.91 to 1.09
	Plaster	0.9	None
	Wood	None	0.91 to 1.29

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from an EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations. All of the test locations were tested in February 1996 using two different instruments. One instrument had a new source installed in July 1994 and its strength at the time of testing was calculated as 9.4 mCi. The other instrument had a new source installed in September 1994 and its strength at the time of testing was calculated as 10.6 mCi.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds

SUBSTRATE CORRECTION VALUE COMPUTATION

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

- Using the same XRF instrument, take three readings on a bare substrate area covered with the

NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

- Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

  For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\left.\begin{matrix}\text{Correction}\\ \text{Value}\end{matrix}\right\} = \frac{1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th}\ \text{Reading}}{6} - 1.02 mg/cm^2$$

- Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either 15-second readings or 60-second readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES

For screen, test, and confirm modes, the MAP 4 instrument tests until a K-shell result is obtained relative to a level of precision. A result is "positive", "negative" or "retest" as displayed by indicator lights. For the unlimited mode, the MAP 4 instrument tests until a K-shell result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the the reading is terminated by releasing the trigger. A few unlimited mode readings were terminated because they exceeded the two-minute limit used for archive testing. The following tables provide testing time information for three testing modes. Insufficient information is available to provide this information for confirm mode. All times have been scaled to match an initial 12 miC source. Note that source strength and factors such as substrate may affect testing times.

UNLIMITED MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	3	4	6	4	13	3
Metal	3	4	8	4	9	3
Brick Concrete Plaster	4	5	8	6	6	3

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

SCREEN MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	6	7	5	6	7
Metal	4	5	6	5	5	5
Brick Concrete Plaster	11	11	13	11	11	11

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

TEST MODE TESTING TIMES (Seconds)						
SUBSTRATE	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm²)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	17	22	27	21	20	28
Metal	13	20	23	20	20	20
Brick Concrete Plaster	41	42	52	41	46	43

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

BIAS AND PRECISION

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with laboratory-measured lead levels less than 4.0 mg/cm² lead. There were 15 testing locations taken in the screen mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were 15 testing locations taken in the test mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were not any testing locations taken in the confirm mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. There were 15 testing locations taken in the unlimited mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². All testing was done in February 1996 with two different instruments. The following data are for illustrative purposes only. Actual bias must be determined on the site. Inconclusive ranges provided above already account for bias and precision.

SCREEN MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.1	0.2
	Metal	0.1	0.3
	Plaster	-0.1	0.3
	Wood	0.0	0.2
0.5 mg/cm²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	0.1	0.4
	Concrete	0.1	0.4
	Drywall	0.5	0.6
	Metal	0.3	0.3
	Plaster	0.1	0.4
	Wood	0.4	0.6

2.0 mg/cm²	Brick	0.4	0.5
	Concrete	0.4	0.5
	Drywall	0.9	0.8
	Metal	0.5	0.3
	Plaster	0.4	0.5
	Wood	0.7	0.8

*Precision at 1 standard deviation

TEST MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.2
	Concrete	-0.1	0.2
	Drywall	0.1	0.1
	Metal	0.1	0.2
	Plaster	-0.1	0.2
	Wood	0.0	0.1
0.5 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.2
	Plaster	-0.1	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.5	0.6
	Metal	0.3	0.2
	Plaster	-0.1	0.3
	Wood	0.4	0.6
2.0 mg/cm²	Brick	0.0	0.4
	Concrete	0.0	0.4
	Drywall	1.0	0.8
	Metal	0.5	0.2
	Plaster	0.0	0.4
	Wood	0.8	0.8

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristics Sheet is a joint product of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD). The issuance of this sheet does not constitute rulemaking. The information provided here is intended solely as guidance to be used in conjunction with Chapter 7, Lead-Based Paint Inspection, of the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. EPA and HUD reserve the right to revise this guidance. Please address questions and comments on this sheet to: Director, Office of Lead Hazard Control (L), U.S. Department of Housing and Urban Development, 451 Seventh St, S.W., Washington, DC 20410.

Pacific Environmental Company

ACCM and Lead Abatement Workplan

Emmerton Elementary School Modernization Project
1888 Arden Street
San Bernardino, California 92404

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 21, 2009

Project Number: 09018

ACCM Abatement Workplan

Emmerton Elementary School Modernization Project
1888 Arden Street
San Bernardino, California 92404

Background

The San Bernardino City Unified School District is requesting proposals from qualified hazardous materials abatement contractors for the removal the identified asbestos containing construction materials and lead-based paints in anticipation of modernizations to Emmerton Elementary School

The contractor's responsibilities will include the following key components:

- ACCM Abatement
- Lead Abatement
- Notifications to all appropriate agencies
- All permits, fees and other incidentals required to carry out the specified work
- Inspections if required

Contract Documents

This Workplan is to be used in conjunction with the Project Specifications prepared for the District for this site. The specifications are to be made available to the bidders without cost. Additional copies may be obtained at the cost of reproduction.

Discrepancies

1. Each bidder shall visit the site of the proposed work and fully acquaint himself with the conditions relating to the construction and labor so that he may fully understand the facilities, difficulties, and restrictions attending the execution of the work under the contract. Bidders shall thoroughly examine and be familiar with the Contract Documents including the drawings and specifications. The failure or omission of any bidder to receive or examine any contract document, form, instrument, addenda, or other document, or to visit the site and acquaint himself with the conditions there existing shall not relieve any bidder from any obligations with respect to his bid or to the contract. The submission of a bid shall be taken as prima facie evidence of compliance with this section.

2. If, during the bidding period, a bidder observes errors, discrepancies, ambiguities or omissions in, or requires clarification as to the meaning of the Contract Documents, he immediately informs the Owner who in turn will send written addenda to all prospective bidders.

3. Requests for clarification's will be made to the Owner's offices.

4. Bidders communications will not receive consideration unless they are received by the Owner at least two days prior to the day bids are due and the Owner will not issue addenda later than one day preceding the day bids are due.

5. Neither the Owner nor Owner's Representative will be responsible for oral explanations and instructions.

6. The contents of all addenda shall become part of the Contract Documents.

7. Bidders are responsible for verification of quantities, change orders will not be approved on the basis of understated quantities.

Substitutions

Bidders shall feel free to recommend substitutions of items and procedures specified, but recommendations shall be made in letter form independent of the basis lump sum bid. The recommendations shall state the corresponding changes in the base bid amount in the event recommendations are approved.

Contract Requirements

1. Contractor shall supply the necessary materials, equipment, transportation, workers, supervisors, insurance and expertise to perform the services outlined in their bid proposal.

2. The Contractor shall base his pricing on his own take-off quantities required to perform the work. No change orders will be allowed on the basis that the quantities are considered inaccurate.

3. The Contractor shall perform all Work in compliance with the most recent edition of all applicable federal, state, and local regulations, standards and codes governing demolition, asbestos and lead abatement, transport, and disposal of asbestos and lead containing/contaminated materials.

4. Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

5. In addition to the above, do all the other work as required by the Specifications, job walk and addenda.

6. Unless exempt under Business & Professions Code §7028.15, no bidder who is not licensed as a Contractor to perform the Work of the Contract shall submit a bid therefore and at the time the Contract is awarded to a bidder, the bidder shall possess a valid and in good standing California Contractors License in the Classification of ASB. In addition, no bid will be considered from a bidder who is not certified and registered in accordance with California Business & Professions Code §7058.5 and California Labor Code §6501.5 to perform asbestos-related work.

7. Each bidder shall submit a list of the proposed subcontractors on this project as required by the Subletting and Subcontracting Fair Practices Act.

8. In accordance with the provisions of §3700 of the Labor Code, Contractor shall secure the payment of compensation to his employees. Contractor shall sign the following certificate prior to performing the work under this contract: "I am aware of the provisions of §3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Code, and I will comply with such provisions before commencing the performance of the work of this contract." The form of such certificate is included as part of the contract documents.

9. The Contractor hereby assures that it will comply with Subchapter VI of the Civil Rights Act of 1964, 42 USC Sections 2000 (e) through 2000 (e) (17), to the end that no person, on the grounds of race, creed, color, sex, or national origin be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination under this Agreement or under any project, program, or activity supported by this Agreement. The Contractor agrees to comply with applicable Federal and California laws against discrimination. Additionally the Contractor agrees to require like compliance by any subcontractors employed on the work by him.

10. The Contractor hereby assures that it will comply with the Americans with Disabilities Act of 1990, 42 USC Sections 12010 et. seq., to ensure that disabled individuals shall be reasonably accommodated in accordance with the Act, and the Contractor shall not exclude from participation in, or deny the benefit of, or otherwise subject a disabled individual to discrimination under this Agreement, or under any project, program, or activity supported by this Agreement.

11. The successful Contractor shall provide Comprehensive General Liability Insurance in the amount specified at the mandatory job walk. Contractor shall name the Owner as additional insured on the liability insurance which shall be endorsed so that the Owner will receive a thirty (30) day prior written notice in the event of cancellation or material change.

12. Public funds are being used for this project and as such, prevailing wage and certified payroll reporting requirements will apply.

Description of Work

The scope of work for this project includes the removal of all of the asbestos containing construction materials, lead-laden materials, fluorescent light tubes, and pcb light ballasts that are going to be impacted by the Modernizations at the Site.

Materials that are to be removed to facilitate the demolition include the following:

ACCM – Floor Tile Mastic

Lead – Ceramic Wall tile finishes in the restrooms.

Fluorescent light tubes and pcb light ballasts – where occurs

All demolition required to carry out the abatement is the responsibility of the abatement contractor. Patching of surfaces is not required.

Please refer to the original survey report for further details on the survey process and results.

Submittals

Pre-Job Submittals: Prior to commencement of work, Contractor shall submit (two copies) to Owner's Representative documentation that includes, without limitation, the following:

- Submit copies of licenses and registrations required by these specifications (include copies of subcontractors licenses).
- Submit copies of written notification to the appropriate regulatory agencies.
- Submit proof that required permits, site location and arrangements for transport and disposal of hazardous waste materials have been made.
- Submit proof of legal right to use patented equipment or processes.
- Manufacturer's certification that HEPA vacuums, differential pressure air filtration devices and other local exhaust ventilation equipment conform to ANSI Z9.2-79.
- Submit a construction schedule indicating milestones and dates of completion for each phase of the Work.
- Submit documentation that Contractor's employees, including foreman, supervisor, and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received training as required by 29 CFR 1926.1101.
- Submit documentation from Physician that all employees or agents who may be exposed to airborne asbestos fibers in excess of background levels have received medical monitoring to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. The Contractor must be aware of and provide information to the examining physician about unusual conditions in the workplace environment (e.g. high temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities.

- Submit documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. This fit-testing shall be in accordance with qualitative procedures as required by OSHA regulations or be quantitative in nature.
- Submit a project specific work plan.
- Submit an emergency preparedness plan.

Ongoing Submittals: During abatement activities, Contractor shall submit to Owner's Representative documentation that includes, without limitation, the following:

- Submit copies of the work area entry/exit log book. Log book must record name, affiliation, time in, and time out for each entry into the work area.
- Submit copies of logs documenting filter changes on respirators, HEPA vacuums, differential pressure air filtration devices, water filtration device, and other engineering controls.
- Submit copies of Material Safety Data Sheets (MSDS) for solvents, encapsulants, wetting agents and replacement materials, as necessary.
- Submit results of all required OSHA air monitoring. Results shall be available prior to the start of the following shift and within 24 hours of completion of the last shift.
- Submit copies of all accident/incident reports where injury or damage has occurred on or to the Owner's property.
- Submit copies of all transport manifests, trip tickets and disposal receipts for all hazardous waste materials removed from the work area within 24 hours of the transport.

Technical Specifications

All work shall be preformed in accordance with the guidelines of all prevailing local and state regulations including but not limited to local air quality management authority requirements. The Contractor and all its employees shall be licensed certified and trained to perform work in California.

Contractor is required to provide written legal notification of its intent to perform asbestos and lead related work to all regulatory agencies as required. Contractor shall pay permit fees required for the work.

The Contractor shall be required to furnish and maintain on the Site as a minimum all legally required job postings include but not limited to: evidence of licensure and certificates for the Contractor and its employees. A daily supervisor's log maintained by the on-site supervisor, daily worker sign-in logs, all workers current asbestos and lead related training certificates, medical clearance, respirator fit testing records, and notifications sent to regulatory agencies. In addition, the Contractor shall be required to provide all personal air monitoring results to the Owner and Owner's Representative, either within five working days form the time the samples are collected or the required statutory time, whichever is less.

It is the responsibility of the Contractor to provide respiratory protection and personal protective equipment for his worker's in accordance with all current regulations.

All ACCM asbestos work shall be conducted within regulated areas. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they shall demarcate the regulated area. Access to regulated areas shall be limited to authorized persons. The Contractor shall control

access to regulated areas, ensure that only authorized personnel enter, and verify that Contractor required medical surveillance, training and respiratory protection program requirements are met prior to allowing entrance.

Warning signs and tape printed in English and Spanish shall be provided at the regulated boundaries and entrances to regulated areas. The Contractor shall ensure that all personnel working in areas contiguous to regulated areas comprehend the warning signs. Signs shall be located to allow personnel to read the signs and take the necessary protective steps required before entering the area.

ACCM WORK

Per Title 8 of the California Code of Regulations, ACCM must be handled in compliance with the CalOSHA requirements which specify contractor registration requirements, worker protection through appropriate personal protective equipment, engineering controls and exposure assessment. This material is not an Asbestos Containing Material for the purpose of disposal and does not have a corresponding EPA category.

The ACCM floor tile mastic materials shall be removed by adequately wet methods, within containment per SCAQMD Procedure 1 methods and exposure assessment monitoring will be conducted. Waste is to be disposed of in leak-tight containers.

LBP REMOVAL

All of the identified lead hazards are to be removed to facilitate the demolition. All lead related work shall be completed in accordance with the following regulations.

- Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards.
- Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead.
- “Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing,” US Department of Housing and Urban Development, June 1995
- All Certifications, Respiratory Fit Tests and Medical Releases must be on-site at all times when lead related work is being performed.

All waste generated from any lead related work must be properly profiled and disposed of. Waste manifests documenting the disposal site will need to be submitted at the end of each phase of the job.

January 21, 2009

San Bernardino City Unified School District
Facilities Management
777 North "F" Street
San Bernardino, California 92410

Attention: Michael Plunkett

Subject: Budgets for Abatement at Emmerton Elementary School

Dear Mr. Plunkett:

Pacific Environmental Company conducted a hazardous materials survey for Emmerton Elementary School in anticipation of modernizations per your request.

Asbestos-containing floor tile mastic materials were identified at the site and must be removed prior to the modernization work if they are going to be impacted, otherwise they can be managed in place since they are in good condition. Current EPA regulations require that ACM be removed from a building prior to renovation or demolition or renovation that will impact the ACM. ACM and ACCM must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

Lead-based paints (LBP) were also identified at the site. Lead abatement, treatment and/or recycling should be conducted in full compliance with the Cal-OSHA Lead-Related Construction Standard. Paints containing lead greater than 0.5% lead by weight that are to be scraped, sanded, torched, or otherwise disturbed during the demolition should be removed or stabilized prior to the demolition by a licensed contractor and workers with California Department of Health Services (DHS) certification in lead-related construction. Waste streams must be characterized to ensure appropriate disposal methods.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures and transformers should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and Department of Toxic Substances Control (DTSC) guidelines. The batteries stored on site should be recycled.

For planning purposes, we have prepared the following preliminary estimates for abatement. This is not a bid to do the work, rather a planning tool based on our site observations, current industry trends and discussions with abatement contractors regarding the project.

Building	Material	Location	Estimated Qty.	Unit Cost	Abatement Estimate
Emmerton	Black Flooring Mastic	Corridors, Cafeteria and Portions of Classrooms	17,000 SF	$5	$85,000
Estimated Total for Asbestos Abatement					$85,000.00
Lead painted components					$5,000.00
PCB Ballasts and Miscellaneous					$5,000.00
Project Compliance Monitoring and Inspections					$10,000.00
Subtotal					$105,000.00
Contingency (10%)					$10,500.00
Total Estimate					**$115,500.00**

If you have any questions or require additional information, please call me at (800)303-6484 extension 701.

Respectfully,

Pacific Environmental Company



Michael Lyssy
President

Pacific Environmental Company

Limited Asbestos and Lead Survey Report

Lankershim Elementary School Modernization Project
7499 Lankershim Avenue
Highland, California 92346

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 21, 2009

Project Number: 09015

Limited Asbestos and Lead Survey Report

Lankershim Elementary School Modernization Project
7499 Lankershim Avenue
Highland, California 92346

Executive Summary

Pacific Environmental Company conducted a limited asbestos and lead survey in anticipation of modernizations at Lankershim Elementary School, which is located at 7499 Lankershim Avenue in Highland, California. All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

This executive summary is not to be utilized as a stand-alone document. The report shall be read in its entirety. The reader must review the detailed information provided in the accompanying text. Any interpretation, use, or conclusions resulting from the data contained in this report is the responsibility of the reader. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations.

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos as determined by PLM, however, the California Department of Occupational Safety and Health (CalOSHA) classifies any material as having greater than one tenth of one percent asbestos as asbestos-containing construction material (ACCM).

ACM and ACCM that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Dark Brown 12" x 12" Vinyl Floor Tile	Building A - Corridor outside Restroom and Break Room Building D - D-D7 (Southwest corner portions of rooms Building E – E2 Entry Library Storage Room 1	850 SF	Will require abatement where impacted by Modernization Work
Interior Plaster	Building A – Room south of Restroom and Break Room Building B – Janitor Room and Restrooms	4,200 SF	ACCM will require abatement where impacted by Modernization Work

Current EPA regulations require that the asbestos-containing building materials be removed prior to demolition or renovation, if they are going to be impacted. If any of the identified ACM or ACCMs are to be impacted by the renovations, then they must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

A licensed and certified asbestos abatement contractor must perform any asbestos abatement that takes place at the subject property. Waste generated from the asbestos abatement must be properly transported and disposed of.

Lead components likely to be impacted by the modernization project identified at the subject site during our inspection include the following:

Location	Lead-Containing Components
A Building	Ceramic Baseboard and Wall Tile in Restrooms
B Building	Ceramic Wall Tile in Restrooms
D Building	Door Frames Throughout and Ceramic Wall Tile in Restrooms

The lead-based paint and lead tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and DTSC guidelines.

Pacific Environmental recommends that all future renovation, demolition, construction or abatement activities with the potential for disturbing the identified ACM or lead-laden components, be performed by properly trained and qualified personnel. These activities should employ state-of-the-art techniques, and be conducted in accordance with all applicable local, State and Federal laws and regulations.

Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition or renovation activities, please call us and we will sample and analyze accordingly. This survey was limited to the materials that are going to be impacted by the modernization activities, as detailed in the provided plans.

The presence of the identified hazardous materials should be brought to the attention of contractors and personnel involved in the project at the subject site. Specifications have been prepared for the removal and handling of specific hazardous materials, such as those containing asbestos and lead.

Any employees, visitors, or contractors entering this building should be notified of the presence and condition of the asbestos-containing materials, lead-based paints, and other hazardous materials (including those listed under Proposition 65), in accordance with applicable regulations.

Table of Contents

Introduction	1
Quality Control Procedures	2
Site Description	2
Asbestos Inspection and Sampling Procedures	3
Asbestos Inspection Results	5
Summary and Recommendations for Asbestos-Containing Materials	5
Lead Inspection and Sampling Procedures	6
Lead Inspection Results	7
Lead Summary and Recommendations	7
Other Hazardous Materials	7
Limitations	8
References	9

Appendix A	Site Plans
Appendix B	Bulk Sample Summary Table
Appendix C	Asbestos Sample Analysis Reports and Chain of Custody
Appendix D	XRF Sampling Results
Appendix E	DHS Form 8552
Appendix F	XRF Performance Characteristics Sheet

Limited Asbestos and Lead Survey Report

Lankershim Elementary School Modernization Project
7499 Lankershim Avenue
Highland, California 92346

Introduction

Pacific Environmental Company was retained by the San Bernardino City Unified School District to conduct a limited investigation to identify the presence of asbestos-containing materials, lead-based paints and other lead laden components that will require abatement or treatment, in conjunction with the school modernizations at Lankershim Elementary School, which is located at 7499 Lankershim Avenue in Highland, California.

All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

Field Services for the inspection were conducted on January 16, 2009. The project team included David Tillema, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Raed Sahawneh, a Cal/OSHA Certified Site Surveillance Technician and DHS Certified Lead Paint Inspector/Assessor, Thomas Gannon, a Cal/OSHA Certified Site Surveillance Technician, and Michael Lyssy, a State Certified Asbestos Consultant and Registered Environmental Assessor.

The scope of work for this project included the following key elements:

- Review, verification and incorporation of the original AHERA inspection and re-inspection data and any subsequent reports detailing the results of prior asbestos and lead testing at the School into this report.
- Inspection and assessment of asbestos-containing materials, lead-based paints, lead glazed ceramics and PCB light ballasts
- Preparation of a final report that is suitable for inclusion in the District's specifications for abatement of hazardous building materials.

Prior to our asbestos assessments, we evaluated the site conditions and demolition plans provided by HMC Architects in order to developed our sampling strategy to ensure identification of all asbestos-containing materials that are going to be affected by the modernization work. Representative sampling of homogeneous materials in areas that are being impacted by the project was conducted per SCAQMD guidelines, and all identifiable suspect materials were sampled. Asbestos analysis was performed by an independent, State Certified, NVLAP Accredited Laboratory. Bulk samples were analyzed by polarized light microscopy (PLM), EPA Method 600/R-93/116. This report details the specific site conditions and estimated quantities of Asbestos Containing Material (ACM) for the project. Areas affected by destructive sampling were repaired so as not to cause hazards to school personnel, survey crew, visitors and the general public.

Testing for lead-based paint was performed using an EDAX Map-4 portable X-ray fluorescence (XRF) spectrum analyzer. Testing was modeled after the protocol outlined in the Department of Housing and Urban Developments document titled

Lead-Based Paint: Interim Guidelines For Hazard Identification and Abatement in Public and Indian Housing (1997 Revision).

Quality Control Procedures

Pacific Environmental Company's integrated resources, technologies, discipline, and expertise combine to ensure that the inspection and analysis for each project is conducted based on the following principles:

- All applicable regulations are addressed in order to ensure that our field inspectors and lab personnel meet their responsibilities, do so cost-effectively, and are equipped with the practical knowledge they need in order to understand and comply with regulations that affect them.
- Care is taken to make certain that the information provided and actions recommended are practical and cost effective in achieving regulatory compliance.

The 'management' approach utilized for this project assured that all work was performed using the highest standard of quality. All project results, reports and recommendations are reviewed for accuracy, content and quality prior to presentation. We recognize that, for each assignment we undertake, the information we develop and the conclusions and advice we provide, will be used to support important management decisions.

Pacific Environmental Company's Quality Assurance Program requires that all personnel:

- Provide specific objectives so that project activities can be evaluated with regard to precision, accuracy, reproducibility, completeness, and comparability.
- Provide specific guidance on the proper methodology for all activities.
- Be provided with ongoing training to enhance their technical skills.
- Be trained in QA/QC procedures and QC activities.
- Review all reports until they are acceptable in terms of technical and editorial quality, and all quality assurance activities have been successfully performed.

Site Description

Lankershim Elementary School consists of several classroom and administration buildings. The buildings that are being impacted by the planned modernization work per the HMC Architect's plans include the A, B, C, D, E and Library buildings.

Interior finishes that are likely to be impacted by the modernization work include carpet and vinyl floorings, ceiling tiles, covebase, drywall and plaster.

The school was occupied at the time of our assessment and we worked after hours in an effort to characterize the site conditions. If any additional suspect materials are identified during the modernizations, please contact us to perform supplemental sampling.

Asbestos Inspection and Sampling Procedures

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos, as determined by polarized light microscopy (PLM). Title 8, Section 1529, of the California Code of Regulations, however, defines asbestos-containing construction material (ACCM) as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight.

We reviewed the District's asbestos records on file and the demolition plans prepared by HMC in order to formulate our sampling strategy. The only documentation on file for the site was an inventory from Power Master's original AHERA survey which was on file at the M&O Offices. The demolition plans indicate that the scope of the demolition at this site will include removal of floorings, removal of sinks and casework, renovation of several doors and windows and the removal of portions of walls. We collected additional samples to confirm the original AHERA findings and to characterize materials that were not originally tested.

Subsequent to our review of the prior report, a visual assessment of the suspect building materials located throughout the subject facility was completed prior to the collection of samples. During the visual assessment, the building materials suspected of containing asbestos were categorized by homogeneous areas. Materials are classified as homogenous when they appear uniform, have a consistent texture, and appear to have been installed at the same time.

The laboratory testing for the bulk samples was conducted in accordance with the recommended EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993).

The field investigation began with an initial site walk-through and identification of homogenous building materials suspected of containing asbestos. Samples were collected based on building layout, structural features, and mechanical and plumbing systems. Pacific Environmental then performed the following tasks:

- Evaluated whether materials suspected of containing asbestos were present at the site.
- Collected bulk samples, as required, to adequately characterize the suspect materials.
- Identified approximate sample locations and locations of identified ACM on field drawings or with photographs.
- Estimated the amount of ACM, where access allowed.
- Assessed the condition of the suspected and known ACMs.

At the time of inspection, suspect materials are assessed to be in good, damaged, or significantly damaged condition based on the following criteria:

> Good Condition - No or very limited visible damage or deterioration observed.
>
> Damaged Condition - Crumbling, blistering, water damage, gouges or other damage observed over less than 25% of the materials (one-tenth if evenly distributed); or accumulation of suspect powder, dust or debris observed below the material.
>
> Significantly Damaged - Crumbling, blistering, water damage, gouges or other damage observed over greater than 25% of the materials (one-tenth if evenly distributed); material delaminating or showing adhesive failure; or accumulation of suspect powder, dust or debris observed below the material.

The assessment process also includes classifying the material as Friable ACM or Non-Friable ACM. Friable ACM is the term given to any material that contains more than one percent (1%) asbestos by weight, which can be crumbled, pulverized, or reduced to powder by hand or mechanical pressure. The word "Friability" refers to a material's likeliness to release airborne fibers when in situ, or under mechanical pressure. There is a greater possibility that a friable material will

release fibers into the air when disturbed than will a non-friable material (i.e., floor tiles, roofing materials, etc.), thereby causing a potential hazard.

After identifying those materials suspected of containing asbestos, the materials were grouped into homogeneous sampling areas. A homogeneous sampling area includes building materials that are uniform in texture and color and appear identical in every other respect. A modified AHERA protocol was used in estimating the number of samples to be collected. Actual samples collected were determined by field conditions. A total of twenty-seven (27) bulk samples were collected and analyzed.

Bulk samples were collected by wetting the suspect material with amended water and cutting, scraping or coring it from its substrate using an appropriate sampling tool. Sampling tools were cleaned before and after each use to prevent cross contamination between sampling events. Small quantities of material, approximately 1/2 square inch each, were extracted from suspect materials and placed in sterile, airtight bags or vials, and sealed. Each sample was labeled with a unique identification number, utilizing a sequential numbering system. The sample was logged in on the bulk survey sheet and a description noted on the type of sample. Each sample container was then placed inside a larger sterile, airtight bag. As other samples were taken from each area, they were also placed inside this larger airtight bag. Sample locations were repaired using caulk, spray glue, encapsulant, or patching material as needed, but were not always returned to their original condition. The samples were transported under chain-of-custody to an independent NVLAP participating laboratory for analysis utilizing polarized light microscopy.

The laboratory testing was conducted in accordance with the EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993). Samples were examined for homogeneity, and non-homogeneous samples were ground to ensure homogeneity. Microscopic slides were prepared from each sample using a refractive index liquid, such as trisection and ethyl cinnamate, having a refractive index of 1.550; 1-bromo-naphthalene and 1-Iodonaphthalene, having a refractive index of 1.680; or hydrogenated terthenyl and 1-bromonaphtahlene, having a refractive index of 1.605. The slides were then examined for the presence of asbestos, utilizing polarized light microscopy (PLM) and dispersion staining techniques.

The percentage of asbestos was estimated by visual examination of fibers greater than five microns in length and with an aspect ratio of 3:1 or greater. The aspect ratio of 3:1 refers to the length of the fiber being three times as long as its width. If present, the identity of asbestos fibers was confirmed with appropriate refractive index liquids, application of dispersion staining and other techniques. The results were tabulated and detailed in the laboratory reports, which are included in the appendices of this report.

Asbestos Inspection Results

ACM and ACCM that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity	Comments
Dark Brown 12" x 12" Vinyl Floor Tile	Building A - Corridor outside Restroom and Break Room Building D - D-D7 (Southwest corner portions of rooms Building E – E2 Entry Library Storage Room 1	850 SF	Will require abatement where impacted by Modernization Work
Interior Plaster	Building A – Room south of Restroom and Break Room Building B – Janitor Room and Restrooms	4,200 SF	ACCM will require abatement where impacted by Modernization Work

Approximate sample locations have been plotted on site plans that we prepared for this assessment. The Bulk Sample Summary Table, which identifies each sample and the corresponding analytical results, is included in Appendix B. The laboratory reports and chain of custody forms are included in Appendix C.

Summary and Recommendations for Asbestos-Containing Materials

All ACM and ACCM that will be impacted by the planned modernizations must be removed pursuant to Rule 1403 of the South Coast Air Quality Management District's and CalOSHA Asbestos Regulations.

Abatement activities must be conducted in compliance with all applicable regulations, standards and generally accepted environmental and safety practices, including Federal OSHA (29 CFR 1926.58), EPA NESHAPS (40 CFR Part 61), and Toxic Substances Control Act (TSCA) Title II AHERA/ASHARA (40 CFR Part 763) Asbestos Regulations, the Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101, and Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard.

All asbestos waste must be properly disposed of and documented. Waste Manifests must be submitted at the end of a project. Disposing of a known hazardous waste is illegal in the State of California. Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition activities, we will arrange to sample and analyze them accordingly.

Lead Inspection and Sampling Procedures

Lead-based paint and lead glazing on ceramics is of concern both as a source of direct exposure through ingestion of paint chips, and as a contributor to lead interior dust and exterior soil. Lead was widely used as a major ingredient in most interior and exterior oil-based paints prior to 1950. Lead compounds continued to be used as corrosion inhibitors, pigments and drying agents beginning in the early 1950's. In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5000 ppm) and, in 1978, to 0.06% (600 ppm). It has also been used extensively as a glaze on ceramic and porcelain finishes.

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) define an inspection as a surface-by-surface investigation to determine the presence of lead-based paint (see 40 CFR part 745 and Title X of the 1992 Housing and Community Development Act).

As per the EPA & HUD guidelines, lead-based paint is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm2 or 0.5 percent by weight. Lead paint amounts were reported in mg/cm2 because this unit of measurement does not depend on the number of layers of non-lead based paint.

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections because of their demonstrated abilities to:

1. Determine if lead is present on many different types of surfaces

2. Measure the paint without destructive sampling or paint removal

3. Provide sample results immediately and at a relatively low cost per sample

Portable XRF instruments expose a building component to X-rays or gamma radiation, which causes lead to emit X-rays with a characteristic frequency or energy. The intensity of this radiation is measured by the XRF instrument. The inspector must then compare this displayed value (reading) with the inconclusive range or threshold specified in the XRF Performance Characteristic Sheet for the specific substrate beneath the painted surface. If the reading is less than the lower boundary of the inconclusive range, or less than the threshold, then the reading is considered negative. If the reading is greater than the upper boundary of the inconclusive range, or greater or equal to the threshold, then the reading is considered positive. Readings within the inconclusive range, including its boundary values, are considered inconclusive. Because the inconclusive ranges and/or thresholds shown in the Performance Characteristic Sheet are based on 1.0 mg/cm2, positive and negative readings are consistent with the HUD definition of lead-based paint for identification and disclosure purposes. The method employed for paint testing for this project was X-Ray Fluorescence (XRF) using an EDAX MAP4 lead paint analyzer (Serial Number M41509) with the capability to measure the lead content in dry paint films in the range of 0 to 50 milligrams per square centimeter.

The instrument's calibration was verified according to the manufacturer's specifications, in compliance with the Performance Characteristic Sheet (PCS) developed for this instrument. The PCS is located in Appendix F of this report. The readings from this instrument produce a 95% confidence level that the "lead" reading accurately reflects the actual level of lead in the tested surfaces, relative to the federal action level. Current industry standards suggest that, when it is determined that paint abatement and/or interim control activities will be performed on components, they should be performed according to practices that are in the HUD Guidelines and the regulations under section 402 of the Toxic Substances Control Act (TSCA), 15 USC 2682.

Lead Inspection Results

Sampling for this inspection was representative and any components that were not tested, but are similar to those components that tested positive for lead, should be considered and treated as lead laden.

Lead components likely to be impacted by the modernization project identified at the subject site during our inspection include the following:

Location	Lead-Containing Components
A Building	Ceramic Baseboard and Wall Tile in Restrooms
B Building	Ceramic Wall Tile in Restrooms
D Building	Door Frames Throughout and Ceramic Wall Tile in Restrooms

The lead-based paint and lead tile finishes are generally in good condition and will likely require removal for the modernizations based on the provided demolition plans. A complete listing of our assays in included within the appendices of this report.

Lead Summary and Recommendations

The federal and CAL/OSHA regulations for lead in construction do not specify a level of a lead in paint that classifies it as LBP. However, federal and state OSHA regulations specify ***airborne lead levels*** that should not be exceeded during construction without appropriate protection and training.

The action level for lead is 30 micrograms per cubic meter of air (µg/m3), and the permissible exposure limit (PEL) is 50 µg/m3. These airborne lead levels can be exceeded during construction activities such as scraping, sanding, grinding, blasting, and torching LBP surfaces, even when levels of lead in paint are far below the HUD definition of LBP of 1.0 mg/cm2 or 0.5 percent lead by weight. The XRF is designed to accurately quantify paint around the set abatement level (1.0 mg/cm2, 5,000 parts per million, or 0.5 percent by weight). However, painted surfaces tested with XRF that result in instrument readings much less than 1.0 mg/cm2 (even 0.0 mg/cm2 and negative results) may contain amounts of lead that could create an airborne hazard to workers during construction.

Based on the levels of lead in the components identified in the limited survey, Pacific Environmental recommends that only properly trained and equipped individuals be assigned tasks that would involve treatment or demolition of these components. Procedures and engineering controls must be designed to follow CAL/OSHA and Department of Health Services (State of California) requirements, and workers must wear appropriate personal protective equipment during the work.

Other Hazardous Materials

During our assessment of the structures, we visually inspected the locations of fluorescent light tubes and PCB ballasts. There are fluorescent fixtures throughout the campus with ballasts that are assumed to contain PCB's and fluorescent tubes. All PCB's and spent fluorescent light tubes should be handled, packaged and disposed of in compliance with current California Environmental Protection Agency, Department of Toxic Substances Control Guidelines.

Limitations

This report is not intended to identify all hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and Pacific Environmental's experience in performing this type of assessment. Our scope of services for this project was to sample and identify hazardous building materials that are going to be impacted by the modernizations

Pacific Environmental has performed this survey in a professional manner, using the degree of skill and care exercised for similar projects, under similar conditions, by reputable and competent environmental consultants. Pacific Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

Pacific Environmental further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved as a consequence of this report, or impacted by information not properly disclosed to Pacific at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

References

AHERA Summary, prepared by Power Masters, Inc.

General Environmental Management Services (GEMS) Summary 1998

Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards

Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead

"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," US Department of Housing and Urban Development, June 1995

South Coast Air Quality Management District Requirements (Rule 1403)

National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, M

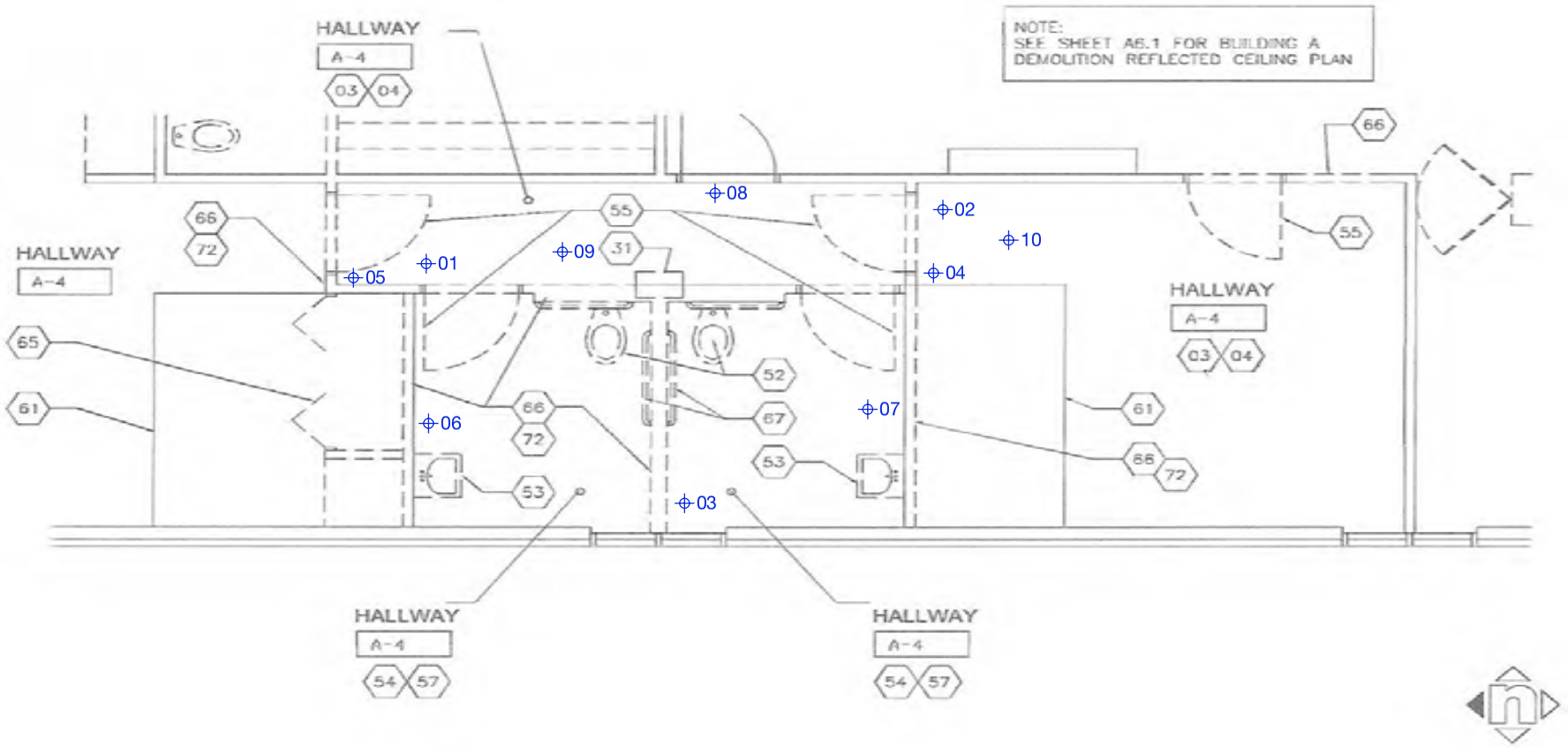
Occupational Safety and Health Administration, Asbestos in the Workplace, 29 CFR 1910.1001

Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101

Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard

Appendix A

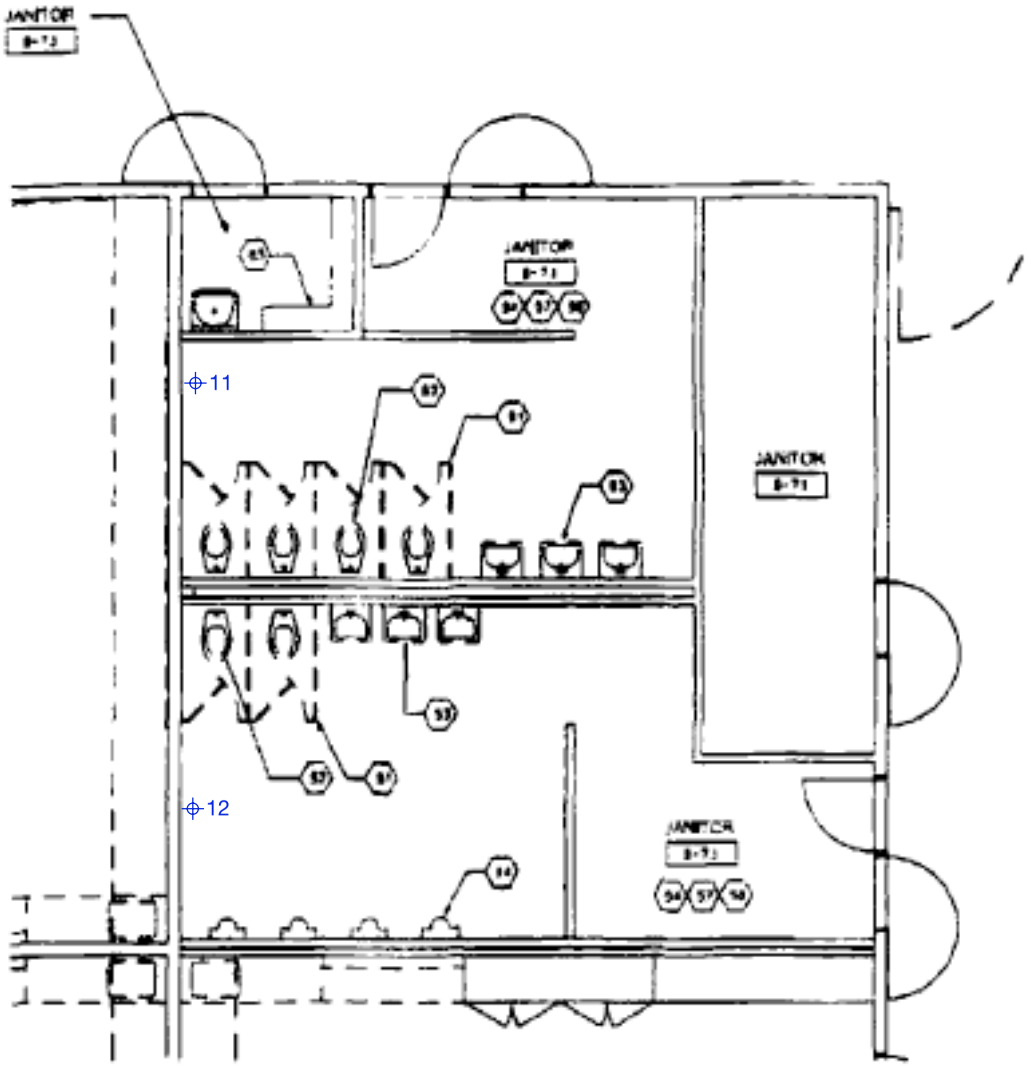
Site Plan



N

⌖ indicates approximate sample location

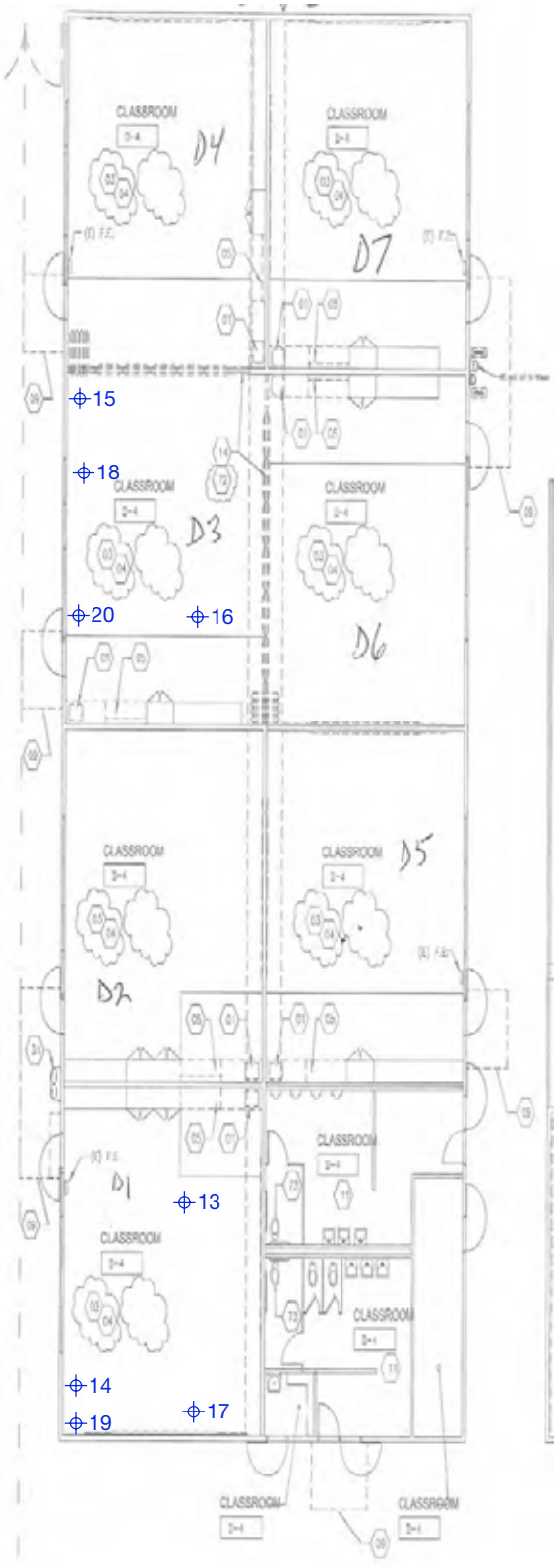
DATE PREPARED: 1/20/2009	DRAWN BY: C.T.	DRAWING TITLE: Sample Location Plan A Building RRs Lankershim Elementary School 7499 Lankershim Avenue Highland, California 92346
REVISION:	SOURCE: HMC Architects	
PROJECT NO: 09015	OTHER:	
PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations	CLIENT: San Bernardino City Unified School District	FIGURE NO. 1



N

⌖ indicates approximate sample location

DATE PREPARED: 1/20/2009	DRAWN BY: C.T.	DRAWING TITLE: Sample Location Plan B Building RRs Lankershim Elementary School 7499 Lankershim Avenue Highland, California 92346
REVISION:	SOURCE: HMC Architects	
PROJECT NO: 09015	OTHER:	
PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations	CLIENT: San Bernardino City Unified School District	FIGURE NO. 2



N

indicates approximate sample location

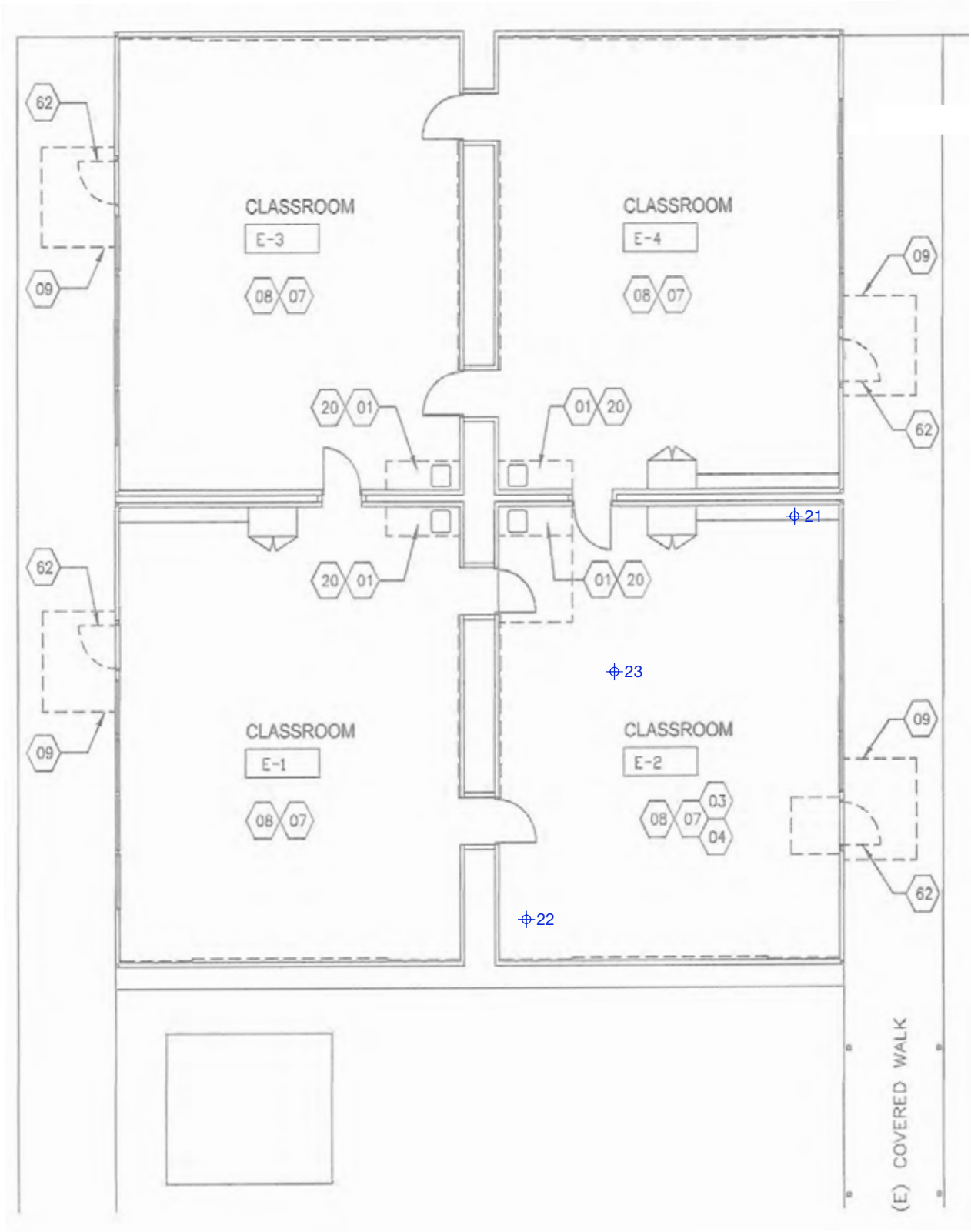
DATE PREPARED: 1/20/2009	DRAWN BY: C.T.
REVISION:	SOURCE: HMC Architects
PROJECT NO: 09015	OTHER:

DRAWING TITLE:
Sample Location Plan
D Building
Lankershim Elementary School
7499 Lankershim Avenue
Highland, California 92346

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
3



N

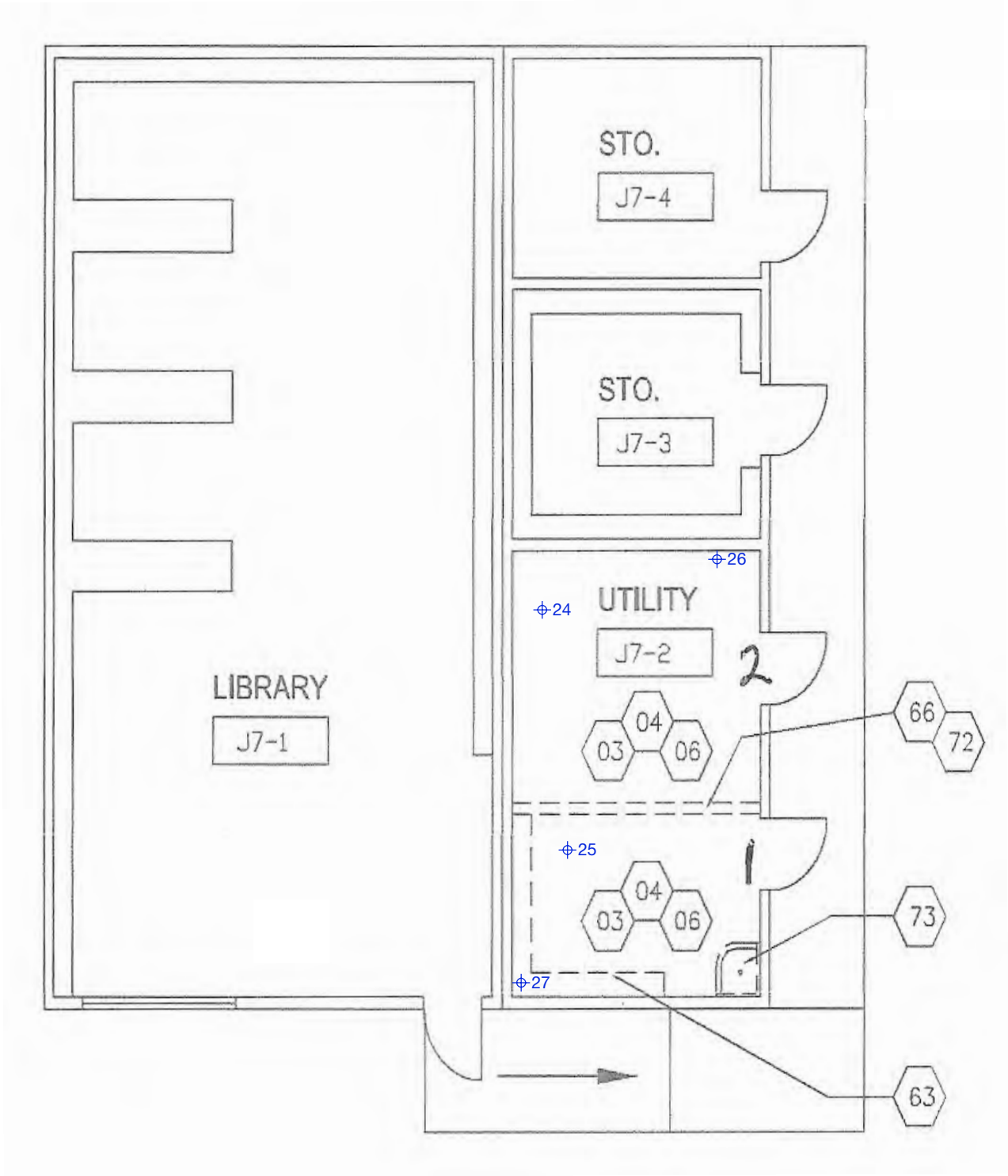
⌖ indicates approximate sample location

DATE PREPARED: 1/20/2009	DRAWN BY: C.T.	DRAWING TITLE: Sample Location Plan E Building Lankershim Elementary School 7499 Lankershim Avenue Highland, California 92346
REVISION:	SOURCE: HMC Architects	
PROJECT NO: 09015	OTHER:	

PROJECT NAME: Limited Asbestos and Lead Survey for Modernizations

CLIENT: San Bernardino City Unified School District

FIGURE NO. 4



N

indicates approximate sample location

DATE PREPARED: 1/20/2009	DRAWN BY: C.T.
REVISION:	SOURCE: HMC Architects
PROJECT NO: 09015	OTHER:

DRAWING TITLE:
Sample Location Plan
Library Building
Lankershim Elementary School
7499 Lankershim Avenue
Highland, California 92346

PROJECT NAME:
Limited Asbestos and Lead Survey for Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
5

Appendix B

Bulk Sample Summary Table

LANKERSHIM ELEMENTARY SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09015

Sample No.	Sample Description	Sample Location	Asbestos %
01	Carpet Glue	Building A	No Asbestos Detected
02	12"x12" Floor Tile, Beige	Building A	2% Chrysotile (Tile); NAD (Mastic)
03	12"x12" Floor Tile, Beige	Building A	2% Chrysotile (Tile); NAD (Mastic)
04	4" Basecove, Brown	Building A	No Asbestos Detected
05	4" Basecove, Brown	Building A	No Asbestos Detected
06	Plaster Wall	Building A	No Asbestos Detected
07	Plaster Wall	Building A	No Asbestos Detected
08	Plaster Wall	Building A	No Asbestos Detected
09	12"x12" Pinhole Ceiling Tile, Nailed Up	Building A	No Asbestos Detected
10	12"x12" Pinhole Ceiling Tile, Nailed Up	Building A	No Asbestos Detected
11	Plaster	Building B, Boys' RR	<1% Chrysotile
12	Plaster	Building B, Boys' RR	<1% Chrysotile
13	12"x12" Floor Tile, Beige	Building D, Rm D-1	2% Chrysotile (Tile); NAD (Mastic)
14	Plaster Wall	Building D, Rm D-1	No Asbestos Detected
15	Plaster Wall	Building D, Rm D-3	No Asbestos Detected
16	12"x12" Floor Tile, Beige	Building D, Rm D-3	No Asbestos Detected
17	Carpet Glue	Building D, Rm D-1	No Asbestos Detected
18	Carpet Glue	Building D, Rm D-3	No Asbestos Detected
19	4" Basecove, Brown	Building D, Rm D-1	No Asbestos Detected
20	4" Basecove, Brown	Building D, Rm D-3	No Asbestos Detected
21	4" Basecove, Brown	Building E, Rm E-2	No Asbestos Detected
22	Carpet Glue	Building E, Rm E-2	No Asbestos Detected
23	12"x12" Floor Tile, Light Beige	Building E, Rm E-2	No Asbestos Detected
24	12"X12" Floor Tile, Red	Library Building, Storage 2	No Asbestos Detected
25	12"x12" Floor Tile, Beige	Library Building, Storage 1	No Asbestos Detected
26	Drywall / Joint Compound	Library Building, Storage 2	No Asbestos Detected
27	4" Basecove, Brown	Library Building, Storage 1	No Asbestos Detected

Appendix C

Asbestos Sample Analysis Reports and Chain of Custody

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/17/09
Date Examined 01/19/09

AmeriSci Job # 909011577
P.O. #
Page 1 **of** 8

RE: SBCUSD; Lankershim Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011577-01	*No*	NAD (by CVES) by Olga K. Katsuk on 01/19/09
Location: Carpet Glue / Building "A"			
Analyst Description: Cream, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
02	909011577-02L1	*Yes*	2 % (by CVES) by Olga K. Katsuk on 01/19/09
Location: Floor Tile 12x Beige / Building "A"			
Analyst Description: Beige, Heterogeneous, Fibrous, Flooring **Asbestos Types:** Chrysotile 2.0 % **Other Material:** Non-fibrous 98 %			
02	909011577-02L2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/19/09
Location: Floor Tile 12x Beige / Building "A"			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
03	909011577-03L1	*Yes*	2 % (by CVES) by Olga K. Katsuk on 01/19/09
Location: Floor Tile 12x Beige / Building "A"			
Analyst Description: Grey/Beige, Heterogeneous, Fibrous, Flooring **Asbestos Types:** Chrysotile 2.0 % **Other Material:** Non-fibrous 98 %			
03	909011577-03L2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/19/09
Location: Floor Tile 12x Beige / Building "A"			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Lankershim Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
04	909011577-04L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Base Cove Brown 4" / Building "A"		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
04	909011577-04L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Base Cove Brown 4" / Building "A"		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
05	909011577-05L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Base Cove Brown 4" / Building "A"		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
05	909011577-05L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Base Cove Brown 4" / Building "A"		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
06	909011577-06	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Plaster Wall / Building "A"		
	Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
07	909011577-07	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Plaster Wall / Building "A"		
	Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Lankershim Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
08	909011577-08	***No***	NAD
	Location: Plaster Wall / Building "A"		(by CVES) by Olga K. Katsuk on 01/19/09
	Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
09	909011577-09	***No***	NAD
	Location: 12x Ct Pinhole "Nailed" No Mastic / Building "A"		(by CVES) by Olga K. Katsuk on 01/19/09
	Analyst Description: White, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 30 %, Fibrous glass 30 %, Non-fibrous 40 %		
10	909011577-10	***No***	NAD
	Location: 12x Ct Pinhole "Nailed" On Mastic / Building "A"		(by CVES) by Olga K. Katsuk on 01/19/09
	Analyst Description: White, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 30 %, Fibrous glass 25 %, Non-fibrous 45 %		
11	909011577-11	***Yes***	Trace (<1 %)
	Location: Plaster / Building "B" Boys RR		(by CVES) by Olga K. Katsuk on 01/19/09
	Analyst Description: Off-White, Heterogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		
12	909011577-12	***Yes***	Trace (<1 %)
	Location: Plaster / Building "B" Boys RR		(by CVES) by Olga K. Katsuk on 01/19/09
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		
13	909011577-13L1	***Yes***	2 %
	Location: 12x Beige Ft / Building "D" Rm D-1		(by CVES) by Olga K. Katsuk on 01/19/09
	Analyst Description: Beige, Heterogeneous, Fibrous, Flooring		
	Asbestos Types: Chrysotile 2.0 %		
	Other Material: Non-fibrous 98 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Lankershim Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
13	909011577-13L2	***No***	NAD [1]
Location: 12x Beige Ft / Building "D" Rm D-1			(by CVES) by Olga K. Katsuk on 01/19/09
Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
14	909011577-14	***No***	NAD
Location: Plaster Wall / Building "D" Rm D-1			(by CVES) by Olga K. Katsuk on 01/19/09
Analyst Description: Beige/White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
15	909011577-15	***No***	NAD
Location: Plaster Wall / Building "D" Rm D-3			(by CVES) by Olga K. Katsuk on 01/19/09
Analyst Description: Beige/White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
16	909011577-16L1	***No***	NAD
Location: 12x Biege Ft / Building "D" Rm D-3			(by CVES) by Olga K. Katsuk on 01/19/09
Analyst Description: Beige, Homogeneous, Non-Fibrous, Flooring **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
16	909011577-16L2	***No***	NAD [1]
Location: 12x Biege Ft / Building "D" Rm D-3			(by CVES) by Olga K. Katsuk on 01/19/09
Analyst Description: Clear, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
17	909011577-17	***No***	NAD
Location: Carpet Glue / Building "D" Rm D-1			(by CVES) by Olga K. Katsuk on 01/19/09
Analyst Description: Cream, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Lankershim Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18	909011577-18	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Carpet Glue / Building "D" Rm D-3		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
19	909011577-19L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Base Cove Brown 4" / Building "D" Rm D-1		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
19	909011577-19L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Base Cove Brown 4" / Building "D" Rm D-1		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
20	909011577-20L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Base Cove Brown 4" / Building E Rm D-2		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
20	909011577-20L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Base Cove Brown 4" / Building E Rm D-2		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
21	909011577-21	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Base Cove 4" / Building E Rm E-2		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
	Comment: No Mastic found		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Lankershim Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
22	909011577-22	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Carpet Glue / Building E Rm E-2		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
23	909011577-23	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: 12x Lt. Biege / Buidling E / Rm E-2		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Flooring		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
	Comment: No Mastic found		
24	909011577-24L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: 12x Red / Library Bldg. Storage 2		
	Analyst Description: Red, Homogeneous, Non-Fibrous, Flooring		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
24	909011577-24L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: 12x Red / Library Bldg. Storage 2		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
25	909011577-25L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: 12x Beige Ft / Library Bldg. Storage 1		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Flooring		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Lankershim Ele.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
25	909011577-25L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: 12x Beige Ft / Library Bldg. Storage 1		
Analyst Description: Clear, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
26	909011577-26.1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Drywall / Joint Comp. / Library Bldg. Storage 2		
Analyst Description: White/Brown, Heterogeneous, Fibrous, Drywall / Tape **Asbestos Types:** **Other Material:** Cellulose 20 %, Non-fibrous 80 %			
26	909011577-26.2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Drywall / Joint Comp. / Library Bldg. Storage 2		
Analyst Description: White, Homogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
27	909011577-27L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Base Cove Brown 4" / Library Bldg. Storage 1		
Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
27	909011577-27L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/19/09
	Location: Base Cove Brown 4" / Library Bldg. Storage 1		
Analyst Description: White, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Lankershim Ele.

Reporting Notes:

(1) Insufficient material submitted for accurate quantitation during PLM analysis (no QC possible).

Analyzed By: Olga K. Katsuk ; Date Analyzed: 1/19/2009 1/19/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/19/09

909011577

PACIFIC ENVIRONMENTAL

Date:	1 / 16 /2009
Client:	SBCUSD
Site:	LANKERSHIM ELE
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
01	CARPET GLUE	BUILDING "A"	
02	Floor tile 12x Biege		
03	" " "		
04	Basecove Brown 4"		
05	" "		
06	Plaster Wall		
07	" "		
08	" "		
09	12x CT Pinhole "NAILED"		
10	" " No MASTIC		
11	Plaster	BUILDING "B" Boys RR	
12	"	" "	
13	12x Biege FT.	BUILDING "D" Rm D-1	
14	Plaster - Wall	" " " "	
15	Plaster - Wall	" " Rm D-3	
16	12x Biege FT	" " Rm D-3	
17	CARPET GLUE	" " Rm D-1	
18	" "	" " Rm D-3	
19	Basecove - Brown - 4"	" " Rm-D-1	
20	" "	" " Rm D-3	
21	Basecove Brown 4"	BUILDING E Rm E-2	
22	CARPET GLUE	" " " "	
23	12"x. LT. BIEGE	" " Rm-E2	
24	12x Red	Library Bldg Storage 2	

Analytical Method: PLM

Turn Around Time: 24 hr.

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		01/16/2009

RECEIVED
JAN 16 2009
K. ARELLANO

9090115 77

PACIFIC ENVIRONMENTAL

Date:	1 / 16 /2009
Client:	SBCUSD
Site:	LANKERSHIM ELE.
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
25	12 x Beige 9"	Library Bldg Storage 1	
26	Drywall Joint Comp	" " Storage 2	
27	Base cove Brown 4"	" " Storage 1	
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			

Analytical Method: PLM

Turn Around Time: 24 hr.

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		1/16/2009
Name	Signature	Date/Time

RECEIVED
JAN 2009
K. ARELLANO

Appendix D

XRF Sampling Results

FIELD DATA REPORT

PROJECT NAME: Lankershim Elementary School

PROJECT NO.:09015

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Admin Bldg	Health Office RR	Wall	A	Plaster	Intact	White	0.0	Negative
Admin Bldg	Health Office RR	Wall	B	Plaster	Intact	White	0.1	Negative
Admin Bldg	Health Office RR	Wall	C	Plaster	Intact	White	0.0	Negative
Admin Bldg	Health Office RR	Wall	D	Plaster	Intact	White	0.0	Negative
Admin Bldg	**Health Office RR**	**Baseboard**	**B**	**Ceramic Tile**	**Intact**	**Blue**	**9.8**	**Positive**
Admin Bldg	Health Office RR	Door	D	Wood	Intact	Tan	0.1	Negative
Admin Bldg	Health Office RR	Door Frame	D	Metal	Intact	Tan	0.3	Negative
Admin Bldg	Health Office RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Blue	0.1	Negative
Admin Bldg	Main Office	Wall	A	Plaster	Intact	White	0.1	Negative
Admin Bldg	Main Office	Wall	B	Wood	Intact	White	0.3	Negative
Admin Bldg	Main Office	Wall	C	Plaster	Intact	White	0.0	Negative
Admin Bldg	Main Office	Wall	D	Plaster	Intact	White	0.0	Negative
Admin Bldg	Principal's Office	Wall	A	Plaster	Intact	White	0.0	Negative
Admin Bldg	Principal's Office	Wall	B	Plaster	Intact	White	0.0	Negative
Admin Bldg	Principal's Office	Wall	C	Plaster	Intact	White	0.0	Negative
Admin Bldg	Principal's Office	Wall	D	Plaster	Intact	White	0.0	Negative
Admin Bldg	Principal's Office	Door	C	Wood	Intact	Tan	0.0	Negative
Admin Bldg	Principal's Office	Door Frame	C	Metal	Intact	Tan	0.1	Negative
Admin Bldg	Teachers' Lounge	Wall	A	Plaster	Intact	White	0.1	Negative
Admin Bldg	Teachers' Lounge	Wall	B	Plaster	Intact	White	0.3	Negative
Admin Bldg	Teachers' Lounge	Wall	C	Plaster	Intact	White	0.1	Negative
Admin Bldg	Teachers' Lounge	Wall	D	Plaster	Intact	White	0.1	Negative
Admin Bldg	Teachers' Lounge	Door	D	Wood	Intact	Tan	0.0	Negative
Admin Bldg	Teachers' Lounge	Door	C	Metal	Intact	Tan	0.0	Negative
Admin Bldg	Teachers' Lounge	Door Frame	D	Wood	Intact	Tan	0.1	Negative
Admin Bldg	Teachers' Lounge	Door Frame	C	Metal	Intact	Tan	0.3	Negative
Admin Bldg	Unisex RR, North	Wall	A	Drywall	Intact	White	0.3	Negative
Admin Bldg	Unisex RR, North	Wall	B	Drywall	Intact	White	0.0	Negative
Admin Bldg	Unisex RR, North	Wall	C	Drywall	Intact	White	0.1	Negative
Admin Bldg	Unisex RR, North	Wall	D	Drywall	Intact	White	0.0	Negative
Admin Bldg	**Unisex RR, North**	**Baseboard**	**B**	**Ceramic Tile**	**Intact**	**Grey**	**7.9**	**Positive**
Admin Bldg	Unisex RR, North	Door	C	Wood	Intact	Tan	0.3	Negative
Admin Bldg	**Unisex RR, North**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Grey**	**8.9**	**Positive**
Admin Bldg	Unisex RR, North	Door Frame	C	Metal	Intact	Tan	0.4	Negative
Admin Bldg	Unisex RR, North	Ceiling	N/A	Drywall	Intact	White	0.3	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Lankershim Elementary School

PROJECT NO.:09015

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Admin Bldg	Unisex RR, North	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Tan	0.3	Negative
Admin Bldg	Unisex RR, South	Wall	A	Drywall	Intact	White	0.0	Negative
Admin Bldg	Unisex RR, South	Wall	B	Drywall	Intact	White	0.1	Negative
Admin Bldg	Unisex RR, South	Wall	C	Drywall	Intact	White	0.2	Negative
Admin Bldg	Unisex RR, South	Wall	D	Drywall	Intact	White	0.1	Negative
Admin Bldg	**Unisex RR, South**	**Baseboard**	**B**	**Ceramic Tile**	**Intact**	**Grey**	**6.8**	**Positive**
Admin Bldg	Unisex RR, South	Door	C	Wood	Intact	Tan	0.2	Negative
Admin Bldg	**Unisex RR, South**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Grey**	**7.4**	**Positive**
Admin Bldg	Unisex RR, South	Door Frame	C	Metal	Intact	Tan	0.2	Negative
Admin Bldg	Unisex RR, South	Ceiling	N/A	Drywall	Intact	White	0.3	Negative
Admin Bldg	Unisex RR, South	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Blue	0.0	Negative
B Bldg	**Boys' RR**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Green**	**14.2**	**Positive**
B Bldg	**Boys' RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Green**	**14.8**	**Positive**
B Bldg	**Boys' RR**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Green**	**13.7**	**Positive**
B Bldg	**Boys' RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Green**	**15.2**	**Positive**
B Bldg	Boys' RR	Door	D	Wood	Intact	Red	0.6	Negative
B Bldg	Boys' RR	Wall	A	Plaster	Intact	White	0.0	Negative
B Bldg	Boys' RR	Door Frame	D	Metal	Intact	Red	0.5	Negative
B Bldg	Boys' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Tan	0.1	Negative
B Bldg	**Girls' RR**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Blue**	**12.2**	**Positive**
B Bldg	**Girls' RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Blue**	**13.8**	**Positive**
B Bldg	**Girls' RR**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Blue**	**12.6**	**Positive**
B Bldg	**Girls' RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Blue**	**15.1**	**Positive**
B Bldg	Girls' RR	Door	D	Wood	Intact	Red	0.5	Negative
B Bldg	Girls' RR	Wall	A	Plaster	Intact	White	0.2	Negative
B Bldg	Girls' RR	Door Frame	D	Metal	Intact	Red	0.1	Negative
B Bldg	Girls' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Blue	0.3	Negative
D Bldg	D-1	Wall	A	Plaster	Intact	White	0.1	Negative
D Bldg	D-1	Wall	B	Plaster	Intact	White	0.3	Negative
D Bldg	D-1	Wall	C	Plaster	Intact	White	0.1	Negative
D Bldg	D-1	Wall	D	Plaster	Intact	White	0.1	Negative
D Bldg	D-1	Door	B	Wood	Intact	Red	0.1	Negative
D Bldg	**D-1**	**Door Frame**	**B**	**Metal**	**Intact**	**Red**	**1.2**	**Positive**
D Bldg	D-2	Wall	A	Plaster	Intact	White	0.0	Negative
D Bldg	D-2	Wall	B	Plaster	Intact	White	0.2	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Lankershim Elementary School

PROJECT NO.:09015

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
D Bldg	D-2	Wall	C	Plaster	Intact	White	0.2	Negative
D Bldg	D-2	Wall	D	Plaster	Intact	White	0.0	Negative
D Bldg	D-2	Door	B	Wood	Intact	Red	0.2	Negative
D Bldg	**D-2**	**Door Frame**	**B**	**Metal**	**Intact**	**Red**	**1.4**	**Positive**
D Bldg	D-3	Wall	A	Plaster	Intact	White	0.0	Negative
D Bldg	D-3	Wall	B	Plaster	Intact	White	0.2	Negative
D Bldg	D-3	Wall	C	Plaster	Intact	White	0.3	Negative
D Bldg	D-3	Wall	D	Plaster	Intact	White	0.3	Negative
D Bldg	D-3	Door	B	Wood	Intact	Red	0.2	Negative
D Bldg	**D-3**	**Door Frame**	**B**	**Metal**	**Intact**	**Red**	**2.0**	**Positive**
D Bldg	D-4	Wall	A	Plaster	Intact	White	0.2	Negative
D Bldg	D-4	Wall	B	Plaster	Intact	White	0.3	Negative
D Bldg	D-4	Wall	C	Plaster	Intact	White	0.0	Negative
D Bldg	D-4	Wall	D	Plaster	Intact	White	0.0	Negative
D Bldg	D-4	Door	B	Wood	Intact	Red	0.2	Negative
D Bldg	**D-4**	**Door Frame**	**B**	**Metal**	**Intact**	**Red**	**3.1**	**Positive**
D Bldg	D-5	Wall	A	Plaster	Intact	White	0.2	Negative
D Bldg	D-5	Wall	B	Plaster	Intact	White	0.2	Negative
D Bldg	D-5	Wall	C	Plaster	Intact	White	0.0	Negative
D Bldg	D-5	Wall	D	Plaster	Intact	White	0.0	Negative
D Bldg	D-5	Door	B	Wood	Intact	Red	0.3	Negative
D Bldg	**D-5**	**Door Frame**	**B**	**Metal**	**Intact**	**Red**	**2.2**	**Positive**
D Bldg	D-6	Wall	A	Plaster	Intact	White	0.0	Negative
D Bldg	D-6	Wall	B	Plaster	Intact	White	0.0	Negative
D Bldg	D-6	Wall	C	Plaster	Intact	White	0.1	Negative
D Bldg	D-6	Wall	D	Plaster	Intact	White	0.1	Negative
D Bldg	D-6	Door	B	Wood	Intact	Red	0.2	Negative
D Bldg	**D-6**	**Door Frame**	**B**	**Metal**	**Intact**	**Red**	**1.5**	**Positive**
D Bldg	D-7	Wall	A	Plaster	Intact	White	0.3	Negative
D Bldg	D-7	Wall	B	Plaster	Intact	White	0.3	Negative
D Bldg	D-7	Wall	C	Plaster	Intact	White	0.0	Negative
D Bldg	D-7	Wall	D	Plaster	Intact	White	0.2	Negative
D Bldg	D-7	Door	B	Wood	Intact	Red	0.0	Negative
D Bldg	**D-7**	**Door Frame**	**B**	**Metal**	**Intact**	**Red**	**1.1**	**Positive**
D Bldg	D-8	Wall	A	Plaster	Intact	White	0.2	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Lankershim Elementary School

PROJECT NO.:09015

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
D Bldg	D-8	Wall	B	Plaster	Intact	White	0.0	Negative
D Bldg	D-8	Wall	C	Plaster	Intact	White	0.1	Negative
D Bldg	D-8	Wall	D	Plaster	Intact	White	0.2	Negative
D Bldg	D-8	Door	B	Wood	Intact	Red	0.2	Negative
D Bldg	**D-8**	**Door Frame**	**B**	**Metal**	**Intact**	**Red**	**1.8**	**Positive**
D Bldg	**Girls' RR**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Blue**	**14.0**	**Positive**
D Bldg	**Girls' RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Blue**	**14.2**	**Positive**
D Bldg	**Girls' RR**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Blue**	**14.2**	**Positive**
D Bldg	**Girls' RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Blue**	**14.8**	**Positive**
D Bldg	Girls' RR	Door	C	Metal	Intact	Red	0.4	Negative
D Bldg	**Girls' RR**	**Door Frame**	**C**	**Metal**	**Intact**	**Red**	**1.2**	**Positive**
E Bldg	E-1	Wall	A	Metal	Intact	White	0.0	Negative
E Bldg	E-1	Wall	B	Metal	Intact	White	0.2	Negative
E Bldg	E-1	Wall	C	Metal	Intact	White	0.0	Negative
E Bldg	E-1	Wall	D	Metal	Intact	White	0.0	Negative
E Bldg	E-1	Door	D	Metal	Intact	Red	0.3	Negative
E Bldg	E-1	Door Frame	D	Metal	Intact	Red	0.2	Negative
E Bldg	E-2	Wall	A	Metal	Intact	White	0.1	Negative
E Bldg	E-2	Wall	B	Metal	Intact	White	0.3	Negative
E Bldg	E-2	Wall	C	Metal	Intact	White	0.1	Negative
E Bldg	E-2	Wall	D	Metal	Intact	White	0.1	Negative
E Bldg	E-2	Door	D	Metal	Intact	Red	0.1	Negative
E Bldg	E-2	Door Frame	D	Metal	Intact	Red	0.0	Negative
E Bldg	E-3	Wall	A	Metal	Intact	White	0.1	Negative
E Bldg	E-3	Wall	B	Metal	Intact	White	0.0	Negative
E Bldg	E-3	Wall	C	Metal	Intact	White	0.2	Negative
E Bldg	E-3	Wall	D	Metal	Intact	White	0.2	Negative
E Bldg	E-3	Door	D	Metal	Intact	Red	0.0	Negative
E Bldg	E-3	Door Frame	D	Metal	Intact	Red	0.0	Negative
E Bldg	E-4	Wall	A	Metal	Intact	White	0.3	Negative
E Bldg	E-4	Wall	B	Metal	Intact	White	0.1	Negative
E Bldg	E-4	Wall	C	Metal	Intact	White	0.0	Negative
E Bldg	E-4	Wall	D	Metal	Intact	White	0.1	Negative
E Bldg	E-4	Door	D	Metal	Intact	Red	0.0	Negative
E Bldg	E-4	Door Frame	D	Metal	Intact	Red	0.3	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Lankershim Elementary School

PROJECT NO.:09015

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
E Bldg	Exterior	Wall	C	Metal	Intact	Tan	0.3	Negative
E Bldg	Exterior	Door	C	Metal	Intact	Red	0.3	Negative
E Bldg	Exterior	Door Frame	C	Metal	Intact	Red	0.1	Negative
L Bldg	Storage 1	Wall	A	Drywall	Intact	White	0.0	Negative
L Bldg	Storage 1	Wall	B	Drywall	Intact	White	0.0	Negative
L Bldg	Storage 1	Wall	C	Drywall	Intact	White	0.0	Negative
L Bldg	Storage 1	Wall	D	Drywall	Intact	White	0.0	Negative
L Bldg	Storage 1	Door	D	Metal	Intact	Brown	0.0	Negative
L Bldg	Storage 1	Door Frame	D	Metal	Intact	Brown	0.0	Negative
L Bldg	Storage 2	Wall	A	Drywall	Intact	White	0.0	Negative
L Bldg	Storage 2	Wall	B	Drywall	Intact	White	0.0	Negative
L Bldg	Storage 2	Wall	C	Drywall	Intact	White	0.1	Negative
L Bldg	Storage 2	Wall	D	Drywall	Intact	White	0.1	Negative
L Bldg	Storage 2	Door	D	Metal	Intact	Brown	0.0	Negative
L Bldg	Storage 2	Door Frame	D	Metal	Intact	Brown	0.2	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Lankershim Elementary School

PROJECT NO.:09015

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Admin Bldg	Health Office RR	Baseboard	B	Ceramic Tile	Intact	Blue	9.8
Admin Bldg	Unisex RR, North	Baseboard	B	Ceramic Tile	Intact	Grey	7.9
Admin Bldg	Unisex RR, North	Wall	D	Ceramic Tile	Intact	Grey	8.9
Admin Bldg	Unisex RR, South	Baseboard	B	Ceramic Tile	Intact	Grey	6.8
Admin Bldg	Unisex RR, South	Wall	D	Ceramic Tile	Intact	Grey	7.4
B Bldg	Boys' RR	Wall	A	Ceramic Tile	Intact	Green	14.2
B Bldg	Boys' RR	Wall	B	Ceramic Tile	Intact	Green	14.8
B Bldg	Boys' RR	Wall	C	Ceramic Tile	Intact	Green	13.7
B Bldg	Boys' RR	Wall	D	Ceramic Tile	Intact	Green	15.2
B Bldg	Girls' RR	Wall	A	Ceramic Tile	Intact	Blue	12.2
B Bldg	Girls' RR	Wall	B	Ceramic Tile	Intact	Blue	13.8
B Bldg	Girls' RR	Wall	C	Ceramic Tile	Intact	Blue	12.6
B Bldg	Girls' RR	Wall	D	Ceramic Tile	Intact	Blue	15.1
D Bldg	D-1	Door Frame	B	Metal	Intact	Red	1.2
D Bldg	D-2	Door Frame	B	Metal	Intact	Red	1.4
D Bldg	D-3	Door Frame	B	Metal	Intact	Red	2.0
D Bldg	D-4	Door Frame	B	Metal	Intact	Red	3.1
D Bldg	D-5	Door Frame	B	Metal	Intact	Red	2.2
D Bldg	D-6	Door Frame	B	Metal	Intact	Red	1.5
D Bldg	D-7	Door Frame	B	Metal	Intact	Red	1.1
D Bldg	D-8	Door Frame	B	Metal	Intact	Red	1.8
D Bldg	Girls' RR	Wall	A	Ceramic Tile	Intact	Blue	14.0
D Bldg	Girls' RR	Wall	B	Ceramic Tile	Intact	Blue	14.2
D Bldg	Girls' RR	Wall	C	Ceramic Tile	Intact	Blue	14.2
D Bldg	Girls' RR	Wall	D	Ceramic Tile	Intact	Blue	14.8
D Bldg	Girls' RR	Door Frame	C	Metal	Intact	Red	1.2

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

Appendix E

DHS Form 8552

State of California – Health and Human Services Agency

California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead Hazard Evaluation 1/16/2009

Section 2 — Type of Lead Hazard Evaluation (Check one box only)

☑ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 — Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
7499 Lankershim Avenue	Highland	San Bernardino	92346

Construction date (year) of structure	Type of structure (check one box only)
1965	☐ Multi-unit building ☑ School or daycare ☐ Single family dwelling ☐ Other (specify)_____

Section 4 — Owner of Structure (If business/agency, list contact person)

Name	Telephone number
San Bernardino City Unified School District	909-381-1238

Address [number, street, apartment (if applicable)]	City	State	Zip Code
777 North F Street	San Bernardino	CA	92401

Section 5 — Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected. ☑ Lead-based paint detected.

☐ No lead hazards detected. ☐ Lead hazards detected.

Section 6 — Individual Conducting Lead Hazard Evaluation

Name	Telephone number
David Tillema	800.303.6484

Address [number, street, apartment (if applicable)]	City	State	Zip Code
28202 Cabot Road #300	Laguna Niguel	CA	92677

CDPH certification number	Signature	Date
17740		1/21/2009

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 — Attachments

A. A foundation diagram or sketch of the structure indicating the specific locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

CDPH 8552 (6/07)

Appendix F

XRF Performance Characteristics Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: June 26, 1996 **EDITION NO.: 3**

MANUFACTURER AND MODEL:

Make: *Scitec Corporation*
Model: *MAP-4*
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS

Test mode, Screen mode, or Unlimited mode.

XRF CALIBRATION CHECK LIMITS

0.6 to 1.2 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

When using Unlimited mode, substrate correction recommended for:

None

When using Unlimited mode, substrate correction not recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

When using Screen or Test mode, for XRF results below 4.0 mg/cm^2, substrate correction recommended for:

Drywall, Metal, and Wood

When using Screen or Test mode, substrate correction not recommended for:

Brick, Concrete, and Plaster

INCONCLUSIVE RANGE OR THRESHOLD

UNLIMITED MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm^2)
Results not corrected for substrate bias for unlimited mode readings	Brick	0.91 to 1.19
	Concrete	0.91 to 1.19
	Drywall	0.91 to 1.19
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.19
	Wood	0.91 to 1.19

SCREEN MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm²)
Results corrected for substrate bias for screen mode readings on drywall, metal, and wood substrates only	Brick	0.91 to 1.09
	Concrete	0.91 to 1.09
	Drywall	0.91 to 1.39
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.09
	Wood	0.91 to 1.29

TEST MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)	INCONCLUSIVE RANGE (mg/cm²)
Readings corrected for substrate bias for test mode readings on drywall, metal, and wood substrates only	Brick	0.9	None
	Concrete	0.9	None
	Drywall	None	0.91 to 1.39
	Metal	None	0.91 to 1.09
	Plaster	0.9	None
	Wood	None	0.91 to 1.29

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from an EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations. All of the test locations were tested in February 1996 using two different instruments. One instrument had a new source installed in July 1994 and its strength at the time of testing was calculated as 9.4 mCi. The other instrument had a new source installed in September 1994 and its strength at the time of testing was calculated as 10.6 mCi.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds

SUBSTRATE CORRECTION VALUE COMPUTATION

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

- Using the same XRF instrument, take three readings on a bare substrate area covered with the

NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

- Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

  For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\left.\begin{matrix}\text{Correction}\\ \text{Value}\end{matrix}\right\} = \frac{1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th}\ \text{Reading}}{6} - 1.02 mg/cm^2$$

- Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either 15-second readings or 60-second readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES

For screen, test, and confirm modes, the MAP 4 instrument tests until a K-shell result is obtained relative to a level of precision. A result is "positive", "negative" or "retest" as displayed by indicator lights. For the unlimited mode, the MAP 4 instrument tests until a K-shell result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the the reading is terminated by releasing the trigger. A few unlimited mode readings were terminated because they exceeded the two-minute limit used for archive testing. The following tables provide testing time information for three testing modes. Insufficient information is available to provide this information for confirm mode. All times have been scaled to match an initial 12 miC source. Note that source strength and factors such as substrate may affect testing times.

UNLIMITED MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	3	4	6	4	13	3
Metal	3	4	8	4	9	3
Brick Concrete Plaster	4	5	8	6	6	3

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

SCREEN MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	6	7	5	6	7
Metal	4	5	6	5	5	5
Brick Concrete Plaster	11	11	13	11	11	11

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

TEST MODE TESTING TIMES (Seconds)						
SUBSTRATE	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm²)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	17	22	27	21	20	28
Metal	13	20	23	20	20	20
Brick Concrete Plaster	41	42	52	41	46	43

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

BIAS AND PRECISION

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with laboratory-measured lead levels less than 4.0 mg/cm² lead. There were 15 testing locations taken in the screen mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were 15 testing locations taken in the test mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were not any testing locations taken in the confirm mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. There were 15 testing locations taken in the unlimited mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². All testing was done in February 1996 with two different instruments. The following data are for illustrative purposes only. Actual bias must be determined on the site. Inconclusive ranges provided above already account for bias and precision.

SCREEN MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.1	0.2
	Metal	0.1	0.3
	Plaster	-0.1	0.3
	Wood	0.0	0.2
0.5 mg/cm²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	0.1	0.4
	Concrete	0.1	0.4
	Drywall	0.5	0.6
	Metal	0.3	0.3
	Plaster	0.1	0.4
	Wood	0.4	0.6

2.0 mg/cm²	Brick	0.4	0.5
	Concrete	0.4	0.5
	Drywall	0.9	0.8
	Metal	0.5	0.3
	Plaster	0.4	0.5
	Wood	0.7	0.8

*Precision at 1 standard deviation

TEST MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.2
	Concrete	-0.1	0.2
	Drywall	0.1	0.1
	Metal	0.1	0.2
	Plaster	-0.1	0.2
	Wood	0.0	0.1
0.5 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.2
	Plaster	-0.1	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.5	0.6
	Metal	0.3	0.2
	Plaster	-0.1	0.3
	Wood	0.4	0.6
2.0 mg/cm²	Brick	0.0	0.4
	Concrete	0.0	0.4
	Drywall	1.0	0.8
	Metal	0.5	0.2
	Plaster	0.0	0.4
	Wood	0.8	0.8

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristics Sheet is a joint product of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD). The issuance of this sheet does not constitute rulemaking. The information provided here is intended solely as guidance to be used in conjunction with Chapter 7, Lead-Based Paint Inspection, of the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. EPA and HUD reserve the right to revise this guidance. Please address questions and comments on this sheet to: Director, Office of Lead Hazard Control (L), U.S. Department of Housing and Urban Development, 451 Seventh St, S.W., Washington, DC 20410.

Pacific Environmental Company

Asbestos and Lead Abatement Specifications

Lankershim Elementary School Modernization Project
7499 Lankershim Avenue
Highland, California 92346

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 21, 2009

Project Number: 09015



Pacific Environmental Company

Table of Contents

DIVISION 02. GENERAL REQUIREMENTS FOR ASBESTOS ABATEMENT

DIVISION 03. GENERAL REQUIREMENTS FOR LEAD ABATEMENT

DIVISION 2. GENERAL REQUIREMENTS FOR ASBESTOS ABATEMENT

PART 1 GENERAL

1.1 REFERENCES
1.2 DEFINITIONS
1.3 DESCRIPTION OF WORK
1.4 SUBMITTALS
1.5 QUALIFICATIONS
1.6 MEDICAL REQUIREMENTS
1.7 TRAINING PROGRAM
1.8 RESPIRATORY PROTECTION PROGRAM
1.9 HAZARD COMMUNICATION PROGRAM
1.10 LICENSES, PERMITS AND NOTIFICATIONS
1.11 PERSONAL PROTECTIVE EQUIPMENT
1.12 HYGIENE FACILITIES AND PRACTICES
1.13 REGULATED AREAS
1.14 WARNING SIGNS AND TAPE
1.15 WARNING LABELS
1.16 LOCAL EXHAUST VENTILATION
1.17 TOOLS
1.18 RENTAL EQUIPMENT
1.19 AIR MONITORING EQUIPMENT
1.20 EXPENDABLE SUPPLIES
1.21 MISCELLANEOUS ITEMS

PART 2 PRODUCTS

2.1 ENCAPSULANTS
2.2 ENCASEMENT PRODUCTS

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS
3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN
3.3 TEMPORARY POWER
3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS
3.5 TEMPORARY FACILITIES
3.6 METHODS OF COMPLIANCE
3.7 FINAL CLEANING AND VISUAL INSPECTION
3.8 LOCKDOWN
3.9 EXPOSURE ASSESSMENT AND AIR MONITORING
3.10 CLEARANCE CERTIFICATION
3.11 CLEANUP AND DISPOSAL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below 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)

ANSI Z9.2 (1979; R 1991)	Fundamentals Governing the Design and Operation of Local Exhaust Systems
ANSI Z87.1 (1989; Errata; Z87.1a)	Occupational and Educational Eye and Face Protection
ANSI Z88.2 (1992)	Respiratory Protection

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 732 (1995)	Aging Effects of Artificial Weathering on Latex Sealants
ASTM D 522 (1993a)	Mandrel Bend Test of Attached Organic Coatings
ASTM D 1331 (1989; R 1995)	Surface and Interfacial Tension of Solutions of Surface-ActiveAgents
ASTM D 2794 (1993)	Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
ASTM D 4397 (1996)	Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
ASTM E 84 (1996a)	Surface Burning Characteristics of Building Materials
ASTM E 96 (1995)	Water Vapor Transmission of Materials
ASTM E 119 (1995a)	Fire Tests of Building Construction and Materials
ASTM E 736 (1992)	Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members
ASTM E 1368 (1997)	Visual Inspection of Asbestos Abatement Projects

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 61	National Emissions Standards for Hazardous Air Pollutants
40 CFR 763	Asbestos
42 CFR 84	Approval of Respiratory Protective Devices
49 CFR 107	Hazardous Materials Program Procedures
49 CFR 171	General Information, Regulations and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packagings

COMPRESSED GAS ASSOCIATION (CGA)

CGA G-7 (1990)	Compressed Air for Human Respiration
CGA G-7.1 (1989)	Commodity Specification for Air

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 340/1-90-018 (1990)	Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance
EPA 340/1-90-019 (1990)	Asbestos/NESHAP Adequately Wet Guidance
EPA 560/5-85-024 (1985)	Guidance for Controlling Asbestos-Containing Materials in Buildings
SCAQMD Rule 1403	Asbestos Emissions from Renovation/Demolition Activities

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 701 (1996)	Methods of Fire Test for Flame-Resistant Textiles and Films

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 84-100 (1984; Supple 1985, 1987, 1988 & 1990)
NIOSH Manual of Analytical Methods

UNDERWRITERS LABORATORIES (UL)

UL 586 (1996)	High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

A. Adequately Wet: A term defined in 40 CFR 61, Subpart M, and EPA 340/1-90-019 meaning to sufficiently mix or penetrate with liquid to prevent the release of particulate. If visible emissions are observed coming from asbestos-containing material (ACM), then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wetted.

B. Aggressive Method: Removal or disturbance of building material by sanding, abrading, grinding, or other method that breaks, crumbles, or disintegrates intact asbestos-containing material (ACM).

C. Amended Water: Water containing a wetting agent or surfactant with a surface tension of at least 29 dynes per square centimeter when tested in accordance with ASTM D 1331.

D. Asbestos: Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophylite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered.

E. Asbestos-Containing Material (ACM): Any materials containing more than one percent asbestos.

F. Asbestos Fiber: A particulate form of asbestos, 5 micrometers or longer, with a length-to-width ratio of at least 3 to 1.

G. Authorized Person: Any person authorized by the Contractor and required by work duties to be present in the regulated areas.

H. Building Inspector: Individual who inspects buildings for asbestos and has EPA Model Accreditation Plan (MAP) "Building Inspector" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

I. Certified Industrial Hygienist (CIH): An Industrial Hygienist certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

J. Class I Asbestos Work: Activities defined by OSHA involving the removal of thermal system insulation (TSI) and surfacing ACM.

K. Class II Asbestos Work: Activities defined by OSHA involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos- containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic. Certain "incidental" roofing materials such as mastic, flashing and cements when they are still intact are excluded from Class II asbestos work. Removal of small amounts of these materials which would fit into a glovebag may be classified as a Class III job.

L. Class III Asbestos Work: Activities defined by OSHA that involve repair and maintenance operations, where ACM, including TSI and surfacing ACM, is likely to be disturbed. Operations may include drilling, abrading, cutting a hole, cable pulling, crawling through tunnels or attics and spaces above the ceiling, where asbestos is actively disturbed or asbestos-containing debris is actively disturbed.

M. Class IV Asbestos Work: Maintenance and custodial construction activities during which employees contact but do not disturb ACM and activities to clean-up dust, waste and debris resulting from Class I, II, and III activities. This may include dusting surfaces where ACM waste and debris and accompanying dust exists and cleaning up loose ACM debris from TSI or surfacing ACM following construction.

N. Clean room: An uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

O. Competent Person: In addition to the definition in 29 CFR 1926, Section .32(f), a person who is capable of identifying existing asbestos hazards as defined in 29 CFR 1926, Section .1101, selecting the appropriate control strategy, has the authority to take prompt corrective measures to eliminate them and has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

P. Contractor/Supervisor: Individual who supervises asbestos abatement work and has EPA Model Accreditation Plan "Contractor/Supervisor" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

Q. Critical Barrier: One or more layers of plastic sealed over all openings into a regulated area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a regulated area from migrating to an adjacent area.

R. Decontamination Area: An enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

S. Demolition: The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

T. Disposal Bag: A 0.15 mm 6 mil thick, leak-tight plastic bag, pre-labeled in accordance with 29 CFR 1926, Section .1101, used for transporting asbestos waste from containment to disposal site.

U. Disturbance: Activities that disrupt the matrix of ACM, crumble or pulverize ACM, or generate visible debris from ACM. Disturbance includes cutting away small amounts of ACM, no greater than the amount which can be contained in 1 standard sized glovebag or waste bag, not larger than 1.5 m 60 inches in length and width in order to access a building component.

V. Equipment Room or Area: An area adjacent to the regulated area used for the decontamination of employees and their equipment.

W. Employee Exposure: That exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

X. Fiber: A fibrous particulate, 5 micrometers or longer, with a length to width ratio of at least 3 to 1.

Y. Friable ACM: A term defined in 40 CFR 61, Subpart M and EPA 340/1-90-018 meaning any material which contains more than 1percent asbestos, as determined using the method specified in 40 CFR 763, Subpart E, Appendix A, Section 1, Polarized Light Microscopy (PLM), that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent, as determined by a method other than point counting by PLM, the asbestos content is verified by point counting using PLM.

Z. Glovebag: Not more than a 1.5 by 1.5 m 60 by 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

AA. High-Efficiency Particulate Air (HEPA) Filter: A filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

BB. Homogeneous Area: An area of surfacing material or thermal system insulation that is uniform in color and texture.

CC. Industrial Hygienist: A professional qualified by education, training, and experience to anticipate, recognize, evaluate, and develop controls for occupational health hazards.

DD. Intact: ACM which has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix. Removal of "intact" asphaltic, resinous, cementitious products does not render the ACM non-intact simply by being separated into smaller pieces.

EE. Model Accreditation Plan (MAP): USEPA training accreditation requirements for persons who work with asbestos as specified in 40 CFR 763, Subpart E, Appendix C.

FF. Modification: A changed or altered procedure, material or component of a control system, which replaces a procedure, material or component of a required system.

GG. Negative Exposure Assessment: A demonstration by the Contractor to show that employee exposure during an operation is expected to be consistently below the OSHA Permissible Exposure Limits (PELs).

HH. NESHAP: National Emission Standards for Hazardous Air Pollutants. The USEPA NESHAP regulation for asbestos is at 40 CFR 61, Subpart M.

II. Nonfriable ACM: A NESHAP term defined in 40 CFR 61, Subpart M and EPA 340/1-90-018 meaning any material containing more than 1 percent asbestos, as determined using the method specified in 40 CFR 763, Subpart E, Appendix A, Section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

JJ. Nonfriable ACM (Category I): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90-018 meaning asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in 40 CFR 763, Subpart F, Appendix A, Section 1, Polarized Light Microscopy.

KK. Nonfriable ACM (Category II): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90-018 meaning any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos, as determined using the methods specified in 40 CFR 763, Subpart F, Appendix A, Section 1, Polarized Light Microscopy, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

LL. Permissible Exposure Limits (PELs):

(1) PEL-Time weighted average(TWA): Concentration of asbestos not in excess of 0.1 fibers per cubic centimeter of air (f/cc) as an 8 hour time weighted average (TWA), as determined by the method prescribed in 29 CFR 1926, Section .1101, Appendix A, or the current version of NIOSH Pub No. 84-100 analytical method 7400.

(2) PEL-Excursion Limit: An airborne concentration of asbestos not in excess of 1.0 f/cc of air as averaged over a sampling period of 30 minutes as determined by the method prescribed in 29 CFR 1926, Section .1101, Appendix A, or the current version of NIOSH Pub No. 84-100 analytical method 7400.

MM. Regulated Area: An OSHA term defined in 29 CFR 1926, Section .1101 meaning an area established by the Contractor to demarcate areas where Class I, II, and III asbestos work is conducted; also any adjoining area where debris and waste from such asbestos work accumulate; and an area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit.

NN. Removal: All operations where ACM is taken out or stripped from structures or substrates, and includes demolition operations.

OO. Repair: Overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM attached to structures or substrates. If the amount of asbestos so "disturbed" cannot be contained in 1 standard glovebag or waste bag, Class I precautions are required.

PP. Spills/Emergency Cleanups: Cleanup of sizable amounts of asbestos waste and debris which has occurred, for example, when water damage occurs in a building, and sizable amounts of ACM are dislodged. A Competent Person evaluates the site and ACM to be handled, and based on the type, condition and extent of the dislodged material, classifies the cleanup as Class I, II, or III. Only if the material was intact and the cleanup involves mere contact of ACM, rather than disturbance, could there be a Class IV classification.

QQ. Surfacing ACM: Asbestos-containing material which contains more than 1% asbestos and is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

RR. Thermal system insulation (TSI) ACM: ACM which contains more than 1% asbestos and is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain or water condensation.

SS. Transite: A generic name for asbestos cement wallboard and pipe.

TT. Worker: Individual (not designated as the Competent Person or a supervisor) who performs asbestos work and has completed asbestos worker training required by 29 CFR 1926, Section .1101, to include EPA Model Accreditation Plan (MAP) "Worker" training; accreditation required by 40 CFR 763, Subpart E, Appendix C, if required by the OSHA Class of work to be performed or by the state where the work is to be performed.

1.3 DESCRIPTION OF WORK

1.3.1 The work covered by this section includes the removal of the asbestos-containing materials and demolition services required to facilitate access to the ACM, where the ACM is impacted by the planned modernization work. ACM and ACCM that are likely to be impacted by the modernization project identified during our inspection include the following:

Material	Location	Estimated Quantity
Dark Brown 12” x 12” Vinyl Floor Tile	Building A - Corridor outside Restroom and Break Room Building D - D-D7 (Southwest corner portions of rooms Building E – E2 Entry Library Storage Room 1	850 SF
Interior Plaster	Building A – Room south of Restroom and Break Room Building B – Janitor Room and Restrooms	4,200 SF

1.3.2 All work described or included in paragraph 1.3.1 shall be performed by the hazardous materials abatement contractor utilizing trained and AHERA certified asbestos workers. The only exception to this requirement may be the removal of intact non-asbestos-containing furnishings and equipment from the building prior to initiating any demolition activity and when such removal of intact materials or equipment does not have the potential for disturbing asbestos-containing materials.

1.3.3 The Work shall be performed in phases so as to maximize safety and minimize the potential for mixing hazardous and non-hazardous waste streams during their removal, transportation and disposal.

1.4 SUBMITTALS

1.4.1 Pre-Job Submittals: Prior to commencement of work, Contractor shall submit (two copies) to Owner's Representative documentation that includes, without limitation, the following:

A. Submit copies of licenses and registrations required by these specifications (include copies of subcontractor's licenses).

B. The Contractor shall carry comprehensive bodily injury and property damage liability insurance provided by an A-rated California Admitted Carrier with a combined single limit of $2,000,000.00 per occurrence. The insurance policy shall provide coverage for all liability arising out of or related to the Project or to the performance of the Work including asbestos and unintentional release of hazardous materials. The Contractor's insurance policies shall contain a 30-day Notice of Cancellation clause and shall list the following individuals and entities as Certificate holders and Additional Insured, San Bernardino City Unified School District and Pacific Environmental Company.

C. Submit copies written notification to the appropriate regulatory agencies (SCAQMD and CalOSHA).

D. Submit proof that required permits, site location and arrangements for transport and disposal of asbestos-containing waste materials have been made.

E. Submit proof of legal right to use patented equipment or processes.

F. Manufacturer's certification that HEPA vacuums, differential pressure air filtration devices and other local exhaust ventilation equipment conform to ANSI Z9.2-79.

G. Submit a construction schedule indicating milestones and dates of completion for each phase of the Work.

H. Submit documentation that Contractor's employees, including foreman, supervisor, and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received training as required by 29 CFR 1926.1101.

I. Submit documentation from Physician that all employees or agents who may be exposed to airborne asbestos fibers in excess of background levels have received medical monitoring to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. The Contractor must be aware of and provide information to the examining physician about unusual conditions in the workplace environment (e.g. high temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities.

J. Submit documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. This fit-testing shall be in accordance with qualitative procedures as required by OSHA regulations or be quantitative in nature.

K. Submit a project specific work plan.

L. Submit an emergency preparedness plan.

1.4.2 Ongoing Submittals: During abatement activities, Contractor shall submit to Owner's Representative documentation that includes, without limitation, the following:

A. Submit copies of the work area entry/exit log book. Log book must record name, affiliation, time in, and time out for each entry into the work area.

B. Submit copies of logs documenting filter changes on respirators, HEPA vacuums, differential pressure air filtration devices, water filtration device, and other engineering controls.

C. Submit copies of Material Safety Data Sheets (MSDS) for solvents, encapsulants, wetting agents and replacement materials, as necessary.

D. Submit results of all required OSHA air monitoring. Results shall be available prior to the start of the following shift and within 24 hours of completion of the last shift.

E. Submit copies of all accident/incident reports where injury or damage has occurred on or to the Owner's property.

F. Submit copies of all transport manifests, trip tickets and disposal receipts for all asbestos waste materials removed from the work area within 24 hours of the transport.

1.5 QUALIFICATIONS

1.5.1 Written Qualifications and Organization Report

The Contractor shall furnish a written qualifications and organization report providing evidence of qualifications of the Contractor, Contractor's Project Supervisor, Designated Competent Person, supervisors and workers; independent testing laboratory: all subcontractors to be used including disposal transportation and disposal facility firms, subcontractor supervisors, subcontractor workers; and any others assigned to perform asbestos abatement and support activities. The report shall include an organization chart showing the Contractor's staff organization for this project by name and title, chain of command and reporting relationship with all subcontractors. The report shall be signed by the Contractor, the Contractor's onsite project manager, Designated Competent Person, designated testing laboratory and the principals of all subcontractors to be used. The Contractor shall include the following statement in the report: "By signing this report I certify that the personnel I am responsible for during the course of this project fully understand the contents of 29 CFR 1926, Section .1101, 40 CFR 61, Subpart M, and the federal, state and local requirements specified in paragraph SAFETY AND HEALTH PROGRAM AND PLANS for those asbestos abatement activities that they will be involved in."

1.5.2 Specific Requirements

The Contractor shall designate in writing, personnel meeting the following qualifications:

A. Designated Competent Person: The name, address, telephone number, and resume of the Contractor's Designated Competent Person shall be provided. Evidence that the full-time Designated Competent Person is qualified in accordance with 29 CFR 1926, Sections .32 and .1101, has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by 40 CFR 763, Subpart E, Appendix C, and is experienced in the administration and supervision of asbestos abatement projects, including exposure assessment and monitoring, work practices, abatement methods, protective measures for personnel, setting up and inspecting

asbestos abatement work areas, evaluating the integrity of containment barriers, placement and operation of local exhaust systems, ACM generated waste containment and disposal procedures, decontamination units installation and maintenance requirements, site safety and health requirements, notification of other employees onsite, etc. The duties of the Competent Person shall include the following: controlling entry to and exit from the regulated area; supervising any employee exposure monitoring required by 29 CFR 1926, Section .1101; ensuring that all employees working within a regulated area wear the appropriate personal protective equipment (PPE), are trained in the use of appropriate methods of exposure control, and use the hygiene facilities and decontamination procedures specified; and ensuring that engineering controls in use are in proper operating conditions and are functioning properly. The Designated Competent Person shall be responsible for compliance with applicable federal, state and local requirements, the Contractor's Accident Prevention Plan and Asbestos Hazard Abatement Plan. The Designated Competent Person shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that this person has a minimum of 2 years of on-the-job asbestos abatement experience relevant to OSHA competent person requirements. The Designated Competent Person shall be onsite at all times during the conduct of this project.

B. Project and Other Supervisors: The Contractor shall provide the name, address, telephone number, and resume of the Project Supervisor and other supervisors who have responsibility to implement the Accident Prevention Plan, including the Asbestos Hazard Abatement Plan and Activity Hazard Analyses, the authority to direct work performed under this contract and verify compliance, and have EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by 40 CFR 763, Subpart E, Appendix C. The Project Supervisor and other supervisors shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that the Project Supervisor has a minimum of 2 years of on-the-job asbestos abatement experience relevant to project supervisor responsibilities and the other supervisors have a minimum of 1 year on-the-job asbestos abatement experience commensurate with the responsibilities they will have on this project.

C. Asbestos Abatement Workers: Asbestos abatement workers shall meet the requirements contained in 29 CFR 1926, Section .1101, 40 CFR 61, Subpart M, and other applicable federal, state and local requirements. Worker training documentation shall be provided as required on the "Certificate of Workers Acknowledgment" in this paragraph.

D. Worker Training and Certification of Worker Acknowledgment: Training documentation will be required for each employee who will perform OSHA Class I, Class II, Class III, or Class IV asbestos abatement operations. Such documentation shall be submitted on a Contractor generated form titled "Certificate of Workers Acknowledgment", to be completed for each employee in the same format and containing the same information as the example certificate at the end of this section. Training course completion certificates (initial and most recent update refresher) required by the information checked on the form shall be attached.

E. First Aid and CPR Trained Persons: The names of at least 2 persons who are currently trained in first aid and CPR by the American Red Cross or other approved agency shall be designated and shall be onsite at all times during site operations. They shall be trained in universal precautions and the use of PPE as described in the Bloodborne Pathogens Standard of 29 CFR 1910, Section. These persons may perform other duties but shall be immediately available to render first aid when needed. A copy of each designated person's current valid First Aid and CPR certificate shall be provided.

F. Disposal Facility, Transporter: The Contractor shall provide written evidence that the landfill to be used is approved for asbestos disposal by the USEPA, state and local regulatory agencies. Copies of signed agreements between the Contractor (including subcontractors and transporters) and the asbestos waste disposal facility to accept and dispose of all asbestos containing waste generated during the performance of this contract shall be provided. Qualifications shall be provided for each subcontractor or transporter to be used, indicating previous experience in transport and disposal of asbestos waste to include all required state and local waste hauler requirements for asbestos. The Contractor and transporters shall meet the DOT requirements of 49 CFR 171, 49 CFR 172, and 49 CFR 173 as well as registration requirements of 49 CFR 107 and other applicable state or local requirements. The disposal facility shall meet the requirements of 40 CFR 61, Sections .154 or .155, as required in 40 CFR 61, Section .150(b), and other applicable state or local requirements.

1.5.3 Federal, State or Local Citations on Previous Projects

The Contractor and all subcontractors shall submit a statement, signed by an officer of the company, containing a record of any citations issued by Federal, State or local regulatory agencies relating to asbestos activities (including projects, dates, and resolutions); a list of penalties incurred through non-compliance with asbestos project specifications, including liquidated damages, overruns in scheduled time limitations and resolutions; and situations in which an asbestos-related contract has been terminated (including projects, dates, and reasons for terminations). If there are none, a negative declaration signed by an officer of the company shall be provided.

1.6 MEDICAL REQUIREMENTS

Medical requirements shall conform to 29 CFR 1926, Section .1101.

1.6.1 Medical Examination

Before being exposed to airborne asbestos fibers, workers shall be provided with a medical examination as required by 29 CFR 1926, Section .1101 and other pertinent state or local requirements. This requirement shall have been satisfied within the last 12 months. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos and within 30 calendar days before or after the termination of employment in such occupation. X-ray films of asbestos workers shall be identified to the consulting radiologist and medical record jackets shall be marked with the word "asbestos."

1.6.1.1 Information Provided to the Physician

The Contractor shall provide the following information in writing to the examining physician:

a. A copy of 29 CFR 1926, Section .1101 and Appendices D, E, G, and I;
b. A description of the affected employee's duties as they relate to the employee's exposure;
c. The employee's representative exposure level or anticipated exposure level;
d. A description of any personal protective and respiratory equipment used or to be used;
e. Information from previous medical examinations of the affected employee that is not otherwise available to the examining physician.

1.6.1.2 Written Medical Opinion

For each worker, a written medical opinion prepared and signed by a licensed physician indicating the following:

a. Summary of the results of the examination.
b. The potential for an existing physiological condition that would place the employee at an increased risk of health impairment from exposure to asbestos.
c. The ability of the individual to wear personal protective equipment, including respirators, while performing strenuous work tasks under cold and/or heat stress conditions.
d. A statement that the employee has been informed of the results of the examination, provided with a copy of the results, informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure, and informed of any medical condition that may result from asbestos exposure.

1.6.2 Medical and Exposure Records

Complete and accurate records shall be maintained of each employee's medical examinations, medical records, and exposure data, as required by 29 CFR 1910, Section 1910.20 and 29 CFR 1926, Section .1101 for a period of 50 years after termination of employment. Records of the required medical examinations and exposure data shall be made available, for inspection and copying, to the Assistant Secretary of Labor for Occupational Safety and Health (OSHA) or authorized representatives of the employee and an employee's physician upon request of the employee or former employee. A copy of the required medical certification for each employee shall be maintained on file at the worksite for review, as requested by the Owner’s representatives.

1.7 TRAINING PROGRAM

1.7.1 General Training Requirements

The Contractor shall establish a training program as specified by EPA Model Accreditation Plan (MAP), training requirements at 40 CFR 763, Subpart E, Appendix C, the State of California, OSHA requirements at 29 CFR 1926, Section .1101(k)(9), and this specification. Contractor employees shall complete the required training for the type of work they are to perform and such training shall be documented.

1.7.2 Project Specific Training

Prior to commencement of work, each worker shall be instructed by the Owner’s Representative and Competent Person in the following project specific training:

a. The hazards and health effects of the specific types of ACM to be abated;
b. The content and requirements of the Contractor's Accident Prevention Plan to include the Asbestos Hazard Abatement Plan and Activity Hazard Analyses and site-specific safety and health precautions;
c. Hazard Communication Program;
d. Hands-on training for each asbestos abatement technique to be employed;
e. Heat and/or cold stress monitoring specific to this project;
f. Air monitoring program and procedures;
g. Medical surveillance to include medical and exposure record-keeping procedures;
h. The association of cigarette smoke and asbestos-related disease;
i. Security procedures;

j. Specific work practice controls and engineering controls required for each Class of work in accordance with 29 CFR 1926, Section .1101.

1.8 RESPIRATORY PROTECTION PROGRAM

The Contractor shall establish in writing, and implement a respiratory protection program in accordance with 29 CFR 1926, Section .1101, 29 CFR 1910, Section .134, ANSI Z88.2, CGA G-7, CGA G-7.1 and DETAIL SHEET 12. The Contractor shall establish minimum respiratory protection requirements based on measured or anticipated levels of airborne asbestos fiber concentrations encountered during the performance of the asbestos abatement work. The Contractor's respiratory
protection program shall include, but not be limited to, the following elements:

A. The company policy, used for the assignment of individual responsibility, accountability, and implementation of the respiratory protection program.

B. The standard operating procedures covering the selection and use of respirators. Respiratory selection shall be determined by the hazard to which the worker is exposed.

C. Medical evaluation of each user to verify that the worker may be assigned to an activity where respiratory protection is required.

D. Training in the proper use and limitations of respirators.

E. Respirator fit-testing, i.e., quantitative, qualitative and individual functional fit checks.

F. Regular cleaning and disinfection of respirators.

G. Routine inspection of respirators during cleaning and after each use when designated for emergency use.

H. Storage of respirators in convenient, clean, and sanitary locations.

I. Surveillance of regulated area conditions and degree of employee exposure (e.g., through air monitoring).

J. Regular evaluation of the continued effectiveness of the respiratory protection program.

K. Recognition and procedures for the resolution of special problems as they affect respirator use (e.g., no facial hair that comes between the respirator face piece and face or interferes with valve function; prescription eye wear usage; contact lenses usage; etc.).

L. Proper training in putting on and removing respirators.

1.8.1 Respiratory Fit Testing

A qualitative or quantitative fit test conforming to 29 CFR 1926, Section 1101, Appendix C shall be conducted by the Contractor Competent Person for each Contractor worker required to wear a respirator, and for authorized visitors who enter a regulated area where respirators are required to be worn. A respirator fit test shall be performed for each worker wearing a negative-pressure respirator prior to initially wearing a respirator on this project and every 6 months thereafter. The qualitative fit tests may be used only for testing the fit of half-mask respirators where they are permitted to be worn, or of full-facepiece air purifying respirators where they are worn at levels at which half-

facepiece air purifying respirators are permitted. If physical changes develop that will affect the fit, a new fit test for the worker shall be performed. Functional fit checks shall be performed by employees each time a respirator is put on and in accordance with the manufacturer's recommendation.

1.8.2 Respirator Selection and Use Requirements

The Contractor shall provide respirators, and ensure that they are used as required by 29 CFR 1926, Section .1101 and in accordance with the manufacturer's recommendations. Respirators shall be jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health (MSHA/NIOSH), or by NIOSH, under the provisions of 42 CFR 84, for use in environments containing airborne asbestos fibers. Personnel who handle ACM, enter regulated areas that require the wearing of a respirator, or who are otherwise carrying out abatement activities that require the wearing of a respirator, shall be provided with approved respirators that are fully protective of the worker at the measured or anticipated airborne asbestos concentration level to be encountered. For air-purifying respirators, the particulate filter portion of the cartridges or canister approved for use in airborne asbestos environments shall be high-efficiency particulate air (HEPA). The initial respirator selection and the decisions regarding the upgrading or downgrading of respirator type shall be made by the Owner’s Representative based on the measured or anticipated airborne asbestos fiber concentrations to be encountered. The Contractor's Designated Competent Person in consultation with the Owner’s Representative, shall have the authority to take immediate action to upgrade or downgrade respiratory type when there is an immediate danger to the health and safety of the wearer. Respirators shall be used in the following circumstances:

a. During all Class I asbestos jobs.
b. During all Class II work where the ACM is not removed in a substantially intact state.
c. During all Class II and III work which is not performed using wet methods. Respirators need not be worn during removal of ACM from sloped roofs when a negative exposure assessment has been made and ACM is removed in an intact state.
d. During all Class II and III asbestos jobs where the Contractor does not produce a negative exposure assessment.
e. During all Class III jobs where TSI or surfacing ACM is being disturbed.
f. During all Class IV work performed within regulated areas where employees performing other work are required to wear respirators.
g. During all work where employees are exposed above the PEL-TWA or PEL-Excursion Limit.
h. In emergencies

1.8.3 Class I Work

The Contractor shall provide: (1) a tight-fitting, powered air purifying respirator equipped with high efficiency filters, or (2) a full-facepiece supplied air respirator operated in the pressure demand mode, equipped with HEPA egress cartridges, or (3) an auxiliary positive pressure self-contained breathing apparatus, for all employees within the regulated area where Class I work is being performed; provided that a negative exposure assessment has not been produced, and that the exposure level will not exceed 1 f/cc as an 8-hour time weighted average. A full-facepiece supplied air respirator, operated in the pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus shall be provided under such conditions, if the exposure assessment indicates exposure levels above 1 f/cc as an 8-hour time weighted average.

1.8.4 Class II and III Work

The Contractor shall provide an air purifying respirator, other than a disposable respirator, equipped with high-efficiency filters whenever the employee performs Class II and III asbestos jobs where the

Contractor does not produce a negative exposure assessment; and Class III jobs where TSI or surfacing ACM is being disturbed.

1.8.5 Sanitation

Employees who wear respirators shall be permitted to leave work areas to wash their faces and respirator facepieces whenever necessary to prevent skin irritation associated with respirator use.

1.9 HAZARD COMMUNICATION PROGRAM

A hazard communication program shall be established and implemented in accordance with 29 CFR 1926, Section .59. Material safety data sheets (MSDSs) shall be provided for all hazardous materials brought onto the worksite. One copy shall be provided to the Owner's Representative and 1 copy shall be included in the Contractor's Hazard Communication Program.

1.10 LICENSES, PERMITS AND NOTIFICATIONS

1.10.1 General Legal Requirements

Necessary licenses, permits and notifications shall be obtained in conjunction with the project's asbestos abatement, transportation and disposal actions and timely notification furnished of such actions as required by federal, state, regional, and local authorities. The Contractor shall notify the SCAWMD and CalOSHA in writing, at least 14 days prior to the commencement of work, in accordance with 40 CFR 61, Subpart M, and state and local requirements to include the mandatory "Notification of Demolition and Renovation Record" form and other required notification documents. The Contractor shall furnish copies of the notifications to the Owner's Representative at least 3 days prior to the projects scheduled start date. For licenses, permits, and notifications that the Contractor is responsible for obtaining, the Contractor shall pay any associated fees or other costs incurred.

1.10.2 Litigation and Notification

The Contractor shall notify the Owner's Representative if any of the following occur:

a. The Contractor or any of the subcontractors are served with notice of violation of any law, regulation, permit or license which relates to this contract;
b. Proceedings are commenced which could lead to revocation of related permits or licenses; permits, licenses or other Government authorizations relating to this contract are revoked;
c. Litigation is commenced which would affect this contract;
d. The Contractor or any of the subcontractors become aware that their equipment or facilities are not in compliance or may fail to comply in the future with applicable laws or regulations.

1.11 PERSONAL PROTECTIVE EQUIPMENT

Three complete sets of personal protective equipment shall be made available to the authorized visitors for entry to the regulated area. Authorized visitors shall be provided with training equivalent to that provided to Contractor employees in the selection, fitting, and use of the required personal protective equipment and the site safety and health requirements. Contractor workers shall be provided with personal protective clothing and equipment and the Contractor shall ensure that it is worn properly. The Owner's Representative and

Designated Competent Person shall select and approve all the required personal protective clothing and equipment to be used.

1.11.1 Respirators

Respirators shall be in accordance with paragraph RESPIRATORY PROTECTION PROGRAM.

1.11.2 Whole Body Protection

Personnel exposed to airborne concentrations of asbestos that exceed the PELs, or for all OSHA Classes of work for which a required negative exposure assessment is not produced, shall be provided with whole body protection and such protection shall be worn properly. The Owner's Representative and Competent Person shall select and approve the whole body protection to be used. The Competent Person shall examine work suits worn by employees at least once per work shift for rips or tears that may occur during performance of work. When rips or tears are detected while an employee is working, rips and tears shall be immediately mended, or the work suit shall be immediately replaced. Disposable whole body protection shall be disposed of as asbestos contaminated waste upon exiting from the regulated area. Reusable whole body protection worn shall be either disposed of as asbestos contaminated waste upon exiting from the regulated area or be properly laundered in accordance with 29 CFR 1926, Section .1101. Whole body protection used for asbestos abatement shall not be removed from the worksite by a worker to be cleaned. The Contractor's Designated Competent Person, in consultation with the Owner's Representative, has the authority to take immediate action to upgrade or downgrade whole body protection when there is an immediate danger to the health and safety of the wearer.

1.11.2.1 Coveralls: Disposable coveralls with a zipper front shall be provided. Sleeves shall be secured at the wrists, and foot coverings secured at the ankles.

1.11.2.2 Underwear: Disposable underwear shall be provided. If reusable underwear are used, they shall be disposed of as asbestos contaminated waste or laundered in accordance with 29 CFR 1926, Section .1101. Asbestos abatement workers shall not remove contaminated reusable underwear worn during abatement of ACM from the site to be laundered.

1.11.2.3 Work Clothing: An additional coverall shall be provided when the abatement and control method employed does not provide for the exit from the regulated area directly into an attached decontamination unit. Cloth work clothes for wear under the protective coverall, and foot coverings, shall be provided when work is being conducted in low temperature conditions. Cloth work clothes shall be either disposed of as asbestos contaminated waste or properly laundered in accordance with 29 CFR 1926, Section .1101.

1.11.2.4 Gloves: Gloves shall be provided to protect the hands. Where there is the potential for hand injuries (i.e., scrapes, punctures, cuts, etc.) a suitable glove shall be provided and used.

1.11.2.5 Foot Coverings: Cloth socks shall be provided and worn next to the skin. Footwear, as required by OSHA, that is appropriate for safety and health hazards in the area shall be worn. Rubber boots shall be used in moist or wet areas. Reusable footwear removed from the regulated area shall be thoroughly decontaminated or disposed of as ACM waste. Disposable protective foot covering shall be disposed of as ACM waste. If rubber boots are not used, disposable foot covering shall be provided.

1.11.2.6 Head Covering: Hood type disposable head covering shall be provided. In addition, protective head gear (hard hats) shall be provided as required. Hard hats shall only be removed from the regulated area after being thoroughly decontaminated.

1.11.2.7 Protective Eye Wear: Eye protection provided shall be in accordance with ANSI Z87.1.

1.12 HYGIENE FACILITIES AND PRACTICES

The Contractor shall establish a decontamination area for the decontamination of employees, material and equipment. The Contractor shall ensure that employees enter and exit the regulated area through the decontamination area.

1.12.1 Shower Facilities

Shower facilities, when provided, shall comply with 29 CFR 1910, Section 141(d)(3).

1.12.2 3-Stage Decontamination Area

The decontamination unit shall have an equipment room and a clean room separated by a shower that complies with 29 CFR 1910, Section .141 (unless the Contractor can demonstrate that such facilities are not feasible). Equipment and surfaces of containers filled with ACM shall be cleaned prior to removing them from the equipment room or area. Surfaces of the equipment room shall be wet wiped 2 times after each shift. Materials used for wet wiping shall be disposed of as asbestos contaminated waste. Two separate lockers shall be provided for each asbestos worker, one in the equipment room and one in the clean room. [Hot water service may be secured from the building hot water system provided backflow protection is installed by the Contractor at the point of connection. The wastewater pump shall be sized for 1.25 times the showerhead flow-rate at a pressure head sufficient to satisfy the filter head loss and discharge line losses. The pump shall supply a minimum 1.6 L/s 25 gpm flow with 10.7 m35 ft. of pressure head. Used shower water shall be collected and filtered to remove asbestos contamination. Filters and residue shall be disposed of as asbestos contaminated. Filtered water shall be discharged to the sanitary system. Wastewater filters shall be installed in series with the first stage pore size of 20 microns and the second stage pore size of 5 microns. The floor of the decontamination unit's clean room shall be kept dry and clean at all times. Water from the shower shall not be allowed to wet the floor in the clean room. Surfaces of the clean room and shower shall be wet-wiped 2 times after each shift change with a disinfectant solution. Proper housekeeping and hygiene requirements shall be maintained. Soap and towels shall be provided for showering, washing and drying. Any cloth towels provided shall be disposed of as ACM waste or shall be laundered in accordance with 29 CFR 1926, Section .1101.

1.12.3 Load-Out Unit

A temporary load-out unit that is adjacent and connected to the regulated area may be constructed. Utilization of prefabricated units shall have prior approval of the Owner’s Representative. The load-out unit shall be attached in a leak-tight manner to each regulated area. Surfaces of the load-out unit and access tunnel shall be adequately wet-wiped 2 times after each shift change. Materials used for wet wiping shall be disposed of as asbestos contaminated waste.

1.12.4 Decontamination Area Entry Procedures

The Contractor shall ensure that employees entering the decontamination area through the clean room or clean area:

a. Remove street clothing in the clean room or clean area and deposit it in lockers.
b. Put on protective clothing and respiratory protection before leaving the clean room or clean area.
c. Pass through the equipment room to enter the regulated area.

1.12.5 Decontamination Area Exit Procedures

The Contractor shall ensure that the following procedures are followed:

a. Before leaving the regulated area, respirators shall be worn while employees remove all gross contamination and debris from their work clothing using a HEPA vacuum.
b. Employees shall remove their protective clothing in the equipment room and deposit the clothing in labeled impermeable bags or containers for disposal and/or laundering.
c. Employees shall not remove their respirators in the equipment room.
d. Employees shall shower prior to entering the clean room. If a shower has not been located between the equipment room and the clean room or the work is performed outdoors, the Contractor shall ensure that employees engaged in Class I asbestos jobs: a) Remove asbestos contamination from their work suits in the equipment room or decontamination area using a HEPA vacuum before proceeding to a shower that is not adjacent to the work area; or b) Remove their contaminated work suits in the equipment room, without cleaning worksuits, and proceed to a shower that is not adjacent to the work area.
e. After showering, employees shall enter the clean room before changing into street clothes.

1.12.6 Lunch Areas

The Contractor shall provide lunch areas in which the airborne concentrations of asbestos are below 0.01 f/cc.

1.12.7 Smoking

Smoking, shall not be permitted unless in designated areas approved by the Owner.

1.13 REGULATED AREAS

All Class I, II, and III asbestos work shall be conducted within regulated areas. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they shall demarcate the regulated area. Access to regulated areas shall be limited to authorized persons. The Contractor shall control access to regulated areas, ensure that only authorized personnel enter, and verify that Contractor required medical surveillance, training and respiratory protection program requirements are met prior to allowing entrance.

1.14 WARNING SIGNS AND TAPE

Warning signs and tape printed in English and Spanish shall be provided at the regulated boundaries and entrances to regulated areas. The Contractor shall ensure that all personnel working in areas contiguous to regulated areas comprehend the warning signs. Signs shall be located to allow personnel to read the signs and take the necessary protective steps required before entering the area. Warning signs, shall be in vertical format conforming to 29 CFR 1910 and 29 CFR 1926, Section .1101, a minimum of 500 by 350 mm 20 by 14 inches, and displaying the following legend in the lower panel:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE
REQUIRED IN THIS AREA

Spacing between lines shall be at least equal to the height of the upper of any two lines. Warning tape shall be provided.

1.15 WARNING LABELS

Warning labels shall be affixed to all asbestos disposal containers used to contain asbestos materials, scrap, waste debris, and other products contaminated with asbestos. Containers with preprinted warning labels conforming to requirements are acceptable. Warning labels conform to 29 CFR 1926, Section .1101 and shall be of sufficient size to be clearly legible displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

1.16 LOCAL EXHAUST VENTILATION

Local exhaust ventilation units shall conform to ANSI Z9.2 and 29 CFR 1926, Section .1101. Filters on local exhaust system equipment shall conform to ANSI Z9.2 and UL 586. Filter shall be UL labeled.

1.17 TOOLS

Vacuums shall be leak proof to the filter, equipped with HEPA filters, of sufficient capacity and necessary capture velocity at the nozzle or nozzle attachment to efficiently collect, transport and retain the ACM waste material. Power tools shall not be used to remove ACM unless the tool is equipped with effective, integral HEPA filtered exhaust ventilation capture and collection system, or has otherwise been approved for use by the Owner’s Representative. Residual asbestos shall be removed from reusable tools prior to storage and reuse. Reusable tools shall be thoroughly decontaminated prior to being removed from regulated areas.

1.18 RENTAL EQUIPMENT

If rental equipment is to be used, written notification shall be provided to the rental agency, concerning the intended use of the equipment, the possibility of asbestos contamination of the equipment and the steps that will be taken to decontaminate such equipment. A written acceptance of the terms of the Contractor's notification shall be obtained from the rental agency.

1.19 AIR MONITORING EQUIPMENT

The Owner’s Representative shall approve air monitoring equipment to be used to collect personal samples. The equipment shall include, but shall not be limited to:

a. Low-volume, battery powered, body-attachable, portable personal pumps that can be calibrated to a constant airflow up to approximately 3.5 liters per minute when equipped with a sampling train of tubing and filter cassette, and a self-contained rechargeable power pack capable of sustaining the calibrated flow rate for a minimum of 10 hours. The pumps shall also be equipped with an automatic flow control unit which shall maintain a constant flow, even as filter resistance increases due to accumulation of fiber and debris on the filter surface.
b. Single use standard 25 mm diameter cassette, open face, 0.8 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive extension cowl, and shrink bands, to be used with low flow pumps in accordance with 29 CFR 1926, Section .1101 for personal air sampling.
c. Single use standard 25 mm diameter cassette, open face, 0.45 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive cowl, and shrink bands, to be used with high flow pumps when conducting environmental area sampling using NIOSH Pub No. 84-100 Methods 7400 and 7402, (and the transmission electric microscopy method specified at 40 CFR 763 if required).
d. Appropriate plastic tubing to connect the air sampling pump to the selected filter cassette.
e. A flow calibrator capable of calibration to within plus or minus 2 percent of reading over a temperature range of minus 20 to plus 60 degrees C minus 4 to plus 140 degrees F and traceable to a NIST primary standard.

1.20 EXPENDABLE SUPPLIES

1.20.1 Glovebag: Glovebags shall be provided as described in 29 CFR 1926, Section .1101. The glovebag assembly shall be 0.15 mm 6 mil thick plastic, prefabricated and seamless at the bottom with preprinted OSHA warning label.

1.20.2 Duct Tape: Industrial grade duct tape of appropriate widths suitable for bonding sheet plastic and disposal container shall be provided.

1.20.3 Disposal Container: Leak-tight (defined as solids, liquids, or dust that cannot escape or spill out) disposal containers shall be provided for ACM wastes as required by 29 CFR 1926 Section .1101.

1.20.4 Disposal Bags: Leak-tight bags, 0.15 mm 6 mil thick, shall be provided for placement of asbestos generated waste.

1.20.5 Sheet Plastic: Sheet plastic shall be polyethylene of 0.15 mm 6 mil minimum thickness and shall be provided in the largest sheet size necessary to minimize seams. Film shall be frosted or clear and conform to ASTM D 4397, except as specified below:

1.20.5.1 Flame Resistant: Where a potential for fire exists, flame-resistant sheets shall be provided. Film shall be frosted and shall conform to the requirements of NFPA 701.

1.20.5.2 Reinforced: Reinforced sheets shall be provided where high skin strength is required, such as where it constitutes the only barrier between the regulated area and the outdoor environment. The sheet stock shall consist of translucent, nylon-reinforced or woven-polyethylene thread laminated between 2 layers of polyethylene film. Film shall meet flame resistant standards of NFPA 701.

1.20.6 Amended Water: Amended water shall meet the requirements of ASTM D 1331.

1.20.7 Mastic Removing Solvent: Mastic removing solvent shall be nonflammable and shall not contain methylene chloride, glycol ether, or halogenated hydrocarbons. Solvents used onsite shall have a flash point greater than 60 degrees C. 140 degrees F.

1.20.8 Leak-tight Wrapping: Two layers of 0.15 mm 6 mil minimum thick polyethylene sheet stock shall be used for the containment of removed asbestos-containing components or materials such as reactor vessels, large tanks, boilers, insulated pipe segments and other materials too large to be placed in disposal bags. Upon placement of the ACM component or material, each layer shall be individually leak-tight sealed with duct tape.

1.20.9 Viewing Inspection Window: Where feasible, a minimum of 1 clear, 3 mm 1/8 inch thick, acrylic sheet, 450 by 610 mm 18 by 24 inches, shall be installed as a viewing inspection window at eye level on a wall in each containment enclosure. The windows shall be sealed leak-tight with industrial grade duct tape.

1.20.10 Wetting Agents: Removal encapsulant (a penetrating encapsulant) shall be provided when conducting removal abatement activities that require a longer removal time or are subject to rapid evaporation of amended water. The removal encapsulant shall be capable of wetting the ACM and retarding fiber release during disturbance of the ACM greater than or equal to that provided by amended water. Performance requirements for penetrating encapsulants are specified in paragraph ENCAPSULANTS.

1.21 MISCELLANEOUS ITEMS

A sufficient quantity of other items, such as, but not limited to: scrapers, brushes, brooms, staple guns, tarpaulins, shovels, rubber squeegees, dust pans, other tools, scaffolding, staging, enclosed chutes, wooden ladders, lumber necessary for the construction of containments, UL approved temporary electrical equipment, material and cords, ground fault circuit interrupters, water hoses of sufficient length, fire extinguishers, first aid kits, portable toilets, logbooks, log forms, markers with indelible ink, spray paint in bright color to mark areas, project boundary fencing, etc., shall be provided.

PART 2 PRODUCTS

2.1 ENCAPSULANTS

Encapsulants shall conform to USEPA requirements, shall contain no toxic or hazardous substances and no solvent and shall meet the following requirements:

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol
Life Expectancy, 20 yrs Accelerated Aging Test	ASTM C 732
Permeability, Min. 23 ng per Pa-sec-square m	ASTM E 96

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 730 N/m	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Min. 4.7 N-m (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 730 N/m	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Min.	ASTM D 2794

4.7 N-m (Gardner Impact Test)	
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119
Bond Strength, 1.5 kN/m (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol
Life Expectancy, 20 yrs Accelerated Aging Test	ASTM C 732
Permeability, Minimum 0.4 perms	ASTM E 96

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 50 pounds of force/foot	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Minimum 43 in-lb (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test,	ASTM E 736

50 pounds of force/foot	
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test(Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Minimum 43 in-lb (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test(Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119

ALL ENCAPSULANTS

Requirement	Test Standard
Bond Strength, 100 pounds of force/foot (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

2.2 ENCASEMENT PRODUCTS

This section has been deleted.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Asbestos abatement work tasks shall be performed as summarized in phase-specific Workplans which are to be used in conjunction with this master specification for abatement. The Contractor shall use the engineering controls and work practices required in 29 CFR 1926, Section .1101(g) in all operations regardless of the levels of exposure. Personnel shall wear and utilize protective clothing and equipment as specified. The Contractor shall not permit eating, smoking, drinking, chewing or applying cosmetics in the regulated area. All hot work (burning, cutting, welding, etc.) shall be conducted under controlled conditions in conformance with 29 CFR 1926, Section .352, Fire Prevention. Personnel of other trades, not engaged in asbestos abatement activities, shall not be exposed at any time to airborne concentrations of asbestos unless all the administrative and personal protective provisions of the Contractor's Accident Prevention Plan are complied with. Power to the regulated area shall be locked-out and tagged in accordance with 29 CFR 1910, and temporary electrical service with ground fault circuit interrupters shall be provided as needed. Temporary electrical service shall be disconnected when necessary for wet removal. The Contractor shall stop abatement work in the regulated area immediately when the airborne total fiber concentration: (1) equals or exceeds 0.01 f/cc, or the pre-abatement concentration, whichever is greater, outside the regulated area; or (2) equals or exceeds 1.0 f/cc inside the regulated area. The Contractor shall correct the condition to the satisfaction of the Owner’s Representative, including visual inspection and air sampling. Work shall resume only upon notification by the Owner’s Representative. Corrective actions shall be documented.

3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN

Asbestos abatement shall be performed without damage to or contamination of adjacent work or area. Where such work or area is damaged or contaminated, as verified by the Owner’s Representative using visual inspection or sample analysis, it shall be restored to its original condition or decontaminated by the Contractor at no expense to the Owner, as deemed appropriate by the Owner’s Representative. When satisfactory visual inspection and air sampling analysis results are obtained and have been evaluated by the Owner’s Representative, work shall proceed.

3.3 TEMPORARY POWER

The Contractor shall provide a temporary power system of sufficient capacity to provide for the electrical demand for work covered under this specification.

The Contractor shall shut down and lock out electric power to the entire work area, and any interruption of power to other parts of the building shall be minimal, and coordinated with the Owner.

Contractor shall insure a safe installation (including ground faulting) of temporary power sources and equipment, and; Compliance with all applicable electrical code requirements and Cal-OSHA requirements for temporary electrical systems.

The temporary electrical service shall be sized to provide 150% of the maximum demand of the Contractor's equipment during the performance of the Project. Contractor shall provide a power distribution schedule and amperage calculation for all electrical devices to be used.

Contractor shall ensure that all power cords are free of cuts, nicks or other damage. Power cords shall not be allowed to gather or coil where they may create a trip hazard. Power cords repaired with duct tape will not be permitted inside contained areas.

3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS

Building ventilating systems supplying air into or returning air out of a regulated area shall be shut down and isolated by lockable switch or other positive means in accordance with 29 CFR 1910, Section .147. Air-tight critical barriers shall be installed on building ventilating openings located inside the regulated area that supply or return air from the building ventilation system or serve to exhaust air from the building. The critical barriers shall consist of 2 layers of polyethylene. Edges to wall, ceiling and floor surfaces shall be sealed with industrial grade duct tape. Critical barriers shall be installed.

3.5 TEMPORARY FACILITIES

If it is deemed necessary during the bidding of the project, the abatement contractor will provide a trailer with two separate offices, large enough to serve as the job site office. The offices will be air conditioned and the power will be provided by the Owner. The Owner will direct the Contractor as to the location of said field office.

3.6 METHODS OF COMPLIANCE

3.6.1 Mandated Practices

The Contractor shall employ proper handling procedures in accordance with 29 CFR 1926 and 40 CFR 61, Subpart M, and the specified requirements. The specific abatement techniques and items identified shall be detailed in the Contractor's Asbestos Hazard Abatement Plan including, but not limited to, details of construction materials, equipment, and handling procedures. The Contractor shall use the following engineering controls and work practices in all operations, regardless of the levels of exposure:

a. Vacuum cleaners equipped with HEPA filters to collect debris and dust containing ACM.
b. Wet methods or wetting agents to control employee exposures during asbestos handling, mixing, removal, cutting, application, and cleanup; except where it can be demonstrated that the use of wet methods is unfeasible due to, for example, the creation of electrical hazards, equipment malfunction, and in roofing.
c. Prompt clean-up and disposal in leak-tight containers of wastes and debris contaminated with asbestos.
d. Inspection and repair of polyethylene in work and high traffic areas.
e. Cleaning of equipment and surfaces of containers filled with ACM prior to removing them from the equipment room or area.

3.6.2 Control Methods

The Contractor shall use the following control methods to comply with the PELs:

a. Local exhaust ventilation equipped with HEPA filter dust collection systems;
b. Enclosure or isolation of processes producing asbestos dust;
c. Ventilation of the regulated area to move contaminated air away from the breathing zone of employees and toward a filtration or collection device equipped with a HEPA filter;
d. Use of other work practices and engineering controls;
e. Where the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the PELs, the Contractor shall use them to reduce

employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with paragraph, RESPIRATORY PROTECTION PROGRAM.

3.6.3 Unacceptable Practices

The following work practices and engineering controls shall not be used for work related to asbestos or for work which disturbs ACM, regardless of measured levels of asbestos exposure or the results of initial exposure assessments:

a. High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
b. Compressed air used to remove asbestos, or materials containing asbestos, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.
c. Dry sweeping, shoveling, or other dry clean-up of dust and debris containing ACM.
d. Employee rotation as a means of reducing employee exposure to asbestos.

3.6.4 Class I Work Procedures

In addition to requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the installation and operation of the control system.
b. For jobs involving the removal of more than 7.5 m 25 feet or 0.9 square meters 10 square feet of TSI or surfacing material, the Contractor shall place critical barriers over all openings to the regulated area.
c. HVAC systems shall be isolated in the regulated area by sealing with a double layer of plastic or air-tight rigid covers.
d. Impermeable dropcloths (0.15 mm 6 mil or greater thickness) shall be placed on surfaces beneath all removal activity.
e. Objects within the regulated area shall be handled as specified in paragraph OBJECTS.
f. Where a negative exposure assessment has not been provided or where exposure monitoring shows the PEL was exceeded, the regulated area shall be ventilated to move contaminated air away from the employee's breathing zone toward a HEPA unit or collection device.

3.6.5 Specific Control Methods for Class I Work

In addition to requirements of paragraph Class I Work Procedures, Class I asbestos work shall be performed using the control methods identified in
the subparagraphs below.

3.6.5.1 Negative Pressure Enclosure (NPE) System: The system shall provide at least 4 air changes per hour inside the containment. The local exhaust unit equipment shall be operated 24 hours per day until the containment is removed, and shall be leak-proof to the filter and equipped with HEPA filters. Air movement shall be directed away from the employees and toward a HEPA filtration device. The NPE shall be smoke tested for leaks at the beginning of each shift. Local exhaust equipment shall be sufficient to maintain a minimum pressure differential of minus 0.5 mm 0.02 inch of water column relative to adjacent, unsealed areas. Pressure differential shall be monitored continuously, 24 hours per day, with an automatic manometric recording instrument. Pressure differential recordings shall be provided daily on the same day collected. Readings shall be reviewed by the Contractor's Designated Competent Person and Owner’s Representative. The building ventilation system shall

not be used as the local exhaust system for the regulated area. The local exhaust system shall terminate outdoors unless an alternate arrangement is allowed by the Owner. All filters used shall be new at the beginning of the project and shall be periodically changed as necessary and disposed of as ACM waste.

3.6.5.2 Glovebag Systems: The glovebag system shall be used to remove ACM from straight runs of piping and elbows and other connections. Glovebags shall be used without modification and shall be smoke-tested for leaks and any leaks sealed prior to use. Glovebags shall be installed to completely cover the circumference of pipe or other structures where the work is to be done. Glovebags shall be used only once and shall not be moved. Glovebags shall not be used on surfaces that have temperatures exceeding 66 degrees C. 150 degrees F. Prior to disposal, glovebags shall be collapsed by removing air within them using a HEPA vacuum. Before beginning the operation, loose and friable material adjacent to the glovebag operation shall be wrapped and sealed in 2 layers of plastic or otherwise rendered intact. At least 2 persons shall perform Class I glovebag removal. Asbestos regulated work areas shall be established as specified and shown on detailed drawings and plans for glovebag abatement. Designated boundary limits for the asbestos work shall be established with rope or other continuous barriers and all other requirements for asbestos control areas shall be maintained, including area signage and boundary warning tape.

a. In addition to requirements for negative pressure glovebag systems above, the Contractor shall attach HEPA vacuum systems or other devices to the bag to prevent collapse during removal of ACM from straight runs of piping and elbows and other connections.

b. The negative pressure glove boxes used to remove ACM from pipe runs shall be fitted with gloved apertures and a bagging outlet and constructed with rigid sides from metal or other material which can withstand the weight of the ACM and water used during removal. A negative pressure shall be created in the system using a HEPA filtration system. The box shall be smoke tested for leaks prior to each use.

3.6.5.3 Mini-Enclosures: Mini-containment (small walk-in enclosure)to accommodate no more than 2 persons, may be used if the disturbance or removal can be completely contained by the enclosure with the following specifications and work practices. The mini-enclosure shall be inspected for leaks and smoke tested before each use. Air movement shall be directed away from the employee's breathing zone within the mini-enclosure.

3.6.5.4 Wrap and Cut Operation: Prior to cutting pipe, the asbestos-containing insulation shall be wrapped with polyethylene and securely sealed with duct tape to prevent asbestos becoming airborne as a result of the cutting process. The following steps shall be taken: install glovebag, strip back sections to be cut 150 mm 6 inches from point of cut, and cut pipe into manageable sections.

3.6.6 Class II Work

In addition to the requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the work.
b. For indoor work, critical barriers shall be placed over all openings to the regulated area.
c. Impermeable dropcloths shall be placed on surfaces beneath all removal activity.

3.6.7 Specific Control Methods for Class II Work

In addition to requirements of paragraph Class II Work, Class II work shall be performed using the following methods:

3.6.7.1 Vinyl and Asphalt Flooring Materials: When removing vinyl and asphalt flooring materials [which contain ACM] Resilient sheeting shall be removed by adequately wet methods. Tiles shall be removed intact (if possible); wetting is not required when tiles are heated and removed intact. Flooring or its backing shall not be sanded. Scraping of residual adhesive and/or backing shall be performed using wet methods. Mechanical chipping is prohibited unless performed in a negative pressure enclosure. Dry sweeping is prohibited. The Contractor shall use vacuums equipped with HEPA filter, disposable dust bag, and metal floor tool (no brush) to clean floors.

3.6.7.2 Roofing Material: Roofing material shall be removed in an intact state. Wet methods shall be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards. When removing built-up roofs, with asbestos-containing roofing felts and an aggregate surface, using a power roof cutter, all dust resulting from the cutting operations shall be collected by a HEPA dust collector, or shall be HEPA vacuumed by vacuuming along the cut line. Asbestos-containing roofing material shall not be dropped or thrown to the ground, but shall be lowered to the ground via covered, dust-tight chute, crane, hoist or other method approved by the Owner's Representative. Any ACM that is not intact shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. While the material remains on the roof it shall be kept wet or placed in an impermeable waste bag or wrapped in plastic sheeting. Intact ACM shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. Unwrapped material shall be transferred to a closed receptacle precluding the dispersion of dust. Critical barriers shall be placed over roof level heating and ventilation air intakes.

3.6.7.3 Cementitious Siding and Shingles or Transite Panels: Intentionally cutting, abrading or breaking siding, shingles, or transite panels is prohibited. Each panel or shingle shall be sprayed with amended water prior to removal. Nails shall be cut with flat, sharp instruments. Unwrapped or unbagged panels or shingles shall be immediately lowered to the ground via covered dust-tight chute, crane or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.

3.6.7.4 Gaskets: Gaskets shall be thoroughly wetted with amended water prior to removal and immediately placed in a disposal container. If a gasket is visibly deteriorated and unlikely to be removed intact, removal shall be undertaken within a glovebag. Any scraping to remove residue shall be performed wet.

3.6.7.5 Other Class II Jobs: The Contractor shall use the following work practices when performing Class II removal miscellaneous ACM: The material shall be thoroughly wetted with amended water prior and during its removal. The material shall be removed in an intact state. Cutting, abrading or breaking the material is prohibited. The ACM removed shall be immediately bagged or wrapped.

3.6.8 Specific Control Methods for Class III Work

Class III asbestos work shall be conducted using engineering and work practice controls which minimize the exposure to employees performing the asbestos work and to bystander employees. The work shall be performed using wet methods and, to the extent feasible, using local exhaust ventilation. The Contractor shall use impermeable dropcloths and shall isolate the operation, using mini-enclosures or glovebag systems, where the disturbance involves drilling, cutting, abrading, sanding, chipping, breaking, or sawing of TSI or surfacing material.

3.6.9 Specific Control Methods for Class IV Work

Class IV jobs shall be conducted using wet methods, HEPA vacuums, and prompt clean-up of debris containing ACM. Employees cleaning up debris and waste in a regulated area where respirators are required shall wear the selected respirators.

3.6.10 Alternative Methods for Roofing Materials and Asphaltic Wrap

The Contractor shall use the following engineering controls and work practices when removing, repairing, or maintaining intact pipeline asphaltic wrap, or roof cements, mastics, coatings, or flashings which contain asbestos fibers encapsulated or coated by bituminous or resinous compounds. If during the course of the job the material does not remain intact, the Contractor shall use the procedures described in paragraph Roofing Material. Before work begins, and as needed during the job, the Designated Competent Person shall conduct an inspection and determine that the roofing material is intact and will likely remain intact. The material shall not be sanded, abraded, or ground. Manual methods which would render the material non-intact shall not be used. Roofing material shall not be dropped or thrown to the ground but shall be lowered via covered, dust-tight chute, crane, hoist or other method approved by the Owner's Representative. All such material shall be removed from the roof as soon as practicable, but not later than the end of the work shift. Removal or disturbance of pipeline asphaltic wrap shall be performed using wet methods.

3.6.11 Cleaning After Asbestos Removal

After completion of all asbestos removal work, surfaces from which ACM has been removed shall be wet wiped or sponged clean, or cleaned by some equivalent method to remove all visible residue. Run-off water shall be collected and filtered through a dual filtration system. A first filter shall be provided to remove fibers 20 micrometers and larger, and a final filter provided that removes fibers 5 micrometers and larger. After the gross amounts of asbestos have been removed from every surface, remaining visible accumulations of asbestos on floors shall be collected using plastic shovels, rubber squeegees, rubber dustpans, and HEPA vacuum cleaners as appropriate to maintain the integrity of the regulated area. When TSI and surfacing material has been removed, workmen shall use HEPA vacuum cleaners to vacuum every surface. Surfaces or locations which could harbor accumulations or residual asbestos dust shall be checked after vacuuming to verify that no asbestos-containing material remains; and shall be re-vacuumed as necessary to remove the ACM.

3.7 FINAL CLEANING AND VISUAL INSPECTION

Upon completion of abatement, the regulated area shall be cleaned by collecting, packing, and storing all gross contamination. A final cleaning shall be performed using HEPA vacuum and wet cleaning of all exposed surfaces and objects in the regulated area. Upon completion of the cleaning, the Contractor shall conduct a visual pre-inspection of the cleaned area in preparation for a final inspection before final air clearance monitoring and recleaning, as necessary. Upon completion of the final cleaning, the Contractor and the Owner's Representative shall conduct a final visual inspection of the cleaned regulated area in accordance with ASTM E 1368 and document the results. If the Owner's Representative rejects the clean regulated area as not meeting final cleaning requirements, the Contractor shall reclean as necessary and have a follow-on inspection conducted with the Owner's Representative. Recleaning and follow-up reinspection shall be at the Contractor's expense.

3.8 LOCKDOWN

Prior to removal of plastic barriers and after clean-up of gross contamination and final visual inspection, a post removal (lockdown) encapsulant shall be spray applied to ceiling, walls, floors, and other surfaces in the regulated area.

3.9 EXPOSURE ASSESSMENT AND AIR MONITORING

3.9.1 General Requirements For Exposure

Exposure assessment, air monitoring and analysis of airborne concentration of asbestos fibers shall be performed in accordance with 29 CFR 1926, Section .1101, the Contractor's air monitoring plan, and as specified. Personal exposure air monitoring (collected at the breathing zone) that is representative of the exposure of each employee who is assigned to work within a regulated area shall be performed by the Contractor. Breathing zone samples shall be taken for at least 25 percent of the workers in each shift, or a minimum of 2, whichever is greater. Air monitoring results at the 95 percent confidence level shall be calculated as shown in Table 2 at the end of this section. The Owner's Representative will provide an onsite technician and appropriate equipment to conduct sample analyses of air samples using the methods prescribed in 29 CFR 1926, Section .1101, to include NIOSH Pub No. 84-100 Method 7400.] Preabatement and abatement environmental air monitoring shall be performed by the Owner's Representative. Final clearance environmental air monitoring, shall be performed by the Owner's Representative. Environmental and final clearance air monitoring shall be performed using [NIOSH Pub No. 84-100 Method 7400 (PCM) with optional confirmation of results by the EPA TEM Method specified in 40 CFR 763. For environmental and final clearance, air monitoring shall be conducted at a sufficient velocity and duration to establish the limit of detection of the method used at 0.005 f/cc. Confirmation of asbestos fiber concentrations (asbestos f/cc) from environmental and final clearance samples collected and analyzed by NIOSH Pub No. 84-100 Method 7400 (total f/cc) may be conducted using TEM in accordance with NIOSH Pub No. 84-100 Method 7402. When such confirmation is conducted, it shall be from the same sample filter used for the NIOSH Pub No. 84-100 Method 7400 PCM analysis. For all Contractor required environmental or final clearance air monitoring, confirmation of asbestos fiber concentrations, using NIOSH Pub No. 84-100 Method 7402, shall be at the Contractor's expense. Results of breathing zone samples shall be posted at the job site and made available to the Owner's Representative. The Contractor shall maintain a fiber concentration inside a regulated area less than or equal to 0.1 f/cc expressed as an 8 hour, time-weighted average (TWA) during the conduct of the asbestos abatement. If fiber concentration rises above 0.1 f/cc, work procedures shall be investigated with the Owner's Representative to determine the cause. At the discretion of the Owner's Representative, fiber concentration may exceed 0.1 f/cc but shall not exceed 1.0 f/cc expressed as an 8-hour TWA. The Contractor's workers shall not be exposed to an airborne fiber concentration in excess of 1.0 f/cc, as averaged over a sampling period of 30 minutes. Should either an environmental concentration of 1.0 f/cc expressed as an 8-hour TWA or a personal excursion concentration of 1.0 f/cc expressed as a 30-minute sample occur inside a regulated work area, the Contractor shall stop work immediately, notify the Owner's Representative, and implement additional engineering controls and work practice controls to reduce airborne fiber levels below prescribed limits in the work area. Work shall not restart until authorized by the Owner's Representative.

3.9.2 Initial Exposure Assessment

The Contractor shall conduct an exposure assessment immediately before or at the initiation of an asbestos abatement operation to ascertain expected exposures during that operation. The assessment shall be completed in time to comply with the requirements which are triggered by

exposure data or the lack of a negative exposure assessment, and to provide information necessary to assure that all control systems planned are appropriate for that operation. The assessment shall take into consideration both the monitoring results and all observations, information or calculations which indicate employee exposure to asbestos, including any previous monitoring conducted in the workplace, or of the operations of the Contractor which indicate the levels of airborne asbestos likely to be encountered on the job.

3.9.3 Negative Exposure Assessment

The Contractor shall provide a negative exposure assessment for the specific asbestos job which will be performed. The negative exposure assessment shall be provided within five days of the initiation of the project and conform to the following criteria:

a. Objective Data: Objective data demonstrating that the product or material containing asbestos minerals or the activity involving such product or material cannot release airborne fibers in concentrations exceeding the PEL-TWA and PEL-Excursion Limit under those work conditions having the greatest potential for releasing asbestos.

b. Prior Asbestos Jobs: Where the Contractor has monitored prior asbestos jobs for the PEL and the PEL-Excursion Limit within 12 months of the current job, the monitoring and analysis were performed in compliance with asbestos standard in effect; the data were obtained during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the Contractor's current operations; the operations were conducted by employees whose training and experience are no more extensive than that of employees performing the current job; and these data show that under the conditions prevailing and which will prevail in the current workplace, there is a high degree of certainty that the monitoring covered exposure from employee exposures will not exceed the PEL-TWA and PEL-Excursion Limit.

c. Initial Exposure Monitoring: The results of initial exposure monitoring of the current job, made from breathing zone air samples that are representative of the 8-hour PEL-TWA and 30-minute short-term exposures of each employee. The monitoring covered exposure from operations which are most likely during the performance of the entire asbestos job to result in exposures over the PELs.

3.9.4 Preabatement Environmental Air Monitoring

Preabatement environmental air monitoring shall be established prior to the masking and sealing operations for each regulated area to determine background concentrations before abatement work begins. As a minimum, preabatement air samples shall be collected using NIOSH Pub No. 84-100 Method 7400, PCM at these locations: outside the building; inside the building, but outside the regulated area perimeter; and inside each regulated work area. One sample shall be collected for every 185 square meters 2000 square feet of floor space. At least 2 samples shall be collected outside the building: at the exhaust of the HEPA unit; and downwind from the abatement site. The PCM samples shall be analyzed within 24 hours; and if any result in fiber concentration greater than 0.01 f/cc, asbestos fiber concentration shall be confirmed using NIOSH Pub No. 84-100 Method 7402 (TEM).

3.9.5 Environmental Air Monitoring During Abatement

Environmental air monitoring shall be conducted at locations and frequencies that will accurately characterize any evolving airborne asbestos fiber concentrations. The assessment shall demonstrate that the product or material containing asbestos minerals, or the abatement involving such product or material, cannot release airborne asbestos fibers in concentrations exceeding 0.01 f/cc as a TWA under those work conditions having the greatest potential for releasing asbestos. The monitoring shall be at least once per shift at locations including, but not limited to, close to the work inside a regulated area; preabatement sampling locations; outside entrances to a regulated area; close to glovebag operations; representative locations outside of the perimeter of a regulated area; inside clean room; and at the exhaust discharge point of local exhaust system ducted to the outside of a containment (if used). If the sampling outside regulated area shows airborne fiber levels have exceeded background or 0.01 f/cc, whichever is greater, work shall be stopped immediately, and the Owner's Representative notified. The condition causing the increase shall be corrected. Work shall not restart until authorized by the Owner's Representative.

3.9.6 Final Clearance Air Monitoring

Prior to conducting final clearance air monitoring, the Contractor and the Owner's Representative shall conduct a final visual inspection of the regulated area where asbestos abatement has been completed. Final clearance air monitoring shall not begin until acceptance of the Contractor's final cleaning by the Owner's Representative. The Owner's Representative will] conduct final clearance air monitoring using aggressive air sampling techniques as defined in EPA 560/5-85-024 or as otherwise required by federal or state requirements. The sampling and analytical method used will be NIOSH Pub No. 84-100Method 7400 (PCM.

3.9.6.1 Final Clearance Requirements, NIOSH PCM Method: For PCM sampling and analysis using NIOSH Pub No. 84-100 Method 7400, the fiber concentration inside the abated regulated area, for each airborne sample, shall be less than 0.01 f/cc. The abatement inside the regulated area is considered complete when every PCM final clearance sample is below the clearance limit. If any sample result is greater than 0.01 total f/cc, the asbestos fiber concentration (asbestos f/cc) shall be confirmed from that same filter using NIOSH Pub No. 84-100 Method 7402 (TEM) at Contractor's expense. If any confirmation sample result is greater than 0.01 asbestos f/cc, abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.6.2 Final Clearance Requirements, EPA TEM Method: For EPA TEM sampling and analysis, using the EPA Method specified in 40 CFR 763, abatement inside the regulated area is considered complete when the arithmetic mean asbestos concentration of the 5 inside samples is less than or equal to 70 structures per square millimeter (70 S/mm). When the arithmetic mean is greater than 70 S/mm, the 3 blank samples shall be analyzed. If the 3 blank samples are greater than 70 S/mm, resampling shall be done. If less than 70 S/mm, the 5 outside samples shall be analyzed and a Z-test analysis performed. When the Z-test results are less than 1.65, the decontamination shall be considered complete. If the Z-test results are more than 1.65, the abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.6.3 Air Clearance Failure: If clearance sampling results fail to meet the final clearance requirements, the Contractor shall pay all costs associated with the required recleaning, resampling, and analysis, until final clearance requirements are met.

3.9.7 Air-Monitoring Results and Documentation

Air sample fiber counting shall be completed and results provided within 24 hours (breathing zone samples) after completion of a sampling period. The Owner's Representative shall be notified immediately of any airborne levels of asbestos fibers in excess of established requirements. Written sampling results shall be provided within 5 working days of the date of collection. The written results shall be signed by testing laboratory analyst. The air sampling results shall be documented on a Contractor's daily air monitoring log. The daily air monitoring log shall contain the following information for each sample:

a. Sampling and analytical method used;
b. Date sample collected;
c. Sample number;
d. Sample type: BZ = Breathing Zone (Personal)
e. Activity/name where sample collected;
f. Sampling pump manufacturer, model and serial number, beginning flow rate, end flow rate, average flow rate (L/min);
g. Calibration date, time, method, location, name of calibrator, signature;
h. Sample period (start time, stop time, elapsed time (minutes);
i. Total air volume sampled (liters);
j. Sample results (f/cc and S/mm square)
k. Laboratory name, location, analytical method, analyst, confidence level.

3.10 CLEARANCE CERTIFICATION

When asbestos abatement is complete, ACM waste is removed from the regulated areas, and final clean-up is completed, the Owner's Representative will certify the areas as safe before allowing the warning signs and boundary warning tape to be removed. The Contractor and the Owner's Representative shall visually inspect all surfaces within the containment for residual material or accumulated debris. The Contractor shall reclean all areas showing dust or residual materials. The Owner's Representative will certify in writing that the area is safe before unrestricted entry is permitted.

3.11 CLEANUP AND DISPOSAL

3.11.1 Collection and Disposal of Asbestos

All ACM waste including contaminated wastewater filters, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing, shall be collected and placed in leak-tight containers such as double plastic bags; sealed double wrapped polyethylene sheet: or other approved containers. Waste within the containers shall be wetted in case the container is breeched. Asbestos-containing waste shall be disposed of at an EPA, state and local approved asbestos landfill. For temporary storage, sealed impermeable containers shall be stored in an asbestos waste load-out unit or in a storage/transportation conveyance (i.e., dumpster, roll-off waste boxes, etc.) in a manner acceptable to and in an area assigned by the Owner's Representative. Procedure for hauling and disposal shall comply with 40 CFR 61, Subpart M, state, regional, and local standards.

3.11.2 Asbestos Waste Shipment Record

The Contractor shall complete and provide the Owner's Representative final completed copies of the Waste Shipment Record for all shipments of waste material as specified in 40 CFR 61, Subpart M and other required state waste manifest shipment records, within 3 days of delivery to the landfill. Each Waste Shipment Record shall be signed and dated by the Contractor, Owner or Owner's Representative, the waste transporter and disposal facility operator.

End of Asbestos Abatement Specifications

PART 1 GENERAL

1.1 REFERENCES

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

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 148	Hazardous Waste Injection Restrictions
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 268	Land Disposal Restrictions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD)

HUD-01 (1996)	Lead-Based Paint: Guidelines for the Availability and Control of Lead-Based Paint Hazards in Housing

CALIFORNIA CODE OF REGULATIONS

Title 17, CCR, Div. 1, Ch. 8	Accreditation, Certification And Work Practices In Lead-Related Construction

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH OSHA Booklet 3142 Lead in Construction

UNDERWRITERS LABORATORIES (UL)

UL 586 (1996)	High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

A. Abatement: "Abatement" means any set of measures designed to reduce or eliminate lead hazards.

B. Accreditation: The Department has reviewed and finds acceptable a training provider's written application for accreditation, and has conducted and finds acceptable, an on-site audit as specified in Subsection 35078(f).

C. Accredited Training Provider: "Accredited training provider" means any individual, corporation, partnership or other unincorporated association or public entity to which the Department has granted accreditation or provisional accreditation to offer lead-related construction courses and continuing education instruction.

D. Certified Lead Supervisor: "Certified lead supervisor" means an individual who is responsible for implementing lead-related construction work and enforcing work practices that ensure worker safety in residential or public buildings and who has received a certificate or an interim certificate from the Department as a "certified lead supervisor".

E. Certified Lead Worker: "Certified lead worker" means an individual who performs lead-related construction work in residential or public buildings under the direction of a certified lead supervisor and has received a certificate from the Department as a "certified lead worker".

F. Clearance Inspection: "Clearance inspection" means an on-site limited investigation, as described in Chapter 15: Clearance, Sections II-VI, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.

G. Component: "Component" means a structural element or fixture, including a wall, floor, ceiling, door, window, molding, trim, trestle, tank, stair, railing, cabinet, gutter, or downspout.

H. Containment: "Containment" means a system, process, or barrier used to contain lead hazards inside a work area as described in "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, Chapter 8, "Containment and Barrier Systems," Table 8.1, Table 8.2, and Table 8.3.

I. Department: "Department" means the California Department of Health Services (DHS).

J. Deteriorated Paint: Deteriorated paint" means paint or surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, or otherwise separating from a component.

K. DHS-Approved Course: "DHS-Approved course" means any lead-related construction course that satisfies the requirements specified in Sections, 35056, 35057, 35061, 35065, 35066, or 35067 as determined by DHS pursuant to Sections 35076 and 35078.

L. Interim Certificate: "Interim certificate" means the document issued by the Department to an individual who meets requirements for interim certification as described in Section 35093.

M. Job Tasks: "Job tasks" mean the specific activities performed in the context of work.

N. Lead-Based Paint: Lead-based paint" means paint or other surface coatings that contain an amount of lead equal to, or in excess of one milligram per square centimeter (1.0 mg/cm2) or more than half of one percent (0.5%) by weight.

O. Lead-Contaminated Dust: "Lead-contaminated dust" means dust that contains an amount of lead equal to, or in excess of, one hundred micrograms per square foot (100_g/ft2) for floor surfaces and five hundred micrograms per square foot (500 _g/ft2) for horizontal window surfaces.

P. Lead-Contaminated Soil: "Lead-contaminated soil" means bare soil that contains an amount of lead equal to, or in excess of, four hundred parts per million (400 ppm) in children's play areas and one thousand parts per million (1000 ppm) in all other areas.

Q. Lead Hazard: "Lead hazard" means deteriorated lead-based paint, lead contaminated dust, lead contaminated soil, disturbing lead-based paint or presumed lead-based paint without containment, or any other nuisance which results in environmental lead contamination.

R. Lead-Related Construction Work: "Lead-related construction work" means any construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential or public building, including preparation and cleanup, that, by using or disturbing lead-containing material or soil, may result in significant exposure of adults or children to lead.

S. Presumed Lead-Based Paint: "Presumed lead-based paint" means paint or surface coating affixed to a component in or on a structure, excluding paint or surface coating affixed to a component in or on a residential dwelling constructed on or after January 1, 1978.

T. Public Building: "Public building" means a structure which is generally accessible to the public, including but not limited to, schools, daycare centers, museums, airports, hospitals, stores, convention centers, government facilities, office buildings and any other building which is not an industrial building or a residential building.

U. Residential Building; "Residential building" means a structure which is used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of one or more persons.

V. Work Area: "Work area" means an area where lead-based paint or presumed lead-based paint is disturbed, or abatement is conducted.

1.3 DESCRIPTION OF WORK

The scope of this project is to remove LBP and lead ceramics where they are to be impacted by the planned modernizations. Lead components likely to be impacted identified at the site include the door frames throughout Building D and the ceramic baseboard and wall tiles in restrooms of the Buildings A, B and D.

1.4 SUBMITTALS

1.4.1 Lead-Based Paint (LBP) Management Plan; The Contractor shall prepare a detailed LBP Management Plan that identifies the work procedures, health, and safety measures to be used in LBP abatement. The plan shall address the various sources of lead and the methods to be undertaken to abate the lead hazards to include the following key elements:

a. Abatement methods for each LBP containing component.
b. Training requirements as required by Federal, state, and local regulations.
c. Unique problems associated with the LBP abatement project.
d. Eating, drinking, smoking, and rest room procedures.
e. Sequencing of LBP related work.
f. Personnel protective equipment; respiratory protection program and controls.

g. Engineering controls, containment structures and safety measures.
h. Worker exposure assessment procedures.
i. Work Practice controls.
j. Housekeeping.
k. Hygiene facilities and practice.
l. Medical surveillance, including medical removal protection.
m. Sampling, testing and analytical methods to include personal air sampling requirements of 29 CFR 1926 Section .62 and toxicity characteristic leaching procedure (TCLP) of the waste material in accordance with 40 CFR 261. Procedures must include frequency, locations, and sampling and analytical methods to be used.

1.4.2 Emergency Contingency Plan; An emergency contingency plan shall be prepared in accordance with 40 CFR 261. Procedure must address the following LBP abatement hazards as appropriate to the project:

a. Negative air pressure system failure.
b. Major breech of containment barriers.
c. Detection of unexpected lead levels on adjacent grounds.
d. Spilling of lead debris bags or containers.
e. Phone numbers for project manager, local fire, police and medical personnel.

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

a. Identification or documentation of potential hazardous wastes associated with the work.
b. Names and qualifications of each Contractor that will be transporting, storing, treating, and disposing of the wastes; the facility location, phone number, and name of a 24-hour point of contact shall be included. Two copies of EPA, state, and local hazardous waste permit applications, permits, and EPA identification numbers.
c. Names and qualifications (experience and training) of personnel who will be working onsite with hazardous waste.
d. Spill prevention, containment, and clean-up contingency measures to be implemented.
g. Work plan and schedule for waste containment, removal, and disposal. Waste shall be cleaned up and containerized daily.

1.4.4 Sampling Result; A daily log of the personal air sampling test results shall be reviewed by the Competent Person 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. Documentation of results that exceed specified limits (personal air samples that exceed 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.

1.5 QUALITY ASSURANCE

1.5.1 Qualifications

a. Contractor: Certification that the Contractor has prior experience on LBP abatement projects similar in nature and extent to ensure the capability to perform the abatement in a satisfactory manner.
b. Competent Person: Certification that the Contractor's full-time onsite Competent Person meets the competent person requirements of 29 CFR 1926 Section .62 and Title 8 and is experienced in administration and supervision of LBP abatement projects, including work practices, protective measures for building and personnel, disposal procedures, etc. This person shall have completed a Contractor Supervisor LBP abatement course by an EPA Training Center or an equivalent certification course, and have had a minimum of 2 years on-the-job experience.

c. Testing Laboratory: The name, address, and telephone number of the independent testing laboratory selected to perform analysis] for personal air samples and TCLP analysis. Documentation that the laboratory performing the analysis is an EPA National Lead Laboratory Accreditation Program (NLLAP) and California ELAP accredited laboratory and that it is rated proficient in the NIOSH/EPA Environmental Lead Proficiency Analytical Testing Program (ELPAT). 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.

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.

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); High Efficiency Particulate Air (HEPA) filtration capabilities for all cartridges, filters, and HEPA vacuum systems.

1.5.4 Medical Records: Certification that employees who are involved in LBP abatement work have received medical examinations and will receive continued medical surveillance, including biological monitoring, as required by 29 CFR 1926 Section .62 and by the state and local regulations pertaining to such work. Records shall be retained, at Contractor expense, in accordance with 29

1.5.5 Training: Training certification shall be provided prior to the start of work involving LBP abatement, for all of the Contractors' workers, supervisors and Competent Person. Training shall meet the requirements of 29 CFR 1926 Section .62, 29 CFR 1926 Section .59 and 49 CFR 172, and that required by EPA or the state LBP course for the work to be performed. Training shall be provided prior to the time of job assignment and, at least, annually.

1.6 RESPIRATORY PROTECTION PROGRAM

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

1.7 HAZARD COMMUNICATION PROGRAM

A Hazard Communication Program shall be implemented in accordance with 29 CFR 1926 Section .59. Material safety data sheets (MSDSs) shall be provided for all hazardous materials brought onto the worksite. One copy shall be provided to the Owner's Representative and 1 copy shall be included in the Contractor's Hazard Communication Program.

1.8 SAFETY AND HEALTH OVERSIGHT

The Competent Person shall be the onsite person responsible for coordination, safety, security and execution of the work. The Competent Person shall be able to identify existing and predictable lead hazards and shall have the authority to take corrective measures to eliminate them. The Competent Person shall be responsible for personal sampling.

PART 2 PRODUCTS

2.1 SUBSTITUTION OF MATERIALS AND/ OR METHODS

A. Any substitution in materials or methods to those specified shall be approved by the Owner's Representative prior to use. Any requests for substitution shall be provided in writing to the Consultant and the Owner. The request shall clearly state the rationale for the substitution.

B. Submit to the Owner's Representative and the Owner product data and samples of all materials to be considered as an alternate.

C. Product data shall consist of manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, material safety data sheets (MSDS) and other standard descriptive data. Submittal data shall be clearly marked to identify pertinent materials, products or models and show performance characteristics and capacities. Samples shall be of sufficient size and quantity to clearly illustrate the functional characteristics of the product or material with integrally related parts and attachment devices.

D. No work shall begin which requires submittal for approval until the Owner's Representative has "approved" or "approved as noted" the submittal.

2.2 INTRODUCTION

2.2.1 Materials and Equipment

A. The work of this Section, without limiting the generality thereof, includes the furnishing of labor, materials, tools, equipment, services and incidentals necessary to complete all Lead Based Paint Abatement in accordance with the Plans and Specifications. These Plans and Specifications are intended to describe, and provide for a finished and complete piece of work; work which is described by any portion of these documents shall be complete in every detail and in accordance with established trade practice, notwithstanding whether or not every item or detail necessarily involved is particularly mentioned.

B. Approvals and Inspections. All temporary facilities, work procedures, equipment, materials, services, and agreements must strictly adhere to and meet this Section along with EPA, OSHA, NIOSH, HUD regulations recommendations, and guidelines, as well as any other federal state, and local regulations. Where there exists an overlap of these regulations and guidelines, the most stringent one applies. All work performed by the Abatement Contractor is further subject to approval of the Owner, and/ or Owner's Representative.

2.2.2 Materials

A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description.

B. Damaged or deteriorating materials shall not be used and shall be removed from the premises.

C. Polyethylene sheet in a roll size to minimize the frequency of joints shall be delivered to job site with factory label indicating 6 mil.

D. Polyethylene disposable bags shall be six (6) mil with pre- printed label. Tie wraps for bags shall be plastic, five (5) inches long (minimum), pointed and looped to secure filled plastic bags.

E. Tape or adhesive spray will be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.

F. Impermeable containers are to be used to receive and retain any lead containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with EPA and DOT standards.

G. HEPA filtered exhaust systems shall be used during any dust generating abatement operations.

H. All caustics shall be properly labeled and containerized in leak- tight containers.

I. Machine Sanding Equipment - Sanders shall be of the dual action, rotary action, orbital or straight line system type, fitted with a high efficiency particulate air (HEPA) dust pick- up system. Air compressors utilized to operate this equipment shall be designed to continuously provide 90 to 110 p. s. i. or as recommended by the manufacturer.

J. Heat Blower Gun Equipment - Electrically- operated, heat- blower gun shall be a flameless electrical paint softener type. Heat- blower shall have electronically controlled temperature settings to allow usage below a temperature of 1,100 degrees Fahrenheit. Heat- blower shall be DI type (non-grounded) 120 V, AC application. Heat- blower shall be equipped with various nozzles to cover all common applications (cone, fan, glass protector, spoon reflector, etc.).

K. Chemical Stripping Removers - Chemical removers shall contain no methylene chloride products. Chemical removers shall be compatible with, and not harmful to the substrate that they are applied to. Chemical removers used on masonry surfaces shall contain anti- stain formulation that inhibits discoloration of stone, granite, brick and other masonry construction. Chemical removers used on interior surfaces shall not raise or discolor the surface being abated.

L. Chemical Stripping Agent Neutralizer - Chemical stripping agent neutralizers may be used on exterior surfaces only. Neutralizers shall be compatible with and not harmful to the substrate that they are applied to. Neutralizers shall be compatible with the stripping agent that has been applied to the surface substrate.

2.2.3 TOOLS AND EQUIPMENT

A. Provide suitable tools for all abatement operations.

B. The Abatement Contractor shall have available sufficient inventory or dated purchase orders for materials necessary for the job including protective clothing, respirators, filter cartridges, polyethylene sheeting of proper size and thickness, tape, and air filters.

C. The Abatement Contractor shall have available power cables or sources such as generators (where required).

D. Vacuum units, of suitable size and capacities for project, shall have HEPA filter(s) capable of trapping and retaining at least 99.97% of all monodispersed particles of 0.3 micrometers in diameter.

E. The Abatement Contractor will have reserve units so that the station system will operate continuously.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Abatement shall:

A. Be conducted only by a certified lead supervisor or a certified lead worker. A certified lead supervisor shall be onsite during all work site preparation and during the post-abatement cleanup of work areas. At all other times when abatement is conducted, the certified lead supervisor shall be onsite or available by telephone, pager or answering service, and able to be present at the work area in no more than two hours.

B. Be conducted using containment and in a manner which does not result in contamination of non-work areas with lead-contaminated dust, lead-contaminated soil, or lead-based paint debris.

C. Be conducted according to the procedures specified in:

1. Chapter 12: Abatement, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, if the abatement is designed to reduce lead paint or lead hazards for a minimum of twenty years; or

1 Chapter 11: Interim Controls, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, if the abatement is designed to reduce lead paint or lead hazards for less than twenty yearS.

3.2 WORK AREA SET UP

3.2.1 General

A. Site Safety. The Abatement Contractor is responsible for all safety at the work site. This includes, but is not limited to electrical safety, mechanical (tool) safety, fire safety, and personnel protective safety. Safety requirements are, for the most part, common sense and sound business practice; however, the Abatement Contractor is advised that federal, state and local regulations exist which govern safety on the work site. Therefore, in addition to the following, the Abatement Contractor is responsible for adhering to the most stringent requirements in affect by any of the following entities or these Specifications.

B. A primary concern in this type of work is to ensure that adequate exits exist in the event of an emergency and conversely, that adequate entrances exist for emergency personnel. The nature of this work requires sealing entrances and the extensive use of six- mil polyethylene sheeting; however, the Abatement Contractor should never permanently seal (i. e., nail, bolt, hard cover) any potential escape exits and should take extra care to clearly identify potential exits and inform the workers.

C. Work Site Safety Plan. Prior to the initiation of the abatement work, the following tasks must be completed by the Contractor:

The Abatement Contractor shall establish a work site safety plan which includes a set of emergency procedures and shall post them in a conspicuous place at the work site. The safety plan should include provisions for the following:

1) Evacuation of injured workers

2) Emergency and fire exit routes from all work areas, including local telephone numbers for fire and medical emergency personnel

3) Copies of applicable insurance certificates

4) Employee work logs

The Abatement Contractor is responsible for training all workers in safety procedures. At a minimum, one employee on site shall be trained and certified in basic first aid by the American Red Cross or equivalent. A general first aid kit may be maintained in the containment for treating minor medical problems.

D. Access to Work Areas

1. The Owner will provide specific access as required during the project to the Abatement Contractor and personnel assigned to the project. The Abatement Contractor will be responsible for the security of each building or portion thereof involved in the abatement project. It will also be the Abatement Contractor's responsibility to allow only authorized personnel as defined below in Section 3.5 into the work area, and to secure all assigned entrances and exits at the end of the work day so as to prevent unauthorized entry.

2. The Abatement Contractor shall maintain a bound log book in which any person entering or leaving the lead abatement work area must sign and enter the dates and times of entry and departure.

3. Use of waste containers on- site shall be controlled under the following requirements:

   (a) Location of waste containers on- site shall be coordinated with the Owner and Owner's Representative.
   (b) The waste containers shall be solid enclosed containers, lined with two layers of six- mil polyethylene sheeting and locked and secured at all times.
   (c) The Abatement Contractor shall comply with all federal, state and local regulations and ordinances regarding lead waste storage.

4. The Abatement Contractor, supervisor will not allow anyone access to the dwelling unless they have successfully passed an approved training program.

3.2.2 Abatement Preparation

A. Prior to the commencement of any abatement procedures, notification requirements must be met; required signs shall be posted and moveable objects shall be moved a minimum of four feet from the perimeter walls of the room.

B. Pre-abatement work shall be performed prior to any abatement or component removal commencing on each side of the building.

C. Decontamination Unit. At a minimum, the Abatement Contractor shall construct a two- stage decontamination unit. This unit shall be directly adjacent to the abatement area for the decontamination of workers contaminated with lead. The decontamination unit shall consist of an equipment room, dirty room, and wash area in series. The Contractor shall ensure that employees use the worker decontamination chamber prior to leaving the work area.

   1. The decontamination unit shall be constructed with six-mil polyethylene sheeting on floors, walls and ceiling. Doors through this unit shall be constructed as described above.

D. Clean area. The Abatement Contractor shall select a clean area outside the abatement area for the workers to change into protective equipment. This area shall contain warm water hand washing facilities (potable water), clean cloths, storage for a HEPA vacuum, and respirator storage space. Table, chairs and a rest facility shall also be available at this location. Contaminated equipment or personnel shall not be permitted in this area.

E. Abatement area.

1. The Abatement Contractor shall pre-clean all surfaces with a HEPA vacuum and protect occupants' belongings by covering with one layer of six mil polyethylene and have joints taped. All debris gathered during this clean- up shall be disposed of properly. In addition, any existing loose paint or paint bearing materials found in the buildings are to be assumed hazardous and packaged and disposed of properly. The amount of the material should be estimated during the pre-bid walkthrough.

2. The Abatement Contractor shall prepare the area as follows:

   a) Doors and Windows: Doors and windows upon which a dust- generating method is being used, and on the same floor and all floors below, must be closed and covered with six- mil thick polyethylene sheeting.

   b) Plants and Ground: The ground and any plants or shrubs in the area in which exterior abatement is occurring shall be covered with a waterproof canvas tarp and weighted at all edges so as to prevent blowing. Such covering shall cover from the side of the structure to a point at least eight feet away from the structure. The covering shall be taped or otherwise attached to the structure.

      (1) The waterproof canvas tarp shall always be placed in a manner that traps all debris and water. This is best accomplished by elevating the edges.

      (2) The waterproof canvas tarp shall be properly disposed of and not re-used.

3. Special Areas. Any abatement project being performed on any structure other than a building shall be arranged, equipped and operated in a manner which will eliminate the possibility of lead contaminants or lead contaminated materials escaping from the work area.

   a) The Abatement Contractor shall maintain polyethylene barriers, and a clean area as long as needed for the safe and proper completion of the work. Any openings or tears in the work area barriers shall be corrected by the Abatement Contractor at the beginning of each work day and as necessary during the workday with such openings or tears reported immediately to the Owner. Work will not be allowed to commence until all barriers are in place and acceptable to the Owner's Representative.

4. Barriers shall not be removed until the work areas are thoroughly cleaned, and the area approved by the Owner's Representative. All debris must be properly bagged and removed from work areas, and the lead surface wipe samples must have passed final clearance tests, in accordance with provisions detailed in the Specification prior to barrier removal.

5. At the Owner's and Owner's Representative's approval, the Abatement Contractor may utilize a portable mini-isolation chamber to create an isolated work area around single components to be removed. This chamber shall still be equipped with an adjacent clean room, and become an isolated work area sealed at all seams to where it is attached to adjacent surfaces. It shall also satisfy all requirements for a work area and satisfy all clearance criteria, as identified in this Section and Local Law.

F. Signs. Prior to the preparation of a dwelling for abatement, the Abatement Contractor shall place warning signs immediately outside all entrances and exits to the dwelling, warning that abatement work is being conducted in the vicinity. The signs shall be at least 20" x 14" and read:

WARNING:
LEAD PAINT REMOVAL HAZARD
UNAUTHORIZED ENTRY PROHIBITED
NO SMOKING, EATING OR DRINKING ALLOWED IN THE WORK AREA

Signs shall be in bold lettering with lettering not smaller than two inches tall.

G. Construct and maintain suitable polyethylene barriers within the building to isolate the exterior work area from the interior of the building.

H. The polyethylene barriers termed "critical barriers" for the removal of windows shall consist of the following:

1. Pre- Clean all interior window surfaces with a HEPA- equipped vacuum.

2. Seal duct tape lip to inner most sill, casing and header surfaces of the window.

3. Seal two layers of six mil polyethylene sheeting from the duct tape lip on the inside sill of the dwelling unit window and extend up to the inside surface of the top interior casing. The first layer of sheeting applied shall be sealed to the inside faces of the window casing. The polyethylene sheeting shall be sealed to a piece of three- inch wide duct tape forming a lip attached to the interior window perimeter of the window casing.

4. There shall be no cavity in the polyethylene sheeting created that would allow lead dust to accumulate, which cannot be removed with HEPA vacuuming. This shall allow for removal of this polyethylene sheeting from the exterior of the building, without the generation of lead dust, once the window is removed and cleanup is complete.

5. The second layer of polyethylene sheeting shall be applied over the first layer and sealed directly to the inner face of the cut tape lip and window sill and casing.

6. This sealing of windows shall be done from the interior prior to the beginning of any exterior work.

I. The critical barriers for the removal of doors and door jambs, casing, and associated trim, shall consist of the following:

1. After precleaning activities of HEPA vacuuming floor and surfaces to be abated, seal with duct tape one layer of polyethylene sheeting over a 4’ x 4’ floor area extending in from the entrance doorway. This floor sheeting shall extend a minimum of six inches up the adjacent wall.

2. Remove the entrance door as described in this section.

3. Construct a mini- containment chamber with a double layer of six- mil polyethylene sheeting to isolate the inside door frame from the interior of the unit.

4. Seal mini- containment chamber to the interior wall a minimum of six inches from the interior door casing. Seal walls of the chamber to the floor poly. Cover ceiling with one layer of six- mil polyethylene. A prefabricated containment system may be used if approved by the Owner’s Representative.

5. Allow sufficient clearance around the door frame and casing to permit workers adequate access to remove the components without breaching the containment system.

J. Maintain polyethylene barriers, as long as needed for the safe and proper completion of the work. Any breeches in the work area barriers shall be corrected immediately and as necessary during the work day with such breeches reported immediately to the Owner. Work will not be allowed to commence until all barriers are in place and acceptable to the Owner's Representative.

3.3 PROTECTIVE PROCEDURES

3.3.1 Personal Air monitoring. Both personal air and area (ambient) air sampling will occur periodically throughout the project. The Abatement Contractor is advised of the following sampling:

A. Owner's Representative will perform clean area air monitoring sampling and analysis for all phases of the work in this Section. The Contractor is responsible for performance of personal air monitoring of Abatement Contractor employees.

B. Air samples may also be collected by the Owner's Representative outside critical barriers of the work area in the clean room, and in areas adjacent to the clean room.

C. The Owner's Representative will also collect wipe samples both within the abatement area and outside.

D. Any adjustment, tampering, and/ or deliberate interference with Owner's Representative air monitoring equipment by the Abatement Contractor's personnel will not be tolerated. Furthermore, the Abatement Contractor may be held liable for prosecution under applicable laws and regulations for attempting to falsify test results.

3.3.2 Worker Protection Requirements

A. Biological Monitoring. All workers must have baseline and post- abatement blood lead level measurements determined by the whole blood lead method, utilizing the Vena-Puncture technique with results provided to the Owner and Owner's Representative. This screening shall be performed every two months for the first six (6) months, and every six months thereafter if blood lead levels do not increase by more than 10 «g/ dl. In addition, the Abatement Contractor shall have a medical examination performed on each employee. This medical examination must be performed before workers begin lead contaminated work area and at the termination of an employee's employment or yearly, whichever comes first. A worker shall be removed from the job whenever three blood sampling tests average more than 25 «g/ dl or if a single test exceeds 30 «g/ dl. A formal investigation shall occur whenever a worker's blood lead level rises more than 10 «g/ dl over the baseline level. The Abatement Contractor shall be responsible for medical surveillance and record keeping, as defined in the OSHA Lead in Construction Standard (29 CFR 1926.62) and Local Law.

B. Training Requirements. All workers and supervisors shall have successfully completed a course provided by a licensed training provider meeting all requirements of EPA and Local Law. Supervisors shall be licensed by the responsible Local State Agency responsible. The Abatement Contractor will adhere to the requirements of OSHA regulations CFR 1910.1200 and 1926.62.

C. Supervision. The Abatement Contractor shall provide one site supervisor whose responsibilities include coordination, safety, security and execution of all phases of the lead removal project. The supervisor shall not be used as a lead removal worker, and shall be assigned full time to the project. The supervisor shall be fully qualified in all aspects of lead abatement practices and procedures, and have a three- day training course provided by a certified training provider and approved by the responsible Local State Agency within the previous year prior to commencement of lead-related work.

D. Respirators and Personal Protective Equipment (PPE)

1) Personal protection in the form of disposable coveralls and NIOSH and MSHA approved respirators, is required for all workers, supervisors, and authorized visitors entering the work area during the abatement and cleaning operations. A half- face negative pressure respirator is required until air monitoring data proves otherwise. Authorized visitors (i. e., federal, state, and local inspectors) must provide a current health and medical report certifying them as approved to wear half- face respirators, and must wear PAPRs until air monitoring data permits the use of half face respirators.

2) Each worker shall be supplied with a minimum of two (2) complete disposable suits every day. Removal workers shall not be limited to two (2) suits, and the Abatement Contractor will be required to supply additional suits as is necessary. In addition to disposable suits for the workers, the Abatement Contractor shall also supply suits for the Owner's Representative and other personnel who are authorized to inspect the worksite. Contractor must consider this cost in the bid. Disposable suits, such as TYVEK suits, and other personal protective equipment (PPE) must be donned prior to entering work area. A clean area will be provided for workers to put on suits and other personal protective equipment and to store their street clothes.

Suits will be worn inside the work area after the area passes pre- abatement inspection and shall remain in use until the area passes final clearance inspection. Light weight nylon clothes may be worn under the suit, but these clothes must be changed before leaving the work area and should be laundered separately.

3) Work clothes shall consist of moisture repellent, disposable full- body suits, head covers, gloves with cuffs extending outside the sleeves of the protective suit, boot or shoe covers, a face shield and eye protection. Hard hats shall be worn when deemed necessary. In addition, when caustic paste is used as an abatement agent, full-body suits and gloves impervious to caustics, glove extenders, face shields and boot or shoe covers are required.

4) Eye protection to personnel engaged in lead operations shall be furnished when the use of a full face respirator is not required.

5) Goggles with side shields will be worn when working with a material that may splash or fragment, or if protective eye wear is specified on the Material Safety Data Sheet (MSDS) for that product.

6) Additional respiratory protection by supplemental filters, such as organic vapor cartridges, may be needed when handling some coating products. Consult the Material Safety Data Sheets (MSDS) and obtain the proper filters as necessary.

7) The Abatement Contractor shall provide portable eyewash stations inside all work areas where caustic paste is to be used.

The stations should be capable of providing a flow of water for at least five minutes. The Abatement Contractor shall provide another station capable of providing a flow of water for at least fifteen minutes in the clean area. Squeeze bottles are not sufficient eyewash stations.

8) The Abatement Contractor shall supply workers and supervisory personnel with NIOSH and MSHA approved respirators and HEPA filters. Respiratory protection shall be implemented for all work performed by the Abatement Contractor under this Section. The respirators shall be sanitized and maintained according to the manufacturer's specifications. Disposable respirators shall not be considered acceptable under any circumstances. The Abatement Contractor will maintain on- site a sufficient supply of HEPA filters to allow workers and supervisory personnel to change contaminated

filters per manufacturer's recommendations or when breathing resistance is encountered. The Abatement Contractor is solely responsible for means and methods used and for compliance with applicable regulations:

(a) Half- mask, negative pressure, air purifying respirators equipped with high efficiency filters for airborne lead dust levels not in excess of 0.5 mg/ m3 (10 times the Permissible Exposure Limit) shall be used during component removal and enclosure abatement methods, with the exception of surface preparation for enclosures.

(b) Full- face Powered Air Purifying Respirators (PAPRs) with high efficiency filters for airborne dust levels not in excess of 2.5 mg/ m3 (50 time the Permissible Exposure Limit) will be required during all abatement demolition methods and encapsulation surface preparation methods and as required by OSHA 1926.62.

(c) Pressure demand, full face, supplied air respirators are required when airborne lead dust concentrations are expected to meet or exceed 50 mg/ m3 (1000 times the Permissible Exposure Limit). Respirators will not be removed until the worker enters the washing area of the decontamination chamber.

9) Respirators shall be individually assigned to removal workers for their exclusive use. All respiratory protection shall be provided to workers in accordance with the approved respiratory protection program, which includes all items in OSHA 29 CFR 1910.134 (B),(D),(E), & (F), and the OSHA lead standard 29 CFR 1926.62. A copy of this program shall be kept at the worksite, and shall be posted in the clean area.

10) Workers must perform negative and positive pressure fit checks each time a respirator is put on, whenever the respirator design so permits.

11) Powered air purifying respirators (PAPR) shall be tested for adequate flow as specified by the manufacturer.

12) Workers shall be given a qualitative fit test in accordance with procedures detailed in OSHA 29 CFR 1910.1025, Appendix D, Qualitative Fit Test Protocols, for all respirators to be used on this abatement project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.

13) If a question exists as to the proper selection of respirators, the Contractor may consult the OSHA Lead in Construction Standard (29 CFR 1926.62).

14) Upon leaving the active work area, cartridges must be removed, and respirators cleaned in a disinfectant solution and clean water rinsed.

15) Clean respirators should be stored in plastic bags when not in use.

16) The Abatement Contractor shall inspect respirators daily for broken, missing, or damaged parts.

17) The Abatement Contractor shall provide personal sampling to check personal exposure levels. Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken every day but must be taken in accordance with 29 CFR 1926.62. Sampling will determine eight- hour Time- Weighted Average exposures (TWA). Results shall be provided to the Owner and Owner's Representatives within 48 hours of the sampling.

18) Abatement Contractor shall comply with all OSHA, state, or other applicable requirements of worker medical examinations for approval to wear respiratory protection, and shall submit document of such approval to the Owner.

E. Exposure Conditions.

If air monitoring data, gathered by the Abatement Contractor or Owner's Representative shows that worker exposure to airborne lead exceeds 50 «g/ m3, the following conditions apply:

1) Clothing. Street clothes cannot be worn into containment. Workers must wear nylon shorts, TYVEK shorts, or nothing under disposable suit.

2) Showers. Showers must be provided. Shower water must pass through at least a 5.0 micron filter before returning to the public waste system.

(a) All workers must shower upon leaving the work area.

(b) A five- stage decontamination unit must be constructed of six- mil polyethylene sheeting and consisting of a dirty room, airlock, shower, airlock, and clean room.

3.3.3 Personal Air Sampling

A. General. The Abatement Contractor is required to perform the personal air sampling activities during all lead paint abatement work. The results of such sampling shall be posted, provided to individual workers, and submitted to Owner and Owner's Representative as described herein.

B. Sampling. Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken every day after the first day if working conditions remain unchanged, but must be taken every time there is a change in the removal operation, either in terms of the location or the type of work. Sampling will be used to determine eight- hour Time-Weighted Averages (TWA). The Abatement Contractor is responsible for personal sampling as outlined in OSHA Standard 29 CFR 1926.62. This sampling will determine the degree of respirator protection required, subject to the regulations.

C. Sampling Results. Air sampling results shall be transmitted to the Owner and individual workers in written form no more than forty- eight (48) hours after the completion of a sampling cycle. The reporting document shall list each sample's result, sampling time and date, personnel monitored and their social security numbers, flow rate, sample duration, sample yield, cassette size, and analysts' name and company, and shall include an interpretation of the results. Air sample analysis results will be reported in micrograms of lead per cubic meter of air («g/ m3).

D. Testing Laboratory. The Abatement Contractor's testing lab shall be certified for lead air sample by the American Industrial Hygiene Association. Abatement Contractor shall submit for the Owner's and Owner's Representative's review and acceptance the name and address of the laboratory, certification(s) of accreditation for heavy metal analysis, and a listing of relevant experience in air lead analysis, and presentation of a documented Quality Assurance and Quality Control program.

E. Air Monitoring Frequency. The air monitoring frequency for Abatement Contractor operations will be established in accordance with the requirements set forth in 29 CFR 1926.62.

3.4 WORKER HYGIENE PRACTICES

In order to avoid possible exposure to dangerous levels of lead and to prevent possible contamination of areas outside the demarcated work area, work shall follow the general guidelines listed below:

3.4.1. Work Area Entry. At no time shall a worker or other authorized personnel entering the work area go further than the Clean Area without proper respiratory protection and protective clothing.

3.4.2. Work Area Departure. The worker shall remove all gross contamination, debris and dust from the disposable suit by completely HEPA vacuuming them before leaving work area.

3.4.3 Personal Protective Equipment. All persons leaving the work area must remove their personal protective equipment (except respirators) before leaving the containment. Suits shall be removed "inside out" to minimize the dispersal of lead dust.

3.4.4 Wash Facilities. All workers must wash upon leaving the work area. Wash facilities will be provided by the abatement Contractor. This wash facility will consist of, at least, warm running potable water, soap, and towels. All waste water must be contained and disposed of in accordance with this Specification.

3.4.5 Equipment. All equipment used by the workers inside the work area shall be either left in the work area or thoroughly decontaminated before being removed from the area. Extra work clothing (in addition to the disposable suits supplied by the Abatement Contractor) shall be left in the clean area until the completion of work in that area. The clean area shall be cleaned of all visible debris and disposable materials daily.

3.4.6. Prohibited Activities. Under no circumstances shall workers or supervisory personnel eat, drink, smoke, chew gum, or chew tobacco or remove their respirators in the work area. To do so shall be grounds for the Owner and/ or Owner's Representative to STOP all removal operations. Only in the case of life threatening emergency shall workers or supervisory personnel be allowed to remove their protective respirators while in the work area. In this situation, respirators are to be removed for as short a duration as possible.

3.4.7 Footwear. As with additional clothing, all work footwear shall be left inside the decontamination area until the completion of the job and then shall be HEPA vacuumed and wiped or discarded as contaminated waste.

3.4.8 Shock Hazards. The Abatement Contractor is responsible for using safe procedures to avoid electrical hazards. Power will be shut off and checked before work begins when a hazard exists. all extension cords and power tools used within the work area shall be attached to Ground Fault Circuit Interrupters (GFCI).

3.5 CONTROL OVER ABATEMENT WORK

All work procedures shall be continuously controlled and monitored by the Contractor to assure that the building will not be further contaminated. The following controls shall be instituted on each working day:

3.5.1 Start Up. Prior to work on any given day, the Contractor's designated project supervisor will discuss the day's work schedule with his work force to evaluate job tasks with respect to safety procedures and requirements specified to prevent contamination of the other parts of the building or the employees. This includes a visual survey of the work area and the decontamination enclosure systems.

3.5.2 Access. The Contractor shall maintain control of and be responsible for access to all work areas to ensure the following requirements:

A. Non- authorized personnel are prohibited from entering the area at all times of day and night;

B. All authorized personnel entering the work area shall be familiar with the worker protection procedures contained in this specification and shall be equipped with properly fitted respirators and protective clothing;

C. All personnel who are exiting from the decontamination enclosure system shall be properly decontaminated;

D. Lead waste which is taken out of the work area must be properly handled in accordance with these specifications. The surface of any waste containers, removed from the work area, shall be wiped down with a minimum of a 5% solution of tri-sodium phosphate or other equivalent cleaning agent prior to removing it from the work area.

E. Building components with lead painted surfaces shall be removed from the work area and placed directly into a labeled and secured disposal container or a designated storage area.

3.6 VISUAL INSPECTIONS

The Abatement Contractor shall request a visual inspection by the Owner's Representative. If the area does not pass a visual inspection (e. g., no visible dust or debris), the Abatement Subcontractor shall reclean the area. Clearance monitoring shall be conducted according to the procedures specified in Chapter 15: Clearance, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.

3.6.1 Post-abatement Visual Inspection. The Owner's Representative shall confirm job completeness by determining whether all surfaces have been abated according to the approved abatement plan and project specification. The Owner's Representative will then determine if the building has been adequately cleaned by examining all surfaces for dust and debris. If dust is found, the work area should be recleaned, and the damp cloth test repeated.

3.6.2 Post- abatement Clearance. When all surfaces have passed visual inspection, and the building rehabilitation is complete, clearance wipe samples shall be performed by the Owner's Representative. The standards for passing a wipe test are outlined in the HUD Guidelines. Should laboratory results indicate that the wipe test clearance level is exceeded, the Abatement Subcontractor shall re-clean the affected area, at no additional cost to the Owner, utilizing the methods specified above. Retesting will then be performed to verify compliance with the mandated levels. Abatement Contractor shall pay for all additional testing and provide, at no additional cost, a recleaning of an effected area and personal belongings until the clearance level is achieved.

3.7 DISPOSAL

The waste generated by this procedure will be profiled and disposed of in compliance AB 2784 and all other current standards.

The following testing must be performed by a laboratory properly certified by the State of California. The name of the laboratory must be supplied to the Owner prior to the initiation of the testing.

TCLP Test. Testing on lead- based paint abatement waste materials by use of the Toxicity Characteristic Leaching Procedure (TCLP) will be completed and paid by the Abatement Contractor, and results shall be supplied to the Owner's Representative and Owner.

The testing of material shall be performed as obtained to minimize the storage of "assumed" hazardous material. In absence of written official state guidance, the Abatement Contractor shall take at least one (1) composite sample of the items listed below for the RCRA eight (8) heavy metals. The Abatement Contractor shall also determine if additional testing for other compounds, such as pH, flashpoint, etc., are required for disposal at a particular landfill. The following materials shall be tested to determine whether or not they are hazardous:

1. Waste water.
2. Dust from HEPA filters.
3. Metals that have not been previously tested.
4. Plastic sheets, duct tape, or tape used to cover floors and other services during the lead- based paint removal.
5. Solvents and caustics used during the stripping process.
6. Liquid waste, such as wash water used to decontaminate wood after solvents have been used, and liquid waste from exterior (or interior) water blasting.
7. Rags, sponges, mops, scrapers, and other materials used for testing, abatement, and clean- up.
8. Disposable work clothes and respirator filters cartridges.
9. Any other items contaminated with lead- based paint or items produced as a result of lead- based paint abatement activity, such as the water filters.

End of Lead Abatement Specifications

January 21, 2009

San Bernardino City Unified School District
Facilities Management
777 North "F" Street
San Bernardino, California 92410

Attention: Michael Plunkett

Subject: Budgets for Abatement at Lankershim Elementary School

Dear Mr. Plunkett:

Pacific Environmental Company conducted a hazardous materials survey for Lankershim Elementary School in anticipation of modernizations per your request.

Asbestos-containing flooring and plaster materials were identified at the site and must be removed prior to the modernization work if they are going to be impacted, otherwise they can be managed in place since they are in good condition. Current EPA regulations require that ACM be removed from a building prior to renovation or demolition or renovation that will impact the ACM. Asbestos-containing materials must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

Lead-based paints (LBP) were also identified at the site. Lead abatement, treatment and/or recycling should be conducted in full compliance with the Cal-OSHA Lead-Related Construction Standard. Paints containing lead greater than 0.5% lead by weight that are to be scraped, sanded, torched, or otherwise disturbed during the demolition should be removed or stabilized prior to the demolition by a licensed contractor and workers with California Department of Health Services (DHS) certification in lead-related construction. Waste streams must be characterized to ensure appropriate disposal methods.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures and transformers should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and Department of Toxic Substances Control (DTSC) guidelines. The batteries stored on site should be recycled.

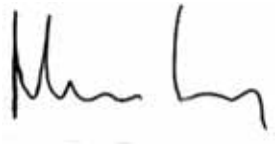
For planning purposes, we have prepared the following preliminary estimates for abatement. This is not a bid to do the work, rather a planning tool based on our site observations, current industry trends and discussions with abatement contractors regarding the project.

Building	Material	Location	Estimated Qty.	Unit Cost	Abatement Estimate
A, D and E Buildings	Dark Brown 12" x 12" Vinyl Floor Tile	Building A - Corridor outside Restroom and Break Room Building D - D-D7 (Southwest corner portions of rooms Building E – E2 Entry Library Storage Room 1	850 SF	$7	$5,950
A and B Buildings	Interior Plaster	Building A – Room south of Restroom and Break Room Building B – Janitor Room and Restrooms	4,200 SF	$5	$21,000
Estimated Total for Asbestos Abatement					$26,950.00
Lead painted components					$10,000.00
PCB Ballasts and Miscellaneous					$5,000.00
Project Compliance Monitoring and Inspections					$5,000.00
Subtotal					$46,950.00
Contingency (10%)					$4,695.00
Total Estimate					**$51,645.00**

If you have any questions or require additional information, please call me at (800)303-6484 extension 701.

Respectfully,

Pacific Environmental Company



Michael Lyssy
President

Pacific Environmental Company

Limited Asbestos and Lead Survey Report

Pacific High School Modernization Project
1020 Pacific Street
San Bernardino, California 92404

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 14, 2009

Project Number: 09007

Limited Asbestos and Lead Survey Report

Pacific High School Modernization Project
1020 Pacific Street
San Bernardino, California

Executive Summary

Pacific Environmental Company conducted a limited asbestos and lead survey in anticipation of modernizations at Pacific High School, which is located at 1020 Pacific Street in the City of San Bernardino, California. All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

This executive summary is not to be utilized as a stand-alone document. The report shall be read in its entirety. The reader must review the detailed information provided in the accompanying text. Any interpretation, use, or conclusions resulting from the data contained in this report is the responsibility of the reader.

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos as determined by PLM, however, the California Department of Occupational Safety and Health (CalOSHA) classifies any material as having greater than one tenth of one percent asbestos as asbestos-containing construction material (ACCM).

The following table details our ACM and ACCM findings:

Building	Material	Location	Estimated Quantity
Building A	Original 9"x9" Vinyl Floor Tile	Faculty Room, Sci-Phy Office, Principal's Office	2,800 SF
Building B	Original 9"x9" Vinyl Floor Tile	Rooms B5, B7 and Telecom	2,300 SF
	Roof Penetration Mastic	Roof Penetrations	60 SF
	Transite Vent Pipes	Roof	Two 12" o.d. 8 LF Pipes
Building C	Brown 9"x9" Vinyl Floor Tile	Room C7	700 SF
	Roof Penetration Mastic	Roof Penetrations	50 SF
Building D	Floor Tile Mastic	Rooms D2, D5 and D6	3,600 SF
Building E	Floor Tile Mastic	Rooms E2, E3, E6 and E7	3,600 SF
	Roof Penetration Mastic	Roof Penetrations	50 SF
Building F	Roof Penetration Mastic	Roof Penetrations	70 SF
Building G	Roof Penetration Mastic	Roof Penetrations	70 SF
Building H	Roof Penetration Mastic	Roof Penetrations	100 SF
Building I	Roof Penetration Mastic	Roof Penetrations	70 SF
Building J	No Asbestos Detected	-	-
Building K	Roof Penetration Mastic	Roof Penetrations	25 SF
Building M	Window Putty	Original Windows	300 LF
Auditorium	Light Brown 12" Vinyl Floor Tile and Mastic	Lobby and Foyers	1,800 SF
Cafeteria	Roof Penetration Mastic	Roof Penetrations	200 SF

Building	Material	Location	Estimated Quantity
Gymnasium	No Asbestos Detected	-	-
Boy's PE Bldg.	Window Putty	Original Windows	200 LF
	Beige 12" Vinyl Floor Tile	First Aid Room	120 SF
Girl's PE Bldg.	No Asbestos Detected	-	-
Pool Equipment Bldg.	No Asbestos Detected	-	-
Storage Building	Roof Penetration Mastic	Roof Penetrations	10 SF
Y Buildings	No Asbestos Detected	-	-
Z Buildings	No Asbestos Detected	-	-

Current EPA regulations require that the asbestos-containing building materials and ACCM be removed prior to demolition or renovation, if they are going to be impacted. If any of the identified asbestos-containing materials are to be impacted by the renovations, then they must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

A licensed and certified asbestos abatement contractor must perform any asbestos abatement that takes place at the subject property. Waste generated from the asbestos abatement must be properly transported and disposed of.

A summary of the lead components identified at the subject site during our inspection include the following:

Building	Location	Lead-Containing Components
A Building	Exterior	Doors, Door Frames, Window Frames, Fascia Boards, Porch Columns, Downspouts, Gutters and Louvers
	Interior	Ceramic Wall and Baseboard Tiles in Restrooms, and Window Frames
B Building	Exterior	Doors, Door Frames, Window Frames, Eaves, Joists, Fascia Boards, Porch Columns, Porch Railings, Downspouts, Gutters, Breezeway Upper Walls and Breezeway Ceiling
	Interior	Ceramic Wall and Baseboard Tiles in Restrooms, Doors and Door Frames
C Building	Exterior	Doors, Door Frames, Window Frames, Eaves, Joists, Fascia Boards, Porch Columns, Downspouts, Gutters and Breezeway Ceiling
	Interior	Ceramic Tile Walls in Restrooms, Doors and Door Frames
D Building	Exterior	Doors, Door Frames, Window Frames, Eaves, Joists, Fascia Boards, Porch Columns, Porch Railings, Downspouts, Gutters, Breezeway Upper Walls and Breezeway Ceiling
	Interior	Ceramic Wall and Baseboard Tiles in Restrooms, Doors and Door Frames
E Building	Exterior	Doors, Door Frames, Window Frames, Eaves, Joists, Fascia Boards, Porch Columns, Downspouts, Gutters, Breezeway Walls and Breezeway Ceiling
	Interior	Ceramic Wall and Baseboard Tiles in Restrooms, Window Sill Ceramic Tile, Doors and Door Frames
Building F	Exterior	Door Frames, Window Frames, Fascia and Porch Ceilings
	Interior	Ceramic Window Sill Tile
Building G	Exterior	Door Frames, Window Frames, Fascia and Porch Columns, Downspouts and Gutters
	Interior	Ceramic Baseboard Tiles in Restrooms, Window Sill Ceramic Tile and Door Frames
Building H	Exterior	Doors, Door Frames, Window Frames, Eaves, Fascia Boards, Porch Columns and Gutters
	Interior	Ceramic Window Sill Tile
Building I	No Lead-Based Paint	

Building	Location	Lead-Containing Components
Building J	No Lead-Based Paint	
Building K	Exterior	Door Frames
	Interior	Ceramic Shower and Baseboard Tile in Restrooms, and Door Frames
Building M	Exterior	Door Frames and Window Frames
	Interior	Ceramic Wall Tile in Restrooms, Doors, Door Frames and Window Frames
Auditorium	Interior	Ceramic Wall and Baseboard Tile in Restrooms
Cafeteria	Exterior	Doors Frames, Window Frames, Eaves, Fascia Boards, Porch Columns and Gutters
	Interior	Door Frames, Window Frames, Refrigerator Door, Baseboard at Stage
Gymnasium	Exterior	Doors, Catwalk Eaves, Fascia and Joists, and Metal Columns
	Interior	Ceramic Wall Tile Finishes in Restrooms
Boy's and Girl's P.E. Buildings	Exterior	Doors and Door Frames
	Interior	Doors, Door Frames, Ceiling I Beams, Hand Rails, Ceramic Wall and Shower Tile Finishes
Pool Equipment Building	No Lead-Based Paint	
Storage Building	No Lead-Based Paint	
Y Building	Interior	Ceramic Baseboard Tile in Restrooms
Z Building	No Lead-Based Paint	

The lead-laden paint and ceramic tile finishes are generally in good condition with some exceptions but will likely need to be removed in areas to facilitate the modernizations at the site. Defective paints identified which should be treated to prevent exposure to lead dust. A complete listing of our assays with our condition assessment is in included within the appendices of this report.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and DTSC guidelines.

Pacific Environmental recommends that all future renovation, demolition, construction or abatement activities with the potential for disturbing the identified ACM or lead-laden components, be performed by properly trained and qualified personnel. These activities should employ state-of-the-art techniques, and be conducted in accordance with all applicable local, State and Federal laws and regulations.

Every effort was made to sample all of the building materials, however the school was occupied at the time of our assessment which limited some of our access and some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition or renovation activities, please call us and we will sample and analyze accordingly.

The presence of the identified hazardous materials should be brought to the attention of contractors and personnel involved in the project at the subject site. Specifications have been prepared for the removal and handling of specific hazardous materials, such as those containing asbestos and lead.

Any employees, visitors, or contractors entering this building should be notified of the presence and condition of the asbestos-containing materials, lead-based paints, and other hazardous materials (including those listed under Proposition 65), in accordance with applicable regulations.

Table of Contents

Introduction	1
Quality Control Procedures	2
Site Description	2
Asbestos Inspection and Sampling Procedures	3
Asbestos Inspection Results	4
Summary and Recommendations for Asbestos-Containing Materials	5
Lead Inspection and Sampling Procedures	6
Lead Inspection Results	7
Lead Summary and Recommendations	8
Other Hazardous Materials	8
Limitations	9
References	10

Appendix A	Site Plans
Appendix B	Bulk Sample Summary Table
Appendix C	Asbestos Sample Analysis Reports and Chain of Custody
Appendix D	XRF Sampling Results
Appendix E	DHS Form 8552
Appendix F	XRF Performance Characteristics Sheet

Limited Asbestos and Lead Survey Report

Pacific High School Modernization Project
1020 Pacific Street
San Bernardino, California

Introduction

Pacific Environmental Company was retained by the San Bernardino City Unified School District to conduct a limited investigation to identify the presence of asbestos-containing materials, lead-based paints and other lead laden components that will require abatement or treatment, in conjunction with the school modernizations at Pacific High School, which is located at 1020 Pacific Street in San Bernardino, California.

All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by America Los Angeles, an independent and accredited laboratory.

Field Services for the inspection were conducted from January 6-14, 2009. The project team included David Tillema, Raed Sahawneh and Victor Sanchez, all of whom are Cal/OSHA Certified Site Surveillance Technicians and DHS Certified Lead Paint Inspector/Assessors, Thomas Gannon, a Cal/OSHA Certified Site Surveillance Technician, and Michael Lyssy, a State Certified Asbestos Consultant and Registered Environmental Assessor.

The scope of work for this project included the following key elements:

- Review, verification and incorporation of the original AHERA inspection and re-inspection data and any subsequent reports detailing the results of prior asbestos and lead testing at the School into this report.
- Inspection and assessment of asbestos-containing materials, lead-based paints, lead glazed ceramics and PCB light ballasts
- Preparation of a final report that is suitable for inclusion in the District's specifications for abatement of hazardous building materials.

Prior to our asbestos assessments, we evaluated the site conditions and developed our sampling strategy to ensure identification of all asbestos-containing materials. Representative sampling of homogeneous materials was conducted per SCAQMD guidelines, and all identifiable suspect materials were sampled. Asbestos analysis was performed by an independent, State Certified, NVLAP Accredited Laboratory. Bulk samples were analyzed by polarized light microscopy (PLM), EPA Method 600/R-93/116. This report details the specific site conditions and estimated quantities of Asbestos Containing Material (ACM) for the project. Areas affected by destructive sampling were repaired so as not to cause hazards to school personnel, survey crew, visitors and the general public.

Testing for lead-based paint was performed using an EDAX Map-4 portable X-ray fluorescence (XRF) spectrum analyzer. Testing was modeled after the protocol outlined in the Department of Housing and Urban Developments document titled Lead-Based Paint: Interim Guidelines For Hazard Identification and Abatement in Public and Indian Housing (1997 Revision).

Quality Control Procedures

Pacific Environmental Company's integrated resources, technologies, discipline, and expertise combine to ensure that the inspection and analysis for each project is conducted based on the following principles:

- All applicable regulations are addressed in order to ensure that our field inspectors and lab personnel meet their responsibilities, do so cost-effectively, and are equipped with the practical knowledge they need in order to understand and comply with regulations that affect them.
- Care is taken to make certain that the information provided and actions recommended are practical and cost effective in achieving regulatory compliance.

The 'management' approach utilized for this project assured that all work was performed using the highest standard of quality. All project results, reports and recommendations are reviewed for accuracy, content and quality prior to presentation. We recognize that, for each assignment we undertake, the information we develop and the conclusions and advice we provide, will be used to support important management decisions.

Pacific Environmental Company's Quality Assurance Program requires that all personnel:

- Provide specific objectives so that project activities can be evaluated with regard to precision, accuracy, reproducibility, completeness, and comparability.
- Provide specific guidance on the proper methodology for all activities.
- Be provided with ongoing training to enhance their technical skills.
- Be trained in QA/QC procedures and QC activities.
- Review all reports until they are acceptable in terms of technical and editorial quality, and all quality assurance activities have been successfully performed.

Site Description

Buildings evaluated for our assessment included Buildings A (Administration), B, C, D, E, F, G, H, I, J, K, M, Y, Z, the Auditorium, the Cafeteria, the Gymnasium, the Boy's and Girl's P.E. Buildings, the Storage Building, and the Pool Equipment Building.

The majority of the permanent structures are frame and stucco construction with applications of concrete construction and portable buildings that have been added to the campus over the years. It appears that many of the original asbestos-containing floorings have been replaced over the years.

The school was occupied at the time of our assessment and we worked after hours in an effort to characterize the site conditions. If any additional suspect materials are identified during the modernizations, please contact us to perform supplemental sampling.

Asbestos Inspection and Sampling Procedures

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos, as determined by polarized light microscopy (PLM). Title 8, Section 1529, of the California Code of Regulations, however, defines asbestos-containing construction material (ACCM) as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight.

We reviewed the District's asbestos records on file in order to formulate our sampling strategy. The only documentation on file for the site was the Power Masters, Inc. AHERA summaries that were prepared originally in the late 1980s. This documentation had been marked-up to reflect the changes that have impacted ACMs over the years. The Power Masters Inc. summary reports were generally deficient for demolition or renovation purposes and therefore, we collected confirmation samples of all identified materials that are likely to be impacted by the modernization project.

Subsequent to our review of the prior reports, a visual assessment of the suspect building materials located throughout the subject facility was completed prior to the collection of samples. During the visual assessment, the building materials suspected of containing asbestos were categorized by homogeneous areas. Materials are classified as homogenous when they appear uniform, have a consistent texture, and appear to have been installed at the same time.

The laboratory testing for the bulk samples was conducted in accordance with the recommended EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993).

The field investigation began with an initial site walk-through and identification of homogenous building materials suspected of containing asbestos. Samples were collected based on building layout, structural features, and mechanical and plumbing systems. Pacific Environmental then performed the following tasks:

- Evaluated whether materials suspected of containing asbestos were present at the site.
- Collected bulk samples, as required, to adequately characterize the suspect materials.
- Identified approximate sample locations and locations of identified ACM on field drawings or with photographs.
- Estimated the amount of ACM, where access allowed.
- Assessed the condition of the suspected and known ACMs.

At the time of inspection, suspect materials are assessed to be in good, damaged, or significantly damaged condition based on the following criteria:

> Good Condition - No or very limited visible damage or deterioration observed.
>
> Damaged Condition - Crumbling, blistering, water damage, gouges or other damage observed over less than 25% of the materials (one-tenth if evenly distributed); or accumulation of suspect powder, dust or debris observed below the material.
>
> Significantly Damaged - Crumbling, blistering, water damage, gouges or other damage observed over greater than 25% of the materials (one-tenth if evenly distributed); material delaminating or showing adhesive failure; or accumulation of suspect powder, dust or debris observed below the material.

The assessment process also includes classifying the material as Friable ACM or Non-Friable ACM. Friable ACM is the term given to any material that contains more than one percent (1%) asbestos by weight, which can be crumbled, pulverized, or reduced to powder by hand or mechanical pressure. The word "Friability" refers to a material's likeliness to release airborne fibers when in situ, or under mechanical pressure. There is a greater possibility that a friable material will release fibers into the air when disturbed than will a non-friable material (i.e., floor tiles, roofing materials, etc.), thereby

causing a potential hazard.

After identifying those materials suspected of containing asbestos, the materials were grouped into homogeneous sampling areas. A homogeneous sampling area includes building materials that are uniform in texture and color and appear identical in every other respect. A modified AHERA protocol was used in estimating the number of samples to be collected. Actual samples collected were determined by field conditions. A total of two-hundred and forty-two (242) bulk samples were collected and analyzed.

Bulk samples were collected by wetting the suspect material with amended water and cutting, scraping or coring it from its substrate using an appropriate sampling tool. Sampling tools were cleaned before and after each use to prevent cross contamination between sampling events. Small quantities of material, approximately 1/2 square inch each, were extracted from suspect materials and placed in sterile, airtight bags or vials, and sealed. Each sample was labeled with a unique identification number, utilizing a sequential numbering system. The sample was logged in on the bulk survey sheet and a description noted on the type of sample. Each sample container was then placed inside a larger sterile, airtight bag. As other samples were taken from each area, they were also placed inside this larger airtight bag. Sample locations were repaired using caulk, spray glue, encapsulant, or patching material as needed, but were not always returned to their original condition. The samples were transported under chain-of-custody to an independent NVLAP participating laboratory for analysis utilizing polarized light microscopy.

The laboratory testing was conducted in accordance with the EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993). Samples were examined for homogeneity, and non-homogeneous samples were ground to ensure homogeneity. Microscopic slides were prepared from each sample using a refractive index liquid, such as trisection and ethyl cinnamate, having a refractive index of 1.550; 1-bromo-naphthalene and 1-Iodonaphthalene, having a refractive index of 1.680; or hydrogenated terthenyl and 1-bromonaphtahlene, having a refractive index of 1.605. The slides were then examined for the presence of asbestos, utilizing polarized light microscopy (PLM) and dispersion staining techniques.

The percentage of asbestos was estimated by visual examination of fibers greater than five microns in length and with an aspect ratio of 3:1 or greater. The aspect ratio of 3:1 refers to the length of the fiber being three times as long as its width. If present, the identity of asbestos fibers was confirmed with appropriate refractive index liquids, application of dispersion staining and other techniques. The results were tabulated and detailed in the laboratory reports, which are included in the appendices of this report.

Asbestos Inspection Results

Based on our assessment services, the following materials were confirmed, or assumed, to contain greater than one percent (1%) asbestos, and are therefore classified as ACM and ACCM.

Building	Material	Location	Estimated Quantity
Building A	Original 9”x9” Vinyl Floor Tile	Faculty Room, Sci-Phy Office, Principal’s Office	2,800 SF
Building B	Original 9”x9” Vinyl Floor Tile	Rooms B5, B7 and Telecom	2,300 SF
	Roof Penetration Mastic	Roof Penetrations	60 SF
	Transite Vent Pipes	Roof	Two 12” o.d. 8 LF Pipes
Building C	Brown 9”x9” Vinyl Floor Tile	Room C7	700 SF
	Roof Penetration Mastic	Roof Penetrations	50 SF
Building D	Floor Tile Mastic	Rooms D2, D5 and D6	3,600 SF

Building	Material	Location	Estimated Quantity
Building E	Floor Tile Mastic	Rooms E2, E3, E6 and E7	3,600 SF
	Roof Penetration Mastic	Roof Penetrations	50 SF
Building F	Roof Penetration Mastic	Roof Penetrations	70 SF
Building G	Roof Penetration Mastic	Roof Penetrations	70 SF
Building H	Roof Penetration Mastic	Roof Penetrations	100 SF
Building I	Roof Penetration Mastic	Roof Penetrations	70 SF
Building J	No Asbestos Detected	-	-
Building K	Roof Penetration Mastic	Roof Penetrations	25 SF
Building M	Window Putty	Original Windows	300 LF
Auditorium	Light Brown 12" Vinyl Floor Tile and Mastic	Lobby and Foyers	1,800 SF
Cafeteria	Roof Penetration Mastic	Roof Penetrations	200 SF
Gymnasium	No Asbestos Detected	-	-
Boy's PE Bldg.	Window Putty	Original Windows	200 LF
	Beige 12" Vinyl Floor Tile	First Aid Room	120 SF
Girl's PE Bldg.	No Asbestos Detected	-	-
Pool Equipment Bldg.	No Asbestos Detected	-	-
Storage Building	Roof Penetration Mastic	Roof Penetrations	10 SF
Y Buildings	No Asbestos Detected	-	-
Z Buildings	No Asbestos Detected	-	-

Approximate sample locations have been plotted on site plans that we prepared for this assessment. The Bulk Sample Summary Table, which identifies each sample and the corresponding analytical results, is included in Appendix B. The laboratory reports and chain of custody forms are included in Appendix C.

Summary and Recommendations for Asbestos-Containing Materials

All ACM that will be impacted by the planned modernizations must be removed pursuant to Rule 1403 of the South Coast Air Quality Management District's and CalOSHA Asbestos Regulations.

Abatement activities must be conducted in compliance with all applicable regulations, standards and generally accepted environmental and safety practices, including Federal OSHA (29 CFR 1926.58), EPA NESHAPS (40 CFR Part 61), and Toxic Substances Control Act (TSCA) Title II AHERA/ASHARA (40 CFR Part 763) Asbestos Regulations, the Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101, and Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard.

All asbestos waste must be properly disposed of and documented. Waste Manifests must be submitted at the end of a project. Disposing of a known hazardous waste is illegal in the State of California. Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition activities, we will arrange to sample and analyze them accordingly.

Lead Inspection and Sampling Procedures

Lead-based paint and lead glazing on ceramics is of concern both as a source of direct exposure through ingestion of paint chips, and as a contributor to lead interior dust and exterior soil. Lead was widely used as a major ingredient in most interior and exterior oil-based paints prior to 1950. Lead compounds continued to be used as corrosion inhibitors, pigments and drying agents beginning in the early 1950's. In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5000 ppm) and, in 1978, to 0.06% (600 ppm). It has also been used extensively as a glaze on ceramic and porcelain finishes.

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) define an inspection as a surface-by-surface investigation to determine the presence of lead-based paint (see 40 CFR part 745 and Title X of the 1992 Housing and Community Development Act).

As per the EPA & HUD guidelines, lead-based paint is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm2 or 0.5 percent by weight. Lead paint amounts were reported in mg/cm2 because this unit of measurement does not depend on the number of layers of non-lead based paint.

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections because of their demonstrated abilities to:

1. Determine if lead is present on many different types of surfaces

2. Measure the paint without destructive sampling or paint removal

3. Provide sample results immediately and at a relatively low cost per sample

Portable XRF instruments expose a building component to X-rays or gamma radiation, which causes lead to emit X-rays with a characteristic frequency or energy. The intensity of this radiation is measured by the XRF instrument. The inspector must then compare this displayed value (reading) with the inconclusive range or threshold specified in the XRF Performance Characteristic Sheet for the specific substrate beneath the painted surface. If the reading is less than the lower boundary of the inconclusive range, or less than the threshold, then the reading is considered negative. If the reading is greater than the upper boundary of the inconclusive range, or greater or equal to the threshold, then the reading is considered positive. Readings within the inconclusive range, including its boundary values, are considered inconclusive. Because the inconclusive ranges and/or thresholds shown in the Performance Characteristic Sheet are based on 1.0 mg/cm2, positive and negative readings are consistent with the HUD definition of lead-based paint for identification and disclosure purposes. The method employed for paint testing for this project was X-Ray Fluorescence (XRF) using an EDAX MAP4 lead paint analyzer (Serial Number M41509) with the capability to measure the lead content in dry paint films in the range of 0 to 50 milligrams per square centimeter.

The instrument’s calibration was verified according to the manufacturer’s specifications, in compliance with the Performance Characteristic Sheet (PCS) developed for this instrument. The PCS is located in Appendix F of this report. The readings from this instrument produce a 95% confidence level that the “lead” reading accurately reflects the actual level of lead in the tested surfaces, relative to the federal action level. Current industry standards suggest that, when it is determined that paint abatement and/or interim control activities will be performed on components, they should be performed according to practices that are in the HUD Guidelines and the regulations under section 402 of the Toxic Substances Control Act (TSCA), 15 USC 2682.

Lead Inspection Results

Sampling for this inspection was representative and any components that were not tested, but are similar to those components that tested positive for lead, should be considered and treated as lead laden.

A summary of the lead components identified at the subject site during our inspection include the following:

Building	Location	Lead-Containing Components
A Building	Exterior	Doors, Door Frames, Window Frames, Fascia Boards, Porch Columns, Downspouts, Gutters and Louvers
	Interior	Ceramic Wall and Baseboard Tiles in Restrooms, and Window Frames
B Building	Exterior	Doors, Door Frames, Window Frames, Eaves, Joists, Fascia Boards, Porch Columns, Porch Railings, Downspouts, Gutters, Breezeway Upper Walls and Breezeway Ceiling
	Interior	Ceramic Wall and Baseboard Tiles in Restrooms, Doors and Door Frames
C Building	Exterior	Doors, Door Frames, Window Frames, Eaves, Joists, Fascia Boards, Porch Columns, Downspouts, Gutters and Breezeway Ceiling
	Interior	Ceramic Tile Walls in Restrooms, Doors and Door Frames
D Building	Exterior	Doors, Door Frames, Window Frames, Eaves, Joists, Fascia Boards, Porch Columns, Porch Railings, Downspouts, Gutters, Breezeway Upper Walls and Breezeway Ceiling
	Interior	Ceramic Wall and Baseboard Tiles in Restrooms, Doors and Door Frames
E Building	Exterior	Doors, Door Frames, Window Frames, Eaves, Joists, Fascia Boards, Porch Columns, Downspouts, Gutters, Breezeway Walls and Breezeway Ceiling
	Interior	Ceramic Wall and Baseboard Tiles in Restrooms, Window Sill Ceramic Tile, Doors and Door Frames
Building F	Exterior	Door Frames, Window Frames, Fascia and Porch Ceilings
	Interior	Ceramic Window Sill Tile
Building G	Exterior	Door Frames, Window Frames, Fascia and Porch Columns, Downspouts and Gutters
	Interior	Ceramic Baseboard Tiles in Restrooms, Window Sill Ceramic Tile and Door Frames
Building H	Exterior	Doors, Door Frames, Window Frames, Eaves, Fascia Boards, Porch Columns and Gutters
	Interior	Ceramic Window Sill Tile
Building I	No Lead-Based Paint	
Building J	No Lead-Based Paint	
Building K	Exterior	Door Frames
	Interior	Ceramic Shower and Baseboard Tile in Restrooms, and Door Frames
Building M	Exterior	Door Frames and Window Frames
	Interior	Ceramic Wall Tile in Restrooms, Doors, Door Frames and Window Frames
Auditorium	Interior	Ceramic Wall and Baseboard Tile in Restrooms
Cafeteria	Exterior	Doors Frames, Window Frames, Eaves, Fascia Boards, Porch Columns and Gutters
	Interior	Door Frames, Window Frames, Refrigerator Door, Baseboard at Stage
Gymnasium	Exterior	Doors, Catwalk Eaves, Fascia and Joists, and Metal Columns
	Interior	Ceramic Wall Tile Finishes in Restrooms
Boy's and Girl's P.E. Buildings	Exterior	Doors and Door Frames
	Interior	Doors, Door Frames, Ceiling I Beams, Hand Rails, Ceramic Wall and Shower Tile Finishes
Pool Equipment Building	No Lead-Based Paint	

Building	Location	Lead-Containing Components
Storage Building	No Lead-Based Paint	
Y Building	Interior	Ceramic Baseboard Tile in Restrooms
Z Building	No Lead-Based Paint	

The lead-laden paint and ceramic tile finishes are generally in good condition with some exceptions but will likely need to be removed to facilitate the modernizations at the site. Defective paints identified which should be treated to prevent exposure to lead dust. A complete listing of our assays with our condition assessment is in included within the appendices of this report.

Lead Summary and Recommendations

The federal and CAL/OSHA regulations for lead in construction do not specify a level of a lead in paint that classifies it as LBP. However, federal and state OSHA regulations specify ***airborne lead levels*** that should not be exceeded during construction without appropriate protection and training.

The action level for lead is 30 micrograms per cubic meter of air (µg/m3), and the permissible exposure limit (PEL) is 50 µg/m3. These airborne lead levels can be exceeded during construction activities such as scraping, sanding, grinding, blasting, and torching LBP surfaces, even when levels of lead in paint are far below the HUD definition of LBP of 1.0 mg/cm2 or 0.5 percent lead by weight. The XRF is designed to accurately quantify paint around the set abatement level (1.0 mg/cm2, 5,000 parts per million, or 0.5 percent by weight). However, painted surfaces tested with XRF that result in instrument readings much less than 1.0 mg/cm2 (even 0.0 mg/cm2 and negative results) may contain amounts of lead that could create an airborne hazard to workers during construction.

Based on the levels of lead in the components identified in the building survey, Pacific Environmental recommends that only properly trained and equipped individuals be assigned site preparation tasks that would involve treatment or demolition of these components. Procedures and engineering controls must be designed to follow CAL/OSHA and Department of Health Services (State of California) requirements, and workers must wear appropriate personal protective equipment during the work.

Other Hazardous Materials

During our assessment of the structures, we visually inspected the locations of fluorescent light tubes and PCB ballasts. There are fluorescent fixtures throughout the main building with ballasts that are assumed to contain PCB's and fluorescent tubes. All PCB's and spent fluorescent light tubes should be handled, packaged and disposed of in compliance with current California Environmental Protection Agency, Department of Toxic Substances Control Guidelines.

Limitations

This report is not intended to identify all hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and Pacific Environmental's experience in performing this type of assessment.

Pacific Environmental has performed this survey in a professional manner, using the degree of skill and care exercised for similar projects, under similar conditions, by reputable and competent environmental consultants. Pacific Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

Pacific Environmental further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved as a consequence of this report, or impacted by information not properly disclosed to Pacific at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

References

AHERA Summary, prepared by Power Masters, Inc.

Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards

Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead

"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," US Department of Housing and Urban Development, June 1995

South Coast Air Quality Management District Requirements (Rule 1403)

National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, M

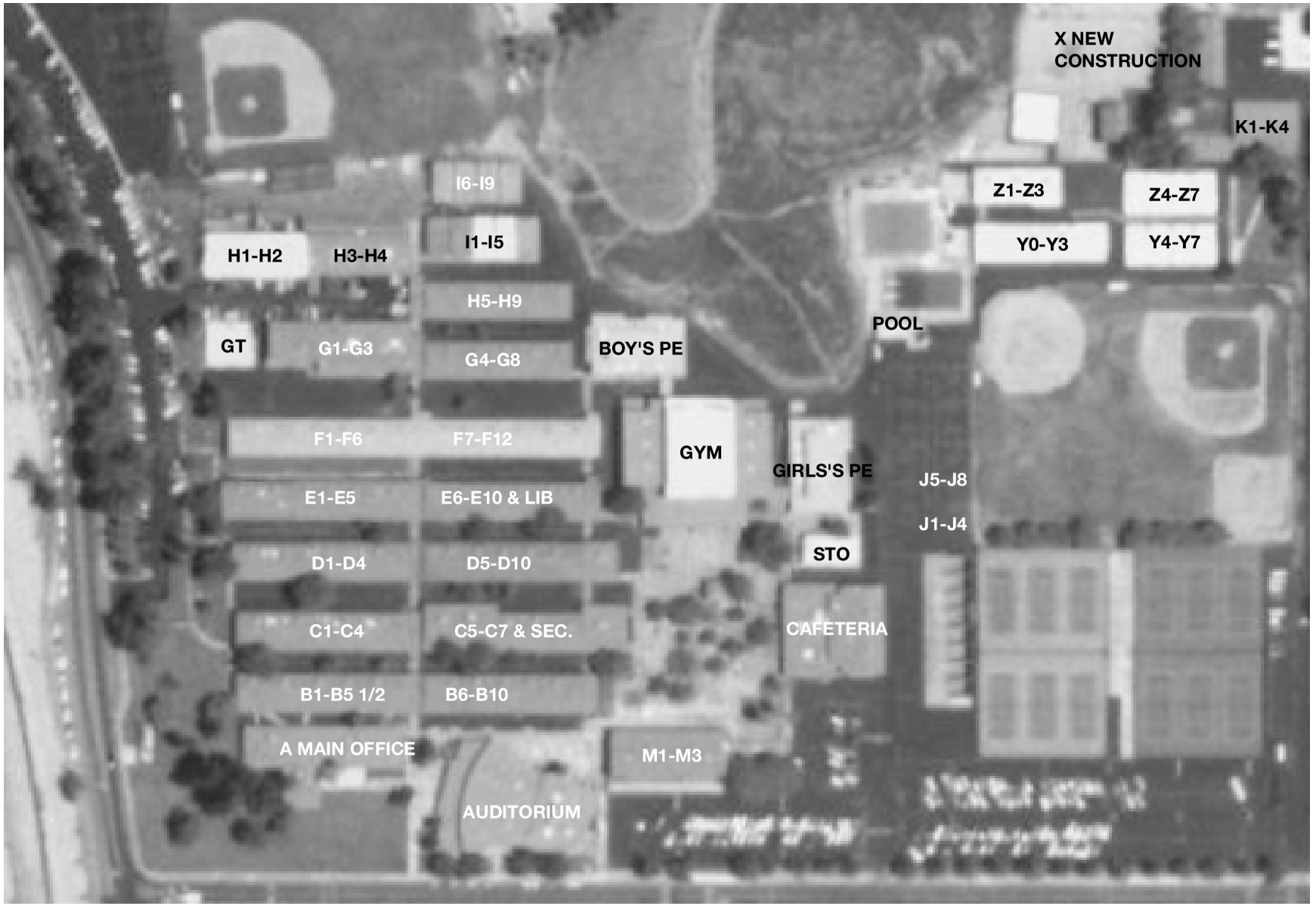
Occupational Safety and Health Administration, Asbestos in the Workplace, 29 CFR 1910.1001

Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101

Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard

Appendix A

Site Plans



Lead Sampling Key

C
B + D
A

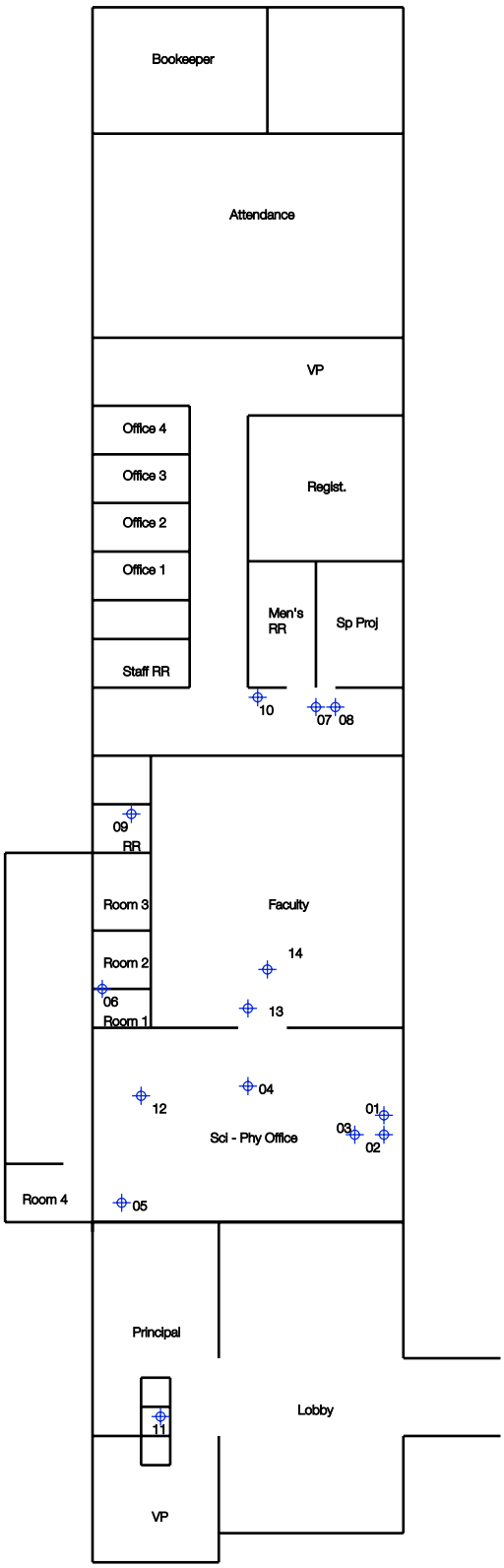
DATE PREPARED: 1/13/2009	DRAWN BY: C.T.
REVISION:	SOURCE:
PROJECT NO: 09007	OTHER:

DRAWING TITLE:
Overall Site Plan
Pacific High School
1020 Pacific Street
San Bernardino, California 92404

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

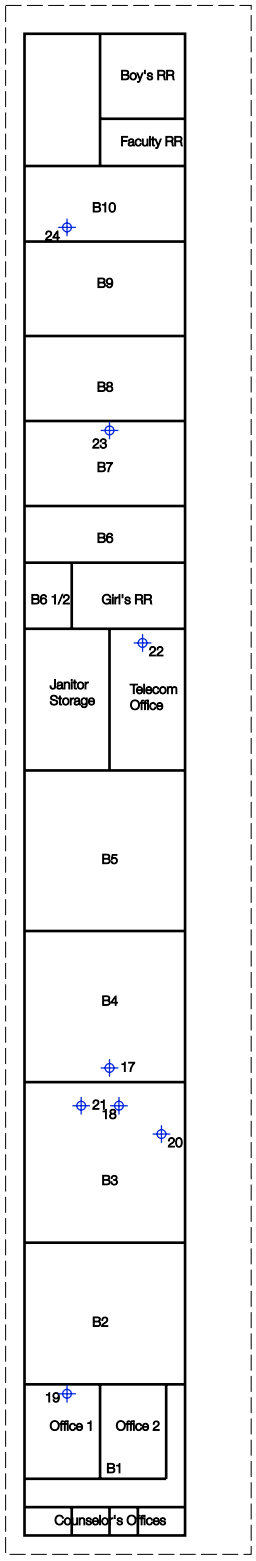
CLIENT:
San Bernardino City Unified School District

FIGURE NO.
1



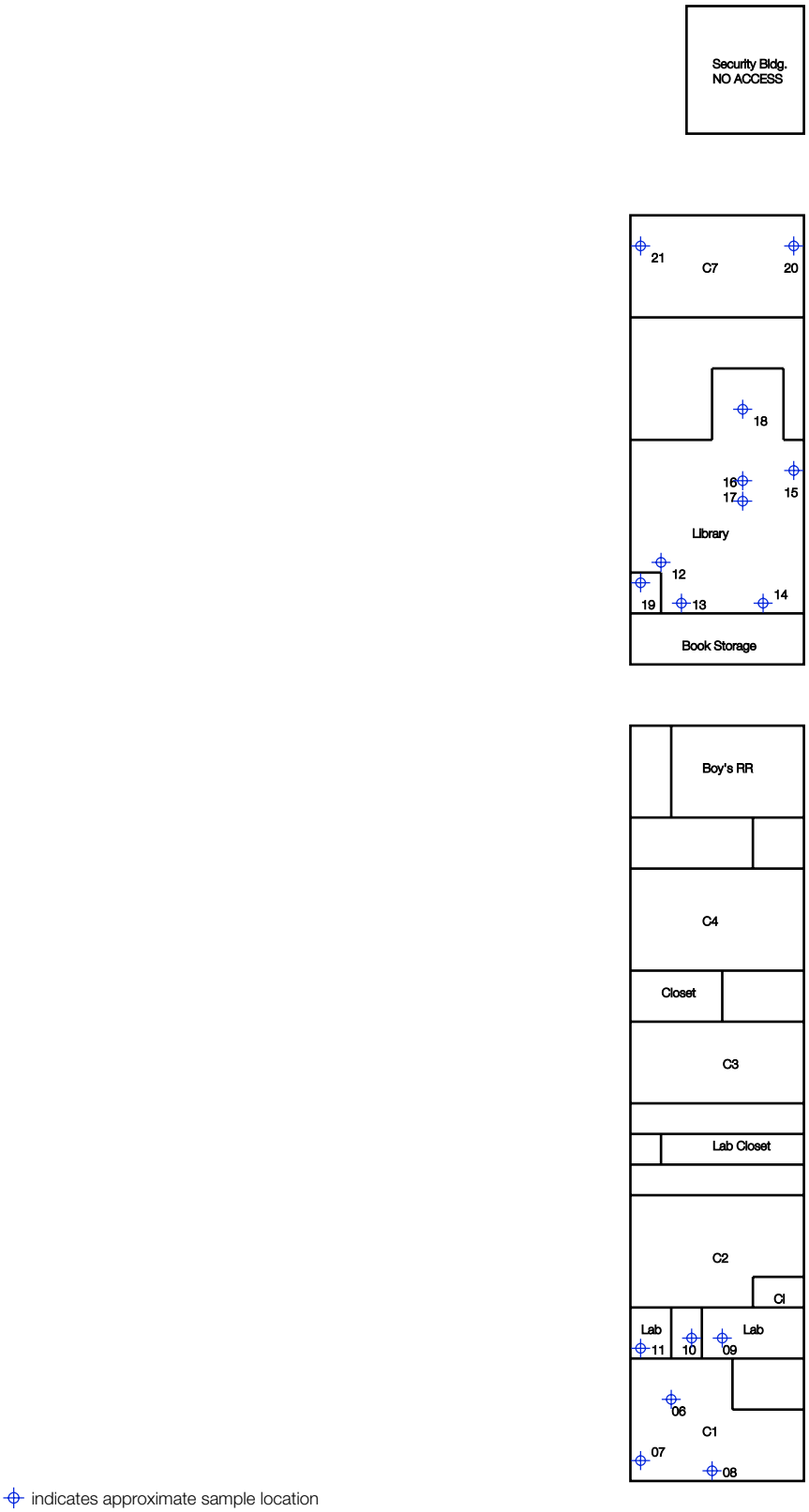
indicates approximate sample location

DATE PREPARED: 1/13/2009	DRAWN BY: C.T.	DRAWING TITLE: Building A Site and Sample Location Plan Pacific High School 1020 Pacific Street San Bernardino, California 92404
REVISION:	SOURCE: FIELD INSPECTION	
PROJECT NO: 09007	SCALE: NOT TO SCALE	FIGURE NO. A
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District



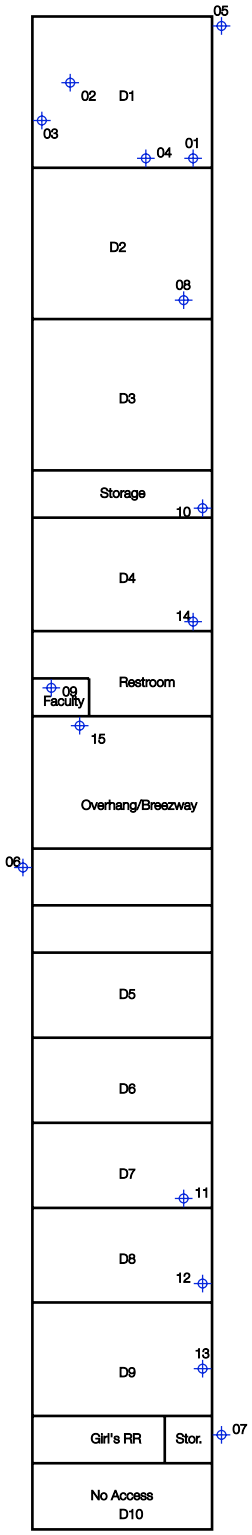
indicates approximate sample location

DATE PREPARED: 1/13/2009	DRAWN BY: C.T.	DRAWING TITLE: Building B Site and Sample Location Plan Pacific High School 1020 Pacific Street San Bernardino, California 92404
REVISION:	SOURCE: FIELD INSPECTION	
PROJECT NO: 09007	SCALE: NOT TO SCALE	FIGURE NO. B
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District



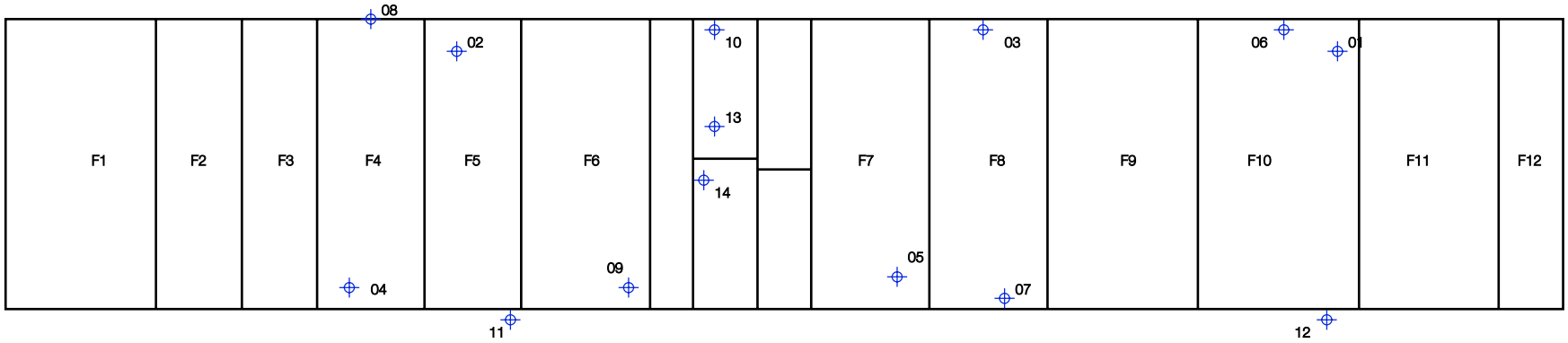
indicates approximate sample location

DATE PREPARED: 1/13/2009	DRAWN BY: C.T.	DRAWING TITLE: Building C Site and Sample Location Plan Pacific High School 1020 Pacific Street San Bernardino, California 92404
REVISION:	SOURCE: FIELD INSPECTION	
PROJECT NO: 09007	SCALE: NOT TO SCALE	
PROJECT NAME: Asbestos and Lead Survey for School Modernizations	CLIENT: San Bernardino City Unified School District	FIGURE NO. C



indicates approximate sample location

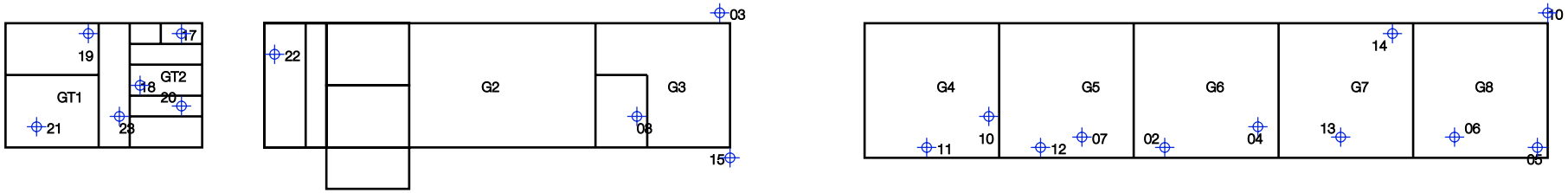
DATE PREPARED: 1/13/2009	DRAWN BY: C.T.	DRAWING TITLE: Building D Site and Sample Location Plan Pacific High School 1020 Pacific Street San Bernardino, California 92404
REVISION:	SOURCE: FIELD INSPECTION	
PROJECT NO: 09007	SCALE: NOT TO SCALE	
PROJECT NAME: Asbestos and Lead Survey for School Modernizations	CLIENT: San Bernardino City Unified School District	FIGURE NO. D



⌖ indicates approximate sample location

DATE PREPARED: 1/13/2009	DRAWN BY: C.T.	DRAWING TITLE: Building F Site and Sample Location Plan Pacific High School 1020 Pacific Street San Bernardino, California 92404
REVISION:	SOURCE: FIELD INSPECTION	
PROJECT NO: 09007	SCALE: NOT TO SCALE	
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District

FIGURE NO. F



⊕ indicates approximate sample location

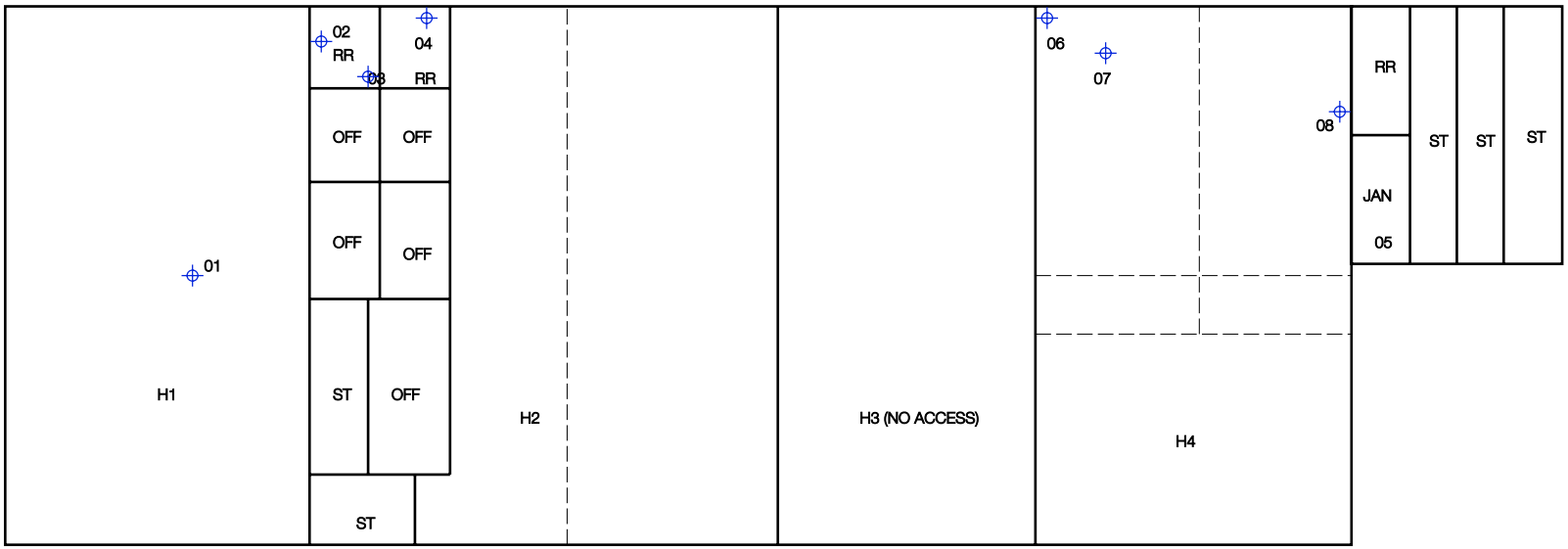
DATE PREPARED: 1/13/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09007	SCALE: NOT TO SCALE

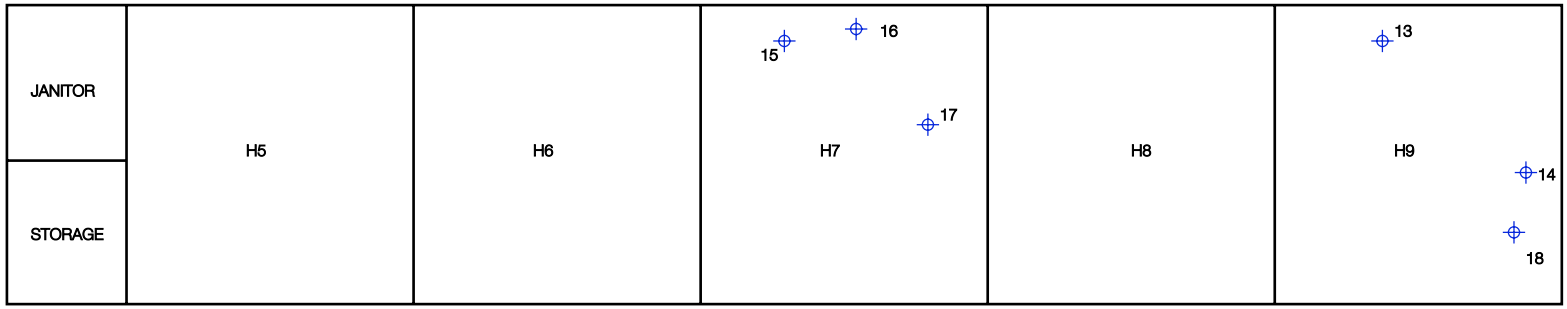
DRAWING TITLE:
Building G Site and Sample Location Plan
Pacific High School
1020 Pacific Street
San Bernardino, California 92404

FIGURE NO.
G

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District





indicates approximate sample location

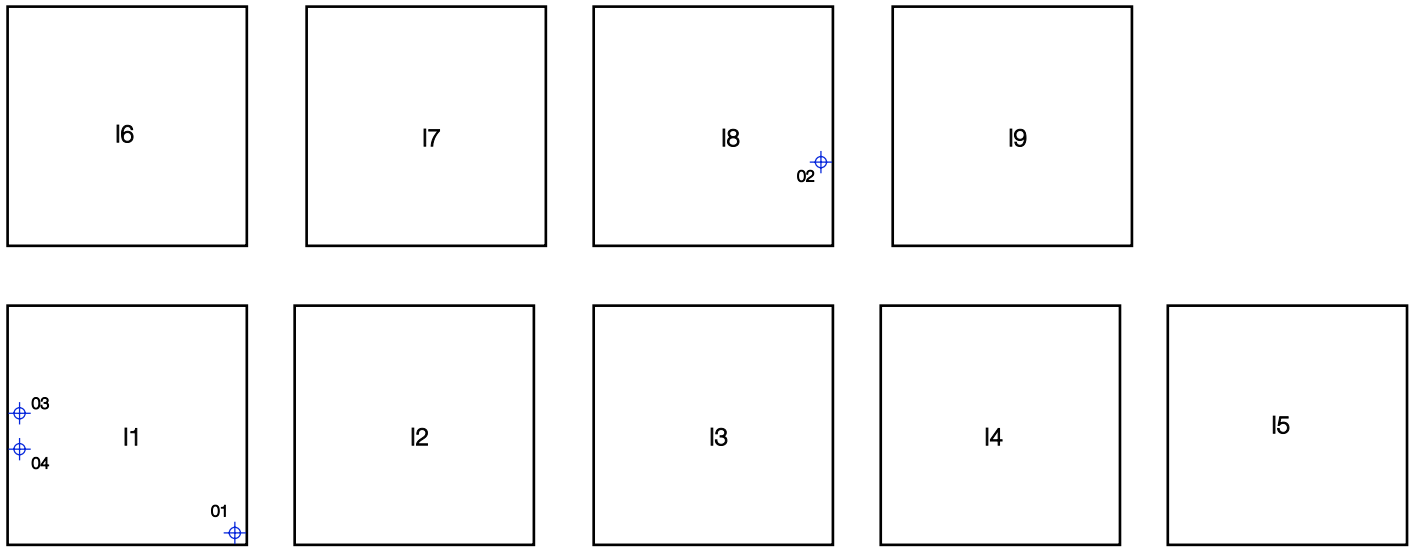
DATE PREPARED: 1/13/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09007	SCALE: NOT TO SCALE

DRAWING TITLE:
Building H Site and Sample Location Plan
Pacific High School
1020 Pacific Street
San Bernardino, California 92404

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

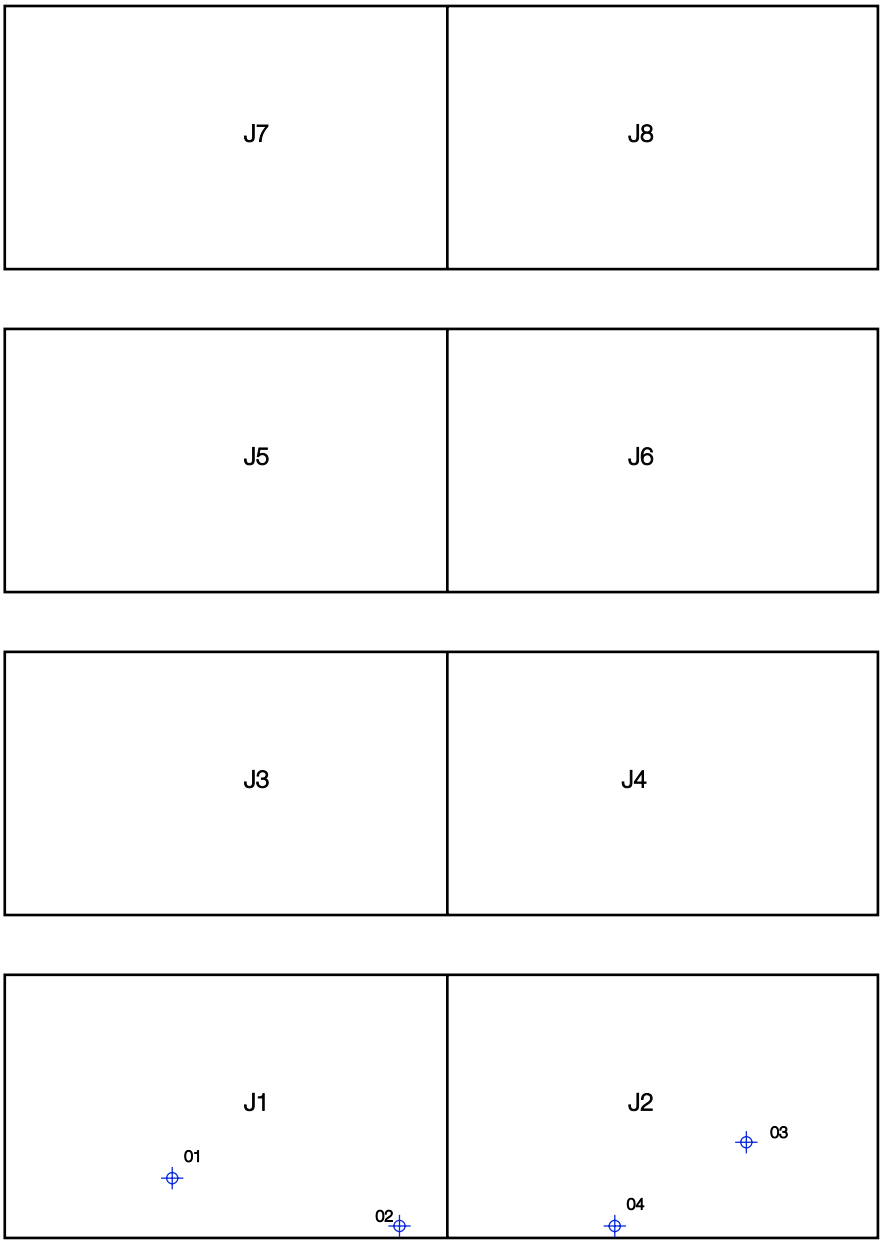
CLIENT:
San Bernardino City Unified School District

FIGURE NO.
H



DATE PREPARED: 1/13/2009	DRAWN BY: C.T.	DRAWING TITLE: Building I Site and Sample Location Plan Pacific High School 1020 Pacific Street San Bernardino, California 92404
REVISION:	SOURCE: FIELD INSPECTION	
PROJECT NO: 09007	SCALE: NOT TO SCALE	
PROJECT NAME: Asbestos and Lead Survey for School Modernizations	CLIENT: San Bernardino City Unified School District	FIGURE NO. I

indicates approximate sample location



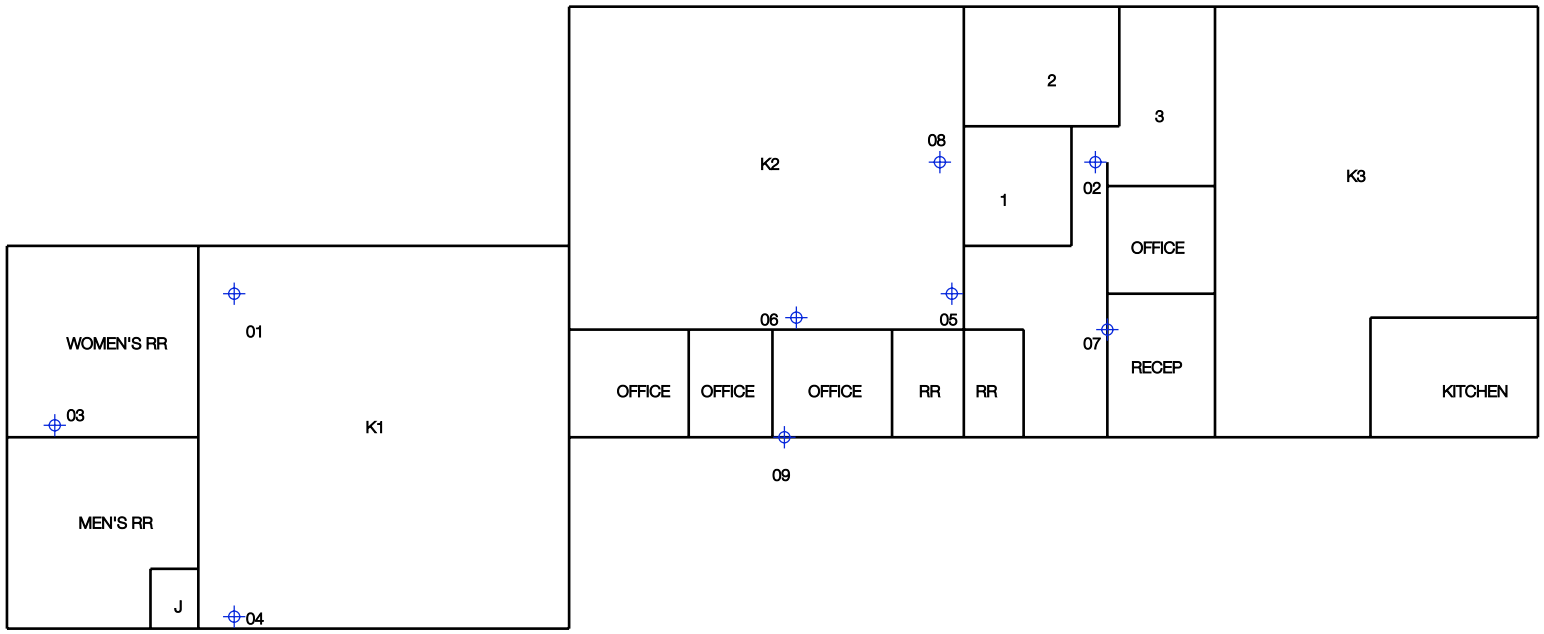
DATE PREPARED: 1/13/2009	DRAWN BY: C.T.	DRAWING TITLE: Building J Site and Sample Location Plan Pacific High School 1020 Pacific Street San Bernardino, California 92404
REVISION:	SOURCE: FIELD INSPECTION	
PROJECT NO: 09007	SCALE: NOT TO SCALE	

⌖ indicates approximate sample location

PROJECT NAME: Asbestos and Lead Survey for School Modernizations

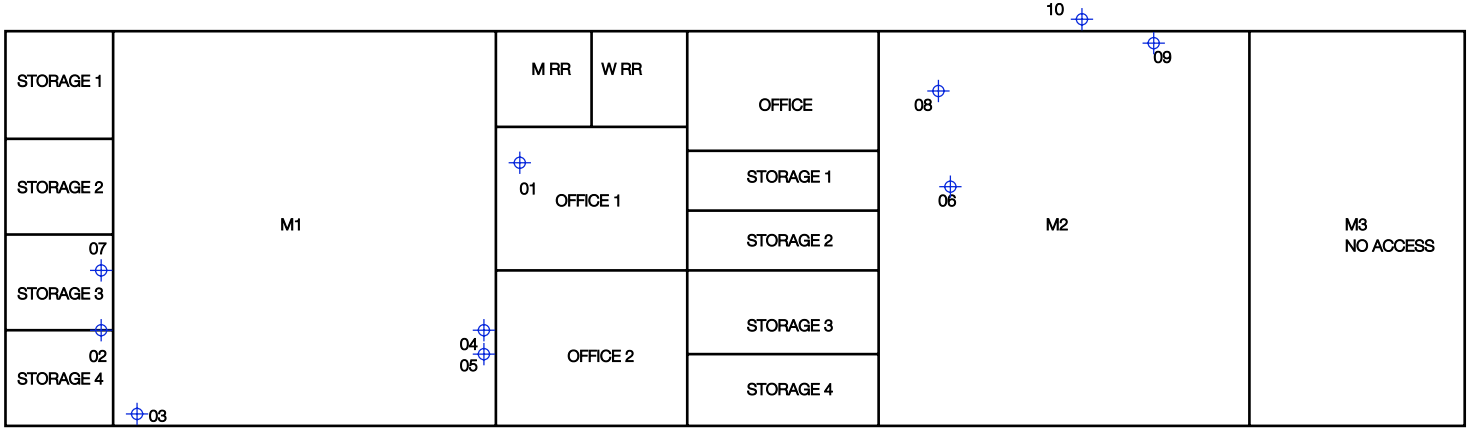
CLIENT: San Bernardino City Unified School District

FIGURE NO. J



⌖ indicates approximate sample location

DATE PREPARED: 1/13/2009	DRAWN BY: C.T.	DRAWING TITLE: Building K Site and Sample Location Plan Pacific High School 1020 Pacific Street San Bernardino, California 92404
REVISION:	SOURCE: FIELD INSPECTION	
PROJECT NO: 09007	SCALE: NOT TO SCALE	FIGURE NO. K
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District



indicates approximate sample location

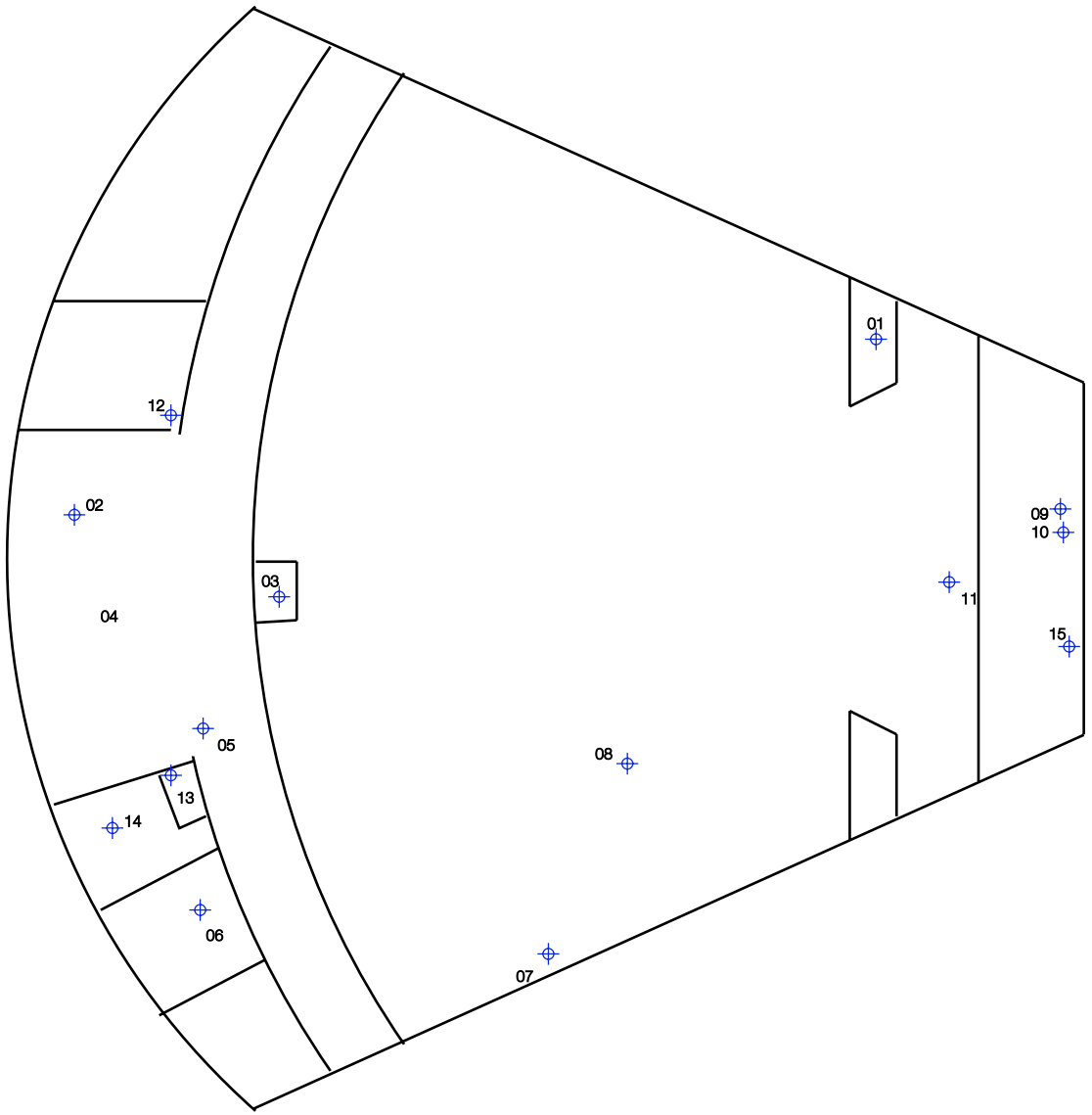
DATE PREPARED: 1/13/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09007	SCALE: NOT TO SCALE

DRAWING TITLE:
Building M Site and Sample Location Plan
Pacific High School
1020 Pacific Street
San Bernardino, California 92404

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
M



⌖ indicates approximate sample location

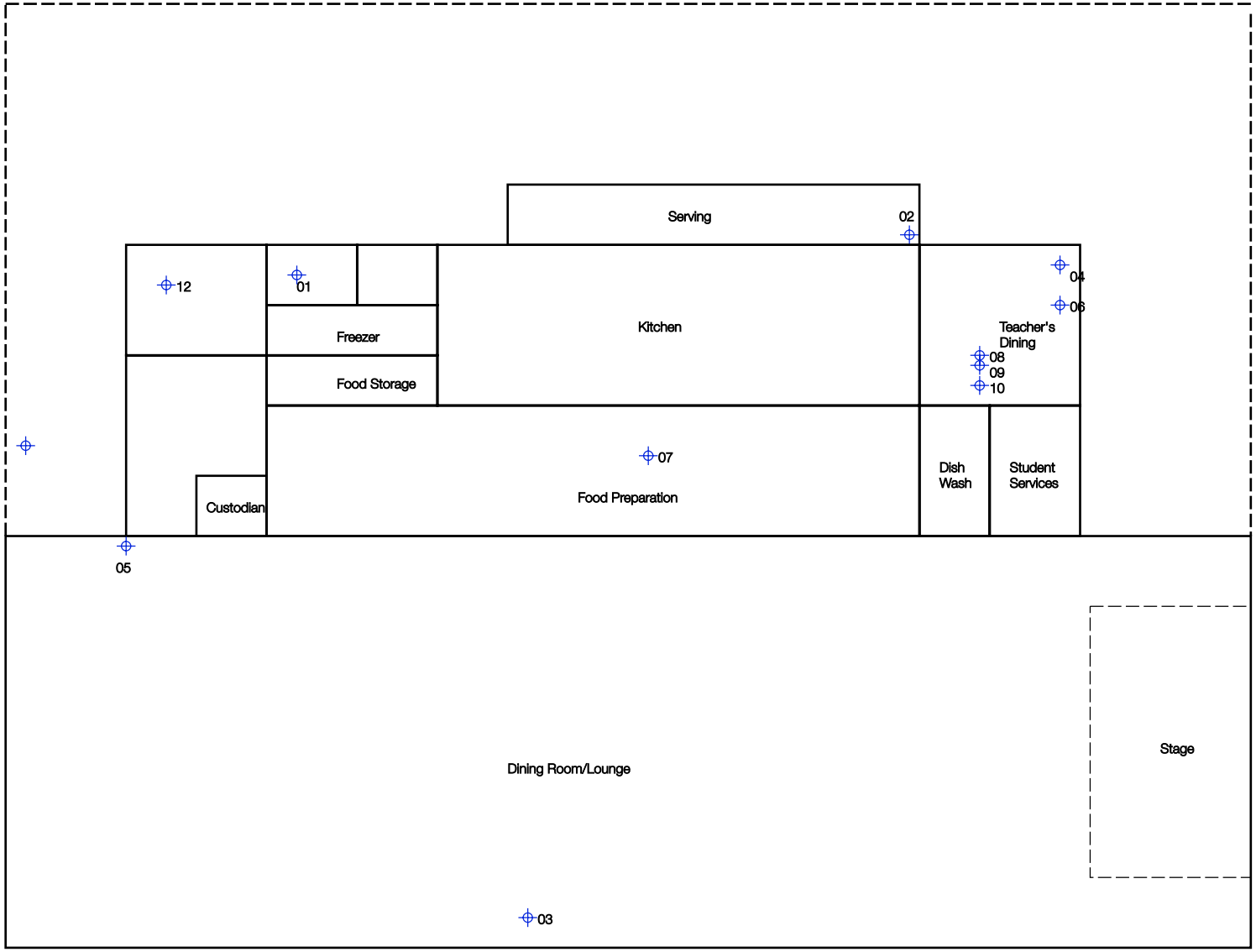
DATE PREPARED: 1/13/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09007	SCALE: NOT TO SCALE

DRAWING TITLE:
Auditorium Site and Sample Location Plan
Pacific High School
1020 Pacific Street
San Bernardino, California 92404

FIGURE NO.
AU

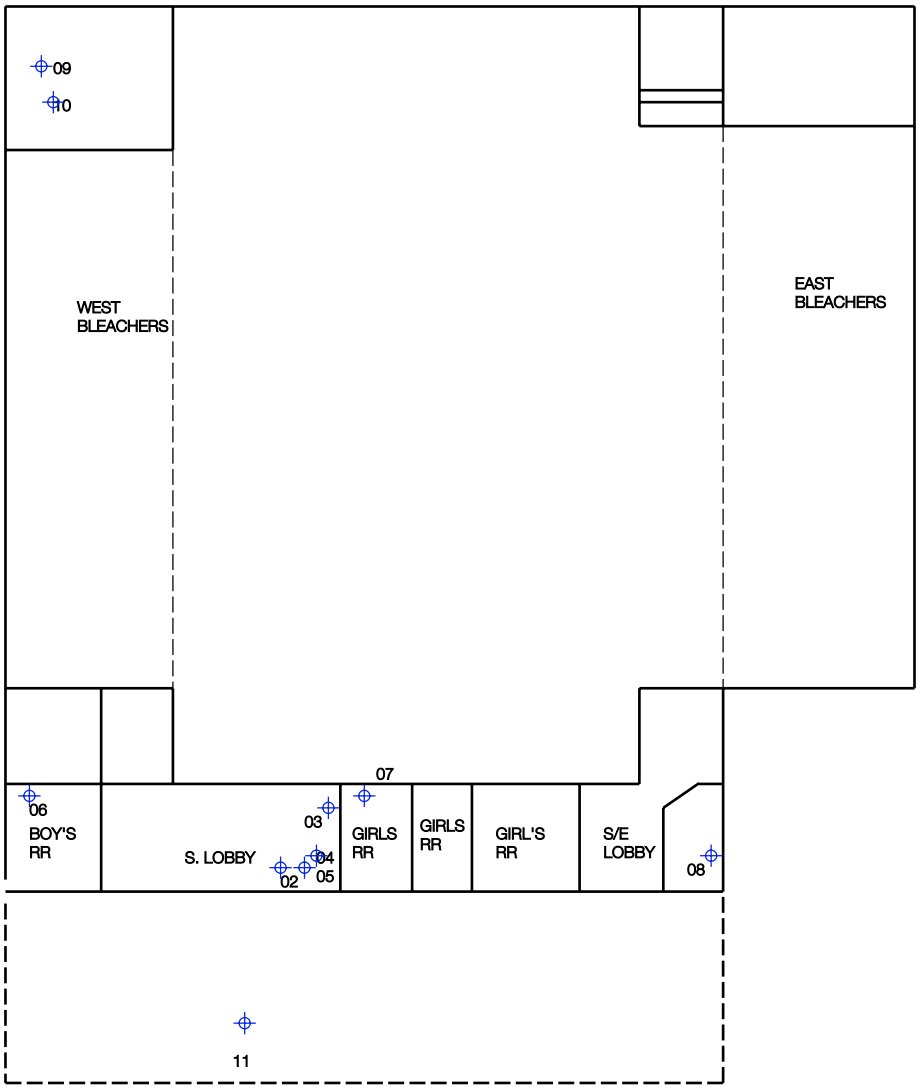
PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District



DATE PREPARED: 1/13/2009	DRAWN BY: C.T.	DRAWING TITLE: Cafeteria Site and Sample Location Plan Pacific High School 1020 Pacific Street San Bernardino, California 92404
REVISION:	SOURCE: FIELD INSPECTION	
PROJECT NO: 09007	SCALE: NOT TO SCALE	FIGURE NO. CAFE
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District

indicates approximate sample location



indicates approximate sample location

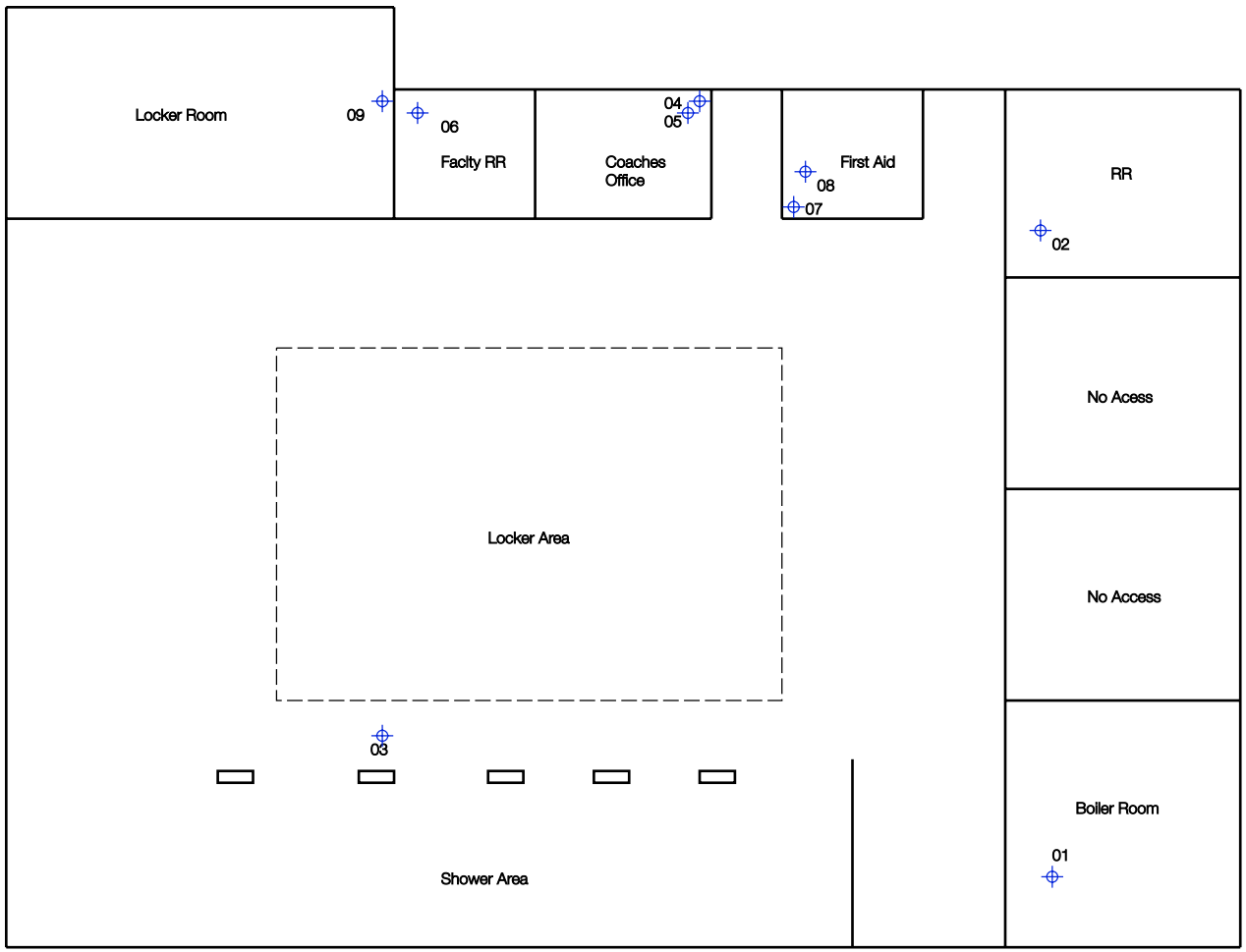
DATE PREPARED: 1/13/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09007	SCALE: NOT TO SCALE

DRAWING TITLE:
Gymnasium Site and Sample Location Plan
Pacific High School
1020 Pacific Street
San Bernardino, California 92404

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

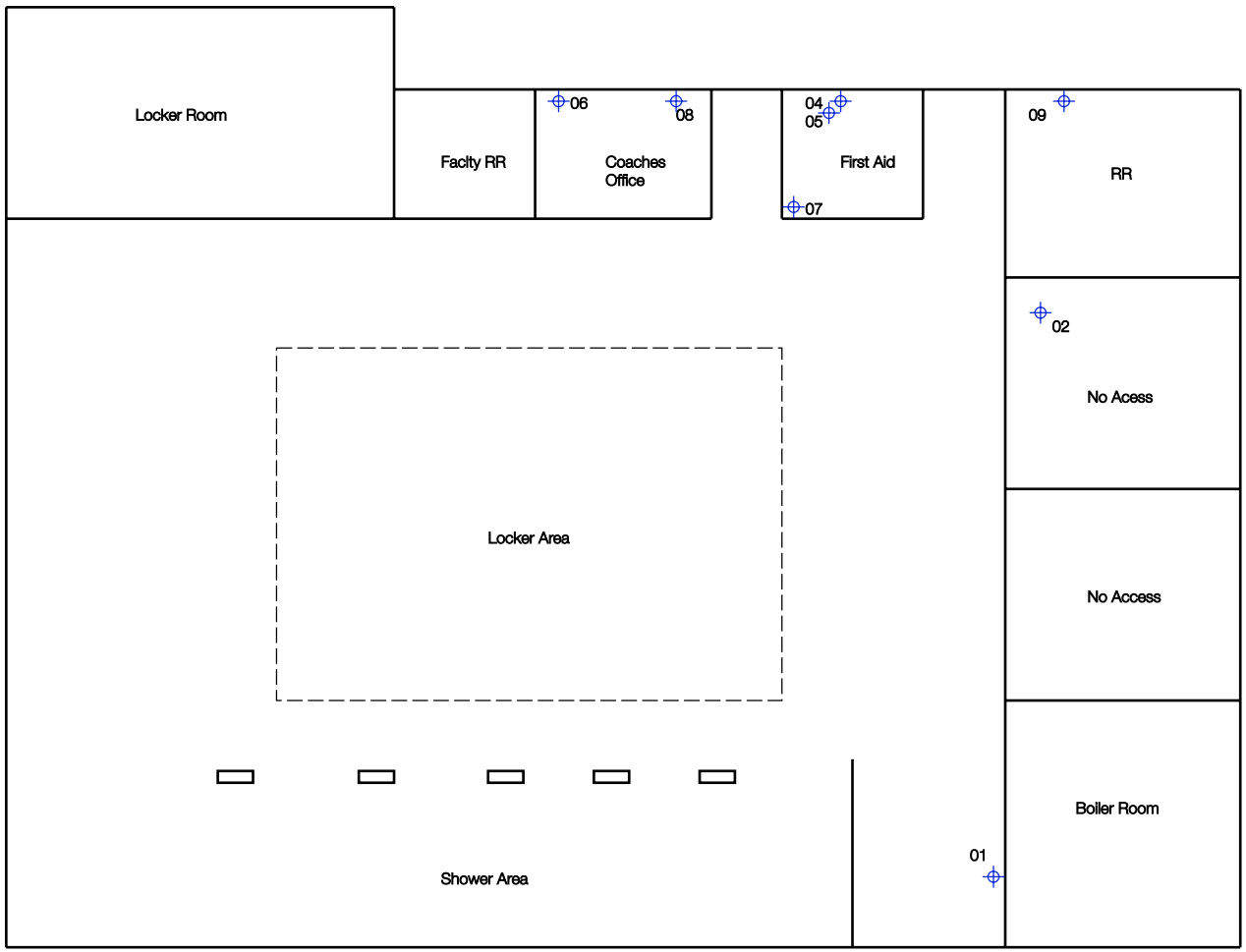
CLIENT:
San Bernardino City Unified School District

FIGURE NO.
GYM



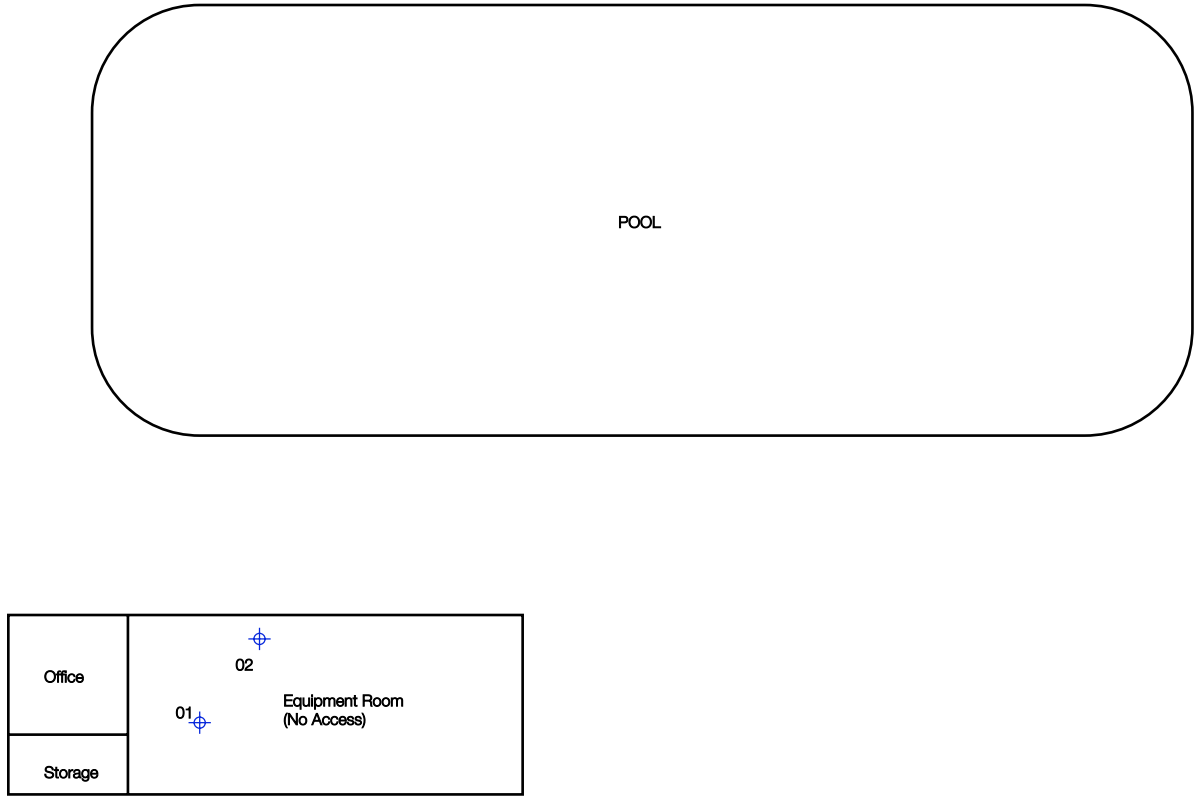
indicates approximate sample location

DATE PREPARED: 1/13/2009	DRAWN BY: C.T.	DRAWING TITLE: Boy's P.E. Site and Sample Location Plan Pacific High School 1020 Pacific Street San Bernardino, California 92404
REVISION:	SOURCE: FIELD INSPECTION	
PROJECT NO: 09007	SCALE: NOT TO SCALE	FIGURE NO.
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District BPE



indicates approximate sample location

DATE PREPARED: 1/13/2009	DRAWN BY: C.T.	DRAWING TITLE: Girl's P.E. Site and Sample Location Plan Pacific High School 1020 Pacific Street San Bernardino, California 92404
REVISION:	SOURCE: FIELD INSPECTION	
PROJECT NO: 09007	SCALE: NOT TO SCALE	FIGURE NO.
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District GPE



⌖ indicates approximate sample location

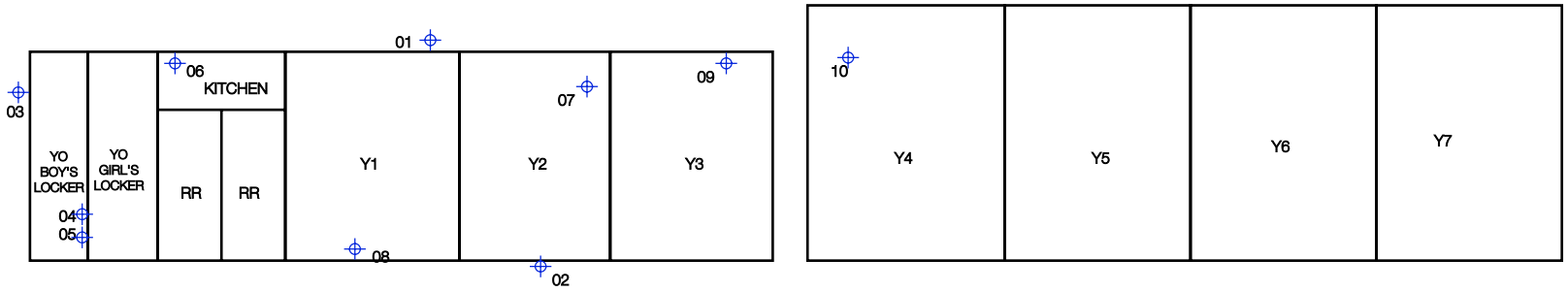
DATE PREPARED: 1/13/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09007	SCALE: NOT TO SCALE

DRAWING TITLE:
Pool Building Site and Sample Location Plan
Pacific High School
1020 Pacific Street
San Bernardino, California 92404

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
pool



⌖ indicates approximate sample location

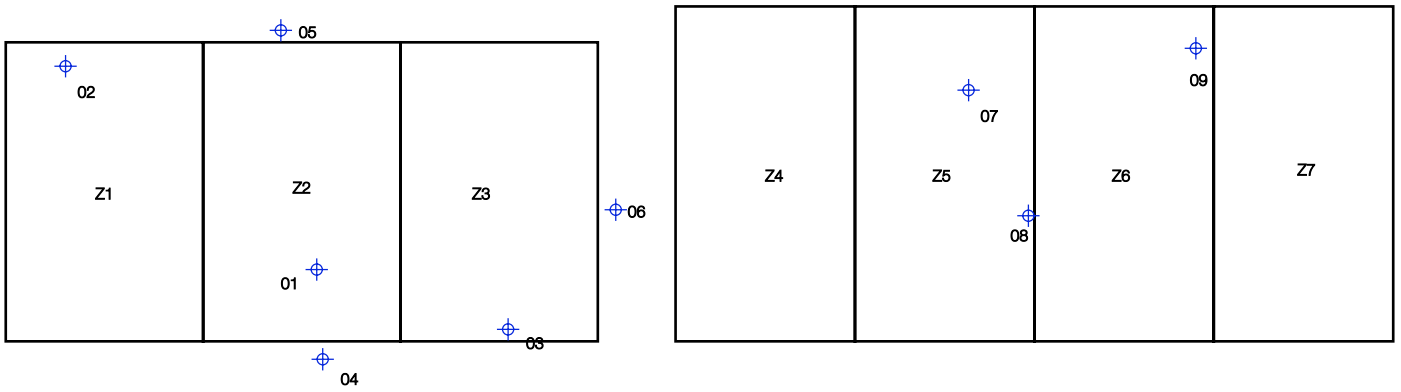
DATE PREPARED: 1/13/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09007	SCALE: NOT TO SCALE

DRAWING TITLE:
Building Y Site and Sample Location Plan
Pacific High School
1020 Pacific Street
San Bernardino, California 92404

FIGURE NO.
Y

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District



indicates approximate sample location

DATE PREPARED: 1/13/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09007	SCALE: NOT TO SCALE

DRAWING TITLE:
Building Z Site and Sample Location Plan
Pacific High School
1020 Pacific Street
San Bernardino, California 92404

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
Z

Appendix B

Bulk Sample Summary Table

PACIFIC HIGH SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09007

Sample No.	Sample Description	Sample Location	Asbestos %
A01	4” Brown Cove Base and Glue	Building A Sci-Phy Office	No Asbestos Detected
A02	Carpet Glue	Building A Sci-Phy Office	Tile - 3% Chrysotile
A03	2'x4' Ceiling Panel	Building A Sci-Phy Office	No Asbestos Detected
A04	Ceiling Tile	Building A Sci-Phy Office	No Asbestos Detected
A05	9"x9" Gray Floor Tile and Mastic	Building A Sci-Phy Office	Tile - 4% Chrysotile
A06	Drywall Composite	Building A Room 1	No Asbestos Detected
A07	Drywall	Building A Main Hall Ceiling	No Asbestos Detected
A08	Joint Compound	Building A Main Hall Ceiling	No Asbestos Detected
A09	Plaster	Building A Restroom	No Asbestos Detected
A10	Light Brown 12" Floor Tile and Mastic	Building A Main Hall	No Asbestos Detected
A11	Beige 12" Floor Tile and Mastic	Building A Vice Principal	No Asbestos Detected
A12	HVAC Duct Seam Tape	Building A Roof	No Asbestos Detected
A13	Penetration Mastic	Building A Roof	No Asbestos Detected
A14	Gravel Roof Core	Building A Roof	No Asbestos Detected
A15	Exterior Stucco	Building A Northwest Walkway Ceiling	No Asbestos Detected
B16	Roof Mastic	Building B Roof	4% Chrysotile
B17	Gravel Roof Core	Building B Roof	No Asbestos Detected
B18	Carpet Glue	Building B Office 1	No Asbestos Detected
B19	4" Cove Base and Glue	Building B Office 1	No Asbestos Detected
B20	Beige Speckled 12" Floor Tile and Mastic	Building B B3	No Asbestos Detected
B21	Plaster	Building B B3	No Asbestos Detected
B22	Olive Green 9" Floor Tile and Mastic	Building B Telecom Room	Tile - 3% Chrysotile
B23	Gray 9" Floor tile and Mastic	Building B B7	Tile - 3% Chrysotile
B24	White Speckled 12" Floor Tile and Mastic	Building B B10	No Asbestos Detected
B25	Ceiling Texture	Building B Boy's Restroom Foyer	No Asbestos Detected
B26	Exterior Stucco	Building B South Exterior	No Asbestos Detected
B27	Interior Plaster	Building B Janitor's Closet	No Asbestos Detected
C01	Roof Core	Building C Roof	No Asbestos Detected
C02	Penetration Mastic	Building C Roof	5% Chrysotile
C03	Exterior Stucco	Buidling C Exterior Wall	No Asbestos Detected
C04	Exterior Stucco	Buidling C Exterior Wall	No Asbestos Detected
C05	Exterior Stucco	Buidling C Exterior Wall	No Asbestos Detected
C06	Beige 12" Floor Tile and Mastic	Building C C1	No Asbestos Detected
C07	4” Brown Cove Base and Glue	Building C C1	No Asbestos Detected
C08	Interior Plaster	Building C C1	No Asbestos Detected
C09	Lab Table Top - Black	Building C C1	No Asbestos Detected
C10	Blown Insulation	Building C C1 Storage Room	No Asbestos Detected
C11	Ceiling Tile	Building C C1 Storage Room	No Asbestos Detected
C12	Joint Compound	Building C Library	No Asbestos Detected
C13	Drywall	Building C Library	No Asbestos Detected
C14	Carpet Glue	Building C Library	No Asbestos Detected
C15	Plaster	Building C Library	No Asbestos Detected
C16	Ceiling Tile	Building C Library	No Asbestos Detected
C17	Ceiling Tile Mastic - Brown	Building C Library	No Asbestos Detected
C18	2'x4' Ceiling Panel	Building C Library	No Asbestos Detected
C19	Yellow 12" Vinyl Floor Tile and Mastic	Building C Library	No Asbestos Detected
C20	Brown 9" Vinyl Floor Tile and Mastic	Building C C7	Tile - 3% Chrysotile
C21	Interior Plaster	Building C C7	No Asbestos Detected
D01	Lab Table Top	Building D D1	No Asbestos Detected
D02	White 12" Vinyl Floor Tile and Mastic	Building D D1	No Asbestos Detected
D03	4” Brown Cove Base and Glue	Building D D1	No Asbestos Detected
D04	Interior Plaster	Building D D1	No Asbestos Detected
D05	Exterior Stucco	Building D Exterior	No Asbestos Detected
D06	Exterior Stucco	Building D Exterior	No Asbestos Detected

PACIFIC HIGH SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09007

Sample No.	Sample Description	Sample Location	Asbestos %
D07	Exterior Stucco	Building D Exterior	No Asbestos Detected
D08	Light Brown 12" Floor Tile and Mastic	Building D D2	Mastic - 2% Chrysotile
D09	Plaster	Building D Faculty Restroom	No Asbestos Detected
D10	White 12" Vinyl Floor Tile and Mastic	Building D D4	No Asbestos Detected
D11	Carpet Glue	Building D D7	No Asbestos Detected
D12	Light Brown 12" Floor Tile and Mastic	Building D D8	No Asbestos Detected
D13	Plaster	Building D D9	<1% Chrysotile
D14	Roof Core	Building D Roof	No Asbestos Detected
D15	Penetration Mastic	Building D Roof	2% Chrysotile
D16	Ceiling Tile	Building D Storage	No Asbestos Detected
E01	Roof Core	Building E Roof	No Asbestos Detected
E02	Penetration Mastic	Building E Roof	5% Chrysotile
E03	Exterior Stucco	Building E Exterior	No Asbestos Detected
E04	Exterior Stucco	Building E Exterior	No Asbestos Detected
E05	Exterior Stucco	Building E Exterior	No Asbestos Detected
E06	Interior Plaster	Building E E10	<1% Chrysotile
E07	Carpet Glue	Building E E10	No Asbestos Detected
E08	4” Brown Cove Base and Glue	Building E E10	No Asbestos Detected
E09	Interior Plaster	Building E E2	No Asbestos Detected
E10	Lab Table Top - Black	Building E E2	No Asbestos Detected
E11	Light Brown 12" Floor Tile and Mastic	Building E E2	Mastic - 4% Chrysotile
E12	Drywall	Building 3 E3A	No Asbestos Detected
E13	Joint Compound	Building 3 E3A	No Asbestos Detected
E14	Brown 12" Floor Tile and Mastic	Building 3 E3A	No Asbestos Detected
E15	Plaster	Building E E7	No Asbestos Detected
E16	Light Brown 12" Floor Tile and Mastic	Building E E8	No Asbestos Detected
F01	White 12" Vinyl Floor Tile and Mastic	Building F F11	No Asbestos Detected
F02	White 12" Vinyl Floor Tile and Mastic	Building F F5	No Asbestos Detected
F03	Gray 12" Vinyl Floor Tile and Mastic	Building F F8	No Asbestos Detected
F04	Gray 12" Vinyl Floor Tile and Mastic	Building F F4	No Asbestos Detected
F05	Carpet Glue and Black Mastic	Building F F7	No Asbestos Detected
F06	Interior Plaster	Building F F11	No Asbestos Detected
F07	Interior Plaster	Building F F8	No Asbestos Detected
F08	Interior Plaster	Building F F4	No Asbestos Detected
F09	4” Brown Cove Base and Glue	Building F F6	No Asbestos Detected
F10	Exterior Stucco	Building F Exterior	No Asbestos Detected
F11	Exterior Stucco	Building F Exterior	No Asbestos Detected
F12	Exterior Stucco	Building F Exterior	No Asbestos Detected
F13	Gravel Roof Core	Building F Roof	No Asbestos Detected
F14	Gray Roof Mastic	Building F Roof	5% Chrysotile
G01	Exterior Stucco	Building G Exterior	No Asbestos Detected
G02	Exterior Stucco	Building G Exterior	No Asbestos Detected
G03	Exterior Stucco	Building G Exterior	No Asbestos Detected
G04	Light Brown 12" Floor Tile and Mastic	Building G G6	No Asbestos Detected
G05	Light Brown 12" Floor Tile and Mastic	Building G G8	No Asbestos Detected
G06	Roof Core	Building G Roof Over G8	No Asbestos Detected
G07	Penetration Mastic	Building G Roof Over G5	5% Chrysotile
G08	Roof Core	Building G Roof Over G3	No Asbestos Detected
G09	Penetration Mastic	Building G Roof Over G3	10% Chrysotile
G10	Plaster	Building G G4	No Asbestos Detected
G11	Carpet Glue	Building G G4	No Asbestos Detected
G12	4” Brown Cove Base and Glue	Building G G4	No Asbestos Detected
G13	Plaster	Building G G8	No Asbestos Detected
G14	Plaster	Building G G7	No Asbestos Detected
G15	Plaster	Building G G3	No Asbestos Detected

PACIFIC HIGH SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09007

Sample No.	Sample Description	Sample Location	Asbestos %
G16	Linoleum Core	Building G G3 Office	No Asbestos Detected
G17	Plaster	Building G GT Restroom GT2	No Asbestos Detected
G18	Light Brown 12" Floor Tile and Mastic	Building G GT2	No Asbestos Detected
G19	White 12" Vinyl Floor Tile and Mastic	Building G GT1	No Asbestos Detected
G20	Plaster	Building G Office 2 in GT2	No Asbestos Detected
G21	Drywall	Building G Classroom G1A	No Asbestos Detected
G22	Joint Compound	Building G Classroom G1B	No Asbestos Detected
G23	4” Brown Cove Base and Glue	Building G Hallway	No Asbestos Detected
H01	Gray 12" Floor Tile and Mastic (Top Layer)	Building H Center Office H1 Welding	No Asbestos Detected
H02	Gray 12" Floor Tile and Mastic (2nd Layer)	Building H Center Office H1 Welding	No Asbestos Detected
H03	Interior Plaster	Building H H1 Welding Shop Toilet	No Asbestos Detected
H04	Interior Plaster	Building H H2 Restroom	No Asbestos Detected
H05	Interior Plaster	Building H H4 janitor Room	No Asbestos Detected
H06	4" Black Basecove and Glue	Building H H2	No Asbestos Detected
H07	Gray 12" Floor Tile and Mastic	Building H H2	No Asbestos Detected
H08	Drywall & Joint Compound	Building H H2	No Asbestos Detected
H09	Exterior Stucco	Building H Exterior	No Asbestos Detected
H10	Exterior Stucco	Building H Exterior	No Asbestos Detected
H11	Exterior Stucco	Building H Exterior	No Asbestos Detected
H12	12" Ceiling Tile	Building H H4 North Corridor	No Asbestos Detected
H13	Plaster	Building H H9	No Asbestos Detected
H14	Carpet Glue	Building H H9	No Asbestos Detected
H15	Light Brown 12" Floor Tile and Mastic	Building H H7	No Asbestos Detected
H16	4" Brown Basecove and Glue	Building H H7	No Asbestos Detected
H17	Roof Core	Building H Roof	No Asbestos Detected
H18	Roof Mastic	Building H Roof	5% Chrysotile
H19	Window Putty	Building H Exterior	No Asbestos Detected
I01	4" Brown Basecove and Glue	Building I I1	No Asbestos Detected
I02	Drywall	Building I I8	No Asbestos Detected
I03	Carpet Glue	Building I I1	No Asbestos Detected
I04	Roof Mastic	Building I Roof	3% Chrysotile
J01	Roof Mastic	Building J Roof	No Asbestos Detected
J02	Drywall	Building J J1	No Asbestos Detected
J03	Carpet Glue	Building J J2	No Asbestos Detected
J04	4" Blue Basecove and Glue	Building J J2	No Asbestos Detected
K01	Gray 12" Floor Tile and Mastic	Building K K1	No Asbestos Detected
K02	White 12" Vinyl Floor Tile and Mastic	Building K K3 Offices	No Asbestos Detected
K03	Interior Plaster	Building K Women's Restroom	No Asbestos Detected
K04	4" Brown Basecove and Glue	Building K K1	No Asbestos Detected
K05	Drywall	Building K K2	No Asbestos Detected
K06	Joint Compound	Building K K2	No Asbestos Detected
K07	Joint Compound	Building K K3	No Asbestos Detected
K08	Carpet Glue	Building K K2	No Asbestos Detected
K09	Exterior Stucco	Building K Exterior	No Asbestos Detected
K10	Roof Core	Building K Roof	No Asbestos Detected
K11	Roof Mastic	Building K Roof	5% Chrysotile
M01	Acoustic Ceiling Material	Building M M1 Office	No Asbestos Detected
M02	12" Ceiling Tile	Building M M1 Storage 4	No Asbestos Detected
M03	4" Brown Basecove and Glue	Building M M1	No Asbestos Detected
M04	12" Wall Tile	Building M M1	No Asbestos Detected
M05	Wall Tile Mastic	Building M M1	No Asbestos Detected
M06	Gray 12" Floor Tile and Mastic	Muilding M M2	No Asbestos Detected
M07	Interior Plaster	Building M M1 Storage 3	No Asbestos Detected
M08	Interior Plaster	Building M M2	No Asbestos Detected
M09	Interior Plaster	Building M M2	No Asbestos Detected

PACIFIC HIGH SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09007

Sample No.	Sample Description	Sample Location	Asbestos %
M10	Window Putty	Building M M2 Exterior Window	<1% Chrysotile
AU01	Light Brown 12" Floor Tile and Mastic	Auditorium Foyer	2% Chrsotile (Mastic)
AU02	Light Brown 12" Floor Tile and Mastic	Auditorium Lobby	3% Chrysotile (Tile), 5% Chrysotile (Mastic)
AU03	Tan 9" Floor Tile and Mastic	Auditorium Roof Access Closet	No Asbestos Detected
AU04	Acoustic Ceiling Material	Auditorium Lobby	No Asbestos Detected
AU05	Acoustic Ceiling Material	Auditorium Lobby	No Asbestos Detected
AU06	Acoustic Ceiling Material	Auditorium Women's Restroom	No Asbestos Detected
AU07	6" Cove base and Glue	Auditorium	No Asbestos Detected
AU08	Carpet Glue	Auditorium Seating Area	No Asbestos Detected
AU09	12" Ceiling Tile	Auditorium Stage Area	No Asbestos Detected
AU10	Ceiling Tile Mastic	Auditorium Stage Area	No Asbestos Detected
AU11	Brown Flooring with Mastic	Auditorium Stage Area Orchestra Booth	No Asbestos Detected
AU12	Plaster	Auditorium Ticket Booth	No Asbestos Detected
AU13	Plaster	Auditorium Closet	No Asbestos Detected
AU14	Plaster	Auditorium Storage Room	No Asbestos Detected
AU15	Plaster	Auditorium Attic Above Stage	No Asbestos Detected
CAF01	Plaster	Cafeteria Staff Restroom	No Asbestos Detected
CAF02	Plaster	Cafeteria Kitchen	No Asbestos Detected
CAF03	Plaster	Cafeteria Dining Room/Lounge	No Asbestos Detected
CAF04	Light Brown 12" Floor Tile and Mastic	Cafeteria Teachers Dining Room	No Asbestos Detected
CAF05	Light Brown 12" Floor Tile and Mastic	Cafeteria Dining Room/Lounge	No Asbestos Detected
CAF06	4" Black Basecove and Glue	Cafeteria Teachers Dining Room	No Asbestos Detected
CAF07	2x4 Drywall Ceiling Panel	Cafeteria Food Prep Area	No Asbestos Detected
CAF08	Drywall	Cafeteria Teacher's Dining Room	No Asbestos Detected
CAF09	12" Ceiling Tile	Cafeteria Teacher's Dining Room	No Asbestos Detected
CAF10	Ceiling Tile Mastic	Cafeteria Teacher's Dining Room	No Asbestos Detected
CAF11	Roof Core	Cafeteria Roof	No Asbestos Detected
CAF12	Roof Mastic	Cafeteria Roof	3% Chrysotile
CAF13	Textured Stucco Ceiling	Cafeteria Exterior West Overhang	No Asbestos Detected
GYM01	Angle Shaped Black Cove Base	Gym Basketball Courts	No Asbestos Detected
GYM02	4" Gray Cove Base and Glue	Gym South Lobby	No Asbestos Detected
GYM03	Light Brown 12" Floor Tile and Mastic	Gym South Lobby	No Asbestos Detected
GYM04	12" Ceiling Tile	Gym South Lobby	No Asbestos Detected
GYM05	Ceiling Tile Mastic	Gym South Lobby	No Asbestos Detected
GYM06	Plaster	Gym Boy's Restroom	No Asbestos Detected
GYM07	Plaster	Gym Girl's Restroom	No Asbestos Detected
GYM08	Plaster	Gym Boy's Restroom	No Asbestos Detected
GYM09	Roof Core	Gym Roof	No Asbestos Detected
GYM10	Roof Mastic	Gym Roof	No Asbestos Detected
GYM11	Exterior Stucco	Gym South Walkway Ceiling	No Asbestos Detected
BPE01	Roof Core	Boy's PE Bldg Roof	No Asbestos Detected
BPE02	Roof Mastic	Boy's PE Bldg Roof	No Asbestos Detected
BPE03	Window Putty	Boy's PE Bldg Roof Level Window	<1% Chrysotile
BPE04	Light Brown 12" Floor Tile and Mastic	Boy's PE Bldg Coache's Office	No Asbestos Detected
BPE05	4" Brown Basecove and Glue	Boy's PE Bldg Coache's Office	No Asbestos Detected
BPE06	Plaster	Boy's PE Bldg Faculty Restroom	No Asbestos Detected
BPE07	Plaster	Boy's PE Bldg First Aid Room	No Asbestos Detected
BPE08	Beige 12" Floor Tile and Mastic	Boy's PE Bldg First Aid Room	<1% Chrysotile
BPE09	Textum	Boy's PE Bldg Locker Room	No Asbestos Detected
GPE01	Roof Core	Girls' RE Bldg Roof	No Asbestos Detected
GPE02	Roof Mastic	Girls' RE Bldg Roof	No Asbestos Detected
GPE03	Window Putty	Girls' RE Bldg Exterior Window	No Asbestos Detected
GPE04	Gray Speckled 12" Floor Tile and Mastic	Girls' RE Bldg First Aid	No Asbestos Detected
GPE05	Light Brown 12" Floor Tile and Mastic	Girls' RE Bldg First Aid	No Asbestos Detected
GPE06	4" Brown Basecove and Glue	Girls' RE Bldg Coaches Office	No Asbestos Detected

PACIFIC HIGH SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09007

Sample No.	Sample Description	Sample Location	Asbestos %
GPE07	Plaster	Girls' RE Bldg First Aid	No Asbestos Detected
GPE08	Plaster	Girls' RE Bldg Coaches Office	No Asbestos Detected
GPE09	Plaster	Girls' RE Bldg Restroom	No Asbestos Detected
POOL01	Roof Core	Pool Building Roof	No Asbestos Detected
POOL02	Roof Mastic	Pool Building Roof	No Asbestos Detected
STO01	Roof Mastic	Storage Building Roof	3% Chrysotile
STO02	Textured Coating	Storage Building	No Asbestos Detected
Y01	Exterior Metal Texture	Y Building Exterior	No Asbestos Detected
Y02	Exterior Metal Texture	Y Building Exterior	No Asbestos Detected
Y03	Exterior Metal Texture	Y Building Exterior	No Asbestos Detected
Y04	Drywall	Y Building YO Boy's Locker	No Asbestos Detected
Y05	Joint Compound	Y Building YO Boy's Locker	No Asbestos Detected
Y06	White 12" Vinyl Floor Tile and Mastic	Y Building Kitchen	No Asbestos Detected
Y07	Carpet Glue	Y Building Y2	No Asbestos Detected
Y08	4" Brown Basecove and Glue	Y Building Y1	No Asbestos Detected
Y09	Drywall	Y Building Y3	No Asbestos Detected
Y10	2x4 Ceiling Tile	Y Building Y4	No Asbestos Detected
Z01	White 12" Vinyl Floor Tile and Mastic	Z Building Z2	No Asbestos Detected
Z02	Drywall	Z Building Z1	No Asbestos Detected
Z03	4" Brown Basecove and Glue	Z building Z3	No Asbestos Detected
Z04	Exterior Metal Texture	Z Building Exterior	No Asbestos Detected
Z05	Exterior Metal Texture	Z Building Exterior	No Asbestos Detected
Z06	Exterior Metal Texture	Z Building Exterior	No Asbestos Detected
Z07	2x4 Ceiling Tile	Z Building Z5	No Asbestos Detected
Z08	Carpet Glue	Z Building Z5	No Asbestos Detected
Z09	4" Brown Basecove and Glue	Z Building Z6	No Asbestos Detected

Appendix C

Asbestos Sample Analysis Reports and Chain of Custody

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/08/09
Date Examined 01/09/09

AmeriSci Job # 909011191
P.O. #
Page 1 **of** 8

RE: SBCUSD; Pacific High Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
A-01	909011191-01L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Bldg. A 4" M. Brown Covebase / Sal Phy Office			
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Cove Base **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
A-01	909011191-01L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Bldg. A 4" M. Brown Covebase / Sal Phy Office			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
A-01	909011191-01L3	*No*	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Bldg. A 4" M. Brown Covebase / Sal Phy Office			
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
A-02	909011191-02L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Bldg. A Carpet Glue / Sal Phy Office			
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Glue **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
A-02	909011191-02L2	*Yes*	3 % (by CVES) by Arturo A. Aldana on 01/09/09
Location: Bldg. A Carpet Glue / Sal Phy Office			
Analyst Description: Tan, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** Chrysotile 3.0 % **Other Material:** Non-fibrous 97 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
A-03	909011191-03	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Bldg. A 2x4 Ceiling Panel / Sal Phy Office			
Analyst Description: Beige/White, Homogeneous, Fibrous, Ceiling Tile			
Asbestos Types:			
Other Material: Cellulose 13 %, Fibrous glass 4 %, Non-fibrous 83 %			
A-04	909011191-04	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Bldg. A Ceiling Tile / Sal Phy Office			
Analyst Description: Brown, Homogeneous, Fibrous, Ceiling Tile			
Asbestos Types:			
Other Material: Cellulose 65 %, Non-fibrous 35 %			
A-05	909011191-05	***Yes***	4 % (by CVES) by Arturo A. Aldana on 01/09/09
Location: Bldg. A 9x9 Gray Floor Tile & Mastic / Sal Phy Office			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Floor Tile			
Asbestos Types: Chrysotile 4.0 %			
Other Material: Non-fibrous 96 %			
Comment: No mastic			
A-06	909011191-06	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Bldg. A Drywall Composite / Rm 1			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Skim Coat			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Comment: No drywall			
A-07	909011191-07	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Drywall / Main Hall Ceiling			
Analyst Description: White/Brown, Homogeneous, Fibrous, Drywall			
Asbestos Types:			
Other Material: Cellulose 7 %, Fibrous glass Trace, Non-fibrous 93 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
A-08	909011191-08	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Drywall Joint Compound / Main Hall Ceiling			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
A-09	909011191-09	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Plaster / RR's			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Plaster **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
A-10	909011191-10L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: 12" Light Brown Floor Tile & Mastic / Main Hall			
Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
A-10	909011191-10L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: 12" Light Brown Floor Tile & Mastic / Main Hall			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
A-11	909011191-11L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: 12x12 Beige Floor & Glue / Vice Principle Office			
Analyst Description: Off-White/Brown, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
A-11	909011191-11L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: 12x12 Beige Floor & Glue / Vice Principle Office			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
A-12	909011191-12	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: H-VAC Duct Seam Tape / Roof			
Analyst Description: Off-White, Homogeneous, Fibrous, Tape **Asbestos Types:** **Other Material:** Cellulose 15 %, Non-fibrous 85 %			
A-13	909011191-13	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Penetration Mastic / Roof			
Analyst Description: Black/Grey, Homogeneous, Fibrous, Penetration Mastic **Asbestos Types:** **Other Material:** Cellulose 5 %, Non-fibrous 95 %			
A-14	909011191-14	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Gravel Roof Cove			
Analyst Description: Black, Heterogeneous, Fibrous, Roofing **Asbestos Types:** **Other Material:** Fibrous glass 4 %, Non-fibrous 96 %			
A-15	909011191-15.1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Stucco North/West Walkway Ceiling			
Analyst Description: Tan, Homogeneous, Non-Fibrous, Cementitious, Stucco-Finish Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
A-15	909011191-15.2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Stucco North/West Walkway Ceiling			
Analyst Description: Light Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
B-16	909011191-16	***Yes***	4 % (by CVES) by Arturo A. Aldana on 01/09/09
Location: Roof Mastic / Roof			
Analyst Description: Black/Grey, Homogeneous, Fibrous, Roofing Mastic **Asbestos Types:** Chrysotile 4.0 % **Other Material:** Non-fibrous 96 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
B-17	909011191-17	*No*	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Gravel Roof Core / Roof			
Analyst Description: Black, Heterogeneous, Fibrous, Roofing **Asbestos Types:** **Other Material:** Fibrous glass 4 %, Non-fibrous 96 %			
B-18	909011191-18	*No*	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Carpet Glue / Office 1			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Glue **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
B-19	909011191-19L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Brow 4" Covebase & Glue / Office 1			
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Cove Base **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
B-19	909011191-19L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Brow 4" Covebase & Glue / Office 1			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Glue **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
B-19	909011191-19L3	*No*	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Brow 4" Covebase & Glue / Office 1			
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
B-20	909011191-20L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: 12" Beige Speckled Floor Tile Mastic / B-3			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
B-20	909011191-20L2	***No***	NAD
Location: 12" Beige Speckled Floor Tile Mastic / B-3			(by CVES) by Arturo A. Aldana on 01/09/09
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
B-20	909011191-20L3	***No***	NAD
Location: 12" Beige Speckled Floor Tile Mastic / B-3			(by CVES) by Arturo A. Aldana on 01/09/09
Analyst Description: White, Homogeneous, Non-Fibrous, Leveling Compound **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
B-21	909011191-21	***No***	NAD
Location: Plaster / B-3			(by CVES) by Arturo A. Aldana on 01/09/09
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Plaster **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
B-22	909011191-22L1	***Yes***	3 %
Location: 9x9 Olive Green Floor Tile & Mastic / Tele-Con Room			(by CVES) by Arturo A. Aldana on 01/09/09
Analyst Description: Olive, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** Chrysotile 3.0 % **Other Material:** Non-fibrous 97 %			
B-22	909011191-22L2	***No***	NAD
Location: 9x9 Olive Green Floor Tile & Mastic / Tele-Con Room			(by CVES) by Arturo A. Aldana on 01/09/09
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
B-23	909011191-23L1	***Yes***	3 %
Location: 9x9 Gray Floor Tile & Mastic / B-7			(by CVES) by Arturo A. Aldana on 01/09/09
Analyst Description: Grey, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** Chrysotile 3.0 % **Other Material:** Non-fibrous 97 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
B-23	909011191-23L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: 9x9 Gray Floor Tile & Mastic / B-7			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
B-24	909011191-24L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: 9x9 White Speckle Tile / B-10			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Floor Tile			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
B-24	909011191-24L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: 9x9 White Speckle Tile / B-10			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
B-25	909011191-25	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Ceiling Texture / Boy RR Foyer			
Analyst Description: Tan, Homogeneous, Non-Fibrous, Cementitious, Texture Coat			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
B-26	909011191-26	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Ext Stucco / S. Side			
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Stucco			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
B-27	909011191-27.1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09
Location: Int. Plaster / Janitors Closet			
Analyst Description: White, Homogeneous, Non-Fibrous, Cementitious, Plaster-Finish Coat			
Asbestos Types:			
Other Material: Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
B-27	909011191-27.2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/09/09

Location: Int. Plaster / Janitors Closet

Analyst Description: Light Grey, Homogeneous, Non-Fibrous, Cementitious, Plaster-Base Coat
Asbestos Types:
Other Material: Non-fibrous 100 %

Reporting Notes:

Analyzed By: Arturo A. Aldana aaldana ; Date Analyzed: 1/9/2009 1-9-09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/12/09

909011191-

PACIFIC ENVIRONMENTAL

Date:	01/07/09
Client:	SBCUSD
Site:	Pacific High Bldg B
Project No:	
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
01	Bldg A 4" m. brown covebase & glue	Sci Phy office	
02	Carpet Glue		
03	2x4 Ceiling Panel		
04	Ceiling tile		
05	9x9 Gray Floor tile & Mastic		
06	Drywall composite	RM 1	
07	drywall	main hall ceiling	
08	drywall joint compound		
09	Plaster	RM 5	
10	12" Light brown floor tile & Mastic	main hall	
11	12x12 beige floor tile & Glue	Vice principle office Code	
12	Hi-Vac Duct seam tape R	Roof	
13	Penetration Mastic	Roof	
14	Gravel Roof Core	Roof	
15	Stucco North/West Walkway railing		
16	ROOF Mastic	Roof	500sq.ft
17	Gravel Roof Core	Roof	
18	Carpet Glue	Office 1	
19	Brown 4" Covebase & Glue	Office 1	
20	12" beige speckled floor tile & Mastic	B-3	
21	Plaster	B-3	700sq.ft
22	9x9 olive green floor tile & Mastic	Tele-com Room	
23	9x9 gray floor tile & Mastic	B-7	
24	12x12 White speckle tile	B-10	

A

B

Analytical Method: PLM

Turn Around Time: ~~Standard~~ 72 hrs

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
01/08/09	David Tillema	
Date/Time	Name	Signature
01/08/09 0 1605		

909011191-

PACIFIC ENVIRONMENTAL

Date:	01/07/09
Client:	SBUSD
Site:	Pacific Hts Bldg B
Project No:	
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Bldg B

Sample Number	Material Sampled	Sample Location	Condition
25	Ceiling texture	Boy RR Foyer	Good
26	Ext Stucco	S side	
27	Int Plaster	Janitors Closet	

Analytical Method: PLM 72 hrs.

Turn Around Time: ~~Standard~~

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
	David Tillema	
Date/Time	Name	Signature
01/08/09		1605

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/08/09
Date Examined 01/09/09

AmeriSci Job # 909011192
P.O. #
Page 1 **of** 5

RE: SBCUSD; Pacific High Bldg. C

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg"C"-01	909011192-01	*No*	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: Roof Core / Roof S. End			
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 15 %, Non-fibrous 85 %			
Bldg"C"-02	909011192-02	*Yes*	5 % (by CVES) by Raymundo Orozco on 01/09/09
Location: Penetration Mastic / Roof N. End			
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 5.0 % **Other Material:** Non-fibrous 95 %			
Bldg"C"-03	909011192-03	*No*	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: Ext. Stucco / NE			
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg"C"-04	909011192-04	*No*	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: Ext. Stucco / NW			
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg"C"-05	909011192-05	*No*	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: Ext. Stucco / SE			
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. C

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg"C"-06	909011192-06L1	*No*	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: 12x12 Biege FT / Rm C-1			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg"C"-06	909011192-06L2	*No*	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: 12x12 Biege FT / Rm C-1			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 5 %, Non-fibrous 95 %			
Bldg"C"-07	909011192-07L1	*No*	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: Basecore Brown 4" / Rm C-1			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Cove Base **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg"C"-07	909011192-07L2	*No*	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: Basecore Brown 4" / Rm C-1			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg"C"-08	909011192-08	*No*	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: Interior Plaster / Rm C-1			
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg"C"-09	909011192-09	*No*	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: Lab Table Top Black / Rm C-1			
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. C

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg"C"-10	909011192-10	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
	Location: Blown Insulation / Rm C-1 Storage Rm.		
Analyst Description: Grey, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 80 %, Non-fibrous 20 %			
Bldg"C"-11	909011192-11	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
	Location: 12x12 Pinhole Ct / Rm C-1 Storage Rm.		
Analyst Description: Brown, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 90 %, Non-fibrous 10 %			
Bldg"C"-12	909011192-12	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
	Location: Joint Compound / Library NE.		
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg"C"-13	909011192-13	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
	Location: Drywall / Library NE.		
Analyst Description: Beige/Brown, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 15 %, Non-fibrous 85 %			
Bldg"C"-14	909011192-14L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
	Location: Carpet Glue/ Library NW		
Analyst Description: Purple/Black, Heterogeneous, Fibrous, Carpet **Asbestos Types:** **Other Material:** Synthetic fibers 80 %, Non-fibrous 20 %			
Bldg"C"-14	909011192-14L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
	Location: Carpet Glue/ Library NW		
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. C

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg"C"-15	909011192-15	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: Plaster Wall / / Library			
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Bldg"C"-16	909011192-16	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: 12x12 CT Pinhole / Library E.			
Analyst Description: Brown, Heterogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 90 %, Non-fibrous 10 %			
Bldg"C"-17	909011192-17	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: Brown Glue Associated w/Sample #16 / Library E.			
Analyst Description: Brown, Heterogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 5 %, Non-fibrous 95 %			
Bldg"C"-18	909011192-18	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: 2x4 Ceiling Tile / Library E.			
Analyst Description: Grey, Heterogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 77 %, Fibrous glass 3 %, Non-fibrous 20 %			
Bldg"C"-19	909011192-19L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: 12x12 Yellow FT / Library E. @ Entrance			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Bldg"C"-19	909011192-19L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: 12x12 Yellow FT / Library E. @ Entrance			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Cellulose 2 %, Non-fibrous 98 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. C

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg"C"-20	909011192-20L1	***Yes***	3 % (by CVES) by Raymundo Orozco on 01/09/09
Location: 9x9 Brown FT / Rm C-7			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** Chrysotile 3.0 % **Other Material:** Non-fibrous 97 %			
Bldg"C"-20	909011192-20L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: 9x9 Brown FT / Rm C-7			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg"C"-21	909011192-21	***No***	NAD (by CVES) by Raymundo Orozco on 01/09/09
Location: Interior Plaster / Rm C-7			
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

Reporting Notes:

Analyzed By: Raymundo Orozco _____; Date Analyzed: 1/9/2009 1/9/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/9/09

PACIFIC ENVIRONMENTAL

9090111 92-

Date:	01/07/09
Client:	V SBCUSD
Site:	PACIFIC HIGH Bldg C
Project No:	
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Bldg "C"

Sample Number	Material Sampled	Sample Location	Quantity or Condition
01	ROOF CORE	ROOF S. END	GOOD
02	Penetration Mastic	ROOF N. END	
03	EXT STUCCO	NE	
04	EXT STUCCO	NW	
05	EXT STUCCO	SE	
06	12X12 Biege FT	Rm C-1	
07	BASECOVE BROWN 4"	Rm C-1	
08	INTERIOR PLASTER	Rm C-1	
09	LAB TABLE TOP Black	Rm C-1 ≈ 18 ℄ ea	10 EA.
10	Blown Insulation	Rm C-1 Storage Rm.	
11	12"X12" Pinhole CT	" " "	≈ 200 ℄
12	Joint Compound	Library NE.	
13	Drywall	" "	
14	CARPET GLUE	" " NW.	
15	PLASTER WALL	Library	
16	12X12 CT Pinhole	" " E.	
17	Brown Glue Associated w/ Sample #16	" " E	
18	2'X4' Ceiling Tile	" " E.	
19	12"X12" YELLOW FT	" " E @ entrance	≈ 200 ℄
20	9"X9" BROWN FT	Rm C-7	
21	Interior Plaster	Rm C-7	
22			
23			
24			

Analytical Method: PLM 72 hr

Turn Around Time: ~~Standard~~

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
01/07/09 @ 1605	David Tillema	
Date/Time	Name	Signature

(1)

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/08/09
Date Examined 01/09/09
AmeriSci Job # 909011193
P.O. #

RE: SBCUSD; Pacific High Bldg. "D"

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg "D" -01	909011193-01	*No*	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: Lab Table Top / N.E. Rm D-1			
Analyst Description: Black, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 5 %, Non-fibrous 95 %			
Bldg "D" -02	909011193-02L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: 12"x12" FT White / Cntr Rm D-1			
Analyst Description: Beige/White, Homogeneous, Non-Fibrous, Flooring			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Bldg "D" -02	909011193-02L2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: 12"x12" FT White / Cntr Rm D-1			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Bldg "D" -03	909011193-03L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: 4" Brown Base Cove / S. Rm D-1			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Bldg "D" -03	909011193-03L2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: 4" Brown Base Cove / S. Rm D-1			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. "D"

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg "D" -04	909011193-04	***No***	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: Interior Plaster / E. Rm. D-1			
Analyst Description: Beige/Green, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg "D" -05	909011193-05	***No***	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: Ext Stucco / Ext. NW.			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg "D" -06	909011193-06	***No***	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: Ext Stucco / Ext. S. Center			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg "D" -07	909011193-07	***No***	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: Ext. Stucco / Ext. NE.			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg "D" -08	909011193-08L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: 12x12 Light Brown FT / NE. D-2			
Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Flooring **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg "D" -08	909011193-08L2	***Yes***	2 % (by CVES) by Olga K. Katsuk on 01/09/09
Location: 12x12 Light Brown FT / NE. D-2			
Analyst Description: Black, Heterogeneous, Fibrous, Mastic **Asbestos Types:** Chrysotile 2.0 % **Other Material:** Non-fibrous 98 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. "D"

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg "D" -09	909011193-09	*No*	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: Plaster / Faculty RR			
Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Bldg "D" -10	909011193-10L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: 12x12 White FT / NE D-4			
Analyst Description: Beige/White, Homogeneous, Non-Fibrous, Flooring			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Bldg "D" -10	909011193-10L2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: 12x12 White FT / NE D-4			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Bldg "D" -11	909011193-11	*No*	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: Carpet Mastic / S. D-7			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Bldg "D" -12	909011193-12	*No*	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: 12x12 Light Brown Ft / D-8			
Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Flooring			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Comment: No Mastic found			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. "D"

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg "D" -13	909011193-13	***Yes***	Trace (<1 %) (by CVES) by Olga K. Katsuk on 01/09/09
Location: Plaster / NE. D-8			
Analyst Description: Light Green, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile <1. % **Other Material:** Non-fibrous 100 %			
Bldg "D" -14	909011193-14	***No***	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: Roof Core			
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 12 %, Non-fibrous 88 %			
Bldg "D" -15	909011193-15	***Yes***	2 % (by CVES) by Olga K. Katsuk on 01/09/09
Location: Penetration Mastic			
Analyst Description: Grey/Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 2.0 % **Other Material:** Non-fibrous 98 %			
Bldg "D" -16	909011193-16	***No***	NAD (by CVES) by Olga K. Katsuk on 01/09/09
Location: 12x12 CT Pinhole			
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 90 %, Non-fibrous 10 %			

Reporting Notes:

Analyzed By: Olga K. Katsuk _____; Date Analyzed: 1/9/2009 1/9/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/9/09

9090111 93-

PACIFIC ENVIRONMENTAL

Date:	01/07/09
Client:	SBSUSD
Site:	PACIFIC HIGH Bldg "D"
Project No:	
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Bldg "D"

Sample Number	Material Sampled	Sample Location	Condition
01	LAB Table Top	NE. Rm D-1	≈400 sf
02	12"x12" FT White	CNTR Rm D-1	
03	4" Brown Base Cove	S. Rm D-1	
04	Interior Plaster	E. Rm D-1	
05	EXT STUCCO	EXT. NW.	
06	EXT STUCCO	EXT. S. Center	
07	EXT STUCCO	EXT. NE.	
08	12X12 LIGHT BROWN FT	NE D-2	
09	Plaster	FACULTY RR	
10	12"x12" White FT	NE. D-4	
11	CARPET Mastic	S. D-7	
12	12X12 Light Brown FT	D-8	
13	Plaster.	NE. D-9	
14	ROOF Core		
15	Penetration Mastic		
16	12X12 CT Pinhole		
17			
18			
19			
20			
21			
22			
23			
24			

Analytical Method: PLM 72 hrs.

Turn Around Time: ~~Standard~~

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
01/08/09 0160S	David Tillema	
Date/Time	Name	Signature

(3)

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/08/09
Date Examined 01/12/09
AmeriSci Job # 909011196
P.O. #

RE: SBCUSD; Pacific High Bldg. "E"

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011196-01	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Roof Core / Roof S.			
Analyst Description: Black, Heterogeneous, Fibrous, Roofing **Asbestos Types:** **Other Material:** Fibrous glass 3 %, Non-fibrous 97 %			
02	909011196-02	*Yes*	5 % (by CVES) by Arturo A. Aldana on 01/12/09
Location: Penetration Mastic / Roof N.			
Analyst Description: Black/Grey, Homogeneous, Fibrous, Penetration Mastic **Asbestos Types:** Chrysotile 5.0 % **Other Material:** Non-fibrous 95 %			
03	909011196-03.1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Ext. Stucco / SW.			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Stucco-Finish Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
03	909011196-03.2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Ext. Stucco / SW.			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
04	909011196-04	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Ext. Stucco / N. Center			
Analyst Description: Tan, Homogeneous, Non-Fibrous, Cementitious, Stucco **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. "E"

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
05	909011196-05	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Ext. Stucco / NW.			
Analyst Description: Tan, Homogeneous, Non-Fibrous, Cementitious, Stucco			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
06	909011196-06	*Yes*	Trace (<1 %) (by CVES) by Arturo A. Aldana on 01/12/09
Location: Int Plaster / Rm E-10			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Plaster			
Asbestos Types: Chrysotile <1. %			
Other Material: Non-fibrous 100 %			
07	909011196-07	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Carpet Mastic / Rm E-10			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
08	909011196-08L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: 4" Basecore Brown / Rm E-10			
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
08	909011196-08L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: 4" Basecore Brown / Rm E-10			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
09	909011196-09	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Interior Plaster / Rm E-2			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Plaster			
Asbestos Types:			
Other Material: Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. "E"

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
10	909011196-10	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Lab Counter Top Black / Rm E-2		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Counter Top		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
11	909011196-11L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12x12 Lt. Brown / Rm. E -2		
	Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
11	909011196-11L2	*Yes*	4 % (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12x12 Lt. Brown / Rm. E -2		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types: Chrysotile 4.0 %		
	Other Material: Non-fibrous 96 %		
12	909011196-12	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Drywall / W.Wall Rm. E-3-A		
	Analyst Description: White/Brown, Homogeneous, Fibrous, Drywall		
	Asbestos Types:		
	Other Material: Cellulose 2 %, Fibrous glass Trace, Non-fibrous 98 %		
13	909011196-13	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Joint Compound / W. Wall Rm E-3-A		
	Analyst Description: White, Homogeneous, Non-Fibrous, Joint Compound		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
14	909011196-14L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12x12 Brown FT / Rm E-3-A		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. "E"

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
14	909011196-14L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12x12 Brown FT / Rm E-3-A		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
15	909011196-15	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Plaster / Rm E-7		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Plaster		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
16	909011196-16L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12x12 Lt Brown / Rm E-8		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
16	909011196-16L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12x12 Lt Brown / Rm E-8		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

Reporting Notes:

Analyzed By: Arturo A. Aldana at aldana ; Date Analyzed: 1/12/2009 1-12-09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/12/09

PACIFIC ENVIRONMENTAL

9090111 96 -

Date:	01/07/09
Client:	SBCUSD
Site:	PACIFIC HIGH
Project No:	BUILDING "E"
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
01	Roof Core	Roof S.	
02	Penetration Mastic	Roof N.	
03	Ext Stucco	SW.	
04	Ext Stucco	N. Center	
05	Ext Stucco	NW.	
06	Int Plaster	Rm E-10	
07	Carpet Mastic	Rm E-10	
08	4" Basecove Brown	Rm E-10	
09	Interior Plaster	Rm E-2	
10	Lab Counter Top Black	Rm E-2	
11	12x12 LT Brown	Rm E-2	
12	Dry wall	W. Wall Rm E-3-A	
13	Joint Compound	" " Rm E-3-A	
14	12x12 Brown FT	Rm E-3-A	≈20 ϕ
15	Plaster	Rm E-7	
16	12x12 LT Brown	Rm E-8	
17			
18			
19			
20			
21			
22			
23			
24			

Analytical Method: PLM 72 hrs.

Turn Around Time: ~~Standard~~

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
01/08/09 @1605	David Tillema	

Date/Time	Name	Signature

(4)

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/08/09
Date Examined 01/12/09
AmeriSci Job # 909011194
P.O. #

RE: SBCUSD; Pacific High Bldg. F

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
F01	909011194-01L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: 12" White W/Gray Floor Tile & Black Mastic / Room F11-NE Side			
Analyst Description: Off-White/Tan, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F01	909011194-01L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: 12" White W/Gray Floor Tile & Black Mastic / Room F11-NE Side			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F02	909011194-02L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: 12" White W/Gray Floor Tile & Black Mastic / Room F5-N. Side			
Analyst Description: Off-White/Tan, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F02	909011194-02L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: 12" White W/Gray Floor Tile & Black Mastic / Room F5-N. Side			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F02	909011194-02L3	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: 12" White W/Gray Floor Tile & Black Mastic / Room F5-N. Side			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Underlayment **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. F

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
F03	909011194-03L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12" Gray Floor Tile & Glue / Room F8-N. Side		
	Analyst Description: Tan, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
F03	909011194-03L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12" Gray Floor Tile & Glue / Room F8-N. Side		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
F04	909011194-04L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12" Gray Floor Tile & Glue / Room F4-S. Side		
	Analyst Description: Tan, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
F04	909011194-04L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12" Gray Floor Tile & Glue / Room F4-S. Side		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
F05	909011194-05L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Carpet Glue & Black Mastic / Room F7-SE Side		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Glue		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
F05	909011194-05L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Carpet Glue & Black Mastic / Room F7-SE Side		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. F

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
F06	909011194-06.1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Interior Plaster / Room F11-North Wall		
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Cementitious, Plaster-Finish Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F06	909011194-06.2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Interior Plaster / Room F11-North Wall		
Analyst Description: Light Grey, Homogeneous, Non-Fibrous, Cementitious, Plaster-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F07	909011194-07.1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Interior Plaster/ Room F8-South Wall		
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Cementitious, Plaster-Finish Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F07	909011194-07.2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Interior Plaster/ Room F8-South Wall		
Analyst Description: Light Grey, Homogeneous, Non-Fibrous, Cementitious, Plaster-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F08	909011194-08.1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Interior Plaster / Room F4-N. Wall		
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Cementitious, Plaster-Finish Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F08	909011194-08.2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Interior Plaster / Room F4-N. Wall		
Analyst Description: Light Grey, Homogeneous, Non-Fibrous, Cementitious, Plaster-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. F

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
F09	909011194-09L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 4" Brown Cove Base & Glue / Room F6-SE Wall		
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F09	909011194-09L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 4" Brown Cove Base & Glue / Room F6-SE Wall		
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Glue **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F10	909011194-10	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Exterior Stucco / North Wall		
Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F11	909011194-11	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Exterior Stucco / South Wall		
Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F12	909011194-12.1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Exterior Stucco / Southeast Wall		
Analyst Description: Tan, Homogeneous, Non-Fibrous, Cementitious, Stucco-Finish Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
F12	909011194-12.2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Exterior Stucco / Southeast Wall		
Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. F

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
F13	909011194-13	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Gravel Roof / Center Of Roof			
Analyst Description: Black, Heterogeneous, Fibrous, Roofing **Asbestos Types:** **Other Material:** Fibrous glass 3 %, Non-fibrous 97 %			
F14	909011194-14	***Yes***	5 % (by CVES) by Arturo A. Aldana on 01/12/09
Location: Gray Roof Mastic / Center Penetration			
Analyst Description: Black/Grey, Heterogeneous, Fibrous, Penetration Mastic **Asbestos Types:** Chrysotile 5.0 % **Other Material:** Non-fibrous 95 %			

Reporting Notes:

Analyzed By: Arturo A. Aldana ; Date Analyzed: 1/12/2009 1-12-09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/12/09

90901194-

PACIFIC ENVIRONMENTAL

Date:	1/7/08
Client:	SBC USD
Site:	Pacific H.S.
Project No:	Bldg. F
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
F 01	12" White w/Gray Floor Tiles & black MASTIC	Room F11 - NE side	
F 02	12" ↓	Room F5 - N. side	
F 03	12" Gray Floor Tile & glue	Room F8 - N. side	
F 04	↓	Room F4 - S. side	
F 05	Carpet glue & black mastic	Room F7 - SE side	
F 06	Interior Plaster	Room F11 - north wall	
F 07	↓	Room F8 - South wall	
F 08	↓	Room F4 - N. wall	
F 09	4" Brown cove base & glue	Room F6 - SE wall	
F 10	Exterior Stucco	North wall	
F 11	↓	South wall	
F 12	↓	Southeast wall	
F 13	Gravel Roof	Center of roof	
F 14	Gray Roof Mastic	Center penetration	

Analytical Method: PLM

Turn Around Time: ~~Standard~~ 72 hrs

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
1/7/08	David Tillema	
Date/Time	Name	Signature
	01/08/09 0160	

(3)

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/08/09
Date Examined 01/12/09
AmeriSci Job # 909011195
P.O. #

RE: SBCUSD; Pacific High Bldg. G

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg. G-01	909011195-01	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Ext. Stucco / Ext. NE			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Bldg. G-02	909011195-02	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Ext. Stucco / Ext. S. Cntr			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Bldg. G-03	909011195-03	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Ext. Stucco / Ext. C. G-3			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Bldg. G-04	909011195-04	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 12x12 Lt Brown Ft / Rm G-6			
Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Flooring			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
Comment: No Mastic found			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. G

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg. G-05	909011195-05L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 12x12 Lt Brown Ft / Rm G-8			
Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Flooring **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-05	909011195-05L2	***No***	NAD [1] (by CVES) by Olga K. Katsuk on 01/12/09
Location: 12x12 Lt Brown Ft / Rm G-8			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-06	909011195-06	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Roof Core / Over Rm G-8			
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 20 %, Non-fibrous 80 %			
Bldg. G-07	909011195-07	***Yes***	5 % (by CVES) by Olga K. Katsuk on 01/12/09
Location: Penetration Mastic / Over Rm G-5			
Analyst Description: Grey/Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** Chrysotile 5.0 % **Other Material:** Non-fibrous 95 %			
Bldg. G-08	909011195-08	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Roof Core / Over Rm G-3			
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 20 %, Non-fibrous 80 %			
Bldg. G-09	909011195-09	***Yes***	10 % (by CVES) by Olga K. Katsuk on 01/12/09
Location: Penetration Mastic / Over Rm G-3			
Analyst Description: Grey/Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** Chrysotile 10.0 % **Other Material:** Non-fibrous 90 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. G

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg. G-10	909011195-10	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Plaster / Rm G-4			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-11	909011195-11	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Carpet Mastic / Rm G-4			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-12	909011195-12L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 4" Brown Base Cove / Rm G-4			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-12	909011195-12L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 4" Brown Base Cove / Rm G-4			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-13	909011195-13	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Plaster / Rm G-8			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-14	909011195-14	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Plaster / Rm G-7			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. G

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg. G-15	909011195-15	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Plaster / Rm G-3			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-16	909011195-16L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Linoleum - Core / Rm G-3 Office			
Analyst Description: Beige/Grey, Homogeneous, Non-Fibrous, Flooring **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-16	909011195-16L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Linoleum - Core / Rm G-3 Office			
Analyst Description: Clear, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-16	909011195-16L3	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Linoleum - Core / Rm G-3 Office			
Analyst Description: Light Grey, Homogeneous, Non-Fibrous, Subflooring **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-17	909011195-17	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Plaster / RR-GT-2			
Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-18	909011195-18L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 12x Lt Brown Ft / GT-2			
Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Flooring **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. G

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg. G-18	909011195-18L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 12x Lt Brown Ft / GT-2			
Analyst Description: Black, Heterogeneous, Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 5 %, Non-fibrous 95 %			
Bldg. G-19	909011195-19L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 12x White Ft / GT-1			
Analyst Description: White, Homogeneous, Non-Fibrous, Flooring **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-19	909011195-19L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 12x White Ft / GT-1			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-20	909011195-20	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Plaster / Office # 2 In GT-2			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-21	909011195-21	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Drywall / Classroom G-1-A			
Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-22	909011195-22	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Joint Compound / Classroom G-1-B			
Analyst Description: Beige/White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High Bldg. G

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
Bldg. G-23	909011195-23L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 4" Brown Base Cove / Hallway			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
Bldg. G-23	909011195-23L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 4" Brown Base Cove / Hallway			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

Reporting Notes:

(1) Insufficient material submitted for accurate quantitation during PLM analysis (no QC possible).

Analyzed By: Olga K. Katsuk _____; Date Analyzed: 1/12/2009 1/12/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/12/09

9090111 95 -

PACIFIC ENVIRONMENTAL

Date:	01 / 07 /2009
Client:	SBCUSD
Site:	PACIFIC HIGH BLDG G.
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
Bldg G. 01	EXT. STUCCO	EXT. NE	
02	EXT. STUCCO	EXT. S. CNTR	
03	EXT. STUCCO	EXT. Ceramics G.3	
04	12X12 LT BROWN FT	Rm G.6	
05	12X12 LT BROWN FT	Rm G.8	
06	ROOF Core	over Rm G-8	
07	Penetration Mastic	over Rm. G-5	
08	ROOF Core	over Rm G.3	
09	Penetration Mastic	over Rm G.3	
10	Plaster	Rm G.4	
11	CARPET MASTIC	Rm G.4	
12	4" Brown BASECOVE	Rm G.4	
13	Plaster	Rm. G.8	
14	Plaster	Rm. G.7	
15	Plaster	Rm G.3	
16	Linoleum - Core	Rm G.3 office	
17	PLASTER	RR - GT-2	
18	12X LT BROWN FT	GT. 2	
19	12X White FT	GT - 1	
20	Plaster	office # 2 in GT-2	
21	Drywall	Classroom G.1-A	
22	Joint Compound	Classroom G.1-B	
23	4" Brown Base cove	HALLWAY	
24			

Analytical Method: PLM

72 hrs.

Turn Around Time: ~~NORMAL~~

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		01/07/2009
	01/08/09	@1605

Name Signature Date/Time

6

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09
Date Examined 01/12/09

AmeriSci Job # 909011232
P.O. #

RE: SMCUSD; Pacific High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
H01	909011232-01	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09

Location: 12"x12" Gray Floor Tiles (Top Layer) / Center Office Hallway

Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 100 %

H02	909011232-02L1	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09

Location: 12" Gray Floor Tiles (Bottom Layer)

Analyst Description: Grey, Homogeneous, Non-Fibrous, Floor Tile
Asbestos Types:
Other Material: Non-fibrous 100 %

H02	909011232-02L2	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09

Location: 12" Gray Floor Tiles (Bottom Layer)

Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic
Asbestos Types:
Other Material: Non-fibrous 100 %

H03	909011232-03	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09

Location: Interior Plaster / H1 Welding Shop Toilet - S. Wall

Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 100 %

H04	909011232-04	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09

Location: Interior Plaster / H2 Restroom - W. Wall

Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 100 %

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
H05	909011232-05	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: Interior Plaster / H4 Janitor Room			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
H06	909011232-06L1	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: 4" Black Cove Base & Glue / H2 - West Wall			
Analyst Description: Black, Homogeneous, Non-Fibrous, Basecove			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
H06	909011232-06L2	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: 4" Black Cove Base & Glue / H2 - West Wall			
Analyst Description: Cream, Homogeneous, Non-Fibrous, Glue			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
H06	909011232-06L3	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: 4" Black Cove Base & Glue / H2 - West Wall			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Skim Coat			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
H07	909011232-07.1	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: 12"x12" Gray Floor Tiles & Black Mastic / H2 - North West Side			
Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Floor Tile			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
H07	909011232-07.2	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: 12"x12" Gray Floor Tiles & Black Mastic / H2 - North West Side			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
H08	909011232-08.1	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Drywall & Joint Compound / H2 - West Wall		
	Analyst Description: White/Brown, Homogeneous, Fibrous, Drywall		
	Asbestos Types:		
	Other Material: Cellulose 15 %, Non-fibrous 85 %		
H08	909011232-08.2	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Drywall & Joint Compound / H2 - West Wall		
	Analyst Description: Beige, Homogeneous, Fibrous, Joint Compound / Tape		
	Asbestos Types:		
	Other Material: Cellulose 10 %, Non-fibrous 90 %		
H09	909011232-09.1	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Exterior Stucco / North Wall		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco-Base Coat		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
H09	909011232-09.2	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Exterior Stucco / North Wall		
	Analyst Description: Peach, Homogeneous, Non-Fibrous, Cementitious, Stucco-Finish Coat		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
H10	909011232-10.1	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Exterior Stucco / South Wall		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco-Base Coat		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
H10	909011232-10.2	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Exterior Stucco / South Wall		
	Analyst Description: Peach, Homogeneous, Non-Fibrous, Cementitious, Stucco-Finish Coat		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
H11	909011232-11	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Exterior Stucco / West Wall		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Stucco		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
H12	909011232-12	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 12" Ceiling Tiles / H4 - North Corridor		
	Analyst Description: White/Brown, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 90 %, Non-fibrous 10 %		
H13	909011232-13	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Plaster / H9 - N/Wall		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
H14	909011232-14	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Carpet Glue / H9		
	Analyst Description: Yellow/Green/Pink, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Synthetic fibers 80 %, Non-fibrous 20 %		
H15	909011232-15L1	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 12x12 Light Brown Flr. Tile & Mastic / H7		
	Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
H15	909011232-15L2	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 12x12 Light Brown Flr. Tile & Mastic / H7		
	Analyst Description: Yellow/Black, Heterogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Cellulose 2 %, Non-fibrous 98 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
H16	909011232-16L1	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 4" Brown Cove Base & Glue / H7		
Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
H16	909011232-16L2	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 4" Brown Cove Base & Glue / H7		
Analyst Description: Cream, Homogeneous, Non-Fibrous, Glue **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
H16	909011232-16L3	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 4" Brown Cove Base & Glue / H7		
Analyst Description: Beige, Homogeneous, Non-Fibrous, Skim Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
H17	909011232-17	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Roof Core / Roof Ctr.		
Analyst Description: Black, Homogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 15 %, Non-fibrous 85 %			
H18	909011232-18	***Yes***	5 % (by CVES) by Paola Ducoing on 01/12/09
	Location: Roof Mastic / Roof East		
Analyst Description: Black/Grey, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 5.0 % **Other Material:** Non-fibrous 95 %			
H19	909011232-19	***No***	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Window Putty / Ext. S/W @ H5 Rm.		
Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School

Reporting Notes:

Analyzed By: Paola Ducoing ; Date Analyzed: 1/12/2009 1/12/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/13/09

9U9U11232_

PACIFIC ENVIRONMENTAL

Date:	/ /2009
Client:	SBCUSD
Site:	Pacific High School
Project No:	To Be Determined
Inspector(s):	Thomas Gannon / Victor Suarez

CELL # 949-289-8567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
H01	12"x12" gray floor tiles (Top Layer)	Center office H1 welding	
H02	12" gray floor tiles (bottom Layer)		
H03	Interior Plaster	H1 welding shop Toilet - S. wall	
H04	↓	H2 Restroom - W. wall	
H05	↓	H4 Janitor room	
H06	4" black Cove base & glue	H2 - West wall	
H07	12"x12" Gray floor Tiles & black MASTIC	H2 - North West side	
H08	Drywall & Joint Compound	H2 - West wall	
H09	EXTERIOR STUCCO	North wall	
H10	↓	South wall	
H11	↓	West wall	
H12	12" Ceiling Tiles	H4 - North corridor	
H13	PLASTER	H9 - N/ wall	
H14	carpet & glue.	H9.	H-9
H15	12x12" light brown floor tile	mastic H7.	H-5 thru H9.
H16	4" brown cove base & glue	H7.	H-5 thru H9
H17	ROOF core	ROOF CTR.	
H18	ROOF MASTIC	ROOF B/ EAST	
H19	window putty	ext. S/W @ H5 RM.	

Analytical Method: PLM

Turn Around Time: 24 hrs

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Thomas Gannon		/ /2009
Name	Signature	Date/Time
Victor Suarez		1-10-09
Name	Signature	Date/Time

RECEIVED
JAN 12 2009
S. TAHVILDARI

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09
Date Examined 01/12/09
AmeriSci Job # 909011233
P.O. #

RE: SMCUSD; Pacific High School / I Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
I-1	909011233-01L1	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: 4" Cove Base (Brown) & Gue / Room I1			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
I-1	909011233-01L2	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: 4" Cove Base (Brown) & Glue / Room I1			
Analyst Description: Cream, Homogeneous, Non-Fibrous, Glue **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
I-2	909011233-02	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: Drywall / Room I8			
Analyst Description: White/Brown, Homogeneous, Fibrous, Drywall **Asbestos Types:** **Other Material:** Cellulose 15 %, Non-fibrous 85 %			
I-3	909011233-03	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: Carpet Glue / Room I1			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Carpet Glue **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
I-4	909011233-04	*Yes*	3 % (by CVES) by Paola Ducoing on 01/12/09
Location: Roof Mastic / Room I1			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Roofing **Asbestos Types:** Chrysotile 3.0 % **Other Material:** Non-fibrous 97 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School / I Bldg.

Reporting Notes:

Analyzed By: Paola Ducoing ; Date Analyzed: 1/12/2009 1/12/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/13/09

90901233_

PACIFIC ENVIRONMENTAL

I bldg.

Date:	/ /2009
Client:	SBCUSD
Site:	Pacific H.S.
Project No:	To Be Determined
Inspector(s):	Thomas Gannon / V Sanchez

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
I-01	4" cove base (brown) & Glue	Room I 1	
I-02	Drywall	Room I 8	
I-03	Carpet Glue	Room I 1	
I-04	Roof Mastic	Room I 1	

Analytical Method: PLM

Turn Around Time: 24 hrs

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		/ /2009
V. S.		1-16-09

RECEIVED
JAN 19 2009
S. TAHVILDARI

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09
Date Examined 01/12/09
AmeriSci Job # 909011238
P.O. #

RE: SBCUSD; Pacific H.S. / Bldg. J (Portables)

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011238-01	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Roof Mastic / J1 - Roof - W. Side		
Analyst Description: Grey, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 6 %, Non-fibrous 94 %			
02	909011238-02	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Drywall / J1 - West Side Behind Board		
Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
03	909011238-03	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Carpet Glue / J2 - East Side		
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
04	909011238-04L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: 4" Blue Cove Base & Glue / J2 North Side		
Analyst Description: Blue, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
04	909011238-04L2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: 4" Blue Cove Base & Glue / J2 North Side		
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific H.S. / Bldg. J (Portables)

Reporting Notes:

Analyzed By: Olga K. Katsuk _____; Date Analyzed: 1/12/2009 1/12/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/13/09

9090112 38 -

PACIFIC ENVIRONMENTAL

Date:	1/9/09
Client:	SBCUSD
Site:	Pacific H.S.
Project No:	
Inspector(s):	D.T.

Bldg J (Portables)

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
01	Roof mastic	J1-roof - w side	
02	Drywall	J1 - West side behind	board
03	Carpet glue	J2: East side	
04	4" blue cove base & glue	J2 North side	

Analytical Method: PLM

Turn Around Time: ~~Standard~~ 24hrs

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
1/9/05	David Tillema	
V. Sweeney		1-10-05
Date/Time	Name	Signature

RECEIVED
JAN 12 2009
S. TAHVILDARI

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09
Date Examined 01/12/09
AmeriSci Job # 909011236
P.O. #

RE: SBC USD; Pacific H.S. / Bldg. K

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011236-01L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12"x12" Gray Floor Tile & Glue / Room K1 - NW Side		
	Analyst Description: Tan, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
01	909011236-01L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12"x12" Gray Floor Tile & Glue / Room K1 - NW Side		
	Analyst Description: Orange, Homogeneous, Non-Fibrous, Glue		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011236-02L1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12"x12" White Floor Tile & Black Mastic / Room K3 Offices / Hallway N. Side		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011236-02L2	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: 12"x12" White Floor Tile & Black Mastic / Room K3 Offices / Hallway N. Side		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
03	909011236-03.1	*No*	NAD (by CVES) by Arturo A. Aldana on 01/12/09
	Location: Interior Plaster / Women's Restroom / S. Wall		
	Analyst Description: White, Homogeneous, Non-Fibrous, Cementitious, Plaster-Finish Coat		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBC USD; Pacific H.S. / Bldg. K

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
03	909011236-03.2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Interior Plaster / Women's Restroom / S. Wall			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Plaster-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
04	909011236-04L1	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: 4" Brown Cove Base & Glue / Room K1 / S. Side			
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Cove Base **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
04	909011236-04L2	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: 4" Brown Cove Base & Glue / Room K1 / S. Side			
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Glue **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
05	909011236-05	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Drywall / K2 / SE Corner			
Analyst Description: White/Brown, Homogeneous, Fibrous, Drywall **Asbestos Types:** **Other Material:** Cellulose 3 %, Fibrous glass Trace, Non-fibrous 97 %			
06	909011236-06	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Joint Compound / K2 / South Center			
Analyst Description: White, Homogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
07	909011236-07	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Joint Compound / K3 / Office @ Reception			
Analyst Description: White, Homogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBC USD; Pacific H.S. / Bldg. K

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
08	909011236-08	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Carpet Glue / K2 / East Center			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Glue **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
09	909011236-09	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Exterior Stucco / South Center			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Cementitious, Stucco **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
10	909011236-10	***No***	NAD (by CVES) by Arturo A. Aldana on 01/12/09
Location: Roof (Composite) / South East Side			
Analyst Description: Black, Heterogeneous, Fibrous, Roofing **Asbestos Types:** **Other Material:** Fibrous glass 4 %, Non-fibrous 96 %			
11	909011236-11	***Yes***	5 % (by CVES) by Arturo A. Aldana on 01/12/09
Location: Roof Mastic (Gray) / South Center Penetration			
Analyst Description: Black/Grey, Homogeneous, Fibrous, Roofing Mastic **Asbestos Types:** Chrysotile 5.0 % **Other Material:** Non-fibrous 95 %			

Reporting Notes:

Analyzed By: Arturo A. Aldana aa aldana ; Date Analyzed: 1/12/2009 1-12-09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/13/09

909011236

PACIFIC ENVIRONMENTAL

Bldg. K

Date:	1 / 9 /2009
Client:	SBC USD
Site:	Pacific H. S.
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
01	12"x12" Gray floor Tiles & glue mastic	Room K1 - NW Side	2,300 S/F
02	12"x12" white floor Tiles & black mastic	Room K3 offices & Hallway Room N Side	1,500 S/F
03	Interior Plaster	Women's Restroom / S. wall	500 S/F
04	4" brown Covebase & glue	Room K1 / S. Side	500 S/F
05	Drywall	K2 / SE corner	4,600 S/F
06	Joint compound	K2 / South Center	↓
07	↓	K3 / offices & reception	
08	Carpet glue	K2 / East center	1,800 S/F
09	Exterior Stucco	South center	500 S/F
10	Roof (composite)	South East side	10,000 S/F
11	Roof Mastic (Gray)	South center penetration	25 S/F

Analytical Method: PLM

Turn Around Time: 24

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		/2009
Vicky Sarkis		1-16-09

RECEIVED
JAN 12 2009
S. TAHVILDARI

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09
Date Examined 01/12/09
AmeriSci Job # 909011240
P.O. #

RE: SBCUSD; Pacific H.S. / Bldg. M

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011240-01	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Acoustical Ceiling / M1 - Office 2 - Center		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011240-02	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 1'x1' Pinhole Ceiling Tile / M1 - E. Wall		
	Analyst Description: White/Brown, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 90 %, Non-fibrous 10 %		
03	909011240-03L1	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 4" Brown Cove Base & Glue / M1 - West Wall		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Baseboard		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
03	909011240-03L2	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 4" Brown Cove Base & Glue / M1 - West Wall		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Glue		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
04	909011240-04	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 1'x1' Wall Tiles / M2 - E. Wall		
	Analyst Description: Brown, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 98 %, Non-fibrous 2 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific H.S. / Bldg. M

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
05	909011240-05	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: Wall Tiles Brown Mastic / M2 - West Center			
Analyst Description: Dark Brown, Homogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 15 %, Non-fibrous 85 %			
06	909011240-06L1	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: 12"x12" Gray Floor Tiles & Glue / M2 - West Center			
Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
06	909011240-06L2	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: 12"x12" Gray Floor Tiles & Glue / M2 - West Center			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
07	909011240-07	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: Interior Plaster / M 1 - Storage 3 - SE Side			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
08	909011240-08	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: Interior Plaster / M2 - South Wall			
Analyst Description: Beige/Green, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
09	909011240-09	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
Location: Interior Plaster / M2 - N. Wall			
Analyst Description: Beige/Green, Homogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific H.S. / Bldg. M

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
10	909011240-10	***Yes***	Trace (<1 %) (by CVES) by Paola Ducoing on 01/12/09

Location: Window Putty / M2 - North Window

Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material
Asbestos Types: Chrysotile <1. %
Other Material: Non-fibrous 100 %

Reporting Notes:

Analyzed By: Paola Ducoing _____; Date Analyzed: 1/12/2009 1/12/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/13/09

90901124 0_

PACIFIC ENVIRONMENTAL

Date:	1/9/09
Client:	SBCUSD
Site:	PACIFIC H. S.
Project No:	
Inspector(s):	D.T.

Bldg. M

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
01	Acoustical Ceiling	M1 - OFFICE 2 - center	Good
02	1'X1' pinhole Ceiling Tiles	M1 - E. wall/ Room 4	↓
03	4" brown cove base & glue	M1 - WEST WALL	
04	1'X1' Ceiling Tiles	M2 - E. wall	
05	Wall Tiles brown MASTIC	M2 - E - wall	
06	12"X12" Gray floor tiles & glue	M2 - WEST CENTER	
07	Interior plaster	M1 - STORAGE 3 - SE side	
08	↓	M2 - South wall	
09		M2 - N. wall	
10	window putty	M2 - north window	

Analytical Method: PLM

Turn Around Time: ~~Standard~~ 24hrs

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
	David Tillema	
Date/Time	Name	Signature
		1-10-09

RECEIVED
JAN 12 2009
S. TAHVILDARI

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09 **AmeriSci Job #** 909011234
Date Examined 01/12/09 **P.O. #**
Page 1 **of** 4
RE: SMCUSD; Pacific High School / Auditorium Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011234-01L1	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 12" Light Brown Flr. Tile & Mastic / Foyer (North)		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
01	909011234-01L2	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 12" Light Brown Flr. Tile & Mastic / Foyer (North)		
	Analyst Description: Cream, Heterogeneous, Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Cellulose 3 %, Non-fibrous 97 %		
02	909011234-02L1	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 12" Light Brown Flr. Tile & Mastic / Lobby East Ctr.		
	Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011234-02L2	*Yes*	2 % (by CVES) by Raymundo Orozco on 01/12/09
	Location: 12" Light Brown Flr. Tile & Mastic / Lobby East Ctr.		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types: Chrysotile 2.0 %		
	Other Material: Cellulose 3 %, Non-fibrous 95 %		
03	909011234-03L1	*Yes*	3 % (by CVES) by Raymundo Orozco on 01/12/09
	Location: 9" Tan Floor Tile & Mastic / Roof Acces Closet		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types: Chrysotile 3.0 %		
	Other Material: Non-fibrous 97 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School / Auditorium Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
03	909011234-03L2	***Yes***	5 %
	Location: 9" Tan Floor Tile & Mastic / Roof Acces Closet		(by CVES) by Raymundo Orozco on 01/12/09
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types: Chrysotile 5.0 %		
	Other Material: Non-fibrous 95 %		
04	909011234-04	***No***	NAD
	Location: Acosutic Ceiling / Lobby S/West		(by CVES) by Raymundo Orozco on 01/12/09
	Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
05	909011234-05	***No***	NAD
	Location: Acoustic Ceiling / Lobby S/E		(by CVES) by Raymundo Orozco on 01/12/09
	Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
06	909011234-06	***No***	NAD
	Location: Acoustic Ceiling / Women RRs S/E		(by CVES) by Raymundo Orozco on 01/12/09
	Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
07	909011234-07L1	***No***	NAD
	Location: 6In Cove Base & Glue		(by CVES) by Raymundo Orozco on 01/12/09
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Cove Base		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
07	909011234-07L2	***No***	NAD
	Location: 6In Cove Base & Glue		(by CVES) by Raymundo Orozco on 01/12/09
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School / Auditorium Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
08	909011234-08	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Carpet Glue / Seating Area			
Analyst Description: Cream, Heterogeneous, Fibrous, Mastic **Asbestos Types:** **Other Material:** Synthetic fibers 10 %, Non-fibrous 90 %			
09	909011234-09	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: 12" Pinhole Ceiling Tile / Stage Area			
Analyst Description: Yellow, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 90 %, Non-fibrous 10 %			
10	909011234-10	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Mastic Associated W/Pinhole / Stage Area			
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
11	909011234-11L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Brown Flooring W/Mastic / Seating Area Orchestra Booth			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Cove Base **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
11	909011234-11L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Brown Flooring W/Mastic / Seating Area Orchestra Booth			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
12	909011234-12	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Plaster / Ticket Booth			
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School / Auditorium Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
13	909011234-13	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Plaster / Closet			
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
14	909011234-14	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Plaster / Storage Rm.			
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
15	909011234-15	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Plaster / Attic Space Above Stage			
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

Reporting Notes:

Analyzed By: Raymundo Orozco _____; Date Analyzed: 1/12/2009 1/12/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/13/09

90501234_

PACIFIC ENVIRONMENTAL

Auditorium bldg

Date:	/ /2009
Client:	SBCUSD
Site:	Pacific H.S
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
01	12" Light brown Flr tile & mastic	foyer (north)	
02	〃	Lobby EAST CTR.	
03	9" tan floor tile & mastic	Roof mens closet	
04	Acoustic ceiling	Lobby S/W EST	
05	〃	Lobby S/E	
06	〃	Women 1213 S/E	
07	6in cove base & glue.		
08	carpet glue	seating area	
09	12" pinhole ceiling tile.	Stage area	
10	mastic Associated w/ pinhole	- 〃	
11	brown floor tile w/ mastic	seating area orchestra booth	
12	Plaster	ticket booth.	
13	〃	closet	
14	〃	storage rm.	
15	Plaster	ATTIC Space Above Stage.	

Analytical Method: PLM

Turn Around Time: 24 hrs

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		/2009
Victor S.		1-16-09

RECEIVED
JAN 12 2009
S. TAHVILDARI

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09 **AmeriSci Job #** 909011231
Date Examined 01/12/09 **P.O. #**
Page 1 **of** 4
RE: SMCUSD; Pacific High School / Cafeteria Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011231-01	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Plaster / Staff RR's S/E			
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
02	909011231-02	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Plaster / Kitchen N/W			
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
03	909011231-03	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Plaster / Dining Rm / Lounge E/C			
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
04	909011231-04L1	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: 12" Light Brown Flr. Tile & Mastic / Teacher's Dining Rm			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
04	909011231-04L2	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: 12" Light Brown Flr. Tile & Mastic / Teacher's Dining Rm			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Cellulose 5 %, Non-fibrous 95 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School / Cafeteria Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
05	909011231-05L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 12" Light Brown Flr. Tile & Mastic / Dining Rm / Lounge S/W		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
05	909011231-05L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 12" Light Brown Flr. Tile & Mastic / Dining Rm / Lounge S/W		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Cellulose 3 %, Non-fibrous 97 %		
05	909011231-05L3	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 12" Light Brown Flr. Tile & Mastic / Dining Rm / Lounge S/W		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Leveling Compound		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
06	909011231-06L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 4" Black Cove Base & Glue / Teachers Dining Rm N/W		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Cove Base		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
06	909011231-06L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 4" Black Cove Base & Glue / Teachers Dining Rm N/W		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
07	909011231-07	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 2x4 Drywall Ceiling Panel / Food Prep Area, Ctr		
	Analyst Description: Beige/Brown, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 15 %, Non-fibrous 85 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School / Cafeteria Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
08	909011231-08	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: Drywall / Teachers Dining Rm		
Analyst Description: Brown, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 85 %, Non-fibrous 15 %			
09	909011231-09	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 12" Pinhole Ceiling Tile / Teachers Dining Rm		
Analyst Description: Brown, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 95 %, Non-fibrous 5 %			
10	909011231-10	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: Mastic Associated W/12" Pinhole / Teachers Dining Rm		
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 10 %, Non-fibrous 90 %			
11	909011231-11	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: Roof Core / Roof N/East		
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 15 %, Non-fibrous 85 %			
12	909011231-12	*Yes*	3 % (by CVES) by Raymundo Orozco on 01/12/09
	Location: Roof Mastic / Roof S		
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 3.0 % **Other Material:** Cellulose 3 %, Non-fibrous 94 %			
13	909011231-13	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: Ext. Ceiling Textured Stucco / West Overhang S/W		
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School / Cafeteria Bldg.

Reporting Notes:

Analyzed By: Raymundo Orozco ; Date Analyzed: 1/12/2009 1/12/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/13/09

909011231

PACIFIC ENVIRONMENTAL

Date:	/ /2009
Client:	SBCUSD.
Site:	Pacific H.S.
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

CAFETERIA - Bldg.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
01	PLASTER.	STAFF RR's. S/E	throughout
02	"	kitchen N/W	"
03	"	Dining rm/Lounge E/C	"
04	12" Lightbrown/tan/blk mastic	Teachers Dining rm	3000 sq.ft
05	"	Dining rm/Lounge. S/W	"
06	4" blk cove base & glue	Teachers Dining rm N/W	250 L.FT
07	2x4 drywall ceiling panel	food prep area, CT12	1600 sq.ft.
08	drywall	Teachers Dining rm	3000 sq.ft
09	12" pinhole ceiling tile	"	"
10	MASTIC ASSOCIATED W/ 12" pinhole.	"	"
11	ROOF core	ROOF N/WEST	
12	ROOF MASTIC	ROOF S/W	
13	ext. ceiling textured stucco.	west overhang. S/W.	

Analytical Method: PLM

Turn Around Time: 24.

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		/2009
V. S.		1-10-09

RECEIVED
JAN 12 2009
S. TAHVILDARI

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09
Date Examined 01/12/09
AmeriSci Job # 909011230
P.O. #

RE: SMCUSD; Pacific High School / Gym Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011230-01L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Angle Shaped Black Cove Base / Basket Ball Courts		
	Analyst Description: Purple, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
01	909011230-01L2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Angle Shaped Black Cove Base / Basket Ball Courts		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011230-02L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: 4" Gray Cove Base & Glue / South Lobby S/E		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011230-02L2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: 4" Gray Cove Base & Glue / South Lobby S/E		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
03	909011230-03L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: 12" Light Brown Flr. Tile / South Lobby S/E		
	Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Flooring		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School / Gym Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
03	909011230-03L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: 12" Light Brown Flr. Tile / South Lobby S/E		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
04	909011230-04	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: 12" Pinhole Ceiling Tile / South Lobby		
	Analyst Description: White, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 90 %, Non-fibrous 10 %		
05	909011230-05	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Mastic Associated W/Pinhole / South Lobby		
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
06	909011230-06	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Plaster / Boys RR's		
	Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
07	909011230-07	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Plaster / Girls RR's N/E		
	Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
08	909011230-08	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Plaster / S/E Boys RR's		
	Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School / Gym Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
09	909011230-09	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Roof Core / Roof N/W			
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 20 %, Non-fibrous 80 %			
10	909011230-10	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Roof Mastic / Roof N/W			
Analyst Description: Grey/Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 7 %, Non-fibrous 93 %			
11	909011230-11	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Exterior Stucco Ceiling / South Walkway			
Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

Reporting Notes:

Analyzed By: Olga K. Katsuk _____; Date Analyzed: 1/12/2009 1/12/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/13/09

9090112 30 -

PACIFIC ENVIRONMENTAL

Date:	/ /2009
Client:	SMCUSD
Site:	Pacific High School
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

Gym bldg

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
01	Angle shaped black cove base.	basket ball courts.	300 Li.FT
02	4" gray cove base under	south Lobby. S/E	30 Li.FT Lobbies
03	12" light brown flr tile	south Lobby S/E	Lobbies 1800 sq.FT
04	12" pink/beige mottled flr tile	south Lobby.	Lobbies 800 sq.FT
05	Mastic associated w/ Pink tile	south Lobby	Lobbies 800 sq.FT
06	Plaster.	Boys RR's	2,500 sq.FT
07	Plaster	Girls RR's N/E.	↓
08	Plaster	S/E Boys RR's	
09	ROOF core	ROOF N/W.	ROOF
10	ROOF MASTIC	ROOF N/W.	ROOF
11	exterior stucco ceiling	south walkway	1200 sq.FT

Analytical Method: PLM

Turn Around Time: 24 hrs

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		/ /2009
V.S.		1-10-09

Name Signature Date/Time

RECEIVED
JAN 12 2009
@0750
K. ARELLANO

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09
Date Examined 01/12/09
AmeriSci Job # 909011243
P.O. #

RE: SBCUSD; Pacific H.S. / Boys PE Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011243-01	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Roof Core / Roof S/E		
	Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Fibrous glass 15 %, Synthetic fibers 5 %, Non-fibrous 80 %		
02	909011243-02	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Roof Mastic / Roof N/W		
	Analyst Description: Black/Grey, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 5 %, Non-fibrous 95 %		
03	909011243-03	*Yes*	Trace (<1 %) (by CVES) by Paola Ducoing on 01/12/09
	Location: Window Putty / Roof S/W At Higher Roof		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		
04	909011243-04	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 12" Light Brown Floor Tile / Coaches Office N/E		
	Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
05	909011243-05L1	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 4" Cove Base & Glue / Coaches Office N/E		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific H.S. / Boys PE Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
05	909011243-05L2	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 4" Cove Base & Glue / Coaches Office N/E		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Glue		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
06	909011243-06	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Plaster / Faculty RRs N/W		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
07	909011243-07	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: Plaster / First Aid Rm, S		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
08	909011243-08L1	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: 12" Beige Floor Tile / First Aid Rm. S/W		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
08	909011243-08L2	*Yes*	Trace (<1 %) (by CVES) by Paola Ducoing on 01/12/09
	Location: 12" Beige Floor Tile / First Aid Rm. S/W		
	Analyst Description: Black/Yellow, Heterogeneous, Non-Fibrous, Mastic		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		
09	909011243-09	*No*	NAD (by CVES) by Paola Ducoing on 01/12/09
	Location: T. / Locker Rm. East Ctr.		
	Analyst Description: Black/Brown, Heterogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 10 %, Non-fibrous 90 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific H.S. / Boys PE Bldg.

Reporting Notes:

Analyzed By: Paola Ducoing ; Date Analyzed: 1/12/2009 1/12/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/13/09

9090 1243 -

PACIFIC ENVIRONMENTAL

Boys PE bldg

Date:	/ /2009
Client:	SBCUSD
Site:	Pacific H.S.
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
01	ROOF core	ROOF S/E	
02	ROOF MASTIC	ROOF N/W.	40sq.FT
03	window PUTTY	ROOF S/W. at higher roof	
04	12" Light brown floortile	coaches office N/E	coaches office & RM'S Fac.
05	4" cove base. brown/glue	coaches office N/E	coaches office, aid rm. & Faculty RM's
06	PLASTER	Faculty RM. N/W.	d
07	Plaster	first aid rm. S/E	
08	12" beige floortile	first aid rm. S/W.	first aid rm 120 sq.FT
09	textum.	locker rm EAST CTR	400sq.FT.

Analytical Method: PLM

Turn Around Time: 24 hrs

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Thomas Gannon / /2009
Name Signature Date/Time

Victor Sanchez 1-12-09
Name Signature Date/Time

RECEIVED
JAN 12 2009
S. TAHVILDARI

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09
Date Examined 01/12/09
AmeriSci Job # 909011241
P.O. #

RE: SBCUSD; Pacific High School / Girls PE Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011241-01	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Roof Core / (Roof) S/W			
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 15 %, Non-fibrous 85 %			
02	909011241-02	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Roof Mastic / Roof N/W			
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
03	909011241-03	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Window Puddy / Exterior West Center			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
04	909011241-04L1	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: 12" Gray Speckled Floor Tile & Mastic / First Aid Rm. S/E			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Cellulose 2 %, Non-fibrous 98 %			
04	909011241-04L2	*No*	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: 12" Gray Speckled Floor Tile & Mastic / First Aid Rm. S/E			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 5 %, Non-fibrous 95 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High School / Girls PE Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
05	909011241-05L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 12" Light Brown Flr. Tile & Mastic / Coaches Office N/E		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Cellulose 2 %, Non-fibrous 98 %		
05	909011241-05L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 12" Light Brown Flr. Tile & Mastic / Coaches Office N/E		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Cellulose 3 %, Non-fibrous 97 %		
06	909011241-06L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 4" Brown Cove Base & Glue / Coaches Office S/E		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Cove Base		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
06	909011241-06L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: 4" Brown Cove Base & Glue / Coaches Office S/E		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 2 %, Non-fibrous 98 %		
07	909011241-07	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: Plaster / First Aid Rm S/W		
	Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
08	909011241-08	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
	Location: Plaster / Coaches Office N/W		
	Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific High School / Girls PE Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
09	909011241-09	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09

Location: Plaster / Bathroom S/E

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 100 %

Reporting Notes:

Analyzed By: Raymundo Orozco ; Date Analyzed: 1/12/2009 1/12/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/13/09

9090112 41-

PACIFIC ENVIRONMENTAL

Gwls P E Bldg.

Date:	/ /2009
Client:	S B C U S D
Site:	Pacific High School
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location → S/W.	Condition/ Quantity
01	Roof Core	(Roof) ~~Girls Locker Room~~	
02	Roof mastic	ROOF N/W	
03	Window puddy	exterior west center	
04	12" gray speckled floor tile w/mastic	First aid rm. S/E	
05	12" light brown floor tile w/mastic	coaches office N/E	
06	4" brown Lovehoney style	coaches office S/E	
07	Plaster	First aid rm S/W.	
08	↓	coaches office N/W.	
09		bathroom. S/E	
10			

Analytical Method: PLM

Turn Around Time: 24 hrs

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		/2009
V. Sevilla		1-10-09

RECEIVED
JAN 12 2009
S. TAHVILDARI

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09
Date Examined 01/12/09
AmeriSci Job # 909011239
P.O. #
Page 1 **of** 1
RE: SBCUSD; Pacific H.S. / Pool Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011239-01	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Roof Core / Roof - SW Side			
Analyst Description: Grey, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 10 %, Synthetic fibers 15 %, Non-fibrous 75 %			
02	909011239-02	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Roof Mastic / Roof - SE Side			
Analyst Description: Grey/Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

Reporting Notes:
Analyzed By: Olga K. Katsuk _____; Date Analyzed: 1/12/2009 1/12/09
*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.
Reviewed By: _____ 1/12/09

90901123 9-

PACIFIC ENVIRONMENTAL

Date:	1/9/09
Client:	SBCUSD
Site:	Pacific M.S.
Project No:	
Inspector(s):	D.T.

Pool Bldg.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
01	Roof Core	roof - SW side	
02	Roof MASTIC	roof - SE side	

Analytical Method: PLM

Turn Around Time: ~~Standard~~ 24hrs

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
1/5/09	David Tillema	
Date/Time	Name	Signature
RECEIVED JAN 12 2009	S. TAHVILDARI	

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09
Date Examined 01/12/09
AmeriSci Job # 909011242
P.O. #
Page 1 **of** 1
RE: SBCUSD; Pacific H.S. / Storage Bldg.

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011242-01	***Yes***	3 % (by CVES) by Raymundo Orozco on 01/12/09
Location: Roof Mastic / Roof S/W			
Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 3.0 % **Other Material:** Non-fibrous 97 %			
02	909011242-02	***No***	NAD (by CVES) by Raymundo Orozco on 01/12/09
Location: Textured Coating / S/W			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

Reporting Notes:
Analyzed By: Raymundo Orozco ; Date Analyzed: 1/12/2009 1/12/09
*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.
Reviewed By: 1/13/09

909011242-

PACIFIC ENVIRONMENTAL

Date:	/ /2009
Client:	SBCUSB
Site:	Pacific H.S.
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

storage bldg

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
01	ROOF MASTIC	ROOF S/W	1050 SQ FT.
02	Textured coating	S/W.	12600 SQ FT

Analytical Method: PLM

Turn Around Time: 24hrs

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		2009
[illegible]	[illegible]	1-10-09

RECEIVED
JAN 12 2009
S. TAHVILDARI

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09
Date Examined 01/12/09
AmeriSci Job # 909011237
P.O. #

RE: SBCUSD; Pacific H.S. / Bldg. Y

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011237-01	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Ext. M. Texture / North Center		
	Analyst Description: Beige, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 5 %, Non-fibrous 95 %		
02	909011237-02	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Ext. M. Texture / South Center		
	Analyst Description: Beige, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 5 %, Non-fibrous 95 %		
03	909011237-03	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Ext. M. Texture / West Center		
	Analyst Description: Beige, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 3 %, Non-fibrous 97 %		
04	909011237-04.1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Drywall / YO - Boys Locker - Partition Wall		
	Analyst Description: White/Brown, Heterogeneous, Fibrous, Drywall / Tape		
	Asbestos Types:		
	Other Material: Cellulose 15 %, Non-fibrous 85 %		
04	909011237-04.2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Drywall / YO - Boys Locker - Partition Wall		
	Analyst Description: White, Homogeneous, Non-Fibrous, Joint Compound		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific H.S. / Bldg. Y

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
05	909011237-05	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Joint Compound / YO - Boys Locker - Partition Wall			
Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
06	909011237-06L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: White 12"x12" Floor Tile & Black Mastic / Kitchen - Center			
Analyst Description: Beige/White, Homogeneous, Non-Fibrous, Flooring **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
06	909011237-06L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: White 12"x12" Floor Tile & Black Mastic / Kitchen - Center			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
07	909011237-07	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Carpet Glue / Classroom Y2 - North Side			
Analyst Description: Cream, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
08	909011237-08L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 4" Brown Cove Base / Classroom Y1 - South Side			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
08	909011237-08L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 4" Brown Cove Base / Classroom Y1 - South Side			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Pacific H.S. / Bldg. Y

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
09	909011237-09	***No***	NAD
Location: Drywall Behind Metal Panels / Classroom Y3 - North Wall			(by CVES) by Olga K. Katsuk on 01/12/09
Analyst Description: White/Brown, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 20 %, Non-fibrous 80 %			
10	909011237-10	***No***	NAD
Location: 2'x4' Ceiling Tiles / Classroom Y4 - SW Side			(by CVES) by Olga K. Katsuk on 01/12/09
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 50 %, Non-fibrous 50 %			

Reporting Notes:

Analyzed By: Olga K. Katsuk _____; Date Analyzed: 1/12/2009 1/12/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/13/09

9090112 37 -

PACIFIC ENVIRONMENTAL

Bldg. Y

Date:	1 / 9 /2009
Client:	SBCUSD
Site:	Pacific H. S.
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
01	EXT- Mud-1 Texture	north center	
02	↓	South Center	
03	↓	west Center	
04	Drywall	40 - Boys locker - partition wall	
05	Joint compound	40 - Boys locker - partition wall	
06	white 12"x12" floor tiles & black Mastic	KITCHEN - Center	
07	Carpet glue	Classroom 42 - north side	
08	4" brown cove base & glue	Classroom 41 - South side	
09	Drywall behind Metal panels	Classroom 43 - north wall	
10	2'x4' Ceiling Tiles	Classroom 44 - SW side	

Analytical Method: PLM

Turn Around Time: 24 hrs

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		1/ /2009
V. Sinclair		1-10-09

RECEIVED
JAN 12 2009
S. TAHVIL...

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/12/09 **AmeriSci Job #** 909011235
Date Examined 01/12/09 **P.O. #**
Page 1 **of** 3
RE: SMCUSD; Pacific High School / Bldg. 2

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011235-01L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: 12"x12" White Floor Tiles & Glue / Room Z2 - South		
	Analyst Description: White, Homogeneous, Non-Fibrous, Flooring		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
01	909011235-01L2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: 12"x12" White Floor Tiles & Glue / Room Z2 - South		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011235-02.1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Drywall / Room Z1 - North Wall		
	Analyst Description: White/Brown, Heterogeneous, Fibrous, Drywall / Tape		
	Asbestos Types:		
	Other Material: Cellulose 15 %, Non-fibrous 85 %		
02	909011235-02.2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: Drywall / Room Z1 - North Wall		
	Analyst Description: White/Beige, Homogeneous, Non-Fibrous, Joint Compound		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
03	909011235-03L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/12/09
	Location: 4" Brown Cove Base & Glue / Room Z3 - South Wall		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School / Bldg. 2

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
03	909011235-03L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 4" Brown Cove Base & Glue / Room Z3 - South Wall			
Analyst Description: Brown/White, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
04	909011235-04	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Metal Textures / Exterior - South Side			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
05	909011235-05	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Exterior / Exterior - North Side			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
06	909011235-06	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Exterior / Exterior - East Side			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
07	909011235-07	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 2'x4' Ceiling Tile / Room Z5 - N. Ceiling			
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 50 %, Non-fibrous 50 %			
08	909011235-08	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: Carpet Glue / Room Z5 - E. Side			
Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SMCUSD; Pacific High School / Bldg. 2

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
09	909011235-09L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 4" Brown Cove Base & Glue / Room Z6 - E. Side			
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
09	909011235-09L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/12/09
Location: 4" Brown Cove Base & Glue / Room Z6 - E. Side			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic			
Asbestos Types:			
Other Material: Non-fibrous 100 %			

Reporting Notes:

Analyzed By: Olga K. Katsuk _____; Date Analyzed: 1/12/2009 1/12/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/13/09

9090112 35 -

PACIFIC ENVIRONMENTAL

Bldg. 2

Date:	1/9/2009
Client:	SBCUSD
Site:	Pacific H.S.
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity
01	12"x12" white floor Tiles & glue	Room 22 - South side	900 S/F
02	Drywall	Room 21 - north wall	4,800 S/F
03	4" brown cove base & glue	Room 23 - South wall	360 S/F
04	Metal Textures	Exterior - South side	2,400 S/F
05	Exterior	" - north side	
06	"	" - East side	"
07	2'x4' ceiling Tiles	Room 25 - N. ceiling	4,000 S/F
08	Carpet glue	Room 25 - E side	4,000 S/F
09	4" brown Covebase & glue	Room 26 - E. side	480 S/F

Analytical Method: PLM

Turn Around Time: 24 hrs

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		2009
Victor Sanchez		1-10-08

RECEIVED
JAN 12 2009
S. TAHVILDARI

Appendix D

XRF Sampling Results

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Auditorium	Men's RR	Wall	A	Ceramic Tile	Intact	Tan	19.5
Auditorium	Men's RR	Wall	B	Ceramic Tile	Intact	Tan	22.0
Auditorium	Men's RR	Wall	C	Ceramic Tile	Intact	Tan	18.5
Auditorium	Men's RR	Wall	D	Ceramic Tile	Intact	Tan	22.0
Auditorium	Women's RR	Wall	A	Ceramic Tile	Intact	Grey	22.0
Auditorium	Women's RR	Wall	B	Ceramic Tile	Intact	Grey	22.0
Auditorium	Women's RR	Wall	C	Ceramic Tile	Intact	Grey	22.0
Auditorium	Women's RR	Wall	D	Ceramic Tile	Intact	Grey	22.0
Auditorium	Women's RR	Baseboard	A	Ceramic Tile	Intact	Grey	19.8
Bldg A	Attendance Office	Window Frame	C	Metal	Intact	White	12.7
Bldg A	Exterior	Door	C	Metal	Intact	Purple	1.4
Bldg A	Exterior	Door	C	Metal	Intact	Purple	1.2
Bldg A	Exterior	Door Frame	D	Wood	Intact	Tan	1.2
Bldg A	Exterior	Door Frame	C	Wood	Intact	Tan	1.2
Bldg A	Exterior	Door Frame	C	Metal	Intact	Tan	3.1
Bldg A	Exterior	Door Frame	A	Wood	Intact	Tan	1.8
Bldg A	Exterior	Window Frame	C	Wood	Intact	Tan	2.0
Bldg A	Exterior	Window Frame	A	Wood	Intact	Tan	1.8
Bldg A	Exterior	Fascia	D	Wood	Intact	Tan	2.3
Bldg A	Exterior	Fascia	A	Wood	Intact	Tan	2.3
Bldg A	Exterior	Porch Columns	C	Metal	Intact	Tan	1.2
Bldg A	Exterior	Downspout	C	Metal	Intact	Tan	1.2
Bldg A	Exterior	Downspout	C	Metal	Intact	Red	7.6
Bldg A	Exterior	Gutter	D	Metal	Intact	Tan	2.0
Bldg A	Exterior	Louvers	C	Metal	Intact	Red	1.8
Bldg A	Faculty RR	Baseboard	A	Ceramic Tile	intact	Tan	14.6
Bldg A	Faculty RR	Window Frame	N/A	Wood	intact	White	3.5
Bldg A	Health Office	Window Frame	A	Metal	Intact	White	3.7
Bldg A	Men's RR @ Corridor	Wall	A	Ceramic Tile	Intact	Beige	12.7
Bldg A	Men's RR @ Corridor	Wall	D	Ceramic Tile	Intact	Beige	22.9
Bldg A	Reception	Window Frame	A	Metal	Intact	White	13.1
Bldg A	Women's RR @ Corridor	Wall	A	Ceramic Tile	Intact	Beige	12.2
Bldg A	Women's RR @ Corridor	Wall	D	Ceramic Tile	Intact	Beige	21.0
Bldg B	Boys' RR	Wall	D	Ceramic Tile	Intact	Grey	6.2
Bldg B	Boys' RR	Door	B	Wood	Intact	Brown	2.5

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Bldg B	Boys' RR	Door Frame	B	Wood	Intact	Brown	2.5
Bldg B	Exterior	Door	A	Wood	Intact	Purple	2.6
Bldg B	Exterior	Door Frame	A	Wood	Intact	Tan	2.3
Bldg B	Exterior	Door Frame	A	Wood	Intact	Tan	1.3
Bldg B	Exterior	Window Frame	A	Wood	Intact	Tan	2.2
Bldg B	Exterior	Window Frame	C	Wood	Intact	Tan	1.6
Bldg B	Exterior	Eaves	A	Wood	Intact	White	3.1
Bldg B	Exterior	Fascia	A	Wood	Intact	Tan	1.9
Bldg B	Exterior	Joists	A	Wood	Intact	White	3.7
Bldg B	Exterior	Porch Columns	A	Metal	Intact	Tan	1.7
Bldg B	Exterior	Porch Railings	A	Metal	Intact	Tan	2.6
Bldg B	Exterior	Downspout	A	Metal	Intact	Tan	4.8
Bldg B	Exterior	Gutter	A	Metal	Intact	Tan	2.0
Bldg B	Exterior	Breezeway Upper Wall	B	Wood	Intact	White	3.4
Bldg B	Exterior	Breezeway Ceiling	N/A	Metal	Intact	White	1.9
Bldg B	Girls' RR	Door	D	Wood	intact	Brown	1.5
Bldg B	Girls' RR	Door Frame	D	Wood	intact	Brown	3.2
Bldg B	Men's Faculty RR	Baseboard	N/A	Ceramic Tile	Intact	Tan	13.0
Bldg B	Men's Faculty RR	Door	A	Wood	Intact	Purple	1.6
Bldg B	Men's Faculty RR	Door Frame	A	Wood	Intact	Tan	2.0
Bldg B	Rm B1	Door	B	Wood	Intact	Purple	1.5
Bldg B	Rm B1	Door Frame	B	Wood	Intact	Tan	1.6
Bldg B	Rm B10	Door	A	Wood	Defective	Purple	1.4
Bldg B	Rm B10	Door Frame	A	Wood	Defective	Tan	1.4
Bldg B	Rm B3	Door	A	Wood	Intact	Purple	1.1
Bldg B	Rm B3	Door Frame	A	Wood	Intact	Tan	1.2
Bldg B	Rm B4	Door	A	Wood	Intact	Purple	1.4
Bldg B	Rm B4	Door Frame	A	Wood	Intact	Tan	1.8
Bldg B	Rm B5	Door	A	Wood	Intact	Purple	1.5
Bldg B	Rm B5	Door Frame	A	Wood	Intact	Tan	1.6
Bldg B	Rm B7	Door	A	Wood	Defective	Purple	1.2
Bldg B	Rm B7	Door Frame	A	Wood	Defective	Tan	1.2
Bldg B	Rm B8	Door	A	Wood	Defective	Purple	1.6
Bldg B	Rm B8	Door Frame	A	Wood	Defective	Tan	1.5
Bldg B	Rm B9	Door	A	Wood	Defective	Purple	1.1

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Bldg B	Rm B9	Door Frame	A	Wood	Defective	Tan	1.2
Bldg B	Telecom Rm	Door Frame	A	Wood	Intact	Tan	1.5
Bldg B	Women's Faculty RR	Baseboard	N/A	Ceramic Tile	Intact	Tan	12.8
Bldg B	Women's Faculty RR	Door	A	Wood	Intact	Purple	1.4
Bldg B	Women's Faculty RR	Door Frame	A	Wood	Intact	Tan	1.8
Bldg C	Boys' RR	Wall	D	Ceramic Tile	Intact	Grey	4.0
Bldg C	Boys' RR	Door	A	Wood	Intact	Purple	1.2
Bldg C	Exterior	Door	A	Wood	Intact	Purple	1.9
Bldg C	Exterior	Door Frame	A	Wood	Intact	Tan	1.8
Bldg C	Exterior	Window Frame	A	Wood	Intact	Tan	3.5
Bldg C	Exterior	Window Frame	C	Wood	Intact	Tan	2.3
Bldg C	Exterior	Window Frame	C	Metal	Intact	Black	1.2
Bldg C	Exterior	Eaves	A	Wood	Intact	White	3.7
Bldg C	Exterior	Fascia	A	Wood	Intact	Tan	1.4
Bldg C	Exterior	Fascia	C	Wood	Intact	Tan	1.4
Bldg C	Exterior	Joists	A	Wood	Intact	White	3.9
Bldg C	Exterior	Porch Columns	A	Metal	Intact	Tan	7.6
Bldg C	Exterior	Downspout	A	Metal	Intact	Tan	4.1
Bldg C	Exterior	Gutter	A	Metal	Intact	Tan	2.8
Bldg C	Exterior	Downspout	C	Metal	Intact	Red	5.3
Bldg C	Exterior	Breezeway Ceiling	A	Metal	Intact	White	2.1
Bldg C	Library	Door	B	Wood	Intact	Green	1.3
Bldg C	Library	Door Frame	B	Wood	Intact	Green	1.3
Bldg C	Library	Window Frame	B	Wood	Intact	Green	2.4
Bldg C	Men's Faculty RR	Door	A	Wood	Intact	Purple	1.3
Bldg C	Men's Faculty RR	Door Frame	A	Wood	Intact	Tan	1.3
Bldg C	Rm C1	Door	A	Wood	Intact	Purple	1.9
Bldg C	Rm C1	Door Frame	A	Wood	Intact	Tan	1.4
Bldg C	Rm C2	Door	D	Wood	Intact	Tan	1.2
Bldg C	Rm C2	Door	A	Wood	Intact	Purple	1.2
Bldg C	Rm C2	Door Frame	D	Wood	Intact	Tan	2.3
Bldg C	Rm C2	Door Frame	A	Wood	Intact	Tan	1.3
Bldg C	Rm C2	Door	D	Wood	Intact	Tan	1.2
Bldg C	Rm C2	Door	A	Wood	Intact	Purple	1.2
Bldg C	Rm C2	Door Frame	D	Wood	Intact	Tan	2.3

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Bldg C	Rm C2	Door Frame	A	Wood	Intact	Tan	1.3
Bldg C	Rm C3	Door	D	Wood	Intact	Tan	1.0
Bldg C	Rm C3	Door	A	Wood	Intact	Purple	1.0
Bldg C	Rm C3	Door Frame	D	Wood	Intact	Tan	2.2
Bldg C	Rm C3	Door Frame	A	Wood	Intact	Tan	1.2
Bldg C	Rm C3 1/2	Door	A	Wood	Intact	Purple	1.5
Bldg C	Rm C3 1/2	Door Frame	A	Wood	Intact	Tan	1.9
Bldg C	Rm C4	Door	D	Wood	Intact	Tan	1.3
Bldg C	Rm C4	Door	A	Wood	Intact	Purple	1.1
Bldg C	Rm C4	Door Frame	D	Wood	Intact	Tan	2.0
Bldg C	Rm C4	Door Frame	A	Wood	Intact	Tan	1.1
Bldg C	Rm C7	Door	A	Wood	Intact	Purple	1.5
Bldg C	Rm C7	Door Frame	A	Wood	Intact	Tan	1.9
Bldg D	Boys' RR	Wall	B	Ceramic Tile	Intact	Grey	4.0
Bldg D	Boys' RR	Door	A	Wood	Defective	Purple	1.2
Bldg D	Boys' RR	Partition Wall	C	Ceramic Tile	Intact	White	4.0
Bldg D	Boys' RR	Door Frame	A	Wood	Defective	Tan	1.2
Bldg D	Exterior	Door	A	Wood	Intact	Purple	2.7
Bldg D	Exterior	Door Frame	A	Wood	Intact	Tan	2.0
Bldg D	Exterior	Window Frame	A	Wood	Intact	Tan	1.8
Bldg D	Exterior	Window Frame	C	Wood	Intact	Tan	2.3
Bldg D	Exterior	Window Frame	A	Wood	Intact	Tan	1.4
Bldg D	Exterior	Eaves	A	Wood	Intact	White	3.0
Bldg D	Exterior	Fascia	A	Wood	Intact	Tan	2.0
Bldg D	Exterior	Joists	A	Wood	Intact	White	1.9
Bldg D	Exterior	Porch Columns	A	Metal	Intact	Tan	4.1
Bldg D	Exterior	Downspout	A	Metal	Intact	Tan	4.3
Bldg D	Exterior	Gutter	A	Metal	Intact	Tan	2.8
Bldg D	Exterior	Breezeway Ceiling	A	Metal	Intact	White	1.9
Bldg D	Exterior	Downspout	C	Metal	Intact	Red	5.6
Bldg D	Girls' RR	Wall	D	Ceramic Tile	Intact	White	3.5
Bldg D	Girls' RR	Door	B	Wood	Intact	Brown	2.0
Bldg D	Girls' RR	Partition Walls	N/A	Ceramic Tile	Intact	White	4.1
Bldg D	Girls' RR	Door Frame	B	Wood	Intact	Brown	2.0
Bldg D	Girls' RR	Wall	D	Ceramic Tile	Intact	White	5.8

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Bldg D	Girls' RR	Door	A	Wood	Intact	Purple	1.2
Bldg D	Girls' RR	Partition Walls	D	Ceramic Tile	Intact	White	8.0
Bldg D	Girls' RR	Door Frame	A	Wood	Defective	Tan	1.2
Bldg D	Men's Faculty RR	Baseboard	N/A	Ceramic Tile	Intact	Tan	11.0
Bldg D	Men's Faculty RR	Door	A	Wood	Intact	Purple	1.2
Bldg D	Men's Faculty RR	Door Frame	A	Wood	Intact	Tan	1.4
Bldg D	Rm D3	Door	A	Wood	Intact	Purple	1.2
Bldg D	Rm D3	Door	D	Wood	Intact	Brown	1.4
Bldg D	Rm D3	Chalkboard	D	Wood	Intact	Brown	1.0
Bldg D	Rm D3	Door Frame	A	Wood	Intact	Brown	1.2
Bldg D	Rm D3	Door Frame	D	Wood	Intact	Brown	2.4
Bldg D	Rm D4	Door	A	Wood	Intact	Purple	1.4
Bldg D	Rm D4	Door Frame	A	Wood	Intact	Brown	1.2
Bldg D	Rm D5	Door frame	A	Metal	Intact	Brown	2.6
Bldg D	Rm D6	Door	A	Wood	Defective	Purple	1.6
Bldg D	Rm D6	Door Frame	A	Wood	Defective	Brown	1.9
Bldg D	Rm D7	Door	A	Wood	Defective	Purple	1.8
Bldg D	Rm D7	Door Frame	A	Wood	Defective	Brown	1.6
Bldg D	Rm D8	Door	A	Wood	Defective	Purple	1.4
Bldg D	Rm D8	Door Frame	A	Wood	Defective	Brown	1.5
Bldg D	Rm D9	Door Frame	A	Wood	Defective	Brown	3.6
Bldg D	Women's Faculty RR	Baseboard	N/A	Ceramic Tile	Intact	Tan	10.6
Bldg D	Women's Faculty RR	Door	A	Wood	Intact	Purple	1.1
Bldg D	Women's Faculty RR	Door Frame	A	Wood	Intact	Tan	1.3
Bldg E	Exterior	Breezeway Wall	C	Wood	Intact	White	1.7
Bldg E	Exterior	Door	A	Wood	Intact	Purple	1.5
Bldg E	Exterior	Door Frame	A	Wood	Intact	Tan	1.8
Bldg E	Exterior	Window Frame	A	Wood	Intact	Tan	1.9
Bldg E	Exterior	Window Frame	C	Wood	Intact	Tan	2.1
Bldg E	Exterior	Eaves, Southeast	A	Wood	Intact	White	2.7
Bldg E	Exterior	Fascia, Southeast	A	Wood	Intact	Tan	1.2
Bldg E	Exterior	Joists, Southeast	A	Wood	Intact	White	5.1
Bldg E	Exterior	Porch Columns	A	Metal	Intact	Tan	1.2
Bldg E	Exterior	Downspout	A	Metal	Intact	Tan	2.7
Bldg E	Exterior	Gutter	A	Metal	Intact	Tan	4.0

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Bldg E	Exterior	Breezeway Ceiling	A	Metal	Intact	White	1.8
Bldg E	Exterior	Downspout	C	Metal	Intact	Red	4.2
Bldg E	Girls' RR	Wall	A	Ceramic Tile	Intact	White	5.0
Bldg E	Girls' RR	Door Frame	B	Wood	Defective	Tan	1.2
Bldg E	Rm E1	Window Sill	N/A	Ceramic Tile	Intact	Grey	14.2
Bldg E	Rm E10	Window Sill	N/A	Ceramic Tile	Intact	Grey	16.0
Bldg E	Rm E2	Window Sill	N/A	Ceramic Tile	Intact	Grey	14.8
Bldg E	Rm E3	Door	A	Wood	Intact	Purple	1.2
Bldg E	Rm E3	Door	B	Wood	Intact	Tan	1.2
Bldg E	Rm E3	Door Frame	B	Wood	Intact	Tan	1.6
Bldg E	Rm E3	Door Frame	A	Wood	Intact	Brown	1.4
Bldg E	Rm E4	Door	A	Wood	Intact	Purple	1.2
Bldg E	Rm E4	Door Frame	A	Wood	Intact	Brown	1.4
Bldg E	Rm E5	Door	A	Wood	Intact	Purple	1.4
Bldg E	Rm E5	Door Frame	A	Wood	Intact	Brown	1.9
Bldg E	Rm E5 1/2	Window Sill	N/A	Ceramic Tile	Intact	Grey	15.7
Bldg E	Rm E7	Window Sill	N/A	Ceramic Tile	Intact	Grey	14.3
Bldg E	Rm E8	Window Sill	N/A	Ceramic Tile	Intact	Grey	13.6
Bldg E	Rm E9	Window Sill	N/A	Ceramic Tile	Intact	Grey	14.7
Bldg F	Exterior	Door Frame	A	Wood	Intact	Tan	1.2
Bldg F	Exterior	Window Frame	A	Metal	Intact	Tan	2.8
Bldg F	Exterior	Fascia	A	Wood	Intact	White	1.2
Bldg F	Exterior	Porch Ceiling	A	Wood	Intact	White	2.0
Bldg F	Girls' RR	Wall	A	Ceramic Tile	Intact	White	4.7
Bldg F	Rm F1	Window Sill	N/A	Ceramic Tile	Intact	White	12.9
Bldg F	Rm F10	Window Sill	N/A	Ceramic Tile	Intact	White	10.6
Bldg F	Rm F11	Window Sill	N/A	Ceramic Tile	Intact	White	11.2
Bldg F	Rm F12	Window Sill	N/A	Ceramic Tile	Intact	White	10.8
Bldg F	Rm F2	Window Sill	N/A	Ceramic Tile	Intact	White	11.7
Bldg F	Rm F3	Window Sill	N/A	Ceramic Tile	Intact	White	10.3
Bldg F	Rm F4	Window Sill	N/A	Ceramic Tile	Intact	White	12.0
Bldg F	Rm F5	Window Sill	N/A	Ceramic Tile	Intact	White	10.6
Bldg F	Rm F6	Window Sill	N/A	Ceramic Tile	Intact	White	11.5
Bldg F	Rm F7	Window Sill	N/A	Ceramic Tile	Intact	White	12.3
Bldg F	Rm F8	Window Sill	N/A	Ceramic Tile	Intact	White	10.4

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Bldg F	Rm F9	Window Sill	N/A	Ceramic Tile	Intact	White	11.6
Bldg G	Exterior	Door Frame	A	Wood	Intact	Tan	2.3
Bldg G	Exterior	Window Frame	A	Metal	Intact	Tan	1.2
Bldg G	Exterior	Window Frame	A	Wood	Intact	Tan	1.2
Bldg G	Exterior	Fascia	A	Wood	Intact	Tan	1.2
Bldg G	Exterior	Porch Column	A	Metal	Intact	Tan	4.1
Bldg G	Exterior	Downspout	A	Metal	Intact	Tan	1.2
Bldg G	Exterior	Gutter	A	Metal	Intact	Tan	1.2
Bldg G	G1, Boys' RR	Baseboard	B	Ceramic Tile	Intact	Brown	9.0
Bldg G	Rm G3	Baseboard, G3 RR	D	Ceramic Tile	Intact	Brown	12.8
Bldg G	Rm G3	Door Frame	A	Wood	Intact	White	2.0
Bldg G	Rm G4	Window Sill	C	Ceramic Tile	Intact	White	15.0
Bldg G	Rm G5	Window Sill	C	Ceramic Tile	Intact	White	16.2
Bldg G	Rm G6	Window Sill	C	Ceramic Tile	Intact	White	14.8
Bldg G	Rm G7	Window Sill	C	Ceramic Tile	Intact	White	15.5
Bldg G	Rm G8	Window Sill	C	Ceramic Tile	Intact	White	14.6
Bldg H	Exterior	Door	A	Metal	Intact	Purple	1.2
Bldg H	Exterior	Door	C	Metal	Intact	Purple	1.2
Bldg H	Exterior	Door Frame	A	Wood	Intact	Tan	1.3
Bldg H	Exterior	Door Frame	C	Wood	Intact	Tan	1.3
Bldg H	Exterior	Window Frame	A	Metal	Intact	Tan	1.2
Bldg H	Exterior	Window Frame	C	Metal	Intact	Red	1.7
Bldg H	Exterior	Eaves	D	Wood	Intact	White	2.0
Bldg H	Exterior	Fascia	A	Metal	Intact	Tan	1.2
Bldg H	Exterior	Fascia	D	Metal	Defective	Tan	1.2
Bldg H	Exterior	Porch Column	A	Metal	Intact	Tan	1.2
Bldg H	Exterior	Gutter	A	Metal	Intact	Tan	1.3
Bldg H	Rm H7	Window Sill	N/A	Ceramic Tile	Intact	White	10.8
Bldg H	Rm H8	Window Sill	N/A	Ceramic Tile	Intact	White	12.2
Bldg H	Rm H9	Window Sill	N/A	Ceramic Tile	Intact	White	12.1
Bldg K	Exterior	Door Frame	A	Wood	Intact	Tan	2.0
Bldg K	Men's RR	Baseboard	N/A	Ceramic Tile	Intact	Brown	10.8
Bldg K	Men's RR	Door Frame	C	Wood	Intact	Purple	1.4
Bldg K	Men's RR	Ceramic Shower Tile	D	Ceramic Tile	Intact	Yellow	14.2
Bldg K	Rm K3 Admin	Door Frame	A	Wood	Intact	Brown	3.1

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Bldg K	Women's RR	Baseboard	N/A	Ceramic Tile	Intact	Brown	12.0
Bldg K	Women's RR	Door Frame	C	Wood	Intact	Purple	1.2
Bldg M	Exterior	Door Frame	C	Wood	Intact	Tan	3.4
Bldg M	Exterior	Window Frame	C	Wood	Intact	Tan	3.0
Bldg M	Exterior	Fascia	C	Wood	Intact	Tan	2.0
Bldg M	Men's Staff RR	Wall	A	Ceramic Tile	Intact	Tan	11.8
Bldg M	Men's Staff RR	Wall	B	Ceramic Tile	Intact	Tan	12.2
Bldg M	Men's Staff RR	Wall	C	Ceramic Tile	Intact	Tan	12.1
Bldg M	Men's Staff RR	Wall	D	Ceramic Tile	Intact	Tan	11.2
Bldg M	Men's Staff RR	Door	C	Wood	Intact	Purple	1.4
Bldg M	Men's Staff RR	Door Frame	C	Wood	Intact	Tan	1.0
Bldg M	Rm M10	Window Frame	C	Metal	Intact	White	10.5
Bldg M	Rm M2	Door	B	Wood	Intact	Brown	2.7
Bldg M	Rm M2	Door Frame	B	Wood	Intact	White	2.0
Bldg M	Rm M2	Door Frame	A	Wood	Intact	Brown	1.5
Bldg M	Rm M4	Door	B	Wood	Intact	Brown	1.5
Bldg M	Rm M5	Door	D	Wood	Intact	Brown	1.5
Bldg M	Rm M7	Door Frame	B	Wood	Intact	White	1.2
Bldg M	Rm M8	Door Frame	D	Wood	Intact	White	1.2
Bldg M	Rm M9	Window Frame	B	Wood	Intact	White	2.5
Bldg M	Women's Staff RR	Wall	A	Ceramic Tile	Intact	Tan	12.2
Bldg M	Women's Staff RR	Wall	B	Ceramic Tile	Intact	Tan	12.2
Bldg M	Women's Staff RR	Wall	C	Ceramic Tile	Intact	Tan	12.2
Bldg M	Women's Staff RR	Wall	D	Ceramic Tile	Intact	Tan	12.2
Bldg M	Women's Staff RR	Door	C	Wood	Intact	Purple	1.2
Bldg M	Women's Staff RR	Door Frame	C	Wood	Intact	Tan	1.6
Bldg Y	Boys' RR	Baseboard	N/A	Ceramic Tile	Intact	White	13.5
Bldg Y	Girls' RR	Baseboard	N/A	Ceramic Tile	Intact	White	12.5
Boys' PE	Exterior	Door	C	Metal	Intact	Purple	1.7
Boys' PE	Exterior	Door Frame	C	Metal	Intact	Tan	1.2
Boys' PE	Boys' RR	Wall	B	Ceramic Tile	Intact	Grey	6.4
Boys' PE	Boys' RR	Wall	C	Ceramic Tile	Intact	Grey	6.9
Boys' PE	Boys' RR	Wall	D	Ceramic Tile	Intact	Grey	4.3
Boys' PE	Boys' RR	Door	B	Wood	Intact	Purple	1.2
Boys' PE	Boys' RR	Door Frame	B	Wood	Intact	Purple	2.0

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Boys' PE	Coach's Office	Door	B	Wood	Intact	Purple	2.0
Boys' PE	Coach's Office	Door	C	Metal	Intact	Purple	2.2
Boys' PE	Coach's Office	Door Frame	B	Wood	Intact	Purple	1.4
Boys' PE	Coach's Office	Door Frame	C	Wood	Intact	Purple	1.4
Boys' PE	Faculty RR	Door	D	Wood	Intact	Purple	2.0
Boys' PE	Faculty RR	Door Frame	D	Wood	Intact	Purple	1.4
Boys' PE	Faculty RR	Ceiling, I-Beam	N/A	Metal	Intact	White	12.6
Boys' PE	Faculty RR	Ceramic Shower Tile	A	Ceramic Tile	Intact	Yellow	15.2
Boys' PE	First Aid Rm	Door	B	Wood	Intact	Purple	2.1
Boys' PE	First Aid Rm	Door Frame	B	Wood	Intact	Purple	1.9
Boys' PE	First Aid Rm	Ceiling, I-Beam	N/A	Metal	Intact	White	12.6
Boys' PE	Locker Rm	Wall	A	Concrete	Intact	White	7.6
Boys' PE	Locker Rm	Wall	C	Concrete	Intact	White	1.2
Boys' PE	Locker Rm	Wall	D	Concrete	Intact	White	3.3
Boys' PE	Locker Rm	Hand Rail	N/A	Metal	Intact	White	1.2
Boys' PE	Locker Rm	Door Frame	B	Wood	Intact	Purple	1.2
Boys' PE	Locker Rm	Ceramic Shower Tile	A	Ceramic Tile	Intact	Yellow	11.7
Cafeteria	Exterior	Door Frame	C	Wood	Defective	Tan	2.2
Cafeteria	Exterior	Window Frame	C	Metal	Intact	Black	1.2
Cafeteria	Exterior	Eaves	C	Wood	Intact	Red	1.2
Cafeteria	Exterior	Eaves	C	Wood	Intact	Red	1.2
Cafeteria	Exterior	Fascia	B	Wood	Intact	Tan	1.2
Cafeteria	Exterior	Fascia	C	Wood	Intact	Tan	1.2
Cafeteria	Exterior	Porch Column	C	Metal	Intact	Tan	1.2
Cafeteria	Exterior	Gutter	C	Metal	Intact	Tan	1.2
Cafeteria	Faculty Dining	Door Frame	C	Wood	Intact	Blue	1.2
Cafeteria	Faculty Dining	Window Frame	C	Wood	Intact	Blue	2.0
Cafeteria	Kitchen	Door, Refrigerator	A	Wood	Intact	White	1.2
Cafeteria	Kitchen	Door Frame, Refrigerator	A	Wood	Intact	White	1.2
Cafeteria	Kitchen	Door Frame	B	Wood	Intact	White	1.2
Cafeteria	Student Dining	Baseboard, Stage	C	Wood	Intact	White	3.3
Gym Bldg	Exterior	Door	A	Metal	Intact	Purple	3.4
Gym Bldg	Exterior	Catwalk Eaves	C	Wood	Intact	Tan	3.0
Gym Bldg	Exterior	Catwalk Fascia	C	Wood	Intact	Tan	1.3
Gym Bldg	Exterior	Catwalk Joist	C	Wood	Intact	Tan	3.0

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Gym Bldg	Exterior	Column	A	Metal	Intact	Purple	1.4
Gym Bldg	Boys' RR, East Foyer	Wall	A	Ceramic Tile	Intact	Beige	4.4
Gym Bldg	Boys' RR, East Foyer	Wall	B	Ceramic Tile	Intact	Beige	4.3
Gym Bldg	Boys' RR, East Foyer	Wall	C	Ceramic Tile	Intact	Beige	4.1
Gym Bldg	Boys' RR, East Foyer	Wall	D	Ceramic Tile	Intact	Beige	4.0
Gym Bldg	Boys' RR, West Foyer	Wall	A	Ceramic Tile	Intact	Beige	4.2
Gym Bldg	Boys' RR, West Foyer	Wall	B	Ceramic Tile	Intact	Beige	4.1
Gym Bldg	Boys' RR, West Foyer	Wall	C	Ceramic Tile	Intact	Beige	4.1
Gym Bldg	Boys' RR, West Foyer	Wall	D	Ceramic Tile	Intact	Beige	4.2
Gym Bldg	Girls' RR, East Foyer	Wall	A	Ceramic Tile	Intact	Beige	4.2
Gym Bldg	Girls' RR, East Foyer	Wall	B	Ceramic Tile	Intact	Beige	4.0
Gym Bldg	Girls' RR, East Foyer	Wall	C	Ceramic Tile	Intact	Beige	4.1
Gym Bldg	Girls' RR, East Foyer	Wall	D	Ceramic Tile	Intact	Beige	4.2
Gym Bldg	Girls' RR, West Foyer	Wall	A	Ceramic Tile	Intact	Beige	4.0
Gym Bldg	Girls' RR, West Foyer	Wall	B	Ceramic Tile	Intact	Beige	4.1
Gym Bldg	Girls' RR, West Foyer	Wall	C	Ceramic Tile	Intact	Beige	4.0
Gym Bldg	Girls' RR, West Foyer	Wall	D	Ceramic Tile	Intact	Beige	4.0
Girls' PE	Exterior	Door	C	Metal	Intact	Purple	1.7
Girls' PE	Exterior	Door Frame	C	Metal	Intact	Tan	1.2
Girls' PE	Girls' RR	Wall	B	Ceramic Tile	Intact	Grey	6.4
Girls' PE	Girls' RR	Wall	C	Ceramic Tile	Intact	Grey	6.9
Girls' PE	Girls' RR	Wall	D	Ceramic Tile	Intact	Grey	4.3
Girls' PE	Girls' RR	Door	B	Wood	Intact	Purple	1.2
Girls' PE	Girls' RR	Door Frame	B	Wood	Intact	Purple	2.0
Girls' PE	Coach's Office	Door	B	Wood	Intact	Purple	2.0
Girls' PE	Coach's Office	Door	C	Metal	Intact	Purple	2.2
Girls' PE	Coach's Office	Door Frame	B	Wood	Intact	Purple	1.4
Girls' PE	Coach's Office	Door Frame	C	Wood	Intact	Purple	1.4
Girls' PE	Faculty RR	Door	D	Wood	Intact	Purple	2.0
Girls' PE	Faculty RR	Door Frame	D	Wood	Intact	Purple	1.4
Girls' PE	Faculty RR	Ceiling, I-Beam	N/A	Metal	Intact	White	12.6
Girls' PE	Faculty RR	Ceramic Shower Tile	A	Ceramic Tile	Intact	Yellow	15.2
Girls' PE	First Aid Rm	Door	B	Wood	Intact	Purple	2.1
Girls' PE	First Aid Rm	Door Frame	B	Wood	Intact	Purple	1.9
Girls' PE	First Aid Rm	Ceiling, I-Beam	N/A	Metal	Intact	White	12.6

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

LEAD-CONTAINING COMPONENTS

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Girls' PE	Locker Rm	Wall	A	Concrete	Intact	White	7.6
Girls' PE	Locker Rm	Wall	C	Concrete	Intact	White	1.2
Girls' PE	Locker Rm	Wall	D	Concrete	Intact	White	3.3
Girls' PE	Locker Rm	Hand Rail	N/A	Metal	Intact	White	1.2
Girls' PE	Locker Rm	Door Frame	B	Wood	Intact	Purple	1.2
Girls' PE	Locker Rm	Ceramic Shower Tile	A	Ceramic Tile	Intact	Yellow	11.7

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Auditorium	Exterior	Wall	A	Brick	Intact	Red	0.0	Negative
Auditorium	Exterior	Wall	B	Brick	Intact	Red	0.0	Negative
Auditorium	Exterior	Wall	C	Brick	Intact	Red	0.0	Negative
Auditorium	Exterior	Wall	D	Brick	Intact	Red	0.0	Negative
Auditorium	Exterior	Door	C	Metal	Intact	Purple	0.0	Negative
Auditorium	Exterior	Door	B	Metal	Intact	Purple	0.0	Negative
Auditorium	Exterior	Eaves	C	Stucco	Intact	White	0.0	Negative
Auditorium	Exterior	Fascia	C	Wood	Intact	Tan	0.0	Negative
Auditorium	Auditorium Seating	Wall	A	Plaster	Intact	White	0.0	Negative
Auditorium	Auditorium Seating	Wall	C	Plaster	Intact	White	0.0	Negative
Auditorium	Lobby	Wall	A	Concrete	Intact	White	0.0	Negative
Auditorium	Lobby	Wall	B	Plaster	Intact	White	0.0	Negative
Auditorium	Lobby	Door	A	Metal	Intact	Blue	0.0	Negative
Auditorium	Lobby	Door	C	Metal	Intact	Blue	0.0	Negative
Auditorium	**Men's RR**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Tan**	**19.5**	**Positive**
Auditorium	**Men's RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Tan**	**22.0**	**Positive**
Auditorium	**Men's RR**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Tan**	**18.5**	**Positive**
Auditorium	**Men's RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Tan**	**22.0**	**Positive**
Auditorium	Men's RR	Door	D	Wood	Intact	Green	0.0	Negative
Auditorium	Men's RR	Partition Wall	N/A	Metal	Intact	Black	0.0	Negative
Auditorium	Men's RR	Door Frame	D	Wood	Intact	Green	0.0	Negative
Auditorium	Men's RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Auditorium	Stage	Wall	A	Brick	Intact	Black	0.0	Negative
Auditorium	Stage	Wall	C	Brick	Intact	Black	0.0	Negative
Auditorium	Stage	Wall	D	Brick	Intact	Black	0.0	Negative
Auditorium	Stage	Door	C	Metal	Intact	Black	0.0	Negative
Auditorium	Stage	Floor	N/A	Wood	Intact	Black	0.0	Negative
Auditorium	Stage	Door Frame	C	Metal	Intact	Black	0.0	Negative
Auditorium	**Women's RR**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Grey**	**22.0**	**Positive**
Auditorium	**Women's RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Grey**	**22.0**	**Positive**
Auditorium	**Women's RR**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Grey**	**22.0**	**Positive**
Auditorium	**Women's RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Grey**	**22.0**	**Positive**
Auditorium	**Women's RR**	**Baseboard**	**A**	**Ceramic Tile**	**Intact**	**Grey**	**19.8**	**Positive**
Auditorium	Women's RR	Door	D	Wood	Intact	Blue	0.0	Negative
Auditorium	Women's RR	Partition Walls	N/A	Metal	Intact	Blue	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Auditorium	Women's RR	Door Frame	D	Wood	Intact	Blue	0.0	Negative
Auditorium	Women's RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Bldg A	Attendance Office	Wall	A	Drywall	Intact	White	0.0	Negative
Bldg A	Attendance Office	Wall	B	Wood	Intact	White	0.0	Negative
Bldg A	Attendance Office	Wall	C	Drywall	Intact	White	0.0	Negative
Bldg A	Attendance Office	Wall	D	Drywall	Intact	White	0.0	Negative
Bldg A	Attendance Office	Door	C	Wood	Intact	Brown	0.4	Negative
Bldg A	Attendance Office	Door	D	Wood	Intact	Brown	0.0	Negative
Bldg A	Attendance Office	Partition Wall	A	Wood	Intact	White	0.0	Negative
Bldg A	Attendance Office	Door Frame	C	Wood	Intact	Brown	0.0	Negative
Bldg A	Attendance Office	Door Frame	D	Wood	Intact	Brown	0.0	Negative
Bldg A	**Attendance Office**	**Window Frame**	**C**	**Metal**	**Intact**	**White**	**12.7**	**Positive**
Bldg A	Attendance Office	Window Well	C	Wood	Intact	Beige	0.0	Negative
Bldg A	Common North Corridors	Wall	A	Drywall	Intact	White	0.0	Negative
Bldg A	Common North Corridors	Wall	B	Drywall	Intact	White	0.0	Negative
Bldg A	Common North Corridors	Wall	C	Brick	Intact	White	0.0	Negative
Bldg A	Common North Corridors	Crown Molding	D	Wood	Intact	White	0.0	Negative
Bldg A	Common North Corridors	Door	C	Metal	Intact	Brown	0.0	Negative
Bldg A	Common North Corridors	Door	D	Wood	Intact	Brown	0.0	Negative
Bldg A	Common North Corridors	Door Frame	C	Wood	Intact	Brown	0.0	Negative
Bldg A	Common North Corridors	Door Frame	D	Wood	Intact	Brown	0.0	Negative
Bldg A	Common North Corridors	Window Frame	C	Wood	Intact	White	0.0	Negative
Bldg A	Data Rm / Kitchen	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg A	Data Rm / Kitchen	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg A	Data Rm / Kitchen	Wall	C	Drywall	Intact	White	0.0	Negative
Bldg A	Data Rm / Kitchen	Wall	D	Wood	Intact	White	0.0	Negative
Bldg A	Data Rm / Kitchen	Upper Cabinet	C	Wood	Intact	Brown	0.0	Negative
Bldg A	Data Rm / Kitchen	Lower Cabinet	C	Wood	Intact	Brown	0.0	Negative
Bldg A	Exterior	Wall	C	Brick	Intact	Red	0.0	Negative
Bldg A	Exterior	Wall	D	Brick	Intact	Red	0.0	Negative
Bldg A	Exterior	Wall	B	Brick	Intact	Red	0.0	Negative
Bldg A	Exterior	Wall	A	Brick	Intact	Red	0.0	Negative
Bldg A	Exterior	Door	D	Metal	Intact	Purple	0.7	Negative
Bldg A	**Exterior**	**Door**	**C**	**Metal**	**Intact**	**Purple**	**1.4**	**Positive**
Bldg A	**Exterior**	**Door**	**C**	**Metal**	**Intact**	**Purple**	**1.2**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg A	**Exterior**	**Door Frame**	**D**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg A	**Exterior**	**Door Frame**	**C**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg A	**Exterior**	**Door Frame**	**C**	**Metal**	**Intact**	**Tan**	**3.1**	**Positive**
Bldg A	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.8**	**Positive**
Bldg A	**Exterior**	**Window Frame**	**C**	**Wood**	**Intact**	**Tan**	**2.0**	**Positive**
Bldg A	**Exterior**	**Window Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.8**	**Positive**
Bldg A	Exterior	Eaves	D	Stucco	Intact	Tan	0.0	Negative
Bldg A	Exterior	Eaves	A	Stucco	Intact	Tan	0.0	Negative
Bldg A	**Exterior**	**Fascia**	**D**	**Wood**	**Intact**	**Tan**	**2.3**	**Positive**
Bldg A	**Exterior**	**Fascia**	**A**	**Wood**	**Intact**	**Tan**	**2.3**	**Positive**
Bldg A	**Exterior**	**Porch Columns**	**C**	**Metal**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg A	**Exterior**	**Downspout**	**C**	**Metal**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg A	**Exterior**	**Downspout**	**C**	**Metal**	**Intact**	**Red**	**7.6**	**Positive**
Bldg A	**Exterior**	**Gutter**	**D**	**Metal**	**Intact**	**Tan**	**2.0**	**Positive**
Bldg A	Exterior	Electric Pipe Conduit	D	Metal	Intact	Red	0.0	Negative
Bldg A	Exterior	Gate	D	Metal	Intact	Red	0.0	Negative
Bldg A	Exterior	Louvers	B	Metal	Intact	Grey	0.0	Negative
Bldg A	**Exterior**	**Louvers**	**C**	**Metal**	**Intact**	**Red**	**1.8**	**Positive**
Bldg A	Faculty Rm	Wall	A	Concrete	Intact	White	0.0	Negative
Bldg A	Faculty Rm	Wall	B	Drywall	Intact	White	0.0	Negative
Bldg A	Faculty Rm	Wall	C	Drywall	Intact	White	0.0	Negative
Bldg A	Faculty Rm	Wall	D	Drywall	Intact	White	0.0	Negative
Bldg A	Faculty Rm	Door	D	Metal	Defective	Brown	0.0	Negative
Bldg A	Faculty Rm	Door Frame	D	Metal	Defective	Brown	0.0	Negative
Bldg A	Faculty Rm	Window Frame	A	Wood	intact	White	0.0	Negative
Bldg A	Faculty RR	Wall	A	Plaster	intact	White	0.0	Negative
Bldg A	Faculty RR	Wall	B	Concrete	intact	White	0.0	Negative
Bldg A	Faculty RR	Wall	C	Concrete	intact	White	0.0	Negative
Bldg A	Faculty RR	Wall	D	Plaster	intact	White	0.0	Negative
Bldg A	**Faculty RR**	**Baseboard**	**A**	**Ceramic Tile**	**intact**	**Tan**	**14.6**	**Positive**
Bldg A	Faculty RR	Door	D	Wood	intact	Brown	0.0	Negative
Bldg A	Faculty RR	Door Frame	D	Wood	intact	Brown	0.0	Negative
Bldg A	**Faculty RR**	**Window Frame**	**N/A**	**Wood**	**intact**	**White**	**3.5**	**Positive**
Bldg A	Faculty RR	Ceramic Floor Tile	N/A	Ceramic Tile	intact	Multi-Colored	0.0	Negative
Bldg A	Health Office	Wall	A	Concrete	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg A	Health Office	Wall	B	Drywall	Intact	White	0.0	Negative
Bldg A	Health Office	Wall	C	Drywall	Intact	White	0.0	Negative
Bldg A	Health Office	Wall	D	Drywall	Intact	White	0.0	Negative
Bldg A	Health Office	Door	C	Wood	Intact	Brown	0.0	Negative
Bldg A	Health Office	Door	D	Metal	Intact	Brown	0.0	Negative
Bldg A	Health Office	Door Frame	C	Wood	Intact	Brown	0.0	Negative
Bldg A	Health Office	Door Frame	D	Metal	Intact	Brown	0.1	Negative
Bldg A	Health Office	Window Frame	A	Wood	Intact	White	0.0	Negative
Bldg A	**Health Office**	**Window Frame**	**A**	**Metal**	**Intact**	**White**	**3.7**	**Positive**
Bldg A	Health Office	Cabinet	B	Wood	Intact	Brown	0.0	Negative
Bldg A	Health Office	Cabinet	C	Wood	Intact	Brown	0.0	Negative
Bldg A	Health Office RR	Door	C	Wood	Intact	Brown	0.0	Negative
Bldg A	Health Office RR	Partition Wall	N/A	Wood	Intact	Tan	0.0	Negative
Bldg A	Health Office RR	Door Frame	C	Wood	Intact	Brown	0.0	Negative
Bldg A	**Men's RR @ Corridor**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Beige**	**12.7**	**Positive**
Bldg A	**Men's RR @ Corridor**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Beige**	**22.9**	**Positive**
Bldg A	Men's RR @ Corridor	Door	B	Metal	Intact	Brown	0.2	Negative
Bldg A	Men's RR @ Corridor	Door Frame	B	Metal	Intact	Brown	0.0	Negative
Bldg A	Men's RR @ Corridor	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg A	Reception	Wall	A	Drywall	Intact	White	0.0	Negative
Bldg A	Reception	Wall	B	Concrete	Intact	White	0.0	Negative
Bldg A	Reception	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg A	Reception	Wall	D	Brick	Intact	Red	0.0	Negative
Bldg A	Reception	Door	C	Metal	Intact	Brown	0.0	Negative
Bldg A	Reception	Door	D	Metal	Intact	Brown	0.0	Negative
Bldg A	Reception	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg A	Reception	Door Frame	D	Metal	Intact	Brown	0.0	Negative
Bldg A	**Reception**	**Window Frame**	**A**	**Metal**	**Intact**	**White**	**13.1**	**Positive**
Bldg A	Reception	Window Frame	D	Wood	Intact	Brown	0.0	Negative
Bldg A	Reception	Closet Door	A	Metal	Intact	Brown	0.0	Negative
Bldg A	Reception	Closet Shelf Support	B	Wood	Intact	White	0.0	Negative
Bldg A	Registration Offices	Wall	A	Concrete	Intact	White	0.0	Negative
Bldg A	Registration Offices	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg A	Registration Offices	Wall	C	Drywall	Intact	White	0.0	Negative
Bldg A	Registration Offices	Wall	D	Drywall	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg A	Registration Offices	Door	C	Metal	Defective	Brown	0.0	Negative
Bldg A	Registration Offices	Door	D	Wood	Defective	Brown	0.5	Negative
Bldg A	Registration Offices	Door Frame	C	Metal	Defective	Brown	0.0	Negative
Bldg A	Registration Offices	Door Frame	D	Wood	Defective	Brown	0.0	Negative
Bldg A	Registration Offices	Window Frame	A	Wood	Intact	White	0.1	Negative
Bldg A	Sci-Phy Office	Wall	A	Brick	Intact	White	0.0	Negative
Bldg A	Sci-Phy Office	Wall	B	Brick	Intact	White	0.0	Negative
Bldg A	Sci-Phy Office	Door	C	Metal	Intact	Brown	0.0	Negative
Bldg A	Sci-Phy Office	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg A	Sci-Phy Office	Window Frame	A	Wood	Intact	White	0.1	Negative
Bldg A	**Women's RR @ Corridor**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Beige**	**12.2**	**Positive**
Bldg A	**Women's RR @ Corridor**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Beige**	**21.0**	**Positive**
Bldg A	Women's RR @ Corridor	Door	B	Metal	Intact	Brown	0.1	Negative
Bldg A	Women's RR @ Corridor	Door Frame	B	Metal	Intact	Brown	0.0	Negative
Bldg A	Women's RR @ Corridor	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Grey	0.1	Negative
Bldg B	Boys' RR	Wall	A	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg B	Boys' RR	Wall	B	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg B	Boys' RR	Wall	C	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg B	**Boys' RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Grey**	**6.2**	**Positive**
Bldg B	Boys' RR	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg B	**Boys' RR**	**Door**	**B**	**Wood**	**Intact**	**Brown**	**2.5**	**Positive**
Bldg B	Boys' RR	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg B	**Boys' RR**	**Door Frame**	**B**	**Wood**	**Intact**	**Brown**	**2.5**	**Positive**
Bldg B	Boys' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg B	Exterior	Wall	A	Stucco	Intact	White	0.0	Negative
Bldg B	Exterior	Wall	B	Brick	Intact	Red	0.0	Negative
Bldg B	Exterior	Wall	C	Stucco	Intact	White	0.0	Negative
Bldg B	Exterior	Wall	D	Brick	Intact	Red	0.0	Negative
Bldg B	Exterior	Breezeway Wall	D	Wood	Intact	White	0.1	Negative
Bldg B	**Exterior**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**2.6**	**Positive**
Bldg B	Exterior	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg B	Exterior	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg B	Exterior	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg B	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**2.3**	**Positive**
Bldg B	Exterior	Door Frame	C	Metal	Intact	Tan	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg B	Exterior	Door Frame	C	Wood	Intact	Tan	0.0	Negative
Bldg B	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.3**	**Positive**
Bldg B	**Exterior**	**Window Frame**	**A**	**Wood**	**Intact**	**Tan**	**2.2**	**Positive**
Bldg B	Exterior	Window Frame	C	Metal	Intact	Black	0.6	Negative
Bldg B	**Exterior**	**Window Frame**	**C**	**Wood**	**Intact**	**Tan**	**1.6**	**Positive**
Bldg B	**Exterior**	**Eaves**	**A**	**Wood**	**Intact**	**White**	**3.1**	**Positive**
Bldg B	**Exterior**	**Fascia**	**A**	**Wood**	**Intact**	**Tan**	**1.9**	**Positive**
Bldg B	**Exterior**	**Joists**	**A**	**Wood**	**Intact**	**White**	**3.7**	**Positive**
Bldg B	**Exterior**	**Porch Columns**	**A**	**Metal**	**Intact**	**Tan**	**1.7**	**Positive**
Bldg B	**Exterior**	**Porch Railings**	**A**	**Metal**	**Intact**	**Tan**	**2.6**	**Positive**
Bldg B	**Exterior**	**Downspout**	**A**	**Metal**	**Intact**	**Tan**	**4.8**	**Positive**
Bldg B	**Exterior**	**Gutter**	**A**	**Metal**	**Intact**	**Tan**	**2.0**	**Positive**
Bldg B	**Exterior**	**Breezeway Upper Wall**	**B**	**Wood**	**Intact**	**White**	**3.4**	**Positive**
Bldg B	**Exterior**	**Breezeway Ceiling**	**N/A**	**Metal**	**Intact**	**White**	**1.9**	**Positive**
Bldg B	Girls' RR	Wall	A	Ceramic Tile	intact	White	0.0	Negative
Bldg B	Girls' RR	Wall	B	Ceramic Tile	intact	White	0.0	Negative
Bldg B	Girls' RR	Wall	C	Ceramic Tile	intact	White	0.0	Negative
Bldg B	Girls' RR	Wall	D	Ceramic Tile	intact	White	0.0	Negative
Bldg B	**Girls' RR**	**Door**	**D**	**Wood**	**intact**	**Brown**	**1.5**	**Positive**
Bldg B	Girls' RR	Door	A	Metal	intact	Purple	0.0	Negative
Bldg B	**Girls' RR**	**Door Frame**	**D**	**Wood**	**intact**	**Brown**	**3.2**	**Positive**
Bldg B	Girls' RR	Door Frame	A	Metal	intact	Tan	0.0	Negative
Bldg B	Girls' RR	Ceramic Floor Tile	N/A	Ceramic Tile	intact	Grey	0.0	Negative
Bldg B	Men's Faculty RR	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg B	Men's Faculty RR	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg B	Men's Faculty RR	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg B	Men's Faculty RR	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg B	**Men's Faculty RR**	**Baseboard**	**N/A**	**Ceramic Tile**	**Intact**	**Tan**	**13.0**	**Positive**
Bldg B	**Men's Faculty RR**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.6**	**Positive**
Bldg B	**Men's Faculty RR**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**2.0**	**Positive**
Bldg B	Men's Faculty RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Tan	0.0	Negative
Bldg B	Rm B1	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B1	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B1	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B1	Wall	D	Plaster	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg B	Rm B1	Door	B	Wood	Intact	Tan	0.0	Negative
Bldg B	**Rm B1**	**Door**	**B**	**Wood**	**Intact**	**Purple**	**1.5**	**Positive**
Bldg B	Rm B1	Door	B	Metal	Intact	Purple	0.0	Negative
Bldg B	Rm B1	Door Frame	B	Metal	Intact	Brown	0.0	Negative
Bldg B	Rm B1	Door Frame	B	Wood	Intact	Tan	0.0	Negative
Bldg B	**Rm B1**	**Door Frame**	**B**	**Wood**	**Intact**	**Tan**	**1.6**	**Positive**
Bldg B	Rm B10	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B10	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B10	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B10	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B10	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg B	**Rm B10**	**Door**	**A**	**Wood**	**Defective**	**Purple**	**1.4**	**Positive**
Bldg B	Rm B10	Door Frame	C	Metal	Intact	Red	0.0	Negative
Bldg B	**Rm B10**	**Door Frame**	**A**	**Wood**	**Defective**	**Tan**	**1.4**	**Positive**
Bldg B	Rm B2	No Access	No Access	No Access	No Access	No Access	No Access	No Access
Bldg B	Rm B3	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg B	Rm B3	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B3	Wall	C	Plaster	Intact	White	0.2	Negative
Bldg B	Rm B3	Wall	D	Plaster	Intact	White	0.2	Negative
Bldg B	Rm B3	Door	B	Wood	Intact	Tan	0.3	Negative
Bldg B	**Rm B3**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.1**	**Positive**
Bldg B	Rm B3	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg B	Rm B3	Door Frame	C	Metal	Intact	Brown	0.3	Negative
Bldg B	Rm B3	Door Frame	B	Wood	Intact	Tan	0.2	Negative
Bldg B	**Rm B3**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg B	Rm B4	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg B	Rm B4	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg B	Rm B4	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B4	Wall	D	Plaster	Intact	White	0.2	Negative
Bldg B	Rm B4	Door	B	Wood	Intact	Tan	0.3	Negative
Bldg B	**Rm B4**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.4**	**Positive**
Bldg B	Rm B4	Door	C	Metal	Intact	Purple	0.2	Negative
Bldg B	Rm B4	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg B	Rm B4	Door Frame	B	Wood	Intact	Tan	0.1	Negative
Bldg B	**Rm B4**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.8**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg B	Rm B5	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B5	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B5	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B5	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B5	Door	B	Wood	Intact	Tan	0.0	Negative
Bldg B	**Rm B5**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.5**	**Positive**
Bldg B	Rm B5	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg B	Rm B5	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg B	Rm B5	Door Frame	B	Wood	Intact	Tan	0.0	Negative
Bldg B	**Rm B5**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.6**	**Positive**
Bldg B	Rm B6	No Access	No Access	No Access	No Access	No Access	No Access	No Access
Bldg B	Rm B7	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B7	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B7	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg B	Rm B7	Wall	D	Plaster	Intact	White	0.1	Negative
Bldg B	Rm B7	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg B	**Rm B7**	**Door**	**A**	**Wood**	**Defective**	**Purple**	**1.2**	**Positive**
Bldg B	Rm B7	Door Frame	C	Metal	Intact	Red	0.2	Negative
Bldg B	**Rm B7**	**Door Frame**	**A**	**Wood**	**Defective**	**Tan**	**1.2**	**Positive**
Bldg B	Rm B8	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B8	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B8	Wall	C	Plaster	Intact	White	0.2	Negative
Bldg B	Rm B8	Wall	D	Plaster	Intact	White	0.2	Negative
Bldg B	Rm B8	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg B	**Rm B8**	**Door**	**A**	**Wood**	**Defective**	**Purple**	**1.6**	**Positive**
Bldg B	Rm B8	Door Frame	C	Metal	Intact	Red	0.1	Negative
Bldg B	**Rm B8**	**Door Frame**	**A**	**Wood**	**Defective**	**Tan**	**1.5**	**Positive**
Bldg B	Rm B8	Window Frame	A	Wood	Intact	White	0.1	Negative
Bldg B	Rm B9	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg B	Rm B9	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg B	Rm B9	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg B	Rm B9	Wall	D	Plaster	Intact	White	0.1	Negative
Bldg B	Rm B9	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg B	**Rm B9**	**Door**	**A**	**Wood**	**Defective**	**Purple**	**1.1**	**Positive**
Bldg B	Rm B9	Door Frame	C	Metal	Intact	Red	0.2	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg B	**Rm B9**	**Door Frame**	**A**	**Wood**	**Defective**	**Tan**	**1.2**	**Positive**
Bldg B	Rm B9	Window Frame	A	Wood	Intact	White	0.0	Negative
Bldg B	Telecom Rm	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg B	Telecom Rm	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg B	Telecom Rm	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg B	Telecom Rm	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg B	Telecom Rm	Door	A	Wood	Intact	Purple	0.5	Negative
Bldg B	**Telecom Rm**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.5**	**Positive**
Bldg B	Women's Faculty RR	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg B	Women's Faculty RR	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg B	Women's Faculty RR	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg B	Women's Faculty RR	Wall	D	Plaster	Intact	White	0.2	Negative
Bldg B	**Women's Faculty RR**	**Baseboard**	**N/A**	**Ceramic Tile**	**Intact**	**Tan**	**12.8**	**Positive**
Bldg B	**Women's Faculty RR**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.4**	**Positive**
Bldg B	**Women's Faculty RR**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.8**	**Positive**
Bldg B	Women's Faculty RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Tan	0.2	Negative
Bldg C	Boys' RR	Wall	A	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg C	Boys' RR	Wall	B	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg C	Boys' RR	Wall	C	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg C	**Boys' RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Grey**	**4.0**	**Positive**
Bldg C	**Boys' RR**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.2**	**Positive**
Bldg C	Boys' RR	Door Frame	A	Wood	Intact	Tan	0.0	Negative
Bldg C	Exterior	Wall	A	Stucco	Intact	White	0.0	Negative
Bldg C	Exterior	Wall	C	Stucco	Intact	White	0.0	Negative
Bldg C	Exterior	Wall	B	Brick	Intact	Red	0.0	Negative
Bldg C	Exterior	Breezeway Wall	C	Wood	Intact	White	0.0	Negative
Bldg C	**Exterior**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.9**	**Positive**
Bldg C	Exterior	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg C	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.8**	**Positive**
Bldg C	Exterior	Door Frame	C	Metal	Intact	Tan	0.0	Negative
Bldg C	**Exterior**	**Window Frame**	**A**	**Wood**	**Intact**	**Tan**	**3.5**	**Positive**
Bldg C	**Exterior**	**Window Frame**	**C**	**Wood**	**Intact**	**Tan**	**2.3**	**Positive**
Bldg C	**Exterior**	**Window Frame**	**C**	**Metal**	**Intact**	**Black**	**1.2**	**Positive**
Bldg C	**Exterior**	**Eaves**	**A**	**Wood**	**Intact**	**White**	**3.7**	**Positive**
Bldg C	**Exterior**	**Fascia**	**A**	**Wood**	**Intact**	**Tan**	**1.4**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg C	**Exterior**	**Fascia**	**C**	**Wood**	**Intact**	**Tan**	**1.4**	**Positive**
Bldg C	**Exterior**	**Joists**	**A**	**Wood**	**Intact**	**White**	**3.9**	**Positive**
Bldg C	**Exterior**	**Porch Columns**	**A**	**Metal**	**Intact**	**Tan**	**7.6**	**Positive**
Bldg C	**Exterior**	**Downspout**	**A**	**Metal**	**Intact**	**Tan**	**4.1**	**Positive**
Bldg C	**Exterior**	**Gutter**	**A**	**Metal**	**Intact**	**Tan**	**2.8**	**Positive**
Bldg C	**Exterior**	**Downspout**	**C**	**Metal**	**Intact**	**Red**	**5.3**	**Positive**
Bldg C	**Exterior**	**Breezeway Ceiling**	**A**	**Metal**	**Intact**	**White**	**2.1**	**Positive**
Bldg C	Library	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg C	Library	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg C	Library	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg C	Library	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg C	Library	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg C	**Library**	**Door**	**B**	**Wood**	**Intact**	**Green**	**1.3**	**Positive**
Bldg C	Library	Bookshelves	A	Wood	Intact	Green	0.0	Negative
Bldg C	Library	Door Frame	C	Metal	Intact	Tan	0.0	Negative
Bldg C	**Library**	**Door Frame**	**B**	**Wood**	**Intact**	**Green**	**1.3**	**Positive**
Bldg C	**Library**	**Window Frame**	**B**	**Wood**	**Intact**	**Green**	**2.4**	**Positive**
Bldg C	**Men's Faculty RR**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.3**	**Positive**
Bldg C	Men's Faculty RR	Partition Doors	N/A	Wood	Intact	Tan	0.0	Negative
Bldg C	**Men's Faculty RR**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.3**	**Positive**
Bldg C	Rm C1	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C1	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C1	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C1	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C1	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg C	**Rm C1**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.9**	**Positive**
Bldg C	Rm C1	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg C	**Rm C1**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.4**	**Positive**
Bldg C	Rm C2	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C2	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C2	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C2	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg C	**Rm C2**	**Door**	**D**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg C	Rm C2	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg C	**Rm C2**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.2**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg C	**Rm C2**	**Door Frame**	**D**	**Wood**	**Intact**	**Tan**	**2.3**	**Positive**
Bldg C	Rm C2	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg C	**Rm C2**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.3**	**Positive**
Bldg C	Rm C2	Upper Cabinet	D	Wood	Intact	Grey	0.0	Negative
Bldg C	Rm C2	Lower Cabinet	D	Wood	Intact	Tan	0.0	Negative
Bldg C	Rm C2	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C2	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C2	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C2	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg C	**Rm C2**	**Door**	**D**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg C	Rm C2	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg C	**Rm C2**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.2**	**Positive**
Bldg C	**Rm C2**	**Door Frame**	**D**	**Wood**	**Intact**	**Tan**	**2.3**	**Positive**
Bldg C	Rm C2	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg C	**Rm C2**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.3**	**Positive**
Bldg C	Rm C2	Upper Cabinet	D	Wood	Intact	Grey	0.0	Negative
Bldg C	Rm C2	Lower Cabinet	D	Wood	Intact	Tan	0.0	Negative
Bldg C	Rm C3	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C3	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C3	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg C	Rm C3	Wall	D	Plaster	Intact	White	0.2	Negative
Bldg C	**Rm C3**	**Door**	**D**	**Wood**	**Intact**	**Tan**	**1.0**	**Positive**
Bldg C	Rm C3	Door	C	Metal	Intact	Purple	0.3	Negative
Bldg C	**Rm C3**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.0**	**Positive**
Bldg C	**Rm C3**	**Door Frame**	**D**	**Wood**	**Intact**	**Tan**	**2.2**	**Positive**
Bldg C	Rm C3	Door Frame	C	Metal	Intact	Brown	0.3	Negative
Bldg C	**Rm C3**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg C	Rm C3	Upper Cabinet	D	Wood	Intact	Grey	0.1	Negative
Bldg C	Rm C3	Lower Cabinet	D	Wood	Intact	Tan	0.2	Negative
Bldg C	Rm C3 1/2	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C3 1/2	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C3 1/2	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C3 1/2	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg C	**Rm C3 1/2**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.5**	**Positive**
Bldg C	**Rm C3 1/2**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.9**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg C	Rm C4	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg C	Rm C4	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg C	Rm C4	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C4	Wall	D	Plaster	Intact	White	0.2	Negative
Bldg C	**Rm C4**	**Door**	**D**	**Wood**	**Intact**	**Tan**	**1.3**	**Positive**
Bldg C	Rm C4	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg C	**Rm C4**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.1**	**Positive**
Bldg C	**Rm C4**	**Door Frame**	**D**	**Wood**	**Intact**	**Tan**	**2.0**	**Positive**
Bldg C	Rm C4	Door Frame	C	Metal	Intact	Brown	0.3	Negative
Bldg C	**Rm C4**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.1**	**Positive**
Bldg C	Rm C4	Upper Cabinet	D	Wood	Intact	Grey	0.1	Negative
Bldg C	Rm C4	Lower Cabinet	D	Wood	Intact	Tan	0.1	Negative
Bldg C	Rm C7	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C7	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C7	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C7	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg C	Rm C7	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg C	**Rm C7**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.5**	**Positive**
Bldg C	Rm C7	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg C	**Rm C7**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.9**	**Positive**
Bldg C	Rm C7	Upper Cabinet	A	Wood	Intact	Tan	0.0	Negative
Bldg C	Security Office	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg C	Security Office	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg C	Security Office	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg C	Security Office	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg C	Security Office	Door	A	Wood	Intact	Purple	0.0	Negative
Bldg C	Security Office	Door Frame	D	Wood	Intact	Purple	0.0	Negative
Bldg C	Security Office	Door Frame	A	Wood	Intact	Tan	0.0	Negative
Bldg C	Security Office	Upper Cabinet	A/C	Wood	Intact	Black	0.0	Negative
Bldg D	Boys' RR	Wall	A	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg D	**Boys' RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Grey**	**4.0**	**Positive**
Bldg D	Boys' RR	Wall	C	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg D	Boys' RR	Wall	D	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg D	**Boys' RR**	**Door**	**A**	**Wood**	**Defective**	**Purple**	**1.2**	**Positive**
Bldg D	**Boys' RR**	**Partition Wall**	**C**	**Ceramic Tile**	**Intact**	**White**	**4.0**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg D	**Boys' RR**	**Door Frame**	**A**	**Wood**	**Defective**	**Tan**	**1.2**	**Positive**
Bldg D	Boys' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg D	Exterior	Wall	A	Stucco	Intact	White	0.0	Negative
Bldg D	Exterior	Wall	C	Stucco	Intact	Stucco	0.0	Negative
Bldg D	Exterior	Wall	B	Brick	Intact	Red	0.0	Negative
Bldg D	Exterior	Wall	D	Brick	Intact	Red	0.0	Negative
Bldg D	Exterior	Breezeway Wall	C	Wood	Intact	N/A	0.2	Negative
Bldg D	**Exterior**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**2.7**	**Positive**
Bldg D	Exterior	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg D	Exterior	Door	A	Wood	Intact	Purple	0.0	Negative
Bldg D	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**2.0**	**Positive**
Bldg D	Exterior	Door Frame	C	Metal	Intact	Tan	0.0	Negative
Bldg D	Exterior	Door Frame	A	Wood	Intact	Tan	0.3	Negative
Bldg D	**Exterior**	**Window Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.8**	**Positive**
Bldg D	**Exterior**	**Window Frame**	**C**	**Wood**	**Intact**	**Tan**	**2.3**	**Positive**
Bldg D	Exterior	Window Frame	C	Metal	Intact	Black	0.4	Negative
Bldg D	**Exterior**	**Window Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.4**	**Positive**
Bldg D	**Exterior**	**Eaves**	**A**	**Wood**	**Intact**	**White**	**3.0**	**Positive**
Bldg D	Exterior	Eaves	C	Wood	Intact	Tan	0.0	Negative
Bldg D	**Exterior**	**Fascia**	**A**	**Wood**	**Intact**	**Tan**	**2.0**	**Positive**
Bldg D	Exterior	Fascia	C	Wood	Intact	Tan	0.2	Negative
Bldg D	**Exterior**	**Joists**	**A**	**Wood**	**Intact**	**White**	**1.9**	**Positive**
Bldg D	Exterior	Joists	C	Wood	Intact	Tan	0.0	Negative
Bldg D	**Exterior**	**Porch Columns**	**A**	**Metal**	**Intact**	**Tan**	**4.1**	**Positive**
Bldg D	**Exterior**	**Downspout**	**A**	**Metal**	**Intact**	**Tan**	**4.3**	**Positive**
Bldg D	**Exterior**	**Gutter**	**A**	**Metal**	**Intact**	**Tan**	**2.8**	**Positive**
Bldg D	**Exterior**	**Breezeway Ceiling**	**A**	**Metal**	**Intact**	**White**	**1.9**	**Positive**
Bldg D	Exterior	Electric Conduit	C	Metal	Intact	Tan	0.2	Negative
Bldg D	**Exterior**	**Downspout**	**C**	**Metal**	**Intact**	**Red**	**5.6**	**Positive**
Bldg D	Girls' RR	Wall	A	Ceramic Tile	Intact	White	0.0	Negative
Bldg D	Girls' RR	Wall	B	Ceramic Tile	Intact	White	0.0	Negative
Bldg D	Girls' RR	Wall	C	Ceramic Tile	Intact	White	0.0	Negative
Bldg D	**Girls' RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**White**	**3.5**	**Positive**
Bldg D	**Girls' RR**	**Door**	**B**	**Wood**	**Intact**	**Brown**	**2.0**	**Positive**
Bldg D	**Girls' RR**	**Partition Walls**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**4.1**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg D	**Girls' RR**	**Door Frame**	**B**	**Wood**	**Intact**	**Brown**	**2.0**	**Positive**
Bldg D	Girls' RR	Wall	A	Ceramic Tile	Intact	White	0.0	Negative
Bldg D	Girls' RR	Wall	B	Ceramic Tile	Intact	White	0.0	Negative
Bldg D	Girls' RR	Wall	C	Ceramic Tile	Intact	White	0.0	Negative
Bldg D	**Girls' RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**White**	**5.8**	**Positive**
Bldg D	**Girls' RR**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.2**	**Positive**
Bldg D	**Girls' RR**	**Partition Walls**	**D**	**Ceramic Tile**	**Intact**	**White**	**8.0**	**Positive**
Bldg D	**Girls' RR**	**Door Frame**	**A**	**Wood**	**Defective**	**Tan**	**1.2**	**Positive**
Bldg D	Girls' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	White	0.0	Negative
Bldg D	Men's Faculty RR	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg D	Men's Faculty RR	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg D	Men's Faculty RR	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg D	Men's Faculty RR	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg D	**Men's Faculty RR**	**Baseboard**	**N/A**	**Ceramic Tile**	**Intact**	**Tan**	**11.0**	**Positive**
Bldg D	**Men's Faculty RR**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.2**	**Positive**
Bldg D	**Men's Faculty RR**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.4**	**Positive**
Bldg D	Men's Faculty RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Bldg D	Rm D1	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D1	Wall	B	Brick	Intact	White	0.0	Negative
Bldg D	Rm D1	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D1	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D1	Door	C	Metal	Defective	Purple	0.0	Negative
Bldg D	Rm D1	Door	A	Wood	Defective	Purple	0.0	Negative
Bldg D	Rm D1	Door Frame	C	Metal	Defective	Brown	0.0	Negative
Bldg D	Rm D1	Door Frame	A	Wood	Defective	Brown	0.0	Negative
Bldg D	Rm D1	Window Sill	C	Wood	Intact	Tan	0.0	Negative
Bldg D	Rm D10	No Access	No Access	No Access	No Access	No Access	No Access	No Access
Bldg D	Rm D2	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D2	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D2	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D2	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D2	Door	C	Metal	Defective	Purple	0.0	Negative
Bldg D	Rm D2	Door	A	Wood	Defective	Purple	0.0	Negative
Bldg D	Rm D2	Door Frame	C	Metal	Defective	Brown	0.0	Negative
Bldg D	Rm D2	Door Frame	A	Wood	Defective	Brown	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg D	Rm D2	Window Sill	C	Wood	Intact	Tan	0.0	Negative
Bldg D	Rm D3	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D3	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D3	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D3	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg D	**Rm D3**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.2**	**Positive**
Bldg D	**Rm D3**	**Door**	**D**	**Wood**	**Intact**	**Brown**	**1.4**	**Positive**
Bldg D	Rm D3	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg D	**Rm D3**	**Chalkboard**	**D**	**Wood**	**Intact**	**Brown**	**1.0**	**Positive**
Bldg D	**Rm D3**	**Door Frame**	**A**	**Wood**	**Intact**	**Brown**	**1.2**	**Positive**
Bldg D	Rm D3	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg D	**Rm D3**	**Door Frame**	**D**	**Wood**	**Intact**	**Brown**	**2.4**	**Positive**
Bldg D	Rm D4	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D4	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D4	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D4	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D4	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg D	**Rm D4**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.4**	**Positive**
Bldg D	Rm D4	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg D	**Rm D4**	**Door Frame**	**A**	**Wood**	**Intact**	**Brown**	**1.2**	**Positive**
Bldg D	Rm D4	Window Frame	B	Wood	Intact	Brown	0.0	Negative
Bldg D	Rm D4	Lower Cabinet	B	Wood	Intact	Brown	0.0	Negative
Bldg D	Rm D5	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D5	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D5	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D5	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D5	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg D	Rm D5	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg D	Rm D5	Door frame	C	Metal	Intact	Brown	0.0	Negative
Bldg D	**Rm D5**	**Door frame**	**A**	**Metal**	**Intact**	**Brown**	**2.6**	**Positive**
Bldg D	Rm D6	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D6	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D6	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D6	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg D	**Rm D6**	**Door**	**A**	**Wood**	**Defective**	**Purple**	**1.6**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg D	Rm D6	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg D	**Rm D6**	**Door Frame**	**A**	**Wood**	**Defective**	**Brown**	**1.9**	**Positive**
Bldg D	Rm D6	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg D	Rm D7	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D7	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D7	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg D	Rm D7	Wall	D	Plaster	Intact	White	0.1	Negative
Bldg D	**Rm D7**	**Door**	**A**	**Wood**	**Defective**	**Purple**	**1.8**	**Positive**
Bldg D	Rm D7	Door	C	Metal	Intact	Purple	0.3	Negative
Bldg D	**Rm D7**	**Door Frame**	**A**	**Wood**	**Defective**	**Brown**	**1.6**	**Positive**
Bldg D	Rm D7	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg D	Rm D8	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D8	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D8	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg D	Rm D8	Wall	D	Plaster	Intact	White	0.2	Negative
Bldg D	**Rm D8**	**Door**	**A**	**Wood**	**Defective**	**Purple**	**1.4**	**Positive**
Bldg D	Rm D8	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg D	**Rm D8**	**Door Frame**	**A**	**Wood**	**Defective**	**Brown**	**1.5**	**Positive**
Bldg D	Rm D8	Door Frame	C	Metal	Intact	Brown	0.2	Negative
Bldg D	Rm D9	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D9	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D9	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D9	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg D	Rm D9	Door	A	Metal	Defective	Purple	0.2	Negative
Bldg D	Rm D9	Door	D	Wood	Defective	Tan	0.0	Negative
Bldg D	**Rm D9**	**Door Frame**	**A**	**Wood**	**Defective**	**Brown**	**3.6**	**Positive**
Bldg D	Rm D9	Door Frame	D	Wood	Defective	Tan	0.0	Negative
Bldg D	Women's Faculty RR	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg D	Women's Faculty RR	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg D	Women's Faculty RR	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg D	Women's Faculty RR	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg D	**Women's Faculty RR**	**Baseboard**	**N/A**	**Ceramic Tile**	**Intact**	**Tan**	**10.6**	**Positive**
Bldg D	**Women's Faculty RR**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.1**	**Positive**
Bldg D	**Women's Faculty RR**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.3**	**Positive**
Bldg D	Women's Faculty RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.1	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg E	Exterior	Wall	A	Stucco	Intact	White	0.0	Negative
Bldg E	Exterior	Wall	C	Stucco	Intact	White	0.0	Negative
Bldg E	Exterior	Wall	B	Brick	Intact	Red	0.0	Negative
Bldg E	**Exterior**	**Breezeway Wall**	**C**	**Wood**	**Intact**	**White**	**1.7**	**Positive**
Bldg E	**Exterior**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.5**	**Positive**
Bldg E	Exterior	Door	C	Metal	Defective	Purple	0.0	Negative
Bldg E	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.8**	**Positive**
Bldg E	Exterior	Door Frame	C	Metal	Intact	Tan	0.0	Negative
Bldg E	**Exterior**	**Window Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.9**	**Positive**
Bldg E	**Exterior**	**Window Frame**	**C**	**Wood**	**Intact**	**Tan**	**2.1**	**Positive**
Bldg E	**Exterior**	**Eaves, Southeast**	**A**	**Wood**	**Intact**	**White**	**2.7**	**Positive**
Bldg E	Exterior	Eaves, Southwest	A	Wood	Intact	White	0.0	Negative
Bldg E	**Exterior**	**Fascia, Southeast**	**A**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg E	Exterior	Fascia, Southwest	A	Wood	Intact	Tan	0.3	Negative
Bldg E	**Exterior**	**Joists, Southeast**	**A**	**Wood**	**Intact**	**White**	**5.1**	**Positive**
Bldg E	Exterior	Joists, Southwest	A	Wood	Intact	White	0.0	Negative
Bldg E	**Exterior**	**Porch Columns**	**A**	**Metal**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg E	**Exterior**	**Downspout**	**A**	**Metal**	**Intact**	**Tan**	**2.7**	**Positive**
Bldg E	**Exterior**	**Gutter**	**A**	**Metal**	**Intact**	**Tan**	**4.0**	**Positive**
Bldg E	**Exterior**	**Breezeway Ceiling**	**A**	**Metal**	**Intact**	**White**	**1.8**	**Positive**
Bldg E	**Exterior**	**Downspout**	**C**	**Metal**	**Intact**	**Red**	**4.2**	**Positive**
Bldg E	**Girls' RR**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**White**	**5.0**	**Positive**
Bldg E	Girls' RR	Wall	B	Ceramic Tile	Intact	White	0.0	Negative
Bldg E	Girls' RR	Wall	C	Ceramic Tile	Intact	White	0.0	Negative
Bldg E	Girls' RR	Wall	D	Ceramic Tile	Intact	White	0.0	Negative
Bldg E	Girls' RR	Door	B	Wood	Defective	Purple	0.0	Negative
Bldg E	Girls' RR	Partition Walls	N/A	Ceramic Tile	Intact	White	0.0	Negative
Bldg E	**Girls' RR**	**Door Frame**	**B**	**Wood**	**Defective**	**Tan**	**1.2**	**Positive**
Bldg E	Girls' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg E	Rm E1	Wall	A	Plaster	Intact	White	0..0	Negative
Bldg E	Rm E1	Wall	B	Brick	Intact	White	0.0	Negative
Bldg E	Rm E1	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E1	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E1	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg E	Rm E1	Door	A	Metal	Intact	Purple	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg E	Rm E1	Door Frame	C	Metal	Intact	Purple	0.0	Negative
Bldg E	Rm E1	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg E	**Rm E1**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**Grey**	**14.2**	**Positive**
Bldg E	Rm E10	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E10	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E10	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E10	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E10	Door	A	Metal	Intact	Purple	0.1	Negative
Bldg E	Rm E10	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg E	Rm E10	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg E	Rm E10	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg E	**Rm E10**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**Grey**	**16.0**	**Positive**
Bldg E	Rm E2	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E2	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E2	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E2	Wall	D	Plaster	Intact	White	0.3	Negative
Bldg E	Rm E2	Door	A	Metal	Intact	Purple	0.1	Negative
Bldg E	Rm E2	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg E	Rm E2	Door Frame	A	Wood	Intact	Brown	0.2	Negative
Bldg E	Rm E2	Door Frame	C	Metal	Intact	Brown	0.3	Negative
Bldg E	**Rm E2**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**Grey**	**14.8**	**Positive**
Bldg E	Rm E3	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E3	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E3	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E3	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E3	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg E	**Rm E3**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.2**	**Positive**
Bldg E	Rm E3	Door	B	Wood	Intact	Purple	0.0	Negative
Bldg E	**Rm E3**	**Door**	**B**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg E	**Rm E3**	**Door Frame**	**B**	**Wood**	**Intact**	**Tan**	**1.6**	**Positive**
Bldg E	Rm E3	Door Frame	C	Metal	Intact	Brown	0.2	Negative
Bldg E	Rm E3	Door Frame	B	Wood	Intact	Purple	0.2	Negative
Bldg E	**Rm E3**	**Door Frame**	**A**	**Wood**	**Intact**	**Brown**	**1.4**	**Positive**
Bldg E	Rm E3	Upper Cabinet	A	Wood	Intact	Green	0.0	Negative
Bldg E	Rm E3	Lower Cabinet	A	Wood	Intact	Tan	0.1	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg E	Rm E3	Shelving	B	Wood	Intact	White	0.1	Negative
Bldg E	Rm E4	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E4	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E4	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E4	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E4	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg E	**Rm E4**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.2**	**Positive**
Bldg E	Rm E4	Door	B	Wood	Intact	Purple	0.0	Negative
Bldg E	Rm E4	Door Frame	C	Metal	Intact	Brown	0.2	Negative
Bldg E	Rm E4	Door Frame	B	Wood	Intact	Purple	0.2	Negative
Bldg E	**Rm E4**	**Door Frame**	**A**	**Wood**	**Intact**	**Brown**	**1.4**	**Positive**
Bldg E	Rm E4	Upper Cabinet	A	Wood	Intact	Green	0.0	Negative
Bldg E	Rm E4	Lower Cabinet	A	Wood	Intact	Tan	0.1	Negative
Bldg E	Rm E5	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E5	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E5	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E5	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E5	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg E	**Rm E5**	**Door**	**A**	**Wood**	**Intact**	**Purple**	**1.4**	**Positive**
Bldg E	Rm E5	Door	B	Wood	Intact	Purple	0.0	Negative
Bldg E	Rm E5	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg E	Rm E5	Door Frame	B	Wood	Intact	Purple	0.0	Negative
Bldg E	**Rm E5**	**Door Frame**	**A**	**Wood**	**Intact**	**Brown**	**1.9**	**Positive**
Bldg E	Rm E5 1/2	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E5 1/2	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E5 1/2	Wall	C	Plaster	Intact	White	0.2	Negative
Bldg E	Rm E5 1/2	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E5 1/2	Door	A	Metal	Intact	Purple	0.1	Negative
Bldg E	Rm E5 1/2	Door Frame	A	Wood	Intact	Brown	0.2	Negative
Bldg E	Rm E5 1/2	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg E	**Rm E5 1/2**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**Grey**	**15.7**	**Positive**
Bldg E	Rm E6	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E6	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E6	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E6	Wall	D	Plaster	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg E	Rm E6	Door	A	Metal	Intact	Purple	0.2	Negative
Bldg E	Rm E6	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg E	Rm E6	Door Frame	A	Wood	Intact	Brown	0.3	Negative
Bldg E	Rm E6	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg E	Rm E6	Window Sill	C	Wood	Intact	White	0.3	Negative
Bldg E	Rm E7	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E7	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E7	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E7	Wall	D	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E7	Door	A	Metal	Intact	Purple	0.1	Negative
Bldg E	Rm E7	Door Frame	A	Wood	Intact	Brown	0.2	Negative
Bldg E	Rm E7	Door Frame	C	Metal	Intact	Brown	0.1	Negative
Bldg E	**Rm E7**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**Grey**	**14.3**	**Positive**
Bldg E	Rm E8	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E8	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E8	Wall	C	Plaster	Intact	White	0.2	Negative
Bldg E	Rm E8	Wall	D	Plaster	Intact	White	0.3	Negative
Bldg E	Rm E8	Door	A	Metal	Intact	Purple	0.1	Negative
Bldg E	Rm E8	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg E	Rm E8	Door Frame	A	Wood	Intact	Brown	0.1	Negative
Bldg E	Rm E8	Door Frame	C	Metal	Intact	Brown	0.2	Negative
Bldg E	**Rm E8**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**Grey**	**13.6**	**Positive**
Bldg E	Rm E9	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E9	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E9	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg E	Rm E9	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg E	Rm E9	Door	A	Metal	Intact	Purple	0.2	Negative
Bldg E	Rm E9	Door	C	Metal	Intact	Purple	0.3	Negative
Bldg E	Rm E9	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg E	Rm E9	Door Frame	C	Metal	Intact	Brown	0.1	Negative
Bldg E	**Rm E9**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**Grey**	**14.7**	**Positive**
Bldg F	Exterior	Wall	A	Stucco	Intact	White	0.0	Negative
Bldg F	Exterior	Wall	B	Stucco	Intact	White	0.0	Negative
Bldg F	Exterior	Wall	C	Stucco	Intact	White	0.0	Negative
Bldg F	Exterior	Wall	D	Stucco	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg F	Exterior	Door	A	Metal	Intact	Purple	0.3	Negative
Bldg F	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg F	**Exterior**	**Window Frame**	**A**	**Metal**	**Intact**	**Tan**	**2.8**	**Positive**
Bldg F	**Exterior**	**Fascia**	**A**	**Wood**	**Intact**	**White**	**1.2**	**Positive**
Bldg F	Exterior	Joist	A	Wood	Intact	White	0.1	Negative
Bldg F	**Exterior**	**Porch Ceiling**	**A**	**Wood**	**Intact**	**White**	**2.0**	**Positive**
Bldg F	**Girls' RR**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**White**	**4.7**	**Positive**
Bldg F	Girls' RR	Wall	B	Ceramic Tile	Intact	White	0.0	Negative
Bldg F	Girls' RR	Wall	C	Ceramic Tile	Intact	White	0.0	Negative
Bldg F	Girls' RR	Wall	D	Ceramic Tile	Intact	White	0.0	Negative
Bldg F	Girls' RR	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg F	Girls' RR	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg F	Girls' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg F	Rm F1	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F1	Wall	B	Brick	Intact	White	0.0	Negative
Bldg F	Rm F1	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F1	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F1	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg F	Rm F1	Door	A	Wood	Intact	Purple	0.0	Negative
Bldg F	Rm F1	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg F	Rm F1	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg F	**Rm F1**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**12.9**	**Positive**
Bldg F	Rm F10	Wall	A	Plaster	Intact	White	0.2	Negative
Bldg F	Rm F10	Wall	B	Brick	Intact	White	0.1	Negative
Bldg F	Rm F10	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg F	Rm F10	Wall	D	Plaster	Intact	White	0.1	Negative
Bldg F	Rm F10	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg F	Rm F10	Door	A	Wood	Intact	Purple	0.0	Negative
Bldg F	Rm F10	Door Frame	C	Metal	Intact	Brown	0.3	Negative
Bldg F	Rm F10	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg F	**Rm F10**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**10.6**	**Positive**
Bldg F	Rm F11	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F11	Wall	B	Brick	Intact	White	0.1	Negative
Bldg F	Rm F11	Wall	C	Plaster	Intact	White	0.2	Negative
Bldg F	Rm F11	Wall	D	Plaster	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg F	Rm F11	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg F	Rm F11	Door	A	Wood	Intact	Purple	0.0	Negative
Bldg F	Rm F11	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg F	Rm F11	Door Frame	A	Wood	Intact	Brown	0.3	Negative
Bldg F	**Rm F11**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**11.2**	**Positive**
Bldg F	Rm F12	Wall	A	Plaster	Intact	White	0.3	Negative
Bldg F	Rm F12	Wall	B	Brick	Intact	White	0.2	Negative
Bldg F	Rm F12	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F12	Wall	D	Plaster	Intact	White	0.1	Negative
Bldg F	Rm F12	Door	C	Metal	Intact	Purple	0.2	Negative
Bldg F	Rm F12	Door	A	Wood	Intact	Purple	0.0	Negative
Bldg F	Rm F12	Door Frame	C	Metal	Intact	Brown	0.3	Negative
Bldg F	Rm F12	Door Frame	A	Wood	Intact	Brown	0.2	Negative
Bldg F	**Rm F12**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**10.8**	**Positive**
Bldg F	Rm F2	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F2	Wall	B	Brick	Intact	White	0.0	Negative
Bldg F	Rm F2	Wall	C	Plaster	Intact	White	0.2	Negative
Bldg F	Rm F2	Wall	D	Plaster	Intact	White	0.2	Negative
Bldg F	Rm F2	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg F	Rm F2	Door	A	Wood	Intact	Purple	0.3	Negative
Bldg F	Rm F2	Door Frame	C	Metal	Intact	Brown	0.1	Negative
Bldg F	Rm F2	Door Frame	A	Wood	Intact	Brown	0.1	Negative
Bldg F	**Rm F2**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**11.7**	**Positive**
Bldg F	Rm F3	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg F	Rm F3	Wall	B	Brick	Intact	White	0.0	Negative
Bldg F	Rm F3	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg F	Rm F3	Wall	D	Plaster	Intact	White	0.1	Negative
Bldg F	Rm F3	Door	C	Metal	Intact	Purple	0.2	Negative
Bldg F	Rm F3	Door	A	Wood	Intact	Purple	0.0	Negative
Bldg F	Rm F3	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg F	Rm F3	Door Frame	A	Wood	Intact	Brown	0.2	Negative
Bldg F	**Rm F3**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**10.3**	**Positive**
Bldg F	Rm F4	Wall	A	Plaster	Intact	White	0.3	Negative
Bldg F	Rm F4	Wall	B	Brick	Intact	White	0.2	Negative
Bldg F	Rm F4	Wall	C	Plaster	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg F	Rm F4	Wall	D	Plaster	Intact	White	0.1	Negative
Bldg F	Rm F4	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg F	Rm F4	Door	A	Wood	Intact	Purple	0.1	Negative
Bldg F	Rm F4	Door Frame	C	Metal	Intact	Brown	0.2	Negative
Bldg F	Rm F4	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg F	**Rm F4**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**12.0**	**Positive**
Bldg F	Rm F5	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F5	Wall	B	Brick	Intact	White	0.0	Negative
Bldg F	Rm F5	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg F	Rm F5	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F5	Door	C	Metal	Intact	Purple	0.2	Negative
Bldg F	Rm F5	Door	A	Wood	Intact	Purple	0.0	Negative
Bldg F	Rm F5	Door Frame	C	Metal	Intact	Brown	0.1	Negative
Bldg F	Rm F5	Door Frame	A	Wood	Intact	Brown	0.1	Negative
Bldg F	**Rm F5**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**10.6**	**Positive**
Bldg F	Rm F6	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg F	Rm F6	Wall	B	Brick	Intact	White	0.2	Negative
Bldg F	Rm F6	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F6	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F6	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg F	Rm F6	Door	A	Wood	Intact	Purple	0.3	Negative
Bldg F	Rm F6	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg F	Rm F6	Door Frame	A	Wood	Intact	Brown	0.2	Negative
Bldg F	**Rm F6**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**11.5**	**Positive**
Bldg F	Rm F7	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg F	Rm F7	Wall	B	Brick	Intact	White	0.0	Negative
Bldg F	Rm F7	Wall	C	Plaster	Intact	White	0.2	Negative
Bldg F	Rm F7	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F7	Door	C	Metal	Intact	Purple	0.2	Negative
Bldg F	Rm F7	Door	A	Wood	Intact	Purple	0.0	Negative
Bldg F	Rm F7	Door Frame	C	Metal	Intact	Brown	0.2	Negative
Bldg F	Rm F7	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg F	**Rm F7**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**12.3**	**Positive**
Bldg F	Rm F8	Wall	A	Plaster	Intact	White	0.2	Negative
Bldg F	Rm F8	Wall	B	Brick	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg F	Rm F8	Wall	C	Plaster	Intact	White	0.3	Negative
Bldg F	Rm F8	Wall	D	Plaster	Intact	White	0.3	Negative
Bldg F	Rm F8	Door	C	Metal	Intact	Purple	0.2	Negative
Bldg F	Rm F8	Door	A	Wood	Intact	Purple	0.1	Negative
Bldg F	Rm F8	Door Frame	C	Metal	Intact	Brown	0.1	Negative
Bldg F	Rm F8	Door Frame	A	Wood	Intact	Brown	0.1	Negative
Bldg F	**Rm F8**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**10.4**	**Positive**
Bldg F	Rm F9	Wall	A	Plaster	Intact	White	0.2	Negative
Bldg F	Rm F9	Wall	B	Brick	Intact	White	0.2	Negative
Bldg F	Rm F9	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F9	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg F	Rm F9	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg F	Rm F9	Door	A	Wood	Intact	Purple	0.1	Negative
Bldg F	Rm F9	Door Frame	C	Metal	Intact	Brown	0.3	Negative
Bldg F	Rm F9	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg F	**Rm F9**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**11.6**	**Positive**
Bldg G	Exterior	Wall	A	Stucco	Intact	White	0.0	Negative
Bldg G	Exterior	Wall	B	Stucco	Intact	White	0.0	Negative
Bldg G	Exterior	Wall	C	Stucco	Intact	White	0.0	Negative
Bldg G	Exterior	Wall	D	Stucco	Intact	White	0.0	Negative
Bldg G	Exterior	Wall	A	Brick	Intact	Red	0.0	Negative
Bldg G	Exterior	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg G	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**2.3**	**Positive**
Bldg G	**Exterior**	**Window Frame**	**A**	**Metal**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg G	**Exterior**	**Window Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg G	Exterior	Eaves	A	Wood	Intact	White	0.0	Negative
Bldg G	Exterior	Eaves	A	Wood	Intact	White	0.0	Negative
Bldg G	Exterior	Fascia	A	Wood	Intact	White	0.0	Negative
Bldg G	**Exterior**	**Fascia**	**A**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg G	Exterior	Joist	A	Wood	Intact	White	0.0	Negative
Bldg G	**Exterior**	**Porch Column**	**A**	**Metal**	**Intact**	**Tan**	**4.1**	**Positive**
Bldg G	Exterior	Porch Ceiling	A	Wood	Intact	White	0.0	Negative
Bldg G	**Exterior**	**Downspout**	**A**	**Metal**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg G	**Exterior**	**Gutter**	**A**	**Metal**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg G	Exterior	Breezway Ceiling	A	Wood	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg G	G1, Boys' RR	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg G	G1, Boys' RR	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg G	G1, Boys' RR	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg G	G1, Boys' RR	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg G	**G1, Boys' RR**	**Baseboard**	**B**	**Ceramic Tile**	**Intact**	**Brown**	**9.0**	**Positive**
Bldg G	G1, Boys' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Bldg G	Office	Wall	A	Wood	Intact	White	0.0	Negative
Bldg G	Office	Wall	B	Wood	Intact	White	0.1	Negative
Bldg G	Office	Wall	C	Wood	Intact	White	0.1	Negative
Bldg G	Office	Wall	D	Wood	Intact	White	0.2	Negative
Bldg G	Office	Door	D	Wood	Intact	Tan	0.1	Negative
Bldg G	Office	Door Frame	D	Wood	Intact	Brown	0.0	Negative
Bldg G	Rm G1-A	Wall	A	Drywall	Intact	White	0.0	Negative
Bldg G	Rm G1-A	Wall	B	Drywall	Intact	White	0.0	Negative
Bldg G	Rm G1-A	Wall	C	Drywall	Intact	White	0.0	Negative
Bldg G	Rm G1-A	Wall	D	Drywall	Intact	White	0.0	Negative
Bldg G	Rm G1-A	Door	B	Wood	Intact	Tan	0.0	Negative
Bldg G	Rm G1-A	Door Frame	B	Metal	Intact	Tan	0.0	Negative
Bldg G	Rm G1-B	Wall	A	Drywall	Intact	White	0.0	Negative
Bldg G	Rm G1-B	Wall	B	Drywall	Intact	White	0.0	Negative
Bldg G	Rm G1-B	Wall	C	Drywall	Intact	White	0.0	Negative
Bldg G	Rm G1-B	Wall	D	Drywall	Intact	White	0.0	Negative
Bldg G	Rm G1-B	Door	B	Metal	Intact	Tan	0.0	Negative
Bldg G	Rm G1-B	Door Frame	B	Metal	Intact	Tan	0.0	Negative
Bldg G	Rm G1-B	Lower Cabinet	D	Wood	Intact	Tan	0.0	Negative
Bldg G	Rm G1-C	Wall	A	Wood	Intact	White	0.1	Negative
Bldg G	Rm G1-C	Wall	B	Wood	Intact	White	0.0	Negative
Bldg G	Rm G1-C	Wall	C	Wood	Intact	White	0.1	Negative
Bldg G	Rm G1-C	Wall	D	Wood	Intact	White	0.2	Negative
Bldg G	Rm G1-C	Door	D	Wood	Intact	Tan	0.0	Negative
Bldg G	Rm G1-C	Door Frame	D	Wood	Intact	Brown	0.1	Negative
Bldg G	Rm G1-D	Wall	A	Wood	Intact	White	0.0	Negative
Bldg G	Rm G1-D	Wall	B	Wood	Intact	White	0.2	Negative
Bldg G	Rm G1-D	Wall	C	Wood	Intact	White	0.2	Negative
Bldg G	Rm G1-D	Wall	D	Wood	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg G	Rm G1-D	Door	D	Wood	Intact	Tan	0.1	Negative
Bldg G	Rm G1-D	Door Frame	D	Wood	Intact	Brown	0.3	Negative
Bldg G	Rm G1-F	Wall	A	Wood	Intact	White	0.0	Negative
Bldg G	Rm G1-F	Wall	B	Wood	Intact	White	0.0	Negative
Bldg G	Rm G1-F	Wall	C	Wood	Intact	White	0.0	Negative
Bldg G	Rm G1-F	Wall	D	Wood	Intact	White	0.0	Negative
Bldg G	Rm G1-F	Door	D	Wood	Intact	Tan	0.0	Negative
Bldg G	Rm G1-F	Door Frame	D	Wood	Intact	Brown	0.0	Negative
Bldg G	Rm G2	No Access	No Access	No Access	No Access	No Access	No Access	No Access
Bldg G	Rm G3	Wall	A	Brick	Intact	White	0.0	Negative
Bldg G	Rm G3	Wall	B	Drywall	Intact	White	0.0	Negative
Bldg G	Rm G3	Wall	C	Brick	Intact	White	0.0	Negative
Bldg G	Rm G3	Wall	D	Brick	Intact	White	0.0	Negative
Bldg G	**Rm G3**	**Baseboard, G3 RR**	**D**	**Ceramic Tile**	**Intact**	**Brown**	**12.8**	**Positive**
Bldg G	Rm G3	Door	C	Metal	Intact	Brown	0.0	Negative
Bldg G	Rm G3	Door	A	Metal	Intact	Blue	0.0	Negative
Bldg G	Rm G3	Floor, G3 RR	N/A	Concrete	Intact	Multi-Colored	0.0	Negative
Bldg G	Rm G3	Door Frame	C	Metal	Intact	White	0.5	Negative
Bldg G	**Rm G3**	**Door Frame**	**A**	**Wood**	**Intact**	**White**	**2.0**	**Positive**
Bldg G	Rm G4	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg G	Rm G4	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg G	Rm G4	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg G	Rm G4	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg G	Rm G4	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg G	Rm G4	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg G	Rm G4	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg G	Rm G4	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg G	**Rm G4**	**Window Sill**	**C**	**Ceramic Tile**	**Intact**	**White**	**15.0**	**Positive**
Bldg G	Rm G5	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg G	Rm G5	Wall	B	Plaster	Intact	White	0.2	Negative
Bldg G	Rm G5	Wall	C	Plaster	Intact	White	0.2	Negative
Bldg G	Rm G5	Wall	D	Plaster	Intact	White	0.3	Negative
Bldg G	Rm G5	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg G	Rm G5	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg G	Rm G5	Door Frame	C	Metal	Intact	Brown	0.2	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg G	Rm G5	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg G	**Rm G5**	**Window Sill**	**C**	**Ceramic Tile**	**Intact**	**White**	**16.2**	**Positive**
Bldg G	Rm G6	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg G	Rm G6	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg G	Rm G6	Wall	C	Plaster	Intact	White	0.2	Negative
Bldg G	Rm G6	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg G	Rm G6	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg G	Rm G6	Door	A	Metal	Intact	Purple	0.3	Negative
Bldg G	Rm G6	Door Frame	C	Metal	Intact	Brown	0.2	Negative
Bldg G	Rm G6	Door Frame	A	Wood	Intact	Brown	0.2	Negative
Bldg G	**Rm G6**	**Window Sill**	**C**	**Ceramic Tile**	**Intact**	**White**	**14.8**	**Positive**
Bldg G	Rm G7	Wall	A	Plaster	Intact	White	0.3	Negative
Bldg G	Rm G7	Wall	B	Plaster	Intact	White	0.2	Negative
Bldg G	Rm G7	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg G	Rm G7	Wall	D	Plaster	Intact	White	0.1	Negative
Bldg G	Rm G7	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg G	Rm G7	Door	A	Metal	Intact	Purple	0.1	Negative
Bldg G	Rm G7	Door Frame	C	Metal	Intact	Brown	0.1	Negative
Bldg G	Rm G7	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg G	**Rm G7**	**Window Sill**	**C**	**Ceramic Tile**	**Intact**	**White**	**15.5**	**Positive**
Bldg G	Rm G8	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg G	Rm G8	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg G	Rm G8	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg G	Rm G8	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg G	Rm G8	Door	C	Metal	Intact	Purple	0.2	Negative
Bldg G	Rm G8	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg G	Rm G8	Door Frame	C	Metal	Intact	Brown	0.2	Negative
Bldg G	Rm G8	Door Frame	A	Wood	Intact	Brown	0.3	Negative
Bldg G	**Rm G8**	**Window Sill**	**C**	**Ceramic Tile**	**Intact**	**White**	**14.6**	**Positive**
Bldg G	Rm GT-1	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg G	Rm GT-1	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg G	Rm GT-2	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg G	Rm GT-2	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg H	Exterior	Wall	A	Stucco	Intact	White	0.0	Negative
Bldg H	Exterior	Wall	D	Brick	Intact	Red	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg H	**Exterior**	**Door**	**A**	**Metal**	**Intact**	**Purple**	**1.2**	**Positive**
Bldg H	**Exterior**	**Door**	**C**	**Metal**	**Intact**	**Purple**	**1.2**	**Positive**
Bldg H	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**1.3**	**Positive**
Bldg H	**Exterior**	**Door Frame**	**C**	**Wood**	**Intact**	**Tan**	**1.3**	**Positive**
Bldg H	**Exterior**	**Window Frame**	**A**	**Metal**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg H	**Exterior**	**Window Frame**	**C**	**Metal**	**Intact**	**Red**	**1.7**	**Positive**
Bldg H	Exterior	Eaves	A	Wood	Intact	White	0.0	Negative
Bldg H	**Exterior**	**Eaves**	**D**	**Wood**	**Intact**	**White**	**2.0**	**Positive**
Bldg H	**Exterior**	**Fascia**	**A**	**Metal**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg H	**Exterior**	**Fascia**	**D**	**Metal**	**Defective**	**Tan**	**1.2**	**Positive**
Bldg H	Exterior	Joist	A	Wood	Intact	White	0.0	Negative
Bldg H	**Exterior**	**Porch Column**	**A**	**Metal**	**Intact**	**Tan**	**1.2**	**Positive**
Bldg H	**Exterior**	**Gutter**	**A**	**Metal**	**Intact**	**Tan**	**1.3**	**Positive**
Bldg H	Exterior	Conduit	D	Metal	Intact	Red	0.2	Negative
Bldg H	Rm H1	No Access	No Access	No Access	No Access	No Access	No Access	No Access
Bldg H	Rm H2	No Access	No Access	No Access	No Access	No Access	No Access	No Access
Bldg H	Rm H3	No Access	No Access	No Access	No Access	No Access	No Access	No Access
Bldg H	Rm H4	No Access	No Access	No Access	No Access	No Access	No Access	No Access
Bldg H	Rm H5	Wall	A	Plaster	Intact	White	0.2	Negative
Bldg H	Rm H5	Wall	B	Plaster	Intact	White	0.1	Negative
Bldg H	Rm H5	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg H	Rm H5	Wall	D	Plaster	Intact	White	0.2	Negative
Bldg H	Rm H5	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg H	Rm H5	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg H	Rm H5	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg H	Rm H5	Door Frame	C	Metal	Intact	Brown	0.3	Negative
Bldg H	**Rm H5**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**11.5**	**Positive**
Bldg H	Rm H5	Window Frame	N/A	Wood	Intact	White	0.3	Negative
Bldg H	Rm H6	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg H	Rm H6	Wall	B	Plaster	Intact	White	0.2	Negative
Bldg H	Rm H6	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg H	Rm H6	Wall	D	Plaster	Intact	White	0.2	Negative
Bldg H	Rm H6	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg H	Rm H6	Door	C	Metal	Intact	Purple	0.3	Negative
Bldg H	Rm H6	Door Frame	A	Wood	Intact	Brown	0.1	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg H	Rm H6	Door Frame	C	Metal	Intact	Brown	0.2	Negative
Bldg H	**Rm H6**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**12.4**	**Positive**
Bldg H	Rm H6	Window Frame	N/A	Wood	Intact	White	0.2	Negative
Bldg H	Rm H7	Wall	A	Plaster	Intact	White	0.1	Negative
Bldg H	Rm H7	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg H	Rm H7	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg H	Rm H7	Wall	D	Plaster	Intact	White	0.1	Negative
Bldg H	Rm H7	Door	A	Metal	Intact	Purple	0.2	Negative
Bldg H	Rm H7	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg H	Rm H7	Door Frame	A	Wood	Intact	Brown	0.1	Negative
Bldg H	Rm H7	Door Frame	C	Metal	Intact	Brown	0.3	Negative
Bldg H	**Rm H7**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**10.8**	**Positive**
Bldg H	Rm H7	Window Frame	N/A	Wood	Intact	White	0.2	Negative
Bldg H	Rm H8	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg H	Rm H8	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg H	Rm H8	Wall	C	Plaster	Intact	White	0.1	Negative
Bldg H	Rm H8	Wall	D	Plaster	Intact	White	0.2	Negative
Bldg H	Rm H8	Door	A	Metal	Intact	Purple	0.1	Negative
Bldg H	Rm H8	Door	C	Metal	Intact	Purple	0.3	Negative
Bldg H	Rm H8	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg H	Rm H8	Door Frame	C	Metal	Intact	Brown	0.1	Negative
Bldg H	**Rm H8**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**12.2**	**Positive**
Bldg H	Rm H8	Window Frame	N/A	Wood	Intact	White	0.1	Negative
Bldg H	Rm H9	Wall	A	Plaster	Intact	White	0.0	Negative
Bldg H	Rm H9	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg H	Rm H9	Wall	C	Plaster	Intact	White	0.0	Negative
Bldg H	Rm H9	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg H	Rm H9	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg H	Rm H9	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg H	Rm H9	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Bldg H	Rm H9	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg H	**Rm H9**	**Window Sill**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**12.1**	**Positive**
Bldg H	Rm H9	Window Frame	N/A	Wood	Intact	White	0.0	Negative
Bldg I	Exterior	Wall	A	Metal	Intact	Tan	0.0	Negative
Bldg I	Exterior	Wall	B	Metal	Intact	Tan	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg I	Exterior	Wall	C	Metal	Intact	Tan	0.0	Negative
Bldg I	Exterior	Wall	D	Metal	Intact	Tan	0.0	Negative
Bldg I	Exterior	Window Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg I	Exterior	Eaves	A	Metal	Intact	Tan	0.0	Negative
Bldg I	Exterior	Railings	A	Metal	Intact	Tan	0.0	Negative
Bldg I	Exterior	Gutter	A	Metal	Intact	Tan	0.0	Negative
Bldg I	Exterior	Ramp	A	Metal	Intact	Gray	0.4	Negative
Bldg I	Rm I1	Walls	A-D	No Paint	No Paint	No Paint	No Paint	No Paint
Bldg I	Rm I1	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg I	Rm I1	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg I	Rm I2	Walls	A-D	No Paint	No Paint	No Paint	No Paint	No Paint
Bldg I	Rm I2	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg I	Rm I2	Door Frame	A	Metal	Intact	Tan	0.1	Negative
Bldg I	Rm I3	Walls	A-D	No Paint	No Paint	No Paint	No Paint	No Paint
Bldg I	Rm I3	Door	A	Metal	Intact	Purple	0.1	Negative
Bldg I	Rm I3	Door Frame	A	Metal	Intact	Tan	0.1	Negative
Bldg I	Rm I4	Walls	A-D	No Paint	No Paint	No Paint	No Paint	No Paint
Bldg I	Rm I4	Door	A	Metal	Intact	Purple	0.1	Negative
Bldg I	Rm I4	Door Frame	A	Metal	Intact	Tan	0.3	Negative
Bldg I	Rm I5	Walls	A-D	No Paint	No Paint	No Paint	No Paint	No Paint
Bldg I	Rm I5	Door	A	Metal	Intact	Purple	0.3	Negative
Bldg I	Rm I5	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg I	Rm I6	Walls	A-D	No Paint	No Paint	No Paint	No Paint	No Paint
Bldg I	Rm I6	Door	A	Metal	Intact	Purple	0.1	Negative
Bldg I	Rm I6	Door Frame	A	Metal	Intact	Tan	0.2	Negative
Bldg I	Rm I7	Walls	A-D	No Paint	No Paint	No Paint	No Paint	No Paint
Bldg I	Rm I7	Door	A	Metal	Intact	Purple	0.2	Negative
Bldg I	Rm I7	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg I	Rm I8	Walls	A-D	No Paint	No Paint	No Paint	No Paint	No Paint
Bldg I	Rm I8	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg I	Rm I8	Door Frame	A	Metal	Intact	Tan	0.1	Negative
Bldg I	Rm I9	Walls	A-D	No Paint	No Paint	No Paint	No Paint	No Paint
Bldg I	Rm I9	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg I	Rm I9	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg J	Exterior	Wall	A	Metal	Intact	Tan	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg J	Exterior	Wall	B	Metal	Intact	Tan	0.0	Negative
Bldg J	Exterior	Wall	C	Metal	Intact	Tan	0.0	Negative
Bldg J	Exterior	Wall	D	Metal	Intact	Tan	0.0	Negative
Bldg J	Exterior	Window Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg J	Exterior	Eaves	A	Metal	Intact	Tan	0.0	Negative
Bldg J	Exterior	Railings	A	Metal	Intact	Tan	0.0	Negative
Bldg J	Exterior	Gutter	A	Metal	Intact	Tan	0.0	Negative
Bldg J	Exterior	Ramp	A	Metal	Intact	Gray	0.4	Negative
Bldg J	Rm J1	Door	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J1	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J2	Door	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J2	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J3	Door	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J3	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J4	Door	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J4	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J5	Door	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J5	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J6	Door	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J6	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J7	Door	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J7	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J8	Door	A	Metal	Intact	Brown	0.0	Negative
Bldg J	Rm J8	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg K	Exterior	Wall	A	Brick	Intact	Red	0.0	Negative
Bldg K	Exterior	Wall	B	Brick	Intact	Red	0.0	Negative
Bldg K	Exterior	Wall	C	Brick	Intact	Red	0.0	Negative
Bldg K	Exterior	Wall	D	Brick	Intact	Red	0.0	Negative
Bldg K	Exterior	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg K	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Tan**	**2.0**	**Positive**
Bldg K	Exterior	Window Frame	A	Wood	Intact	Red	0.0	Negative
Bldg K	Exterior	Eaves	A	Wood	Intact	Tan	0.0	Negative
Bldg K	Exterior	Fascia	A	Wood	Intact	Tan	0.0	Negative
Bldg K	Exterior	Downspout	D	Metal	Intact	Red	0.0	Negative
Bldg K	Exterior	Conduits	B	Metal	Intact	Red	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg K	Men's RR	Wall	A	Plaster	Intact	Beige	0.0	Negative
Bldg K	Men's RR	Wall	B	Brick	Intact	Beige	0.0	Negative
Bldg K	Men's RR	Wall	C	Brick	Intact	Beige	0.0	Negative
Bldg K	Men's RR	Wall	D	Plaster	Intact	Beige	0.0	Negative
Bldg K	**Men's RR**	**Baseboard**	**N/A**	**Ceramic Tile**	**Intact**	**Brown**	**10.8**	**Positive**
Bldg K	Men's RR	Door	C	Metal	Intact	Purple	0.1	Negative
Bldg K	**Men's RR**	**Door Frame**	**C**	**Wood**	**Intact**	**Purple**	**1.4**	**Positive**
Bldg K	Men's RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.2	Negative
Bldg K	**Men's RR**	**Ceramic Shower Tile**	**D**	**Ceramic Tile**	**Intact**	**Yellow**	**14.2**	**Positive**
Bldg K	Rm K1	Wall	A	Brick	Intact	Beige	0.0	Negative
Bldg K	Rm K1	Wall	B	Brick	Intact	Beige	0.0	Negative
Bldg K	Rm K1	Wall	C	Brick	Intact	Beige	0.0	Negative
Bldg K	Rm K1	Wall	D	Brick	Intact	Beige	0.0	Negative
Bldg K	Rm K1	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg K	Rm K1	Door	D	Metal	Intact	Purple	0.0	Negative
Bldg K	Rm K1	Door Frame	C	Wood	Intact	Brown	0.0	Negative
Bldg K	Rm K1	Door Frame	D	Wood	Intact	Brown	0.0	Negative
Bldg K	Rm K1	Window Frame	C	Wood	Intact	Beige	0.0	Negative
Bldg K	Rm K2	Wall	A	Brick	Intact	Beige	0.0	Negative
Bldg K	Rm K2	Wall	B	Brick	Intact	Beige	0.0	Negative
Bldg K	Rm K2	Wall	C	Brick	Intact	Beige	0.0	Negative
Bldg K	Rm K2	Wall	D	Brick	Intact	Beige	0.0	Negative
Bldg K	Rm K2	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg K	Rm K2	Door	D	Metal	Intact	Purple	0.0	Negative
Bldg K	Rm K2	Door Frame	C	Wood	Intact	Brown	0.0	Negative
Bldg K	Rm K2	Door Frame	D	Wood	Intact	Brown	0.0	Negative
Bldg K	Rm K2	Window Frame	C	Wood	Intact	Beige	0.0	Negative
Bldg K	Rm K3 Admin	Wall	A	Brick	Intact	White	0.0	Negative
Bldg K	Rm K3 Admin	Wall	B	Drywall	Intact	White	0.0	Negative
Bldg K	Rm K3 Admin	Wall	C	Drywall	Intact	White	0.0	Negative
Bldg K	Rm K3 Admin	Wall	D	Drywall	Intact	White	0.0	Negative
Bldg K	Rm K3 Admin	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg K	**Rm K3 Admin**	**Door Frame**	**A**	**Wood**	**Intact**	**Brown**	**3.1**	**Positive**
Bldg K	Rm K3 RR	Wall	A	Ceramic Tile	Intact	White	0.0	Negative
Bldg K	Rm K3 RR	Wall	B	Ceramic Tile	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg K	Rm K3 RR	Wall	C	Ceramic Tile	Intact	White	0.0	Negative
Bldg K	Rm K3 RR	Wall	D	Ceramic Tile	Intact	White	0.0	Negative
Bldg K	Rm K3 RR	Door	D	Metal	Intact	Brown	0.0	Negative
Bldg K	Rm K3 RR	Door Frame	D	Metal	Intact	Brown	0.1	Negative
Bldg K	Rm K4	Wall	A	Brick	Intact	Beige	0.0	Negative
Bldg K	Rm K4	Wall	B	Brick	Intact	Beige	0.0	Negative
Bldg K	Rm K4	Wall	C	Brick	Intact	Beige	0.0	Negative
Bldg K	Rm K4	Wall	D	Brick	Intact	Beige	0.0	Negative
Bldg K	Rm K4	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg K	Rm K4	Door	D	Metal	Intact	Purple	0.0	Negative
Bldg K	Rm K4	Door Frame	C	Wood	Intact	Brown	0.0	Negative
Bldg K	Rm K4	Door Frame	D	Wood	Intact	Brown	0.0	Negative
Bldg K	Rm K4	Window Frame	C	Wood	Intact	Beige	0.0	Negative
Bldg K	Women's RR	Wall	A	Plaster	Intact	Beige	0.0	Negative
Bldg K	Women's RR	Wall	B	Brick	Intact	Beige	0.0	Negative
Bldg K	Women's RR	Wall	C	Brick	Intact	Beige	0.0	Negative
Bldg K	Women's RR	Wall	D	Plaster	Intact	Beige	0.0	Negative
Bldg K	**Women's RR**	**Baseboard**	**N/A**	**Ceramic Tile**	**Intact**	**Brown**	**12.0**	**Positive**
Bldg K	Women's RR	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg K	**Women's RR**	**Door Frame**	**C**	**Wood**	**Intact**	**Purple**	**1.2**	**Positive**
Bldg K	Women's RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Bldg M	Exterior	Wall	A	Brick	Intact	Red	0.0	Negative
Bldg M	Exterior	Wall	B	Brick	Intact	Red	0.0	Negative
Bldg M	Exterior	Wall	C	Brick	Intact	Red	0.0	Negative
Bldg M	Exterior	Wall	D	Brick	Intact	Red	0.0	Negative
Bldg M	Exterior	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg M	**Exterior**	**Door Frame**	**C**	**Wood**	**Intact**	**Tan**	**3.4**	**Positive**
Bldg M	**Exterior**	**Window Frame**	**C**	**Wood**	**Intact**	**Tan**	**3.0**	**Positive**
Bldg M	Exterior	Eaves	C	Stucco	Intact	White	0.0	Negative
Bldg M	**Exterior**	**Fascia**	**C**	**Wood**	**Intact**	**Tan**	**2.0**	**Positive**
Bldg M	Exterior	Conduits	B	Metal	Intact	Red	0.0	Negative
Bldg M	**Men's Staff RR**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Tan**	**11.8**	**Positive**
Bldg M	**Men's Staff RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Tan**	**12.2**	**Positive**
Bldg M	**Men's Staff RR**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Tan**	**12.1**	**Positive**
Bldg M	**Men's Staff RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Tan**	**11.2**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg M	**Men's Staff RR**	**Door**	**C**	**Wood**	**Intact**	**Purple**	**1.4**	**Positive**
Bldg M	**Men's Staff RR**	**Door Frame**	**C**	**Wood**	**Intact**	**Tan**	**1.0**	**Positive**
Bldg M	Men's Staff RR	Partition Wall	N/A	Metal	Intact	Tan	0.0	Negative
Bldg M	Men's Staff RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Bldg M	Rm M1	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg M	**Rm M10**	**Window Frame**	**C**	**Metal**	**Intact**	**White**	**10.5**	**Positive**
Bldg M	Rm M11	Upper Cabinet	A	Wood	Intact	White	0.0	Negative
Bldg M	Rm M2	Wall	C	Concrete	Intact	White	0.0	Negative
Bldg M	Rm M2	Wall	A	Concrete	Intact	White	0.0	Negative
Bldg M	Rm M2	Wall	B	Plaster	Intact	White	0.0	Negative
Bldg M	Rm M2	Wall	C	Concrete	Intact	White	0.0	Negative
Bldg M	Rm M2	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg M	Rm M2	Door	B	Wood	Intact	Brown	2.7	Positive
Bldg M	Rm M2	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg M	**Rm M2**	**Door Frame**	**B**	**Wood**	**Intact**	**White**	**2.0**	**Positive**
Bldg M	**Rm M2**	**Door Frame**	**A**	**Wood**	**Intact**	**Brown**	**1.5**	**Positive**
Bldg M	Rm M3	Wall	D	Plaster	Intact	White	0.0	Negative
Bldg M	Rm M3	No Access	No Access	No Access	No Access	No Access	No Access	No Access
Bldg M	**Rm M4**	**Door**	**B**	**Wood**	**Intact**	**Brown**	**1.5**	**Positive**
Bldg M	**Rm M5**	**Door**	**D**	**Wood**	**Intact**	**Brown**	**1.5**	**Positive**
Bldg M	Rm M6	Stairwell Wall	N/A	Wood	Intact	Red	0.0	Negative
Bldg M	**Rm M7**	**Door Frame**	**B**	**Wood**	**Intact**	**White**	**1.2**	**Positive**
Bldg M	**Rm M8**	**Door Frame**	**D**	**Wood**	**Intact**	**White**	**1.2**	**Positive**
Bldg M	**Rm M9**	**Window Frame**	**B**	**Wood**	**Intact**	**White**	**2.5**	**Positive**
Bldg M	**Women's Staff RR**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Tan**	**12.2**	**Positive**
Bldg M	**Women's Staff RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Tan**	**12.2**	**Positive**
Bldg M	**Women's Staff RR**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Tan**	**12.2**	**Positive**
Bldg M	**Women's Staff RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Tan**	**12.2**	**Positive**
Bldg M	**Women's Staff RR**	**Door**	**C**	**Wood**	**Intact**	**Purple**	**1.2**	**Positive**
Bldg M	**Women's Staff RR**	**Door Frame**	**C**	**Wood**	**Intact**	**Tan**	**1.6**	**Positive**
Bldg M	Women's Staff RR	Partition Wall	N/A	Metal	Intact	Tan	0.0	Negative
Bldg M	Women's Staff RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Bldg Y	Exterior	Wall	A	Metal	Intact	White	0.0	Negative
Bldg Y	Exterior	Wall	B	Metal	Intact	White	0.0	Negative
Bldg Y	Exterior	Wall	C	Metal	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg Y	Exterior	Wall	D	Metal	Intact	White	0.0	Negative
Bldg Y	Exterior	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg Y	Exterior	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg Y	Exterior	Eaves	A	Metal	Intact	White	0.0	Negative
Bldg Y	Exterior	Fascia	A	Metal	Intact	White	0.0	Negative
Bldg Y	Exterior	Joist	A	Metal	Intact	White	0.0	Negative
Bldg Y	Boys' RR	Wall	A	Metal	Intact	White	0.0	Negative
Bldg Y	Boys' RR	Wall	B	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg Y	Boys' RR	Wall	C	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg Y	Boys' RR	Wall	D	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg Y	**Boys' RR**	**Baseboard**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**13.5**	**Positive**
Bldg Y	Boys' RR	Partition Walls	N/A	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg Y	Boys' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Grey	0.1	Negative
Bldg Y	Girls' RR	Wall	A	Metal	Intact	White	0.0	Negative
Bldg Y	Girls' RR	Wall	B	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg Y	Girls' RR	Wall	C	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg Y	Girls' RR	Wall	D	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg Y	**Girls' RR**	**Baseboard**	**N/A**	**Ceramic Tile**	**Intact**	**White**	**12.5**	**Positive**
Bldg Y	Girls' RR	Partition Walls	N/A	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg Y	Girls' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Grey	0.0	Negative
Bldg Y	Rm Y1	Wall	A	Metal	Intact	White	0.0	Negative
Bldg Y	Rm Y1	Wall	B	Metal	Intact	White	0.1	Negative
Bldg Y	Rm Y1	Wall	C	Metal	Intact	White	0.0	Negative
Bldg Y	Rm Y1	Wall	D	Metal	Intact	White	0.1	Negative
Bldg Y	Rm Y1	Door	A	Metal	Intact	Purple	0.3	Negative
Bldg Y	Rm Y1	Door	C	Metal	Intact	Purple	0.2	Negative
Bldg Y	Rm Y1	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg Y	Rm Y1	Door Frame	C	Metal	Intact	Brown	0.1	Negative
Bldg Y	Rm Y1	Window Frame	C	Wood	Intact	White	0.0	Negative
Bldg Y	Rm Y2	Wall	A	Metal	Intact	White	0.1	Negative
Bldg Y	Rm Y2	Wall	B	Metal	Intact	White	0.0	Negative
Bldg Y	Rm Y2	Wall	C	Metal	Intact	White	0.1	Negative
Bldg Y	Rm Y2	Wall	D	Metal	Intact	White	0.1	Negative
Bldg Y	Rm Y2	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg Y	Rm Y2	Door	C	Metal	Intact	Purple	0.2	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg Y	Rm Y2	Door Frame	A	Metal	Intact	Brown	0.1	Negative
Bldg Y	Rm Y2	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg Y	Rm Y2	Window Frame	C	Wood	Intact	White	0.1	Negative
Bldg Y	Rm Y3	Wall	A	Metal	Intact	White	0.0	Negative
Bldg Y	Rm Y3	Wall	B	Metal	Intact	White	0.0	Negative
Bldg Y	Rm Y3	Wall	C	Metal	Intact	White	0.0	Negative
Bldg Y	Rm Y3	Wall	D	Metal	Intact	White	0.0	Negative
Bldg Y	Rm Y3	Door	A	Metal	Intact	Purple	0.5	Negative
Bldg Y	Rm Y3	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg Y	Rm Y3	Door Frame	A	Metal	Intact	Brown	0.1	Negative
Bldg Y	Rm Y3	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg Y	Rm Y3	Window Frame	C	Wood	Intact	White	0.0	Negative
Bldg Y	Rm Y4	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg Y	Rm Y4	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg Y	Rm Y5	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg Y	Rm Y5	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg Y	Rm Y6	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg Y	Rm Y6	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg Y	Rm Y7	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg Y	Rm Y7	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg Y	YO Lockers	Wall	A	Metal	Intact	White	0.0	Negative
Bldg Y	YO Lockers	Wall	B	Wood	Intact	White	0.0	Negative
Bldg Y	YO Lockers	Wall	C	Metal	Intact	White	0.0	Negative
Bldg Y	YO Lockers	Wall	D	Metal	Intact	White	0.0	Negative
Bldg Y	YO Lockers	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg Y	YO Lockers	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg Z	Exterior	Wall	A	Metal	Intact	White	0.0	Negative
Bldg Z	Exterior	Wall	B	Metal	Intact	White	0.0	Negative
Bldg Z	Exterior	Wall	C	Metal	Intact	White	0.0	Negative
Bldg Z	Exterior	Wall	D	Metal	Intact	White	0.0	Negative
Bldg Z	Exterior	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg Z	Exterior	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Bldg Z	Exterior	Eaves	A	Metal	Intact	White	0.0	Negative
Bldg Z	Exterior	Fascia	A	Metal	Intact	White	0.0	Negative
Bldg Z	Exterior	Joist	A	Metal	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Bldg Z	Rm Z1	Wall	A	Metal	Intact	White	0.0	Negative
Bldg Z	Rm Z1	Wall	B	Metal	Intact	White	0.0	Negative
Bldg Z	Rm Z1	Wall	C	Metal	Intact	White	0.0	Negative
Bldg Z	Rm Z1	Wall	D	Metal	Intact	White	0.0	Negative
Bldg Z	Rm Z1	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg Z	Rm Z1	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg Z	Rm Z1	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg Z	Rm Z1	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg Z	Rm Z1	Window Frame	A	Metal	Intact	White	0.2	Negative
Bldg Z	Rm Z2	Wall	A	Metal	Intact	White	0.0	Negative
Bldg Z	Rm Z2	Wall	B	Metal	Intact	White	0.0	Negative
Bldg Z	Rm Z2	Wall	C	Metal	Intact	White	0.0	Negative
Bldg Z	Rm Z2	Wall	D	Metal	Intact	White	0.0	Negative
Bldg Z	Rm Z2	Door	A	Metal	Intact	Purple	0.0	Negative
Bldg Z	Rm Z2	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg Z	Rm Z2	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg Z	Rm Z2	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg Z	Rm Z2	Window Frame	A	Metal	Intact	White	0.1	Negative
Bldg Z	Rm Z3	Wall	A	Metal	Intact	White	0.1	Negative
Bldg Z	Rm Z3	Wall	B	Metal	Intact	White	0.0	Negative
Bldg Z	Rm Z3	Wall	C	Metal	Intact	White	0.1	Negative
Bldg Z	Rm Z3	Wall	D	Metal	Intact	White	0.0	Negative
Bldg Z	Rm Z3	Door	A	Metal	Intact	Purple	0.2	Negative
Bldg Z	Rm Z3	Door	C	Metal	Intact	Purple	0.3	Negative
Bldg Z	Rm Z3	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Bldg Z	Rm Z3	Door Frame	C	Metal	Intact	Brown	0.1	Negative
Bldg Z	Rm Z3	Window Frame	A	Metal	Intact	White	0.3	Negative
Bldg Z	Rm Z4	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg Z	Rm Z4	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg Z	Rm Z5	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg Z	Rm Z5	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg Z	Rm Z6	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg Z	Rm Z6	Door Frame	C	Metal	Intact	Brown	0.0	Negative
Bldg Z	Rm Z7	Door	C	Metal	Intact	Purple	0.0	Negative
Bldg Z	Rm Z7	Door Frame	C	Metal	Intact	Brown	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Boys' PE	Exterior	Wall	A	Concrete	Intact	Tan	0.0	Negative
Boys' PE	Exterior	Wall	B	Concrete	Intact	Tan	0.0	Negative
Boys' PE	Exterior	Wall	C	Concrete	Intact	Tan	0.0	Negative
Boys' PE	Exterior	Wall	D	Concrete	Intact	Tan	0.0	Negative
Boys' PE	**Exterior**	**Door**	**C**	**Metal**	**Intact**	**Purple**	**1.7**	**Positive**
Boys' PE	**Exterior**	**Door Frame**	**C**	**Metal**	**Intact**	**Tan**	**1.2**	**Positive**
Boys' PE	Exterior	Porch Railings	C	Metal	Intact	Tan	0.4	Negative
Boys' PE	Boys' RR	Wall	A	Ceramic Tile	Intact	Grey	0.0	Negative
Boys' PE	**Boys' RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Grey**	**6.4**	**Positive**
Boys' PE	**Boys' RR**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Grey**	**6.9**	**Positive**
Boys' PE	**Boys' RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Grey**	**4.3**	**Positive**
Boys' PE	**Boys' RR**	**Door**	**B**	**Wood**	**Intact**	**Purple**	**1.2**	**Positive**
Boys' PE	**Boys' RR**	**Door Frame**	**B**	**Wood**	**Intact**	**Purple**	**2.0**	**Positive**
Boys' PE	Boys' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Boys' PE	Coach's Office	Wall	A	Concrete	Intact	White	0.0	Negative
Boys' PE	Coach's Office	Wall	B	Plaster	Intact	White	0.0	Negative
Boys' PE	Coach's Office	Wall	C	Concrete	Intact	White	0.0	Negative
Boys' PE	Coach's Office	Wall	D	Concrete	Intact	White	0.0	Negative
Boys' PE	**Coach's Office**	**Door**	**B**	**Wood**	**Intact**	**Purple**	**2.0**	**Positive**
Boys' PE	**Coach's Office**	**Door**	**C**	**Metal**	**Intact**	**Purple**	**2.2**	**Positive**
Boys' PE	**Coach's Office**	**Door Frame**	**B**	**Wood**	**Intact**	**Purple**	**1.4**	**Positive**
Boys' PE	**Coach's Office**	**Door Frame**	**C**	**Wood**	**Intact**	**Purple**	**1.4**	**Positive**
Boys' PE	Faculty RR	Wall	A	Plaster	Intact	White	0.0	Negative
Boys' PE	Faculty RR	Wall	B	Concrete	Intact	White	0.0	Negative
Boys' PE	**Faculty RR**	**Door**	**D**	**Wood**	**Intact**	**Purple**	**2.0**	**Positive**
Boys' PE	**Faculty RR**	**Door Frame**	**D**	**Wood**	**Intact**	**Purple**	**1.4**	**Positive**
Boys' PE	**Faculty RR**	**Ceiling, I-Beam**	**N/A**	**Metal**	**Intact**	**White**	**12.6**	**Positive**
Boys' PE	Faculty RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Boys' PE	**Faculty RR**	**Ceramic Shower Tile**	**A**	**Ceramic Tile**	**Intact**	**Yellow**	**15.2**	**Positive**
Boys' PE	First Aid Rm	Wall	A	Concrete	Intact	White	0.0	Negative
Boys' PE	First Aid Rm	Wall	B	Concrete	Intact	White	0.0	Negative
Boys' PE	First Aid Rm	Wall	C	Concrete	Intact	White	0.0	Negative
Boys' PE	First Aid Rm	Wall	D	Concrete	Intact	White	0.0	Negative
Boys' PE	**First Aid Rm**	**Door**	**B**	**Wood**	**Intact**	**Purple**	**2.1**	**Positive**
Boys' PE	**First Aid Rm**	**Door Frame**	**B**	**Wood**	**Intact**	**Purple**	**1.9**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Boys' PE	First Aid Rm	Ceiling, I-Beam	N/A	Metal	Intact	White	12.6	Positive
Boys' PE	First Aid Rm	Upper Cabinet	A	Wood	Intact	White	0.2	Negative
Boys' PE	First Aid Rm	Lower Cabinet	A	Wood	Intact	White	0.0	Negative
Boys' PE	Locker Rm	Wall	A	Concrete	Intact	White	7.6	Positive
Boys' PE	Locker Rm	Wall	B	Concrete	Intact	White	0.0	Negative
Boys' PE	Locker Rm	Wall	C	Concrete	Intact	White	1.2	Positive
Boys' PE	Locker Rm	Wall	D	Concrete	Intact	White	3.3	Positive
Boys' PE	Locker Rm	Door	B	Wood	Intact	Purple	0.0	Negative
Boys' PE	Locker Rm	Hand Rail	N/A	Metal	Intact	White	1.2	Positive
Boys' PE	Locker Rm	Door Frame	B	Wood	Intact	Purple	1.2	Positive
Boys' PE	Locker Rm	Lockers	N/A	Metal	Intact	Black	0.4	Negative
Boys' PE	Locker Rm	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Boys' PE	Locker Rm	Ceramic Shower Tile	A	Ceramic Tile	Intact	Yellow	11.7	Positive
Cafeteria	Exterior	Wall	C	Brick	Intact	Red	0.0	Negative
Cafeteria	Exterior	Door	C	Metal	Intact	Purple	0.0	Negative
Cafeteria	Exterior	Door Frame	C	Wood	Defective	Tan	2.2	Positive
Cafeteria	Exterior	Window Frame	C	Metal	Intact	Black	1.2	Positive
Cafeteria	Exterior	Eaves	B	Stucco	Intact	White	0.0	Negative
Cafeteria	Exterior	Eaves	C	Wood	Intact	Red	1.2	Positive
Cafeteria	Exterior	Eaves	C	Wood	Intact	Red	1.2	Positive
Cafeteria	Exterior	Fascia	B	Wood	Intact	Tan	1.2	Positive
Cafeteria	Exterior	Fascia	C	Wood	Intact	Tan	1.2	Positive
Cafeteria	Exterior	Porch Column	C	Metal	Intact	Tan	1.2	Positive
Cafeteria	Exterior	Gutter	C	Metal	Intact	Tan	1.2	Positive
Cafeteria	Exterior	Conduit	C	Metal	Intact	Red	0.0	Negative
Cafeteria	Faculty Dining	Wall	A	Concrete	Intact	Blue	0.0	Negative
Cafeteria	Faculty Dining	Wall	B	Concrete	Intact	Blue	0.0	Negative
Cafeteria	Faculty Dining	Wall	C	Concrete	Intact	Blue	0.0	Negative
Cafeteria	Faculty Dining	Wall	D	Concrete	Intact	Blue	0.0	Negative
Cafeteria	Faculty Dining	Chair Rail	C	Wood	Intact	Blue	0.0	Negative
Cafeteria	Faculty Dining	Door	C	Metal	Intact	Blue	0.0	Negative
Cafeteria	Faculty Dining	Door Frame	C	Wood	Intact	Blue	1.2	Positive
Cafeteria	Faculty Dining	Window Frame	C	Wood	Intact	Blue	2.0	Positive
Cafeteria	Kitchen	Wall	B	Concrete	Intact	White	0.3	Negative
Cafeteria	Kitchen	Wall	C	Concrete	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Cafeteria	Kitchen	Wall	D	Plaster	Intact	White	0.0	Negative
Cafeteria	**Kitchen**	**Door, Refrigerator**	**A**	**Wood**	**Intact**	**White**	**1.2**	**Positive**
Cafeteria	Kitchen	Door	B	Metal	Intact	White	0.0	Negative
Cafeteria	**Kitchen**	**Door Frame, Refrigerator**	**A**	**Wood**	**Intact**	**White**	**1.2**	**Positive**
Cafeteria	**Kitchen**	**Door Frame**	**B**	**Wood**	**Intact**	**White**	**1.2**	**Positive**
Cafeteria	Kitchen	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Red	0.0	Negative
Cafeteria	Student Dining	Wall	A	Concrete	Intact	White	0.5	Negative
Cafeteria	Student Dining	Wall	B	Concrete	Intact	White	0.0	Negative
Cafeteria	Student Dining	Wall	C	Concrete	Intact	White	0.0	Negative
Cafeteria	Student Dining	Wall	D	Concrete	Intact	White	0.0	Negative
Cafeteria	**Student Dining**	**Baseboard, Stage**	**C**	**Wood**	**Intact**	**White**	**3.3**	**Positive**
Cafeteria	Student Dining	Door	D	Metal	Intact	Purple	0.0	Negative
Cafeteria	Student Dining	Door	B	Wood	Intact	Purple	0.0	Negative
Cafeteria	Student Dining	Door Frame	D	Wood	Intact	Purple	0.0	Negative
Cafeteria	Student Dining	Door Frame	B	Wood	Intact	Purple	0.0	Negative
Gym Bldg	Exterior	Wall	A	Brick	Intact	Red	0.0	Negative
Gym Bldg	Exterior	Wall	D	Concrete	Intact	Tan	0.0	Negative
Gym Bldg	Exterior	Wall	C	Concrete	Intact	Tan	0.0	Negative
Gym Bldg	Exterior	Door	C	Metal	Intact	Purple	0.0	Negative
Gym Bldg	**Exterior**	**Door**	**A**	**Metal**	**Intact**	**Purple**	**3.4**	**Positive**
Gym Bldg	Exterior	Door Frame	C	Wood	Intact	Tan	0.0	Negative
Gym Bldg	Exterior	Door Frame	A	Wood	Intact	Tan	0.0	Negative
Gym Bldg	**Exterior**	**Catwalk Eaves**	**C**	**Wood**	**Intact**	**Tan**	**3.0**	**Positive**
Gym Bldg	**Exterior**	**Catwalk Fascia**	**C**	**Wood**	**Intact**	**Tan**	**1.3**	**Positive**
Gym Bldg	**Exterior**	**Catwalk Joist**	**C**	**Wood**	**Intact**	**Tan**	**3.0**	**Positive**
Gym Bldg	Exterior	Porch Column	C	Metal	Intact	Tan	0.0	Negative
Gym Bldg	**Exterior**	**Column**	**A**	**Metal**	**Intact**	**Purple**	**1.4**	**Positive**
Gym Bldg	Exterior	Downspout	A	Metal	Intact	Tan	0.2	Negative
Gym Bldg	Exterior	Catwalk Column	C	Metal	Intact	Tan	0.0	Negative
Gym Bldg	**Boys' RR, East Foyer**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Beige**	**4.4**	**Positive**
Gym Bldg	**Boys' RR, East Foyer**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Beige**	**4.3**	**Positive**
Gym Bldg	**Boys' RR, East Foyer**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Beige**	**4.1**	**Positive**
Gym Bldg	**Boys' RR, East Foyer**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Beige**	**4.0**	**Positive**
Gym Bldg	Boys' RR, East Foyer	Door	B	Metal	Intact	Purple	0.1	Negative
Gym Bldg	Boys' RR, East Foyer	Door Frame	B	Metal	Intact	Purple	0.1	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Gym Bldg	Boys' RR, East Foyer	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.2	Negative
Gym Bldg	**Boys' RR, West Foyer**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Beige**	**4.2**	**Positive**
Gym Bldg	**Boys' RR, West Foyer**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Beige**	**4.1**	**Positive**
Gym Bldg	**Boys' RR, West Foyer**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Beige**	**4.1**	**Positive**
Gym Bldg	**Boys' RR, West Foyer**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Beige**	**4.2**	**Positive**
Gym Bldg	Boys' RR, West Foyer	Door	B	Metal	Intact	Purple	0.0	Negative
Gym Bldg	Boys' RR, West Foyer	Door Frame	B	Metal	Intact	Purple	0.0	Negative
Gym Bldg	Boys' RR, West Foyer	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Gym Bldg	**Girls' RR, East Foyer**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Beige**	**4.2**	**Positive**
Gym Bldg	**Girls' RR, East Foyer**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Beige**	**4.0**	**Positive**
Gym Bldg	**Girls' RR, East Foyer**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Beige**	**4.1**	**Positive**
Gym Bldg	**Girls' RR, East Foyer**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Beige**	**4.2**	**Positive**
Gym Bldg	Girls' RR, East Foyer	Door	B	Metal	Intact	Purple	0.2	Negative
Gym Bldg	Girls' RR, East Foyer	Door Frame	B	Metal	Intact	Purple	0.0	Negative
Gym Bldg	Girls' RR, East Foyer	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Gym Bldg	**Girls' RR, West Foyer**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Beige**	**4.0**	**Positive**
Gym Bldg	**Girls' RR, West Foyer**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Beige**	**4.1**	**Positive**
Gym Bldg	**Girls' RR, West Foyer**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Beige**	**4.0**	**Positive**
Gym Bldg	**Girls' RR, West Foyer**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Beige**	**4.0**	**Positive**
Gym Bldg	Girls' RR, West Foyer	Door	B	Metal	Intact	Purple	0.1	Negative
Gym Bldg	Girls' RR, West Foyer	Door Frame	B	Metal	Intact	Purple	0.0	Negative
Gym Bldg	Girls' RR, West Foyer	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.1	Negative
Gym Bldg	Main Gym	Wall	A	Concrete	Intact	White	0.0	Negative
Gym Bldg	Main Gym	Wall	C	Concrete	Intact	White	0.0	Negative
Gym Bldg	Main Gym	Door	C	Metal	Intact	Purple	0.0	Negative
Gym Bldg	Main Gym	Door	A	Wood	Intact	Purple	0.0	Negative
Gym Bldg	Main Gym	Hand Rails	C	Metal	Intact	Purple	0.5	Negative
Gym Bldg	Main Gym	Door Frame	C	Metal	Intact	Purple	0.2	Negative
Gym Bldg	Main Gym	Door Frame	A	Wood	Intact	Purple	0.0	Negative
Gym Bldg	Main Gym	Ceiling I-Beams	No Access	No Access	No Access	No Access	No Access	No Access
Girls' PE	Exterior	Wall	A	Concrete	Intact	Tan	0.0	Negative
Girls' PE	Exterior	Wall	B	Concrete	Intact	Tan	0.0	Negative
Girls' PE	Exterior	Wall	C	Concrete	Intact	Tan	0.0	Negative
Girls' PE	Exterior	Wall	D	Concrete	Intact	Tan	0.0	Negative
Girls' PE	**Exterior**	**Door**	**C**	**Metal**	**Intact**	**Purple**	**1.7**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Girls' PE	Exterior	Door Frame	C	Metal	Intact	Tan	1.2	Positive
Girls' PE	Exterior	Porch Railings	C	Metal	Intact	Tan	0.4	Negative
Girls' PE	Girls' RR	Wall	A	Ceramic Tile	Intact	Grey	0.0	Negative
Girls' PE	Girls' RR	Wall	B	Ceramic Tile	Intact	Grey	6.4	Positive
Girls' PE	Girls' RR	Wall	C	Ceramic Tile	Intact	Grey	6.9	Positive
Girls' PE	Girls' RR	Wall	D	Ceramic Tile	Intact	Grey	4.3	Positive
Girls' PE	Girls' RR	Door	B	Wood	Intact	Purple	1.2	Positive
Girls' PE	Girls' RR	Door Frame	B	Wood	Intact	Purple	2.0	Positive
Girls' PE	Girls' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Girls' PE	Coach's Office	Wall	A	Concrete	Intact	White	0.0	Negative
Girls' PE	Coach's Office	Wall	B	Plaster	Intact	White	0.0	Negative
Girls' PE	Coach's Office	Wall	C	Concrete	Intact	White	0.0	Negative
Girls' PE	Coach's Office	Wall	D	Concrete	Intact	White	0.0	Negative
Girls' PE	Coach's Office	Door	B	Wood	Intact	Purple	2.0	Positive
Girls' PE	Coach's Office	Door	C	Metal	Intact	Purple	2.2	Positive
Girls' PE	Coach's Office	Door Frame	B	Wood	Intact	Purple	1.4	Positive
Girls' PE	Coach's Office	Door Frame	C	Wood	Intact	Purple	1.4	Positive
Girls' PE	Faculty RR	Wall	A	Plaster	Intact	White	0.0	Negative
Girls' PE	Faculty RR	Wall	B	Concrete	Intact	White	0.0	Negative
Girls' PE	Faculty RR	Door	D	Wood	Intact	Purple	2.0	Positive
Girls' PE	Faculty RR	Door Frame	D	Wood	Intact	Purple	1.4	Positive
Girls' PE	Faculty RR	Ceiling, I-Beam	N/A	Metal	Intact	White	12.6	Positive
Girls' PE	Faculty RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Girls' PE	Faculty RR	Ceramic Shower Tile	A	Ceramic Tile	Intact	Yellow	15.2	Positive
Girls' PE	First Aid Rm	Wall	A	Concrete	Intact	White	0.0	Negative
Girls' PE	First Aid Rm	Wall	B	Concrete	Intact	White	0.0	Negative
Girls' PE	First Aid Rm	Wall	C	Concrete	Intact	White	0.0	Negative
Girls' PE	First Aid Rm	Wall	D	Concrete	Intact	White	0.0	Negative
Girls' PE	First Aid Rm	Door	B	Wood	Intact	Purple	2.1	Positive
Girls' PE	First Aid Rm	Door Frame	B	Wood	Intact	Purple	1.9	Positive
Girls' PE	First Aid Rm	Ceiling, I-Beam	N/A	Metal	Intact	White	12.6	Positive
Girls' PE	First Aid Rm	Upper Cabinet	A	Wood	Intact	White	0.2	Negative
Girls' PE	First Aid Rm	Lower Cabinet	A	Wood	Intact	White	0.0	Negative
Girls' PE	Locker Rm	Wall	A	Concrete	Intact	White	7.6	Positive
Girls' PE	Locker Rm	Wall	B	Concrete	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Pacific High School

PROJECT NO.:09007

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Girls' PE	Locker Rm	Wall	C	Concrete	Intact	White	1.2	Positive
Girls' PE	Locker Rm	Wall	D	Concrete	Intact	White	3.3	Positive
Girls' PE	Locker Rm	Door	B	Wood	Intact	Purple	0.0	Negative
Girls' PE	Locker Rm	Hand Rail	N/A	Metal	Intact	White	1.2	Positive
Girls' PE	Locker Rm	Door Frame	B	Wood	Intact	Purple	1.2	Positive
Girls' PE	Locker Rm	Lockers	N/A	Metal	Intact	Black	0.4	Negative
Girls' PE	Locker Rm	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
Girls' PE	Locker Rm	Ceramic Shower Tile	A	Ceramic Tile	Intact	Yellow	11.7	Positive
Pool Bldg	Exterior	Wall	A	Brick	Intact	White	0.0	Negative
Pool Bldg	Exterior	Wall	B	Brick	Intact	White	0.0	Negative
Pool Bldg	Exterior	Wall	C	Brick	Intact	White	0.0	Negative
Pool Bldg	Exterior	Wall	D	Brick	Intact	White	0.0	Negative
Pool Bldg	Exterior	Door	A	Metal	Intact	Purple	0.0	Negative
Pool Bldg	Exterior	Door Frame	A	Metal	Intact	Tan	0.0	Negative
Pool Bldg	Exterior	Eaves	D	Wood	Intact	White	0.0	Negative
Pool Bldg	Exterior	Fascia	D	Wood	Intact	Tan	0.0	Negative
Pool Bldg	Exterior	Joist	D	Wood	Intact	White	0.0	Negative
Pool Bldg	Exterior	Pool Fence	D	Metal	Intact	Black	0.0	Negative
Storage Bldg	Exterior	Wall	A	Metal	Intact	Beige	0..4	Negative
Storage Bldg	Exterior	Wall	B	Metal	Intact	Beige	0.4	Negative
Storage Bldg	Exterior	Door	A	Metal	Intact	Beige	0.3	Negative
Storage Bldg	Exterior	Door Frame	A	Metal	Intact	Beige	0.2	Negative
Storage Bldg	Exterior	Eaves	B	Metal	Intact	Beige	0.0	Negative
Storage Bldg	Exterior	Fascia	A	Metal	Intact	Tan	0.0	Negative
Storage Bldg	Exterior	Joist	B	Metal	Intact	Beige	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

Appendix E

DHS Form 8552

State of California – Health and Human Services Agency | California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 – Date of Lead Hazard Evaluation 1/7/2009

Section 2 – Type of Lead Hazard Evaluation (Check one box only)

☑ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 – Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
1020 Pacific Street	San Bernardino	San Bernardino	92404

Construction date (year) of structure	Type of structure (check one box only)
1960	☐ Multi-unit building ☑ School or daycare ☐ Single family dwelling ☐ Other (specify)_____

Section 4 – Owner of Structure (if business/agency, list contact person)

Name	Telephone number
San Bernardino City Unified School District	909-381-1238

Address [number, street, apartment (if applicable)]	City	State	Zip Code
777 North F Street	San Bernardino	CA	92401

Section 5 – Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected. ☑ Lead-based paint detected.

☐ No lead hazards detected. ☐ Lead hazards detected.

Section 6 – Individual Conducting Lead Hazard Evaluation

Name	Telephone number
David Tillema	800.303.6484

Address [number, street, apartment (if applicable)]	City	State	Zip Code
28202 Cabot Road #300	Laguna Niguel	CA	92677

CDPH *certification* number	Signat	Date
17740		1/15/2009

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 – Attachments

A. A foundation diagram or sketch of the structure indicating the specific locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

CDPH 8552 (6/07)

Appendix F

XRF Performance Characteristics Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: June 26, 1996 **EDITION NO.: 3**

MANUFACTURER AND MODEL:

Make: *Scitec Corporation*
Model: *MAP-4*
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS

Test mode, Screen mode, or Unlimited mode.

XRF CALIBRATION CHECK LIMITS

0.6 to 1.2 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

When using Unlimited mode, substrate correction recommended for:

None

When using Unlimited mode, substrate correction <u>not</u> recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

When using Screen or Test mode, for XRF results below 4.0 mg/cm^2, substrate correction recommended for:

Drywall, Metal, and Wood

When using Screen or Test mode, substrate correction <u>not</u> recommended for:

Brick, Concrete, and Plaster

INCONCLUSIVE RANGE OR THRESHOLD

UNLIMITED MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm^2)
Results not corrected for substrate bias for unlimited mode readings	Brick	0.91 to 1.19
	Concrete	0.91 to 1.19
	Drywall	0.91 to 1.19
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.19
	Wood	0.91 to 1.19

SCREEN MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm²)
Results corrected for substrate bias for screen mode readings on drywall, metal, and wood substrates only	Brick	0.91 to 1.09
	Concrete	0.91 to 1.09
	Drywall	0.91 to 1.39
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.09
	Wood	0.91 to 1.29

TEST MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)	INCONCLUSIVE RANGE (mg/cm²)
Readings corrected for substrate bias for test mode readings on drywall, metal, and wood substrates only	Brick	0.9	None
	Concrete	0.9	None
	Drywall	None	0.91 to 1.39
	Metal	None	0.91 to 1.09
	Plaster	0.9	None
	Wood	None	0.91 to 1.29

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from an EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations. All of the test locations were tested in February 1996 using two different instruments. One instrument had a new source installed in July 1994 and its strength at the time of testing was calculated as 9.4 mCi. The other instrument had a new source installed in September 1994 and its strength at the time of testing was calculated as 10.6 mCi.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds

SUBSTRATE CORRECTION VALUE COMPUTATION

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

- Using the same XRF instrument, take three readings on a bare substrate area covered with the

NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

- Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

  For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\left.\begin{matrix}\text{Correction}\\ \text{Value}\end{matrix}\right\} = \frac{1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th}\ \text{Reading}}{6} - 1.02 mg/cm^2$$

- Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either 15-second readings or 60-second readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES

For screen, test, and confirm modes, the MAP 4 instrument tests until a K-shell result is obtained relative to a level of precision. A result is "positive", "negative" or "retest" as displayed by indicator lights. For the unlimited mode, the MAP 4 instrument tests until a K-shell result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the the reading is terminated by releasing the trigger. A few unlimited mode readings were terminated because they exceeded the two-minute limit used for archive testing. The following tables provide testing time information for three testing modes. Insufficient information is available to provide this information for confirm mode. All times have been scaled to match an initial 12 miC source. Note that source strength and factors such as substrate may affect testing times.

UNLIMITED MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	3	4	6	4	13	3
Metal	3	4	8	4	9	3
Brick Concrete Plaster	4	5	8	6	6	3

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

SCREEN MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	6	7	5	6	7
Metal	4	5	6	5	5	5
Brick Concrete Plaster	11	11	13	11	11	11

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

TEST MODE TESTING TIMES (Seconds)						
SUBSTRATE	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm²)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	17	22	27	21	20	28
Metal	13	20	23	20	20	20
Brick Concrete Plaster	41	42	52	41	46	43

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

BIAS AND PRECISION

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with laboratory-measured lead levels less than 4.0 mg/cm² lead. There were 15 testing locations taken in the screen mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were 15 testing locations taken in the test mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were not any testing locations taken in the confirm mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. There were 15 testing locations taken in the unlimited mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². All testing was done in February 1996 with two different instruments. The following data are for illustrative purposes only. Actual bias must be determined on the site. Inconclusive ranges provided above already account for bias and precision.

SCREEN MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.1	0.2
	Metal	0.1	0.3
	Plaster	-0.1	0.3
	Wood	0.0	0.2
0.5 mg/cm²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	0.1	0.4
	Concrete	0.1	0.4
	Drywall	0.5	0.6
	Metal	0.3	0.3
	Plaster	0.1	0.4
	Wood	0.4	0.6

2.0 mg/cm²	Brick	0.4	0.5
	Concrete	0.4	0.5
	Drywall	0.9	0.8
	Metal	0.5	0.3
	Plaster	0.4	0.5
	Wood	0.7	0.8

*Precision at 1 standard deviation

TEST MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.2
	Concrete	-0.1	0.2
	Drywall	0.1	0.1
	Metal	0.1	0.2
	Plaster	-0.1	0.2
	Wood	0.0	0.1
0.5 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.2
	Plaster	-0.1	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.5	0.6
	Metal	0.3	0.2
	Plaster	-0.1	0.3
	Wood	0.4	0.6
2.0 mg/cm²	Brick	0.0	0.4
	Concrete	0.0	0.4
	Drywall	1.0	0.8
	Metal	0.5	0.2
	Plaster	0.0	0.4
	Wood	0.8	0.8

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristics Sheet is a joint product of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD). The issuance of this sheet does not constitute rulemaking. The information provided here is intended solely as guidance to be used in conjunction with Chapter 7, Lead-Based Paint Inspection, of the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. EPA and HUD reserve the right to revise this guidance. Please address questions and comments on this sheet to: Director, Office of Lead Hazard Control (L), U.S. Department of Housing and Urban Development, 451 Seventh St, S.W., Washington, DC 20410.

January 14, 2009

San Bernardino City Unified School District
Facilities Management
777 North "F" Street
San Bernardino, California 92410

Attention: Michael Plunkett

Subject: Budgets for Abatement at Pacific High School

Dear Mr. Plunkett:

Pacific Environmental Company conducted a hazardous materials survey for Pacific High School in anticipation of modernizations per your request.

Asbestos-containing floorings, flooring mastics, transite vent pipes, roofing mastics, and window putty were identified at the site and must be removed prior to the modernization work if they are going to be impacted, otherwise they can be managed in place since they are in good condition. Current EPA regulations require that ACM be removed from a building prior to renovation or demolition or renovation that will impact the ACM. Asbestos-containing materials must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

Lead-based paints (LBP) components were also identified at the site. Lead abatement, treatment and/or recycling should be conducted in full compliance with the Cal-OSHA Lead-Related Construction Standard. Paints containing lead greater than 0.5% lead by weight that are to be scraped, sanded, torched, or otherwise disturbed during the demolition should be removed or stabilized prior to the demolition by a licensed contractor and workers with California Department of Health Services (DHS) certification in lead-related construction. Waste streams must be characterized to ensure appropriate disposal methods.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures and transformers should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and Department of Toxic Substances Control (DTSC) guidelines. The batteries stored on site should be recycled.

For planning purposes, we have prepared the following preliminary estimates for abatement. This is not a bid to do the work, rather a planning tool based on our site observations, current industry trends and discussions with abatement contractors regarding the project.

Building	Material	Location	Estimated Qty.	Unit Cost	Abatement Estimate
Building A	Original 9"x9" Vinyl Floor Tile	Faculty Room, Sci-Phy Office, Principal's Office	2,800 SF	$5	$14,000.00
Building B	Original 9"x9" Vinyl Floor Tile	Rooms B5, B7 and Telecom	2,300 SF	$5	$11500
	Roof Penetration Mastic	Roof Penetrations	60 SF	$10	$600
	Transite Vent Pipes	Roof	16 LF	$100	$1600
Building C	Brown 9"x9" Vinyl Floor Tile	Room C7	700 SF	$5	$3500
	Roof Penetration Mastic	Roof Penetrations	50 SF	$10	$500
Building D	Floor Tile Mastic	Rooms D2, D5 and D6	3,600 SF	$5	$18000
Building E	Floor Tile Mastic	Rooms E2, E3, E6 and E7	3,600 SF	$5	$18000
	Roof Penetration Mastic	Roof Penetrations	50 SF	$10	$500
Building F	Roof Penetration Mastic	Roof Penetrations	70 SF	$10	$700
Building G	Roof Penetration Mastic	Roof Penetrations	70 SF	$10	$700
Building H	Roof Penetration Mastic	Roof Penetrations	100 SF	$10	$1000
Building I	Roof Penetration Mastic	Roof Penetrations	70 SF	$10	$700
Building K	Roof Penetration Mastic	Roof Penetrations	25 SF	$10	$250
Building M	Window Putty	Original Windows	300 LF	$30	$9000
Auditorium	Light Brown 12" Vinyl Floor Tile and Mastic	Lobby and Foyers	1,800 SF	$5	$9000
Cafeteria	Roof Penetration Mastic	Roof Penetrations	200 SF	$10	$2000
Boy's PE Bldg.	Window Putty	Original Windows	200 LF	$30	$6000
	Beige 12" Vinyl Floor Tile	First Aid Room	120 SF	$100	$1200
Storage Building	Roof Penetration Mastic	Roof Penetrations	10 SF	$100	$1000
Estimated Total for Asbestos Abatement					$99,750.00
Lead painted components					$300,000.00
PCB Ballasts and Miscellaneous					$20,000.00
Project Compliance Monitoring and Inspections					$40,000.00
Subtotal					**$459,750.00**
Contingency (10%)					**$45,975.00**
Total Estimate					**$505,725.00**

If you have any questions or require additional information, please call me at (800)303-6484 extension 701.

Respectfully,

Pacific Environmental Company



Michael Lyssy
President



Pacific Environmental Company

Limited Asbestos and Lead Survey Report

San Andreas High School Modernization Project
3232 Pacific Street
Highland, California 92346

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 15, 2009

Project Number: 09008

Limited Asbestos and Lead Survey Report

San Andreas High School Modernization Project
3232 Pacific Street
Highland, California 92346

Executive Summary

Pacific Environmental Company conducted a limited asbestos and lead survey in anticipation of modernizations at San Andreas High School, which is located at 3232 Pacific Street in Highland, California. All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

This executive summary is not to be utilized as a stand-alone document. The report shall be read in its entirety. The reader must review the detailed information provided in the accompanying text. Any interpretation, use, or conclusions resulting from the data contained in this report is the responsibility of the reader.

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos as determined by PLM, however, the California Department of Occupational Safety and Health (CalOSHA) classifies any material as having greater than one tenth of one percent asbestos as asbestos-containing construction material (ACCM).

The following table details our ACM and ACCM findings:

Building	Material	Location	Estimated Quantity
Building B	Transite Vent Pipes	Roof Vents	24 LF
	Roof Penetration Mastic	Roof Penetrations	100 SF
Building C	Transite Vent Pipes	Roof Vents over Copy Room	12 LF
	Roof Penetration Mastic	Roof Penetrations	60 SF
Building D	Exterior Stucco (ACCM)	Exterior Walls	4,500 SF
Cafeteria	Roof Penetration Mastic	Roof Penetrations	100 SF
Gymnasium	9"x9" Vinyl Floor Tile	Coaches' Office	120 SF
	Basecove Mastic	Coaches' Office	90 SF
	Roof Penetration Mastic	Roof Penetrations	100 SF
	Exterior Stucco (ACCM)	Exterior Walls	4,000 SF
Child Development	Roof Penetration Mastic	Roof Penetrations	70 SF

Current EPA regulations require that the asbestos-containing building materials and ACCM be removed prior to demolition or renovation, if they are going to be impacted. If any of the identified asbestos-containing materials are to be impacted by the renovations, then they must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

A licensed and certified asbestos abatement contractor must perform any asbestos abatement that takes place at the subject property. Waste generated from the asbestos abatement must be properly transported and disposed of.

A summary of the lead components identified at the subject site during our inspection include the following:

Building	Location	Lead-Containing Components
B Building	Exterior	Eaves, Fascia Boards, Painted Joists
C Building	Exterior	Eaves, Fascia Boards, Painted Joists
Cafeteria Building	Exterior	Doors
Child Development Center	Exterior	Walls and Window Frames
	Interior	Playroom Window Frames
D Building	Interior	Ceramic Wall Tile in Restrooms and Window Frames
Gymnasium	Exterior	Doors, Door Frames, Window Frames, Eaves, Fascia Boards, Joists, Porch Columns and Porch Ceilings
	Interior	Ceramic Wall and Shower Tile

The lead-laden paint and ceramic tile finishes are generally in good condition but will likely need to be removed in areas to facilitate the modernizations at the site. A complete listing of our assays with our condition assessment is in included within the appendices of this report.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and DTSC guidelines.

Pacific Environmental recommends that all future renovation, demolition, construction or abatement activities with the potential for disturbing the identified ACM or lead-laden components, be performed by properly trained and qualified personnel. These activities should employ state-of-the-art techniques, and be conducted in accordance with all applicable local, State and Federal laws and regulations.

Every effort was made to sample all of the building materials, however the school was occupied at the time of our assessment which limited some of our access and some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition or renovation activities, please call us and we will sample and analyze accordingly.

The presence of the identified hazardous materials should be brought to the attention of contractors and personnel involved in the project at the subject site. Specifications have been prepared for the removal and handling of specific hazardous materials, such as those containing asbestos and lead.

Any employees, visitors, or contractors entering this building should be notified of the presence and condition of the asbestos-containing materials, lead-based paints, and other hazardous materials (including those listed under Proposition 65), in accordance with applicable regulations.

Table of Contents

Introduction	1
Quality Control Procedures	2
Site Description	2
Asbestos Inspection and Sampling Procedures	3
Asbestos Inspection Results	4
Summary and Recommendations for Asbestos-Containing Materials	5
Lead Inspection and Sampling Procedures	6
Lead Inspection Results	7
Lead Summary and Recommendations	7
Other Hazardous Materials	8
Limitations	8
References	9

Appendix A	Site Plans
Appendix B	Bulk Sample Summary Table
Appendix C	Asbestos Sample Analysis Reports and Chain of Custody
Appendix D	XRF Sampling Results
Appendix E	DHS Form 8552
Appendix F	XRF Performance Characteristics Sheet

Limited Asbestos and Lead Survey Report

San Andreas High School Modernization Project
3232 Pacific Street
Highland, California 92346

Introduction

Pacific Environmental Company was retained by the San Bernardino City Unified School District to conduct a limited investigation to identify the presence of asbestos-containing materials, lead-based paints and other lead laden components that will require abatement or treatment, in conjunction with the school modernizations at San Andreas High School, which is located at 3232 Pacific Street in Highland, California.

All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by America Los Angeles, an independent and accredited laboratory.

Field Services for the inspection were conducted from January 12, 2009. The project team included David Tillema, Raed Sahawneh and Victor Sanchez, all of whom are Cal/OSHA Certified Site Surveillance Technicians and DHS Certified Lead Paint Inspector/Assessors, Thomas Gannon, a Cal/OSHA Certified Site Surveillance Technician, and Michael Lyssy, a State Certified Asbestos Consultant and Registered Environmental Assessor.

The scope of work for this project included the following key elements:

- Review, verification and incorporation of the original AHERA inspection and re-inspection data and any subsequent reports detailing the results of prior asbestos and lead testing at the School into this report.
- Inspection and assessment of asbestos-containing materials, lead-based paints, lead glazed ceramics and PCB light ballasts
- Preparation of a final report that is suitable for inclusion in the District's specifications for abatement of hazardous building materials.

Prior to our asbestos assessments, we evaluated the site conditions and developed our sampling strategy to ensure identification of all asbestos-containing materials. Representative sampling of homogeneous materials was conducted per SCAQMD guidelines, and all identifiable suspect materials were sampled. Asbestos analysis was performed by an independent, State Certified, NVLAP Accredited Laboratory. Bulk samples were analyzed by polarized light microscopy (PLM), EPA Method 600/R-93/116. This report details the specific site conditions and estimated quantities of Asbestos Containing Material (ACM) for the project. Areas affected by destructive sampling were repaired so as not to cause hazards to school personnel, survey crew, visitors and the general public.

Testing for lead-based paint was performed using an EDAX Map-4 portable X-ray fluorescence (XRF) spectrum analyzer. Testing was modeled after the protocol outlined in the Department of Housing and Urban Developments document titled Lead-Based Paint: Interim Guidelines For Hazard Identification and Abatement in Public and Indian Housing (1997 Revision).

Quality Control Procedures

Pacific Environmental Company's integrated resources, technologies, discipline, and expertise combine to ensure that the inspection and analysis for each project is conducted based on the following principles:

- All applicable regulations are addressed in order to ensure that our field inspectors and lab personnel meet their responsibilities, do so cost-effectively, and are equipped with the practical knowledge they need in order to understand and comply with regulations that affect them.
- Care is taken to make certain that the information provided and actions recommended are practical and cost effective in achieving regulatory compliance.

The 'management' approach utilized for this project assured that all work was performed using the highest standard of quality. All project results, reports and recommendations are reviewed for accuracy, content and quality prior to presentation. We recognize that, for each assignment we undertake, the information we develop and the conclusions and advice we provide, will be used to support important management decisions.

Pacific Environmental Company's Quality Assurance Program requires that all personnel:

- Provide specific objectives so that project activities can be evaluated with regard to precision, accuracy, reproducibility, completeness, and comparability.
- Provide specific guidance on the proper methodology for all activities.
- Be provided with ongoing training to enhance their technical skills.
- Be trained in QA/QC procedures and QC activities.
- Review all reports until they are acceptable in terms of technical and editorial quality, and all quality assurance activities have been successfully performed.

Site Description

Buildings evaluated for our assessment included Buildings B (Administration), C, D, Portables E, F, G, the Child Development Center, the Cafeteria and the Gymnasium.

The majority of the permanent structures are frame and stucco construction with applications of masonry construction and portable buildings that have been added to the campus over the years. It appears that many of the original asbestos-containing floorings have been replaced over the years.

The school was occupied at the time of our assessment and we worked after hours in an effort to characterize the site conditions. If any additional suspect materials are identified during the modernizations, please contact us to perform supplemental sampling.

Asbestos Inspection and Sampling Procedures

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos, as determined by polarized light microscopy (PLM). Title 8, Section 1529, of the California Code of Regulations, however, defines asbestos-containing construction material (ACCM) as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight.

We reviewed the District's asbestos records on file in order to formulate our sampling strategy. The only documentation on file for the site was the Power Masters, Inc. AHERA summaries that were prepared originally in the late 1980s. This documentation had been marked-up to reflect the changes that have impacted ACMs over the years. The Power Masters Inc. summary reports were generally deficient for demolition or renovation purposes and therefore, we collected confirmation samples of all identified materials that are likely to be impacted by the modernization project.

Subsequent to our review of the prior reports, a visual assessment of the suspect building materials located throughout the subject facility was completed prior to the collection of samples. During the visual assessment, the building materials suspected of containing asbestos were categorized by homogeneous areas. Materials are classified as homogenous when they appear uniform, have a consistent texture, and appear to have been installed at the same time.

The laboratory testing for the bulk samples was conducted in accordance with the recommended EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993).

The field investigation began with an initial site walk-through and identification of homogenous building materials suspected of containing asbestos. Samples were collected based on building layout, structural features, and mechanical and plumbing systems. Pacific Environmental then performed the following tasks:

- Evaluated whether materials suspected of containing asbestos were present at the site.
- Collected bulk samples, as required, to adequately characterize the suspect materials.
- Identified approximate sample locations and locations of identified ACM on field drawings or with photographs.
- Estimated the amount of ACM, where access allowed.
- Assessed the condition of the suspected and known ACMs.

At the time of inspection, suspect materials are assessed to be in good, damaged, or significantly damaged condition based on the following criteria:

> Good Condition - No or very limited visible damage or deterioration observed.
>
> Damaged Condition - Crumbling, blistering, water damage, gouges or other damage observed over less than 25% of the materials (one-tenth if evenly distributed); or accumulation of suspect powder, dust or debris observed below the material.
>
> Significantly Damaged - Crumbling, blistering, water damage, gouges or other damage observed over greater than 25% of the materials (one-tenth if evenly distributed); material delaminating or showing adhesive failure; or accumulation of suspect powder, dust or debris observed below the material.

The assessment process also includes classifying the material as Friable ACM or Non-Friable ACM. Friable ACM is the term given to any material that contains more than one percent (1%) asbestos by weight, which can be crumbled, pulverized, or reduced to powder by hand or mechanical pressure. The word "Friability" refers to a material's likeliness to release airborne fibers when in situ, or under mechanical pressure. There is a greater possibility that a friable material will release fibers into the air when disturbed than will a non-friable material (i.e., floor tiles, roofing materials, etc.), thereby

causing a potential hazard.

After identifying those materials suspected of containing asbestos, the materials were grouped into homogeneous sampling areas. A homogeneous sampling area includes building materials that are uniform in texture and color and appear identical in every other respect. A modified AHERA protocol was used in estimating the number of samples to be collected. Actual samples collected were determined by field conditions. A total of eighty-two (82) bulk samples were collected and analyzed.

Bulk samples were collected by wetting the suspect material with amended water and cutting, scraping or coring it from its substrate using an appropriate sampling tool. Sampling tools were cleaned before and after each use to prevent cross contamination between sampling events. Small quantities of material, approximately 1/2 square inch each, were extracted from suspect materials and placed in sterile, airtight bags or vials, and sealed. Each sample was labeled with a unique identification number, utilizing a sequential numbering system. The sample was logged in on the bulk survey sheet and a description noted on the type of sample. Each sample container was then placed inside a larger sterile, airtight bag. As other samples were taken from each area, they were also placed inside this larger airtight bag. Sample locations were repaired using caulk, spray glue, encapsulant, or patching material as needed, but were not always returned to their original condition. The samples were transported under chain-of-custody to an independent NVLAP participating laboratory for analysis utilizing polarized light microscopy.

The laboratory testing was conducted in accordance with the EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993). Samples were examined for homogeneity, and non-homogeneous samples were ground to ensure homogeneity. Microscopic slides were prepared from each sample using a refractive index liquid, such as trisection and ethyl cinnamate, having a refractive index of 1.550; 1-bromo-naphthalene and 1-Iodonaphthalene, having a refractive index of 1.680; or hydrogenated terthenyl and 1-bromonaphtahlene, having a refractive index of 1.605. The slides were then examined for the presence of asbestos, utilizing polarized light microscopy (PLM) and dispersion staining techniques.

The percentage of asbestos was estimated by visual examination of fibers greater than five microns in length and with an aspect ratio of 3:1 or greater. The aspect ratio of 3:1 refers to the length of the fiber being three times as long as its width. If present, the identity of asbestos fibers was confirmed with appropriate refractive index liquids, application of dispersion staining and other techniques. The results were tabulated and detailed in the laboratory reports, which are included in the appendices of this report.

Asbestos Inspection Results

Based on our assessment services, the following materials were confirmed, or assumed, to contain greater than one percent (1%) asbestos, and are therefore classified as ACM and ACCM.

The following table details our ACM and ACCM findings:

Building	Material	Location	Estimated Quantity
Building B	Transite Vent Pipes	Roof Vents	24 LF
	Roof Penetration Mastic	Roof Penetrations	100 SF
Building C	Transite Vent Pipes	Roof Vents over Copy Room	12 LF
	Roof Penetration Mastic	Roof Penetrations	60 SF
Building D	Exterior Stucco (ACCM)	Exterior Walls	4,500 SF
Cafeteria	Roof Penetration Mastic	Roof Penetrations	100 SF

Building	Material	Location	Estimated Quantity
Gymnasium	9"x9" Vinyl Floor Tile	Coaches' Office	120 SF
	Basecove Mastic	Coaches' Office	90 SF
	Roof Penetration Mastic	Roof Penetrations	100 SF
	Exterior Stucco (ACCM)	Exterior Walls	4,000 SF
Child Development	Roof Penetration Mastic	Roof Penetrations	70 SF

Approximate sample locations have been plotted on site plans that we prepared for this assessment. The Bulk Sample Summary Table, which identifies each sample and the corresponding analytical results, is included in Appendix B. The laboratory reports and chain of custody forms are included in Appendix C.

Summary and Recommendations for Asbestos-Containing Materials

All ACM that will be impacted by the planned modernizations must be removed pursuant to Rule 1403 of the South Coast Air Quality Management District's and CalOSHA Asbestos Regulations.

Abatement activities must be conducted in compliance with all applicable regulations, standards and generally accepted environmental and safety practices, including Federal OSHA (29 CFR 1926.58), EPA NESHAPS (40 CFR Part 61), and Toxic Substances Control Act (TSCA) Title II AHERA/ASHARA (40 CFR Part 763) Asbestos Regulations, the Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101, and Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard.

All asbestos waste must be properly disposed of and documented. Waste Manifests must be submitted at the end of a project. Disposing of a known hazardous waste is illegal in the State of California. Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition activities, we will arrange to sample and analyze them accordingly.

Lead Inspection and Sampling Procedures

Lead-based paint and lead glazing on ceramics is of concern both as a source of direct exposure through ingestion of paint chips, and as a contributor to lead interior dust and exterior soil. Lead was widely used as a major ingredient in most interior and exterior oil-based paints prior to 1950. Lead compounds continued to be used as corrosion inhibitors, pigments and drying agents beginning in the early 1950's. In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5000 ppm) and, in 1978, to 0.06% (600 ppm). It has also been used extensively as a glaze on ceramic and porcelain finishes.

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) define an inspection as a surface-by-surface investigation to determine the presence of lead-based paint (see 40 CFR part 745 and Title X of the 1992 Housing and Community Development Act).

As per the EPA & HUD guidelines, lead-based paint is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm2 or 0.5 percent by weight. Lead paint amounts were reported in mg/cm2 because this unit of measurement does not depend on the number of layers of non-lead based paint.

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections because of their demonstrated abilities to:

1. Determine if lead is present on many different types of surfaces

2. Measure the paint without destructive sampling or paint removal

3. Provide sample results immediately and at a relatively low cost per sample

Portable XRF instruments expose a building component to X-rays or gamma radiation, which causes lead to emit X-rays with a characteristic frequency or energy. The intensity of this radiation is measured by the XRF instrument. The inspector must then compare this displayed value (reading) with the inconclusive range or threshold specified in the XRF Performance Characteristic Sheet for the specific substrate beneath the painted surface. If the reading is less than the lower boundary of the inconclusive range, or less than the threshold, then the reading is considered negative. If the reading is greater than the upper boundary of the inconclusive range, or greater or equal to the threshold, then the reading is considered positive. Readings within the inconclusive range, including its boundary values, are considered inconclusive. Because the inconclusive ranges and/or thresholds shown in the Performance Characteristic Sheet are based on 1.0 mg/cm2, positive and negative readings are consistent with the HUD definition of lead-based paint for identification and disclosure purposes. The method employed for paint testing for this project was X-Ray Fluorescence (XRF) using an EDAX MAP4 lead paint analyzer (Serial Number M41509) with the capability to measure the lead content in dry paint films in the range of 0 to 50 milligrams per square centimeter.

The instrument's calibration was verified according to the manufacturer's specifications, in compliance with the Performance Characteristic Sheet (PCS) developed for this instrument. The PCS is located in Appendix F of this report. The readings from this instrument produce a 95% confidence level that the "lead" reading accurately reflects the actual level of lead in the tested surfaces, relative to the federal action level. Current industry standards suggest that, when it is determined that paint abatement and/or interim control activities will be performed on components, they should be performed according to practices that are in the HUD Guidelines and the regulations under section 402 of the Toxic Substances Control Act (TSCA), 15 USC 2682.

Lead Inspection Results

Sampling for this inspection was representative and any components that were not tested, but are similar to those components that tested positive for lead, should be considered and treated as lead laden.

A summary of the lead components identified at the subject site during our inspection include the following:

Building	Location	Lead-Containing Components
B Building	Exterior	Eaves, Fascia Boards, Painted Joists
C Building	Exterior	Eaves, Fascia Boards, Painted Joists
Cafeteria Building	Exterior	Doors
Child Development Center	Exterior	Walls and Window Frames
	Interior	Playroom Window Frames
D Building	Interior	Ceramic Wall Tile in Restrooms and Window Frames
Gymnasium	Exterior	Doors, Door Frames, Window Frames, Eaves, Fascia Boards, Joists, Porch Columns and Porch Ceilings
	Interior	Ceramic Wall and Shower Tile

The lead-laden paint and ceramic tile finishes are generally in good condition but will likely need to be removed in areas to facilitate the modernizations at the site. A complete listing of our assays with our condition assessment is in included within the appendices of this report.

Lead Summary and Recommendations

The federal and CAL/OSHA regulations for lead in construction do not specify a level of a lead in paint that classifies it as LBP. However, federal and state OSHA regulations specify ***airborne lead levels*** that should not be exceeded during construction without appropriate protection and training.

The action level for lead is 30 micrograms per cubic meter of air (µg/m3), and the permissible exposure limit (PEL) is 50 µg/m3. These airborne lead levels can be exceeded during construction activities such as scraping, sanding, grinding, blasting, and torching LBP surfaces, even when levels of lead in paint are far below the HUD definition of LBP of 1.0 mg/cm2 or 0.5 percent lead by weight. The XRF is designed to accurately quantify paint around the set abatement level (1.0 mg/cm2, 5,000 parts per million, or 0.5 percent by weight). However, painted surfaces tested with XRF that result in instrument readings much less than 1.0 mg/cm2 (even 0.0 mg/cm2 and negative results) may contain amounts of lead that could create an airborne hazard to workers during construction.

Based on the levels of lead in the components identified in the building survey, Pacific Environmental recommends that only properly trained and equipped individuals be assigned site preparation tasks that would involve treatment or demolition of these components. Procedures and engineering controls must be designed to follow CAL/OSHA and Department of Health Services (State of California) requirements, and workers must wear appropriate personal protective equipment during the work.

Other Hazardous Materials

During our assessment of the structures, we visually inspected the locations of fluorescent light tubes and PCB ballasts. There are fluorescent fixtures throughout the main building with ballasts that are assumed to contain PCB's and fluorescent tubes. All PCB's and spent fluorescent light tubes should be handled, packaged and disposed of in compliance with current California Environmental Protection Agency, Department of Toxic Substances Control Guidelines.

Limitations

This report is not intended to identify all hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and Pacific Environmental's experience in performing this type of assessment.

Pacific Environmental has performed this survey in a professional manner, using the degree of skill and care exercised for similar projects, under similar conditions, by reputable and competent environmental consultants. Pacific Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

Pacific Environmental further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved as a consequence of this report, or impacted by information not properly disclosed to Pacific at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

References

AHERA Summary, prepared by Power Masters, Inc.

Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards

Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead

"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," US Department of Housing and Urban Development, June 1995

South Coast Air Quality Management District Requirements (Rule 1403)

National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, M

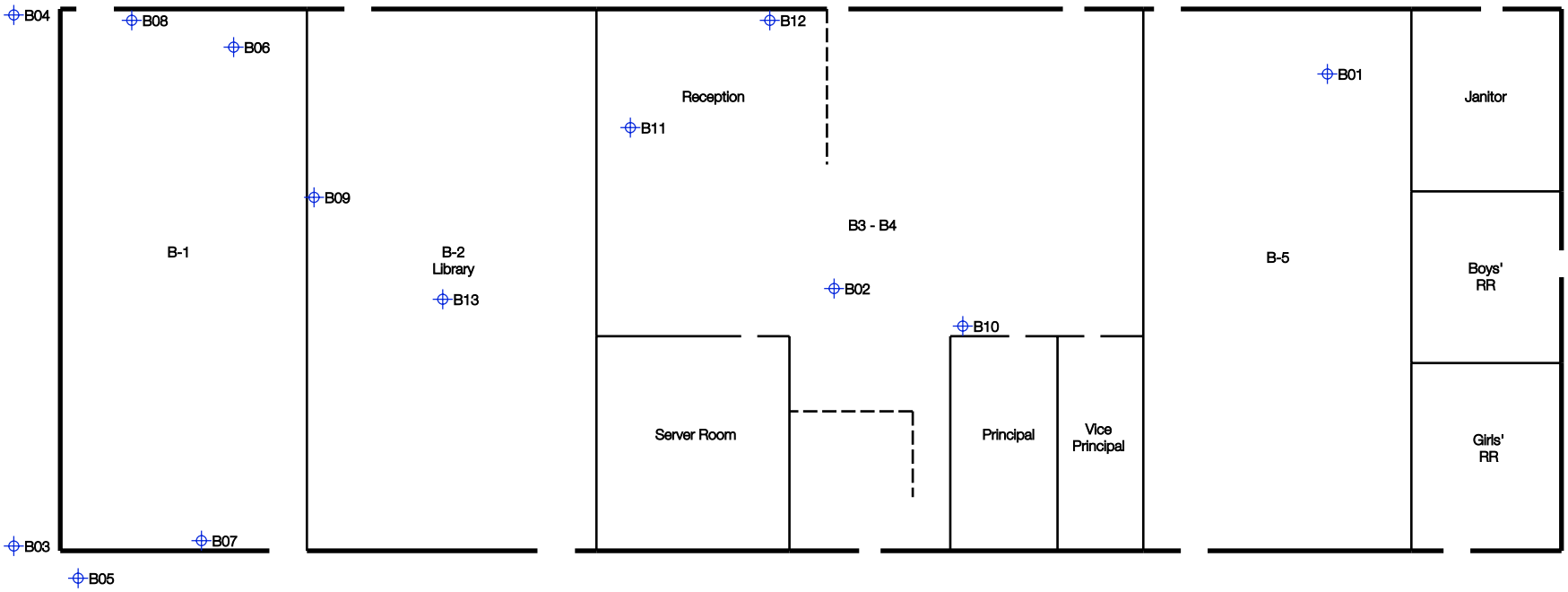
Occupational Safety and Health Administration, Asbestos in the Workplace, 29 CFR 1910.1001

Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101

Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard

Appendix A

Site Plans



N

indicates approximate sample location

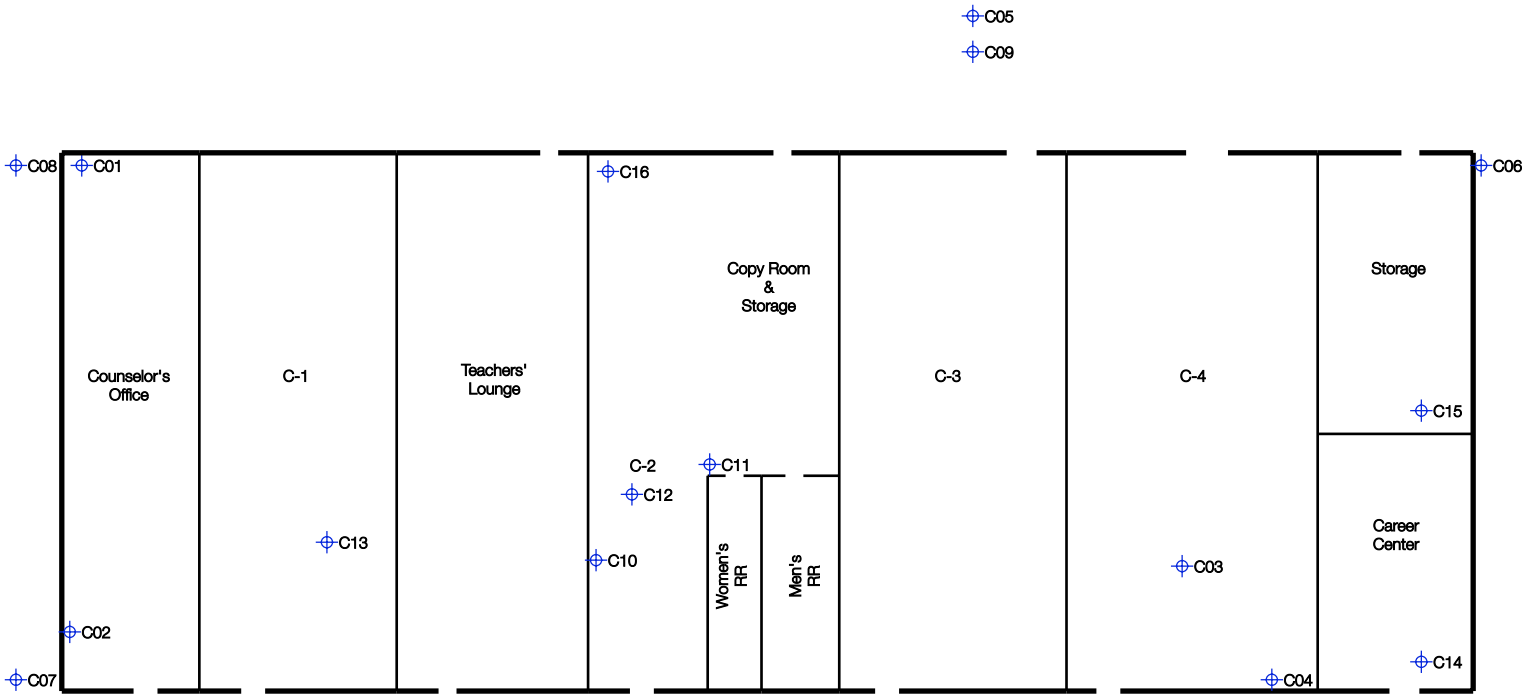
DATE PREPARED: 1/14/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09008	SCALE: NOT TO SCALE

DRAWING TITLE:
Building B
Site and Sample Location Plan
San Andreas High School
3232 Pacific Street
Highland, California 92346

FIGURE NO.
A

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District



N

indicates approximate sample location

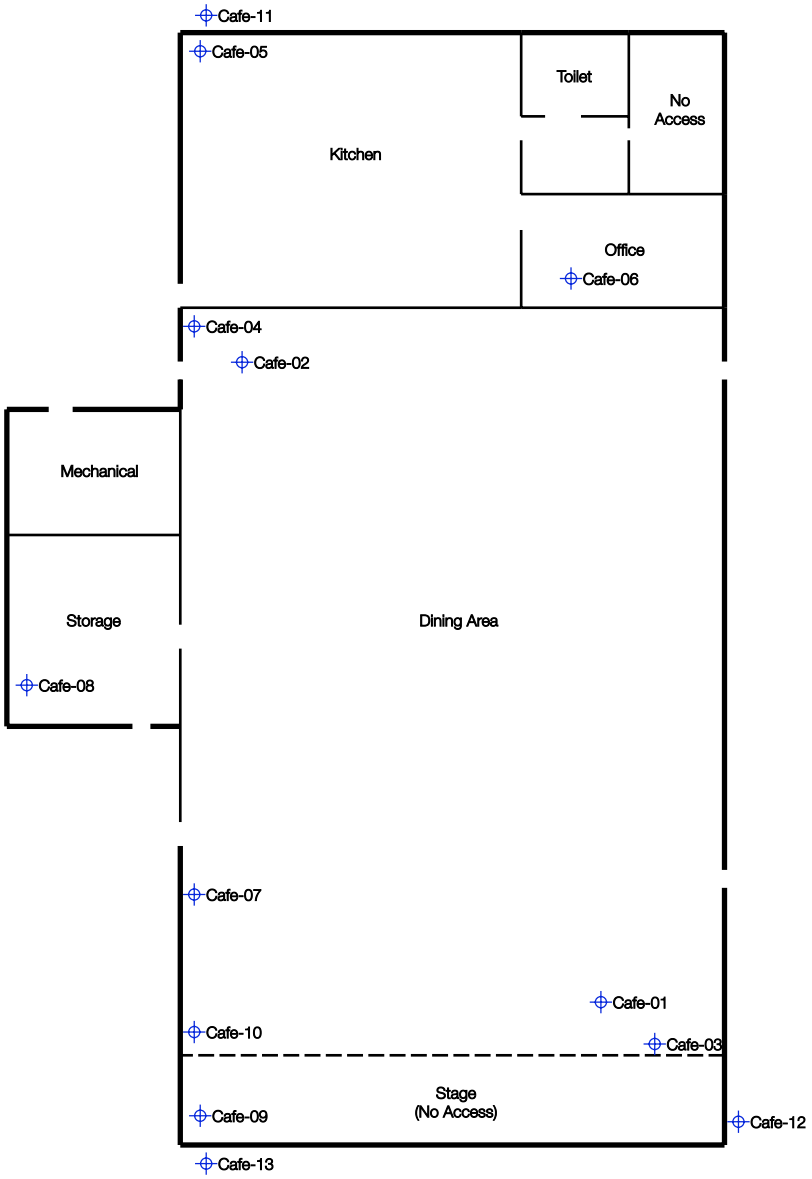
DATE PREPARED: 1/14/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09008	SCALE: NOT TO SCALE

DRAWING TITLE:
Building C
Site and Sample Location Plan
San Andreas High School
3232 Pacific Street
Highland, California 92346

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
B



N

⊕ indicates approximate sample location

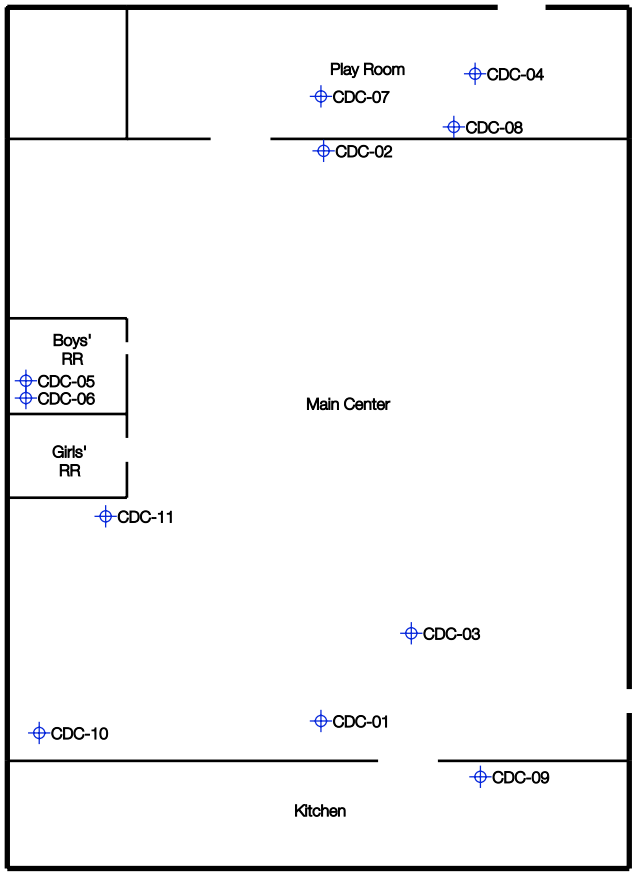
DATE PREPARED: 1/14/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09008	SCALE: NOT TO SCALE

DRAWING TITLE:
Cafeteria Building
Site and Sample Location Plan
San Andreas High School
3232 Pacific Street
Highland, California 92346

FIGURE NO. C

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District



N

⊕ indicates approximate sample location

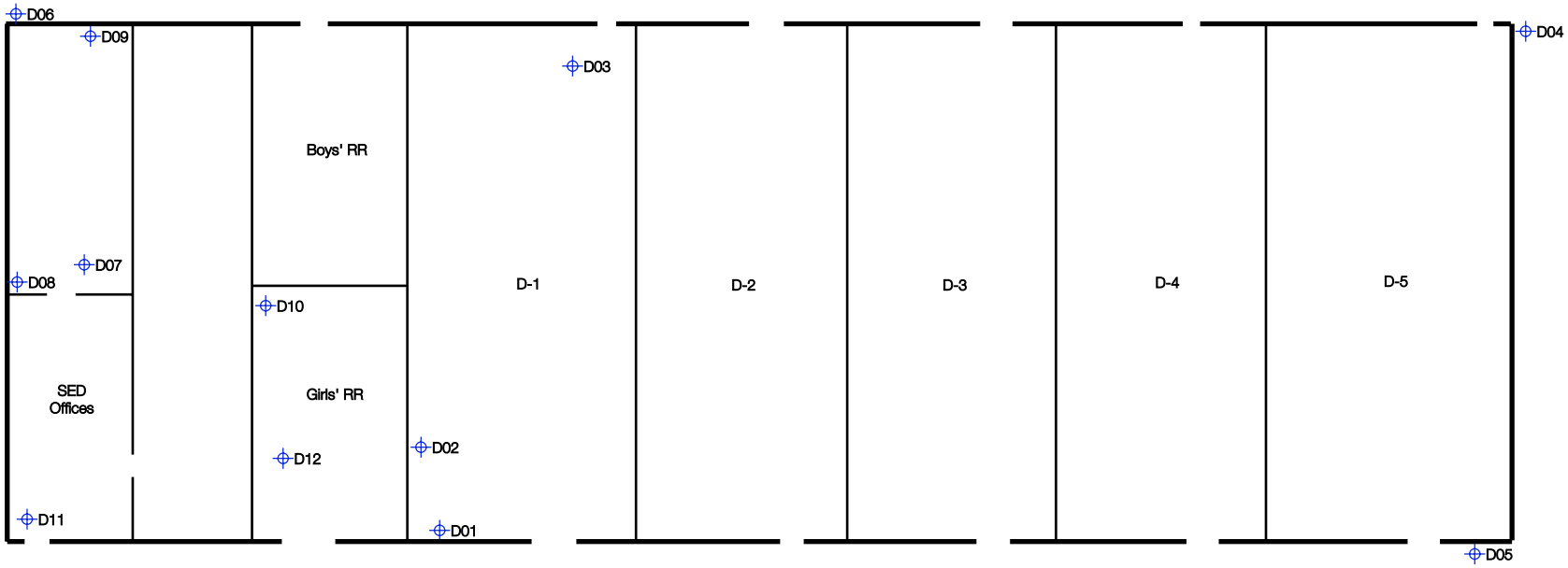
DATE PREPARED: 1/14/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09008	SCALE: NOT TO SCALE

DRAWING TITLE:
Child Development Center
Site and Sample Location Plan
San Andreas High School
3232 Pacific Street
Highland, California 92346

FIGURE NO. D

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District



N

⊕ indicates approximate sample location

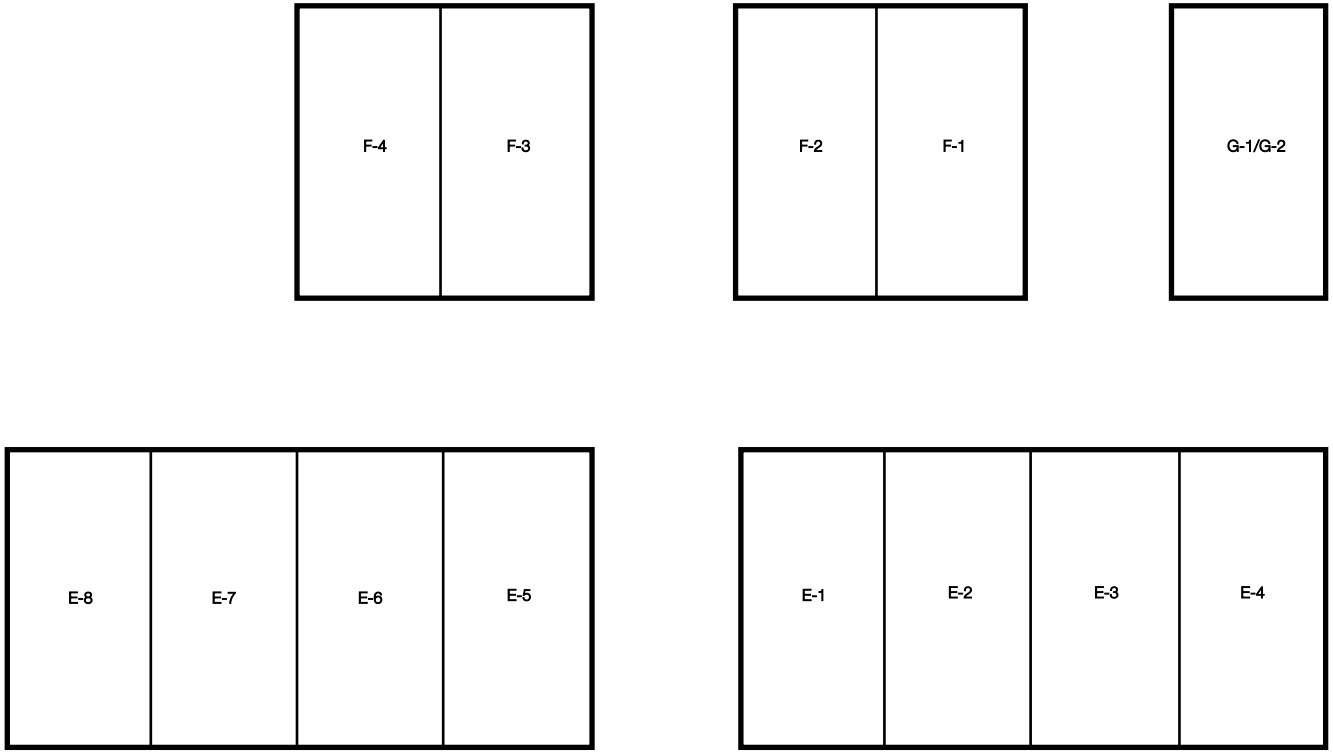
DATE PREPARED: 1/14/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09008	SCALE: NOT TO SCALE

DRAWING TITLE:
Building D
Site and Sample Location Plan
San Andreas High School
3232 Pacific Street
Highland, California 92346

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
E



N

Note: These portables were constructed approximately in the late 1990s or early 2000s.

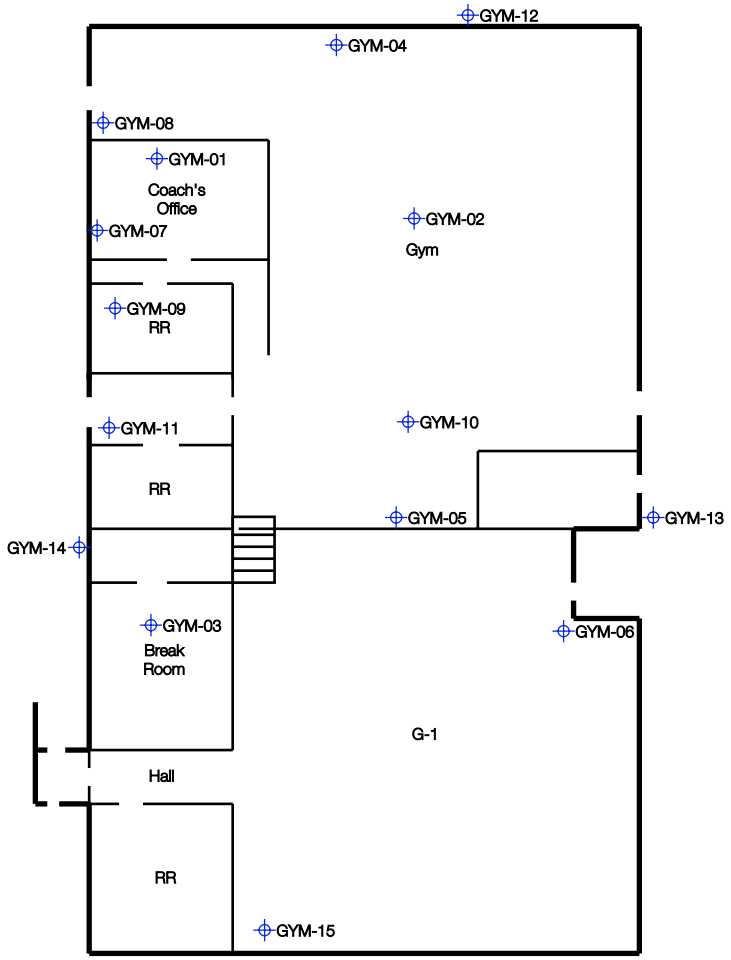
DATE PREPARED: 1/14/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09008	SCALE: NOT TO SCALE

DRAWING TITLE:
Portable Buildings E, F, & G
Site and Sample Location Plan
San Andreas High School
3232 Pacific Street
Highland, California 92346

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
F



N

⊕ indicates approximate sample location

DATE PREPARED: 1/14/2009	DRAWN BY: C.T.
REVISION:	SOURCE: FIELD INSPECTION
PROJECT NO: 09008	SCALE: NOT TO SCALE

DRAWING TITLE:
Gym Building
Site and Sample Location Plan
San Andreas High School
3232 Pacific Street
Highland, California 92346

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District

FIGURE NO.
G

Appendix B

Bulk Sample Summary Table

SAN ANDREAS HIGH SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09008

Sample No.	Sample Description	Sample Location	Asbestos %
B01	Roof Core	East Side, Roof	No Asbestos Detected
B02	Roof Mastic	Center Penetration, Roof	5% Chrysotile
B03	Exterior Stucco	Southwest	No Asbestos Detected
B04	Exterior Stucco	Northwest	No Asbestos Detected
B05	Exterior Stucco	Southwest	No Asbestos Detected
B06	12" Grey Floor Tile & Mastic	Rm B1, North Side	No Asbestos Detected
B07	4" Brown Covebase & Mastic	Rm B1, South Wall	No Asbestos Detected
B08	Interior Plaster	Rm B1, North Wall	No Asbestos Detected
B09	Interior Plaster	Rm B2, West Wall	No Asbestos Detected
B10	Interior Plaster	Rm B4, South Wall	No Asbestos Detected
B11	12" White Floor Tile & Black Mastic	Rm B2, Reception Area	No Asbestos Detected
B12	Drywall	Rm B3, Reception	No Asbestos Detected
B13	Carpet Glue	Library B2, Center	No Asbestos Detected
C01	Plaster	Counselor's Office	No Asbestos Detected
C02	4" Brown Covebase	Counselor's Office	No Asbestos Detected
C03	12"x12" Grey Floor Tile	Rm C4	No Asbestos Detected
C04	4" Brown Covebase	Rm C4	No Asbestos Detected
C05	12"x12" Grey Floor Tile	Security Office, C5	No Asbestos Detected
C06	Exterior Stucco	Exterior, Northeast	No Asbestos Detected
C07	Exterior Stucco	Exterior, Southwest	No Asbestos Detected
C08	Exterior Stucco	Exterior, Northwest	No Asbestos Detected
C09	Drywall / Joint Compound Composite	Security Office, C5	No Asbestos Detected
C10	Plaster	Rm C2	No Asbestos Detected
C11	Drywall / Joint Compound Composite	Rm C2	No Asbestos Detected
C12	12"x12" Grey Floor Tile	Rm C2	No Asbestos Detected
C13	12"x12" Grey Floor Tile	Rm C1	No Asbestos Detected
C14	Roof Core	Roof	No Asbestos Detected
C15	Penetration Mastic	Roof	5% Chrysotile
C16	Flashing, Roof	Roof	No Asbestos Detected
Cafe-01	12"x12" Grey Floor Tile	Cafeteria Dining Area, Southeast	No Asbestos Detected
Cafe-02	12"x12" Grey Floor Tile	Cafeteria Dining Area, Northwest	No Asbestos Detected
Cafe-03	4" Brown Covebase	Cafeteria Dining Area, Southeast	No Asbestos Detected
Cafe-04	4" Brown Covebase	Cafeteria Dining Area, Northwest	No Asbestos Detected
Cafe-05	Plaster	Kitchen Area	No Asbestos Detected
Cafe-06	12"x12" Brown Floor Tile	Kitchen Office	No Asbestos Detected
Cafe-07	Plaster	Dining Room	No Asbestos Detected
Cafe-08	Roofing Core	Roof, West	No Asbestos Detected
Cafe-09	Penetration Mastic	Roof, Southwest	4% Chrysotile
Cafe-10	12"x12" Pinhole Wall Tile	Dining Area, South End	No Asbestos Detected
Cafe-11	Exterior Stucco	Exterior	No Asbestos Detected
Cafe-12	Exterior Stucco	Exterior	No Asbestos Detected
Cafe-13	Exterior Stucco	Exterior	No Asbestos Detected
CDC-01	2'x4' Fissured Ceiling Tiles	Center, South Side	No Asbestos Detected
CDC-02	4" Brown Covebase & Mastic	Center, North Side	No Asbestos Detected
CDC-03	12"x12" Grey w/Brown Floor Tile & Mastic	Center, South Side	No Asbestos Detected
CDC-04	Carpet Glue	Play Room, North Side	No Asbestos Detected
CDC-05	Joint Compound	Center, Boys' Restroom	No Asbestos Detected
CDC-06	Drywall	Center, Boys' Restroom	No Asbestos Detected
CDC-07	1'x1' Nailed On Pinhole Ceiling Tile	Play Room, Center	No Asbestos Detected
CDC-08	Interior Plaster	Play Room, South Wall	No Asbestos Detected
CDC-09	Interior Plaster	Kitchen, North Wall	No Asbestos Detected
CDC-10	Roof Core	Roof, Southwest	No Asbestos Detected
CDC-11	Grey Roof Mastic	Center, Penetration	3% Chrysotile
CDC-12	Transite Pipe, 10" & 4"	16 Linear Feet Each	Assumed ACM
D01	Plaster Wall	Rm D1	No Asbestos Detected

SAN ANDREAS HIGH SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09008

Sample No.	Sample Description	Sample Location	Asbestos %
D02	4" Brown Covebase	Rm D1	No Asbestos Detected
D03	12"x12" Grey Floor Tile	Rm D1	No Asbestos Detected
D04	Exterior Stucco	Exterior, Northeast	<1% Chrysotile
D05	Exterior Stucco	Exterior, Southeast	<1% Chrysotile
D06	Exterior Stucco	Exterior, Northwest	<1% Chrysotile
D07	Carpet Mastic	Nurse's Office	No Asbestos Detected
D08	Plaster	Nurse's Office	No Asbestos Detected
D09	4" Brown Covebase	Nurse's Office	No Asbestos Detected
D10	Plaster	Ladies' Restroom	No Asbestos Detected
D11	Roof Core	Roof	No Asbestos Detected
D12	Roof Penetration Mastic	Roof	No Asbestos Detected
Gym-01	9"x9" Grey Floor Tile & Black Mastic	Gym Coach's Office, North Side	Tile - 3% Chrysotile
Gym-02	12"x12" White w/Brown Floor Tile & Black Mas	Gym, Center	No Asbestos Detected
Gym-03	12"x12" White w/Brown Floor Tile & Black Mas	G1 Break Room, Center	No Asbestos Detected
Gym-04	Interior Plaster	Gym, North Wall	No Asbestos Detected
Gym-05	Interior Plaster	Gym, South Wall	No Asbestos Detected
Gym-06	Interior Plaster	G1, Northeast Wall	No Asbestos Detected
Gym-07	4" Black Covebase & Mastic	Gym, Coach's Office, West Wall	Mastic - 2% Chrysotile
Gym-08	4" Brown Covebase & Mastic	Gym, West Wall	No Asbestos Detected
Gym-09	Tan Linoleum	Gym, Coach's Office Restroom	No Asbestos Detected
Gym-10	Roof Mastic, Grey	Roof, Center	7% Chrysotile
Gym-11	Roof Core	Roof, Center West	No Asbestos Detected
Gym-12	Exterior Stucco	North Side Wall	<1% Chrysotile
Gym-13	Exterior Stucco	East Side Wall	No Asbestos Detected
Gym-14	Exterior Stucco	West Side Wall	No Asbestos Detected
Gym-15	Carpet Glue	G1, South Side	No Asbestos Detected
Gym-16	Transite Pipe, 2" Diameter	Roof	Assumed ACM

Appendix C

Asbestos Sample Analysis Reports and Chain of Custody

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/13/09
Date Examined 01/13/09
AmeriSci Job # 909011336
P.O. #

RE: SBCUSD; San Andres HS / Bldg B

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011336-01	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: Roof Core / East Side Roof		
	Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 5 %, Fibrous glass 15 %, Non-fibrous 80 %		
02	909011336-02	*Yes*	5 % (by CVES) by Paola Ducoing on 01/13/09
	Location: Roof Mastic / Center Penetration (Roof)		
	Analyst Description: Black/Grey, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 5.0 %		
	Other Material: Non-fibrous 95 %		
03	909011336-03	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: Exterior Stucco / South East		
	Analyst Description: Tan, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
04	909011336-04	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: Exterior Stucco / North West		
	Analyst Description: Tan, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
05	909011336-05	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: Exterior Stucco / South West		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; San Andres HS / Bldg B

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
06	909011336-06	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: 12" Gray Floor Tiles & Glue / Room B1 - N. Side		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
07	909011336-07L1	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: 4" Brown Covebase & Glue / Room B1 - S. Wall		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
07	909011336-07L2	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: 4" Brown Covebase & Glue / Room B1 - S. Wall		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Glue		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
08	909011336-08	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: Interior Plaster / Room B1 - N. Wall		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
09	909011336-09	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: Interior Plaster / Room B2 - W. Wall		
	Analyst Description: Light Green, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
10	909011336-10.1	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: Interior Plaster / Room B4 - S. Wall		
	Analyst Description: Peach, Homogeneous, Non-Fibrous, Cementitious, Plaster-Finish Coat		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; San Andres HS / Bldg B

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
10	909011336-10.2	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
Location: Interior Plaster / Room B4 - S. Wall			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Plaster-Base Coat **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
11	909011336-11L1	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
Location: 12" White Floor Tiles & Black Mastic / Room B2 - Reception Area			
Analyst Description: White, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
11	909011336-11L2	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
Location: 12" White Floor Tiles & Black Mastic / Room B2 - Reception Area			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
12	909011336-12.1	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
Location: Drywall / Room B 3 - Reception			
Analyst Description: White/Brown, Homogeneous, Fibrous, Drywall **Asbestos Types:** **Other Material:** Cellulose 15 %, Non-fibrous 85 %			
12	909011336-12.2	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
Location: Drywall / Room B 3 - Reception			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Joint Compound **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
13	909011336-13L1	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
Location: Carpet Glue / Library B2 - Center			
Analyst Description: Blue/Pink, Homogeneous, Fibrous, Carpet **Asbestos Types:** **Other Material:** Synthetic fibers 85 %, Non-fibrous 15 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; San Andres HS / Bldg B

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
13	909011336-13L2	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09

Location: Carpet Glue / Library B2 - Center

Analyst Description: Yellow, Homogeneous, Non-Fibrous, Carpet Mastic
Asbestos Types:
Other Material: Non-fibrous 100 %

Reporting Notes:
Analyzed By: Paola Ducoing ; Date Analyzed: 1/13/2009 1/13/09
*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.
Reviewed By: 1/14/09

Mary David 9090113360

From: "Michael Lyssy" <mike@pacificenvironmental.com>
To: "Mary David" <mdavid@amerisci.com>; "Javier Cortes" <jcortes@amerisci.com>
Sent: Tuesday, January 13, 2009 9:32 AM
Subject: San Andreas High School Bulk Sample Change in TAT

Can you please change the TAT for the samples submitted this morning for our San Andreas HS project from Standard to 24 hours.

Thanks,

Michael Lyssy
Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

800.303.6484 ext. 701 office
949.289.3565 cell
714.776.3500 fax

http://www.pacificenvironmental.com

RECEIVED
JAN 13 2009 @ 1030
M. DAVID

909011336 -

PACIFIC ENVIRONMENTAL

Bldg. B

Date:	1/12/09
Client:	SBCUSD
Site:	San Andreas H.S
Project No:	
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
01	Roof Core	East Side Roof	8,800 S/F
02	Roof Mastic	Center Penetrion (roof)	100 S/F
03	Exterior Stucco	Southeast	5,400 S/F
04	↓	Northwest	↓
05	↓	Southwest	↓
06	12" Gray Floor Tiles & Glue	Room B1 - N. Side	3,600 S/F
07	4" Brown Coved base & Glue	Room B1 - S. wall	1,000 S/F
08	Interior Plaster	Room B1 - W. wall	6,200 S/F
09	↓	Room B2 - W. wall	↓
10	↓	Room B4 - S. wall	↓
11	12" White Floor Tiles & black mastic	Room B2 - reception area	1,800 S/F
12	Drywall	Room B3 - Reception	300 S/F
13	Carpet glue	Library B2 - Center	1,200 S/F

Analytical Method: PLM

Turn Around Time: Standard

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
	David Tillema	
RECEIVED JAN 13 2009		
Date/Time	Name	Signature
S. TAHVILDARI		

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/13/09
Date Examined 01/13/09

RE: SBCUSD; Building C

AmeriSci Job # 909011338
P.O. #
Page 1 **of** 4

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011338-01	*No*	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Plaster / Counselors Office		
	Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011338-02	*No*	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Basecove Brown 4" / Counselors Office		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
03	909011338-03	*No*	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: 12"x Gray FT / Rm C-4		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
04	909011338-04L1	*No*	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Basecove Brown 4" / Rm C-4		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cove Base		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
04	909011338-04L2	*No*	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Basecove Brown 4" / Rm C-4		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Building C

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
04	909011338-04L3	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
Location: Basecove Brown 4" / Rm C-4			
Analyst Description: White, Homogeneous, Non-Fibrous, Leveling Compound			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
05	909011338-05	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
Location: 12x Gray FT / Security Office C5			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
06	909011338-06	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
Location: Exterior Stucco / NE Ext.			
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
07	909011338-07	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
Location: Exterior Stucco / SW Ext.			
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
08	909011338-08	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
Location: Exterior Stucco / NW Ext.			
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
09	909011338-09	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
Location: Drywall/Joint Compound Composite / Security Office C5			
Analyst Description: Beige/Brown, Heterogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Cellulose 15 %, Non-fibrous 85 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Building C

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
10	909011338-10	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Plaster / Rm C-2		
	Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
11	909011338-11	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Drywall/Joint Compound Composite / Rm C-2		
	Analyst Description: Beige/Brown, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 15 %, Non-fibrous 85 %		
12	909011338-12	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: 12x Gray FT / Rm C-2		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
13	909011338-13	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: 12x Gray FT / Rm C-1		
	Analyst Description: Grey, Homogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Fibrous glass 15 %, Non-fibrous 85 %		
14	909011338-14	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Roof Core / Roof		
	Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Fibrous glass 15 %, Non-fibrous 85 %		
15	909011338-15	***Yes***	5 % (by CVES) by Raymundo Orozco on 01/13/09
	Location: Penetration Mastic / Roof		
	Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 5.0 %		
	Other Material: Non-fibrous 95 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Building C

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
16	909011338-16	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09

Location: Flashing Roof

Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material
Asbestos Types:
Other Material: Fibrous glass 15 %, Non-fibrous 85 %

Reporting Notes:

Analyzed By: Raymundo Orozco _____; Date Analyzed: 1/13/2009 1/13/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/14/09

9040113358

Mary David

From: "Michael Lyssy" <mike@pacificenvironmental.com>
To: "Mary David" <mdavid@amerisci.com>; "Javier Cortes" <jcortes@amerisci.com>
Sent: Tuesday, January 13, 2009 9:32 AM
Subject: San Andreas High School Bulk Sample Change in TAT

Can you please change the TAT for the samples submitted this morning for our San Andreas HS project from Standard to 24 hours.

Thanks,

Michael Lyssy
Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

800.303.6484 ext. 701 office
949.289.3565 cell
714.776.3500 fax

http://www.pacificenvironmental.com

RECEIVED
JAN 13 2009 @ 1030
M. DAVID

Bulldin "C" 909011338-

PACIFIC ENVIRONMENTAL

Date:	1/12/09
Client:	SBCUSD
Site:	Bulldin 'C'
Project No:	
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
01	Plaster	Counselors Attic	4800 ft - TOTAL
02	Basecove Brown 4"	" "	500
03	12"X Gray FT.	Rm C-4	5*700 ft
04	Base cove Brown 4"	Rm C-4	
05	12 X Gray FT	Security Office CS	
06	EXT STUCCO	NE EXT.	6,000 ft
07	↓	SW	
08	↓	NW ↓	
09	Drywall / Joint Compound Composite	Security Office CS	2100 ft
10	Plaster	Rm - C-2	
11	Drywall / Joint Comp. Composite	Rm - C-2	
12	12 X Gray FT	Rm C-2	
13	" "	Rm C-1	
14	Roof Core	Roof	5,000 ft
15	Penetration Mastic	Roof	60 ft
16	FLASHING Roof		100 ft

Analytical Method: PLM

Turn Around Time: Standard

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

David Tillema

Date/Time RECEIVED Name Signature

JAN 13 2009

Date/Time Name Signature

S. TAHVILDARI

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/13/09
Date Examined 01/13/09
AmeriSci Job # 909011335
P.O. #

RE: SBCUSD; San Andres High / Cafeteria

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011335-01L1	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: 12"x Gray FT SE / Cafeteria - Dining Area		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
01	909011335-01L2	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: 12"x Gray FT SE / Cafeteria - Dining Area		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011335-02L1	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: 12"x Gray FT NW / Cafeteria - Dining Area		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011335-02L2	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: 12"x Gray FT NW / Cafeteria - Dining Area		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
03	909011335-03	*No*	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: Basecove Brown 4" SE / Cafeteria - Dining Area		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; San Andres High / Cafeteria

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
04	909011335-04	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
Location: Basecove Brown 4" NW / Cafeteria - Dining Area			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
05	909011335-05	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
Location: Plaster / Kitchen Area			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
06	909011335-06	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
Location: 12x Brown FT / Kitchen Office			
Analyst Description: Light Brown, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
07	909011335-07	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
Location: Plaster / Dining Rm			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Cementitious, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
08	909011335-08	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
Location: Roofing Core / Roof W			
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Fibrous glass 20 %, Non-fibrous 80 %			
09	909011335-09	***Yes***	4 % (by CVES) by Paola Ducoing on 01/13/09
Location: Penetration Mastic / Roof SW			
Analyst Description: Black/Grey, Homogeneous, Non-Fibrous, Bulk Material			
Asbestos Types: Chrysotile 4.0 %			
Other Material: Non-fibrous 96 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; San Andres High / Cafeteria

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
10	909011335-10	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: 12x12 Wall Tile Pinhole / S. End Of Dining Area		
	Analyst Description: Brown/White, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 92 %, Non-fibrous 8 %		
11	909011335-11	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: Exterior Stucco / Ext.		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
12	909011335-12	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: Exterior Stucco / Ext.		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
13	909011335-13	***No***	NAD (by CVES) by Paola Ducoing on 01/13/09
	Location: Exterior Stucco / Ext.		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

Reporting Notes:

Analyzed By: Paola Ducoing _____; Date Analyzed: 1/13/2009 1/13/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/14/09

909 011335

Mary David

From: "Michael Lyssy" <mike@pacificenvironmental.com>
To: "Mary David" <mdavid@amerisci.com>; "Javier Cortes" <jcortes@amerisci.com>
Sent: Tuesday, January 13, 2009 9:32 AM
Subject: San Andreas High School Bulk Sample Change in TAT

Can you please change the TAT for the samples submitted this morning for our San Andreas HS project from Standard to 24 hours.

Thanks,

Michael Lyssy
Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

800.303.6484 ext. 701 office
949.289.3565 cell
714.776.3500 fax

http://www.pacificenvironmental.com

RECEIVED
JAN 13 2009 @ 1030
M. DAVID

909011335 - San Anokes High

PACIFIC ENVIRONMENTAL

Date:	1/12/09
Client:	SBSUSD
Site:	CAFETERIA
Project No:	
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled		Sample Location	Condition
01	12"x Gray FT	SE	Cafeteria - Dining Area	2400 ft
02	" "	NW	" "	✓
03	Basecove Brown 4"	SE	" "	450 LF
04	" "	NW	" "	✓
05	Plaster		Kitchen Area	4700 ft
06	12x Brown FT		Kitchen Office	400 ft
07	Plaster		Dining Room	✓
08	Roofing Cove		Roof W	4000 ft
09	Penetration Mastic		Roof SW	100 ft
10	12x12 Wall Tile Pin Hole		S. End of Dining Area	1600 ft
11	Exterior Stucco		Ext.	4500 ft
12	" "		Ext.	✓
13	" "		Ext.	✓

Analytical Method: PLM

Turn Around Time: Standard

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

David Tillema

Date/Time RECEIVED Name Signature

Date/Time JAN 13 2009 Signature

S. TAHVILDARI

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/13/09 **AmeriSci Job #** 909011339
Date Examined 01/13/09 **P.O. #**
Page 1 **of** 3
RE: SBCUSD; San Andres HS / Child Development Center

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011339-01	*No*	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: 2'x4' Fissured Ceiling Tiles / Center - South Side		
	Analyst Description: White, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 50 %, Fibrous glass 20 %, Non-fibrous 30 %		
02	909011339-02L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: 4" Brown Covebase & Glue / Center - North Side		
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011339-02L2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: 4" Brown Covebase & Glue / Center - North Side		
	Analyst Description: Beige/Brown, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
03	909011339-03L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: 12"x12" Gray w/Brown Floor Tiles & Glue / Center - South Side		
	Analyst Description: Beige/Brown, Homogeneous, Non-Fibrous, Flooring		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
03	909011339-03L2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: 12"x12" Gray w/Brown Floor Tiles & Glue / Center - South Side		
	Analyst Description: Clear, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; San Andres HS / Child Development Center

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
04	909011339-04	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Carpet Glue / Playroom - N Side		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
05	909011339-05	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Joint Compound / Center - Boys R/R		
	Analyst Description: Beige/White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
06	909011339-06.1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Drywall / Center - Boys R/R		
	Analyst Description: White/Brown, Heterogeneous, Fibrous, Drywall / Tape		
	Asbestos Types:		
	Other Material: Cellulose 15 %, Non-fibrous 85 %		
06	909011339-06.2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Drywall / Center - Boys R/R		
	Analyst Description: White, Homogeneous, Non-Fibrous, Joint Compound		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
07	909011339-07	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: 1'x1' Nailed On Pinhole Ceiling Tiles / Playroom - Center		
	Analyst Description: Off-White, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 90 %, Non-fibrous 10 %		
08	909011339-08	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Interior Plaster / Playroom - S. Wall		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; San Andres HS / Child Development Center

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
09	909011339-09	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Interior Plaster / Kitchen - N. Wall		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
10	909011339-10	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Roof Core / SW Roof		
	Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 10 %, Non-fibrous 90 %		
11	909011339-11	***Yes***	3 % (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Gray Roof Mastic / Center Penetration		
	Analyst Description: Grey/Black, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 3.0 %		
	Other Material: Non-fibrous 97 %		

Reporting Notes:

Analyzed By: Olga K. Katsuk _____; Date Analyzed: 1/13/2009 1/13/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/14/09

Mary David 909011339

From: "Michael Lyssy" <mike@pacificenvironmental.com>
To: "Mary David" <mdavid@amerisci.com>; "Javier Cortes" <jcortes@amerisci.com>
Sent: Tuesday, January 13, 2009 9:32 AM
Subject: San Andreas High School Bulk Sample Change in TAT

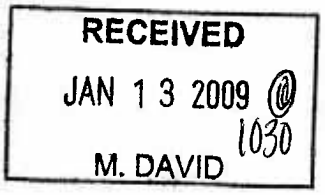
Can you please change the TAT for the samples submitted this morning for our San Andreas HS project from Standard to 24 hours.

Thanks,

Michael Lyssy
Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

800.303.6484 ext. 701 office
949.289.3565 cell
714.776.3500 fax

http://www.pacificenvironmental.com



909011339

PACIFIC ENVIRONMENTAL

Date:	1/12/09
Client:	SBCUSD
Site:	San Andreas H.S
Project No:	
Inspector(s):	D.T.

Child Development Center

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
01	2'X4' Fissured Ceiling Tiles	Center - South side	1,700 S/F
02	4" brown cove base & glue	Center - north side	300 S/F
03	12"X12" Gray w/ brown floor tiles & glue	Center - South side	1,500 S/F
04	Carpet glue	Play room - N. side	500 S/F
05	Joint Compound	Center - boys R/R	700 S/F
06	Drywall	Center - boys R/R	700 S/F
07	1'X1' nailed on pinhole Ceiling Tiles	Playroom - Center	300 S/F
08	Interior Plaster	Playroom - S. wall	2,800 S/F
09	↓	Kitchen - W. wall	↓
10	Roof Core	SW Roof	2,000 S/F
11	Gray Roof Mastic	Center Penetration	70 S/F
*	EXTERIOR BRICK		
Assumed *	Transite pipe 12" & 4"	16 L/F (8) each	

Analytical Method: PLM

Turn Around Time: Standard

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
	David Tillema	
Date/Time	Name	Signature
	S. TAHVILDARI	

RECEIVED
JAN 13 2009

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/13/09 **AmeriSci Job #** 909011334
Date Examined 01/13/09 **P.O. #**

RE: SBCUSD; San Andres High / Building D

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011334-01	*No*	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Plaster Wall / Rm D-1		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011334-02L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Basecove 4" Brown / Rm D-1		
	Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
02	909011334-02L2	*No*	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Basecove 4" Brown / Rm D-1		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
03	909011334-03L1	*No*	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: 12" G. FT / Rm D-1		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Flooring		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
03	909011334-03L2	*No*	NAD [1] (by CVES) by Olga K. Katsuk on 01/13/09
	Location: 12" G. FT / Rm D-1		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; San Andres High / Building D

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
04	909011334-04	***Yes***	Trace (<1 %) (by CVES) by Olga K. Katsuk on 01/13/09
Location: Ext Stucco / NE			
Analyst Description: Beige/Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** Chrysotile <1. % **Other Material:** Non-fibrous 100 %			
05	909011334-05	***Yes***	Trace (<1 %) (by CVES) by Olga K. Katsuk on 01/13/09
Location: Ext Stucco / SE			
Analyst Description: Beige/Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** Chrysotile <1. % **Other Material:** Non-fibrous 100 %			
06	909011334-06	***Yes***	Trace (<1 %) (by CVES) by Olga K. Katsuk on 01/13/09
Location: Ext Stucco / NW			
Analyst Description: Beige/Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** Chrysotile <1. % **Other Material:** Non-fibrous 100 %			
07	909011334-07	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
Location: Carport Mastic / Nurses Office			
Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
08	909011334-08	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
Location: Plaster / Nurses Office			
Analyst Description: Off-White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
09	909011334-09L1	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
Location: Basecove 4" Brown / Nurses Office			
Analyst Description: Dark Brown, Homogeneous, Non-Fibrous, Basecove **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; San Andres High / Building D

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
09	909011334-09L2	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Basecove 4" Brown / Nurses Office		
	Analyst Description: Off-White, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
10	909011334-10	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Plaster / Ladies RR		
	Analyst Description: White, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
11	909011334-11	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Roof Core / Roof		
	Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Fibrous glass 15 %, Non-fibrous 85 %		
12	909011334-12	***No***	NAD (by CVES) by Olga K. Katsuk on 01/13/09
	Location: Roof Penetration / Roof		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

Reporting Notes:

(1) Insufficient material submitted for accurate quantitation during PLM analysis (no QC possible).

Analyzed By: Olga K. Katsuk ; Date Analyzed: 1/13/2009 1/13/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: 1/14/09

909 011334

Mary David

From: "Michael Lyssy" <mike@pacificenvironmental.com>
To: "Mary David" <mdavid@amerisci.com>; "Javier Cortes" <jcortes@amerisci.com>
Sent: Tuesday, January 13, 2009 9:32 AM
Subject: San Andreas High School Bulk Sample Change in TAT

Can you please change the TAT for the samples submitted this morning for our San Andreas HS project from Standard to 24 hours.

Thanks,

Michael Lyssy
Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

800.303.6484 ext. 701 office
949.289.3565 cell
714.776.3500 fax

http://www.pacificenvironmental.com

RECEIVED
JAN 13 2009 @ 1030
M. DAVID

SAN ANDRES HIGH BUILDING "D" 09011334-

PACIFIC ENVIRONMENTAL

Date:	1/12/09
Client:	SBCUSD
Site:	BUILDING "D"
Project No:	
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
01	PLASTER W/ALL	Rm D-1	8700 ϕ
02	BASECOVE 4" BROWN	Rm D-1	850 ϕ
03	12" ~~BLACK~~ FT.	Rm D-1	4500 ϕ
04	EXT STUCCO	NE	4200 ϕ
05	EXT STUCCO	SE	
06	EXT STUCCO	N WL.	
07	CARPET ~~&~~ MASTIC	Nurses office	1100 ϕ
08	Plaster	" "	
09	Basecove 4" Brown	" "	
10	Plaster	Ladies RR	
11	ROOF CORE	ROOF	6300 ϕ
12	ROOF PENETRATION	ROOF	100 ϕ

Analytical Method: PLM

Turn Around Time: Standard

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
	David Tillema	
RECEIVED JAN 13 2009		
Date/Time	Name	Signature
	S. TAHVILDARI	

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/13/09
Date Examined 01/13/09
AmeriSci Job # 909011337
P.O. #

RE: SBCUSD; San Andres HS / Gym Bldg

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011337-01L1	***Yes***	3 % (by CVES) by Raymundo Orozco on 01/13/09
	Location: 9"x9" Floor Tiles & Black Mastic / Gym Coach Office - N. Side		
	Analyst Description: Grey, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** Chrysotile 3.0 % **Other Material:** Non-fibrous 97 %		
01	909011337-01L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: 9"x9" Floor Tiles & Black Mastic / Gym Coach Office - N. Side		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 2 %, Non-fibrous 98 %		
02	909011337-02L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: 12"x12" White White w/Brown Floor Tiles & Black Mastic / Gym - Center		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %		
02	909011337-02L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: 12"x12" White White w/Brown Floor Tiles & Black Mastic / Gym - Center		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 2 %, Non-fibrous 98 %		
03	909011337-03L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: 12"x12" White White w/Brown Floor Tiles & Black Mastic / G1 - Break Room Center		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; San Andres HS / Gym Bldg

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
03	909011337-03L2	***No***	NAD
Location: 12"x12" White White w/Brown Floor Tiles & Black Mastic / G1 - Break Room Center			(by CVES) by Raymundo Orozco on 01/13/09
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 3 %, Non-fibrous 97 %			
04	909011337-04	***No***	NAD
Location: Interior Plaser / Gym - North Wall			(by CVES) by Raymundo Orozco on 01/13/09
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
05	909011337-05	***No***	NAD
Location: Interior Plaser / Gym - South Wall			(by CVES) by Raymundo Orozco on 01/13/09
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
06	909011337-06	***No***	NAD
Location: Interior Plaser / G1 - NE Wall			(by CVES) by Raymundo Orozco on 01/13/09
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
07	909011337-07L1	***No***	NAD
Location: 4" Black Covebase & Glue / Gym Coach Office - W. Wall			(by CVES) by Raymundo Orozco on 01/13/09
Analyst Description: Black, Homogeneous, Non-Fibrous, Cove Base **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
07	909011337-07L2	***Yes***	2 %
Location: 4" Black Covebase & Glue / Gym Coach Office - W. Wall			(by CVES) by Raymundo Orozco on 01/13/09
Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** Chrysotile 2.0 % **Other Material:** Non-fibrous 98 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; San Andres HS / Gym Bldg

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
08	909011337-08	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: 4" Brown Covebase & Glue / Gym - West Wall		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
09	909011337-09	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Tan Linoleum / Gym Coach Office R/R		
	Analyst Description: Grey, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 25 %, Synthetic fibers 5 %, Non-fibrous 70 %		
10	909011337-10	***Yes***	7 % (by CVES) by Raymundo Orozco on 01/13/09
	Location: Roof Mastic (Gray) / Roof Penetration (Center)		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 7.0 %		
	Other Material: Non-fibrous 93 %		
11	909011337-11	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Roof Core / Roof Center West		
	Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Fibrous glass 15 %, Non-fibrous 85 %		
12	909011337-12	***Yes***	Trace (<1 %) (by CVES) by Raymundo Orozco on 01/13/09
	Location: Exterior Stucco / North Side Wall		
	Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types: Chrysotile <1. %		
	Other Material: Non-fibrous 100 %		
13	909011337-13	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Exterior Stucco / East Side Wall		
	Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; San Andres HS / Gym Bldg

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
14	909011337-14	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Exterior Stucco / West Side Wall		
	Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
15	909011337-15L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Carpet Glue / G-1 - South Side		
	Analyst Description: Purple, Heterogeneous, Fibrous, Carpet		
	Asbestos Types:		
	Other Material: Synthetic fibers 90 %, Non-fibrous 10 %		
15	909011337-15L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/13/09
	Location: Carpet Glue / G-1 - South Side		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Synthetic fibers 5 %, Non-fibrous 95 %		

Reporting Notes:

Analyzed By: Raymundo Orozco _____; Date Analyzed: 1/13/2009 1/13/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/14/09

903011337 -

PACIFIC ENVIRONMENTAL

Gym Bldg.

Date:	1/12/09
Client:	SBCUSD
Site:	San Andreas H.S.
Project No:	
Inspector(s):	D.T.

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition
01	9"X9" gray floor tiles & black mastic	Gym Coach office - N. side	120 S/F
02	12"x12" white white w/brown floor tiles & black mastic	Gym - Center	1,800 S/F
03	↓	G1 - Break room - Center	↓
04	Interior plaster	Gym - North wall	4,800 S/F
05	↓	Gym - South wall	↓
06	↓	G1 - NE wall	↓
07	4" Black cove base & glue	Gym Coach office - W. wall	90 S/F
08	4" Brown cove base & glue	Gym - West wall	350 S/F
09	Tan Linoleum	Gym Coach office R/R	50 S/F
10	Roof mastic (gray)	Roof penetration (center)	100 S/F
11	Roof Core	Roof Center west	3,200 S/F
12	Exterior stucco	North side wall	16,000 S/F
13	↓	East side wall	↓
14	↓	West side wall	↓
15	Carpet glue	G1 - South side	1,200 S/F
*	Transite pipe (Roof)	2" Diameter	(5) L/F

Analytical Method: PLM

Turn Around Time: Standard

Please fax results to (714)776-3500 and mail to:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

CHAIN OF CUSTODY:

Date/Time	Name	Signature
	David Tillema	
Date/Time	Name	Signature
	S. TAHVILDARI	

RECEIVED
JAN 13 2009

9091 11337

Mary David

From: "Michael Lyssy" <mike@pacificenvironmental.com>
To: "Mary David" <mdavid@amerisci.com>; "Javier Cortes" <jcortes@amerisci.com>
Sent: Tuesday, January 13, 2009 9:32 AM
Subject: San Andreas High School Bulk Sample Change in TAT

Can you please change the TAT for the samples submitted this morning for our San Andreas HS project from Standard to 24 hours.

Thanks,

Michael Lyssy
Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

800.303.6484 ext. 701 office
949.289.3565 cell
714.776.3500 fax

http://www.pacificenvironmental.com

RECEIVED
JAN 13 2009 @ 1030
M. DAVID

Appendix D

XRF Sampling Results

FIELD DATA REPORT

PROJECT NAME: San Andreas High School

PROJECT NO.:09008

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
B Bldg	Boys' RR	Wall	A	Ceramic Tile	Intact	Grey	0.0	Negative
B Bldg	Boys' RR	Wall	B	Ceramic Tile	Intact	Grey	0.1	Negative
B Bldg	Boys' RR	Wall	C	Ceramic Tile	Intact	Grey	0.0	Negative
B Bldg	Boys' RR	Wall	D	Ceramic Tile	Intact	Grey	0.0	Negative
B Bldg	Boys' RR	Door	D	Metal	Intact	Brown	0.1	Negative
B Bldg	Boys' RR	Wall	D	Plaster	Intact	White	0.0	Negative
B Bldg	Boys' RR	Door Frame	D	Metal	Intact	Brown	0.2	Negative
B Bldg	Boys' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	White	0.0	Negative
B Bldg	Exterior	Wall	A	Stucco	Intact	Beige	0.0	Negative
B Bldg	Exterior	Wall	B	Stucco	Intact	Beige	0.0	Negative
B Bldg	Exterior	Wall	C	Stucco	Intact	Beige	0.0	Negative
B Bldg	Exterior	Wall	D	Stucco	Intact	Beige	0.0	Negative
B Bldg	Exterior	Wall Tile	A	Ceramic Tile	Intact	Blue	0.0	Negative
B Bldg	Exterior	Door	A	Metal	Intact	Brown	0.0	Negative
B Bldg	Exterior	Door Frame	A	Metal	Intact	Brown	0.0	Negative
B Bldg	**Exterior**	**Eaves**	**C**	**Wood**	**Intact**	**Beige**	**5.8**	**Positive**
B Bldg	**Exterior**	**Fascia**	**C**	**Wood**	**Intact**	**Beige**	**5.8**	**Positive**
B Bldg	**Exterior**	**Joists**	**C**	**Metal**	**Intact**	**Beige**	**5.8**	**Positive**
B Bldg	Exterior	Electric Conduit	C	Metal	Intact	Beige	0.0	Negative
B Bldg	Girls' RR	Wall	A	Ceramic Tile	Intact	White	0.0	Negative
B Bldg	Girls' RR	Wall	B	Ceramic Tile	Intact	White	0.1	Negative
B Bldg	Girls' RR	Wall	C	Ceramic Tile	Intact	White	0.0	Negative
B Bldg	Girls' RR	Wall	D	Ceramic Tile	Intact	White	0.1	Negative
B Bldg	Girls' RR	Door	A	Metal	Intact	Brown	0.2	Negative
B Bldg	Girls' RR	Door Frame	A	Metal	Intact	Brown	0.0	Negative
B Bldg	Girls' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	White	0.2	Negative
B Bldg	Library	Wall	A	Plaster	Intact	Grey	0.0	Negative
B Bldg	Library	Wall	B	Plaster	Intact	Blue	0.1	Negative
B Bldg	Library	Wall	C	Plaster	Intact	White	0.0	Negative
B Bldg	Library	Wall	D	Plaster	Intact	Blue	0.1	Negative
B Bldg	Library	Door	A	Metal	Intact	Grey	0.2	Negative
B Bldg	Library	Door	C	Metal	Intact	Grey	0.1	Negative
B Bldg	Library	Door Frame	A	Metal	Intact	Grey	0.0	Negative
B Bldg	Library	Door Frame	C	Metal	Intact	Grey	0.2	Negative
B Bldg	Library	Window Frame	C	Metal	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: San Andreas High School

PROJECT NO.:09008

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
B Bldg	Rm B1	Wall	A	Plaster	Intact	White	0.0	Negative
B Bldg	Rm B1	Wall	B	Plaster	Intact	White	0.0	Negative
B Bldg	Rm B1	Wall	C	Plaster	Intact	White	0.1	Negative
B Bldg	Rm B1	Wall	D	Plaster	Intact	White	0.1	Negative
B Bldg	Rm B1	Door	A	Metal	Intact	Brown	0.0	Negative
B Bldg	Rm B1	Door Frame	A	Metal	Intact	Brown	0.1	Negative
B Bldg	Rm B1	Window Frame	A	Metal	Intact	White	0.0	Negative
B Bldg	Rm B2	Wall	A	Plaster	Intact	White	0.1	Negative
B Bldg	Rm B2	Wall	B	Plaster	Intact	White	0.0	Negative
B Bldg	Rm B2	Wall	C	Plaster	Intact	White	0.0	Negative
B Bldg	Rm B2	Wall	D	Plaster	Intact	White	0.0	Negative
B Bldg	Rm B2	Door	A	Metal	Intact	Brown	0.0	Negative
B Bldg	Rm B2	Door	C	Metal	Intact	Brown	0.0	Negative
B Bldg	Rm B2	Partition Wall	C	Drywall	Intact	White	0.0	Negative
B Bldg	Rm B2	Door Frame	A	Metal	Intact	Brown	0.1	Negative
B Bldg	Rm B2	Door Frame	C	Metal	Intact	Brown	0.0	Negative
B Bldg	Rm B2	Partition Wall	D	Wood	Intact	White	0.0	Negative
B Bldg	Rm B2	Window Frame	N/A	Wood	Intact	White	0.1	Negative
B Bldg	Rm B3	Wall	A	Plaster	Intact	White	0.1	Negative
B Bldg	Rm B3	Wall	B	Plaster	Intact	White	0.0	Negative
B Bldg	Rm B3	Wall	C	Plaster	Intact	White	0.1	Negative
B Bldg	Rm B3	Wall	D	Plaster	Intact	White	0.1	Negative
B Bldg	Rm B3	Door	A	Metal	Intact	Brown	0.0	Negative
B Bldg	Rm B3	Door	C	Metal	Intact	Brown	0.0	Negative
B Bldg	Rm B3	Partition Wall	C	Drywall	Intact	White	0.2	Negative
B Bldg	Rm B3	Door Frame	A	Metal	Intact	Brown	0.1	Negative
B Bldg	Rm B3	Door Frame	C	Metal	Intact	Brown	0.0	Negative
B Bldg	Rm B3	Partition Wall	D	Wood	Intact	White	0.1	Negative
B Bldg	Rm B3	Window Frame	N/A	Wood	Intact	White	0.0	Negative
B Bldg	Rm B5	Wall	A	Plaster	Intact	Beige	0.0	Negative
B Bldg	Rm B5	Wall	B	Plaster	Intact	Beige	0.0	Negative
B Bldg	Rm B5	Wall	C	Plaster	Intact	Beige	0.0	Negative
B Bldg	Rm B5	Wall	D	Plaster	Intact	Beige	0.0	Negative
B Bldg	Rm B5	Door	A	Metal	Intact	Brown	0.1	Negative
B Bldg	Rm B5	Door	C	Metal	Intact	Brown	0.1	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: San Andreas High School

PROJECT NO.:09008

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
B Bldg	Rm B5	Door Frame	A	Metal	Intact	Brown	0.0	Negative
B Bldg	Rm B5	Door Frame	C	Metal	Intact	Brown	0.1	Negative
B Bldg	Rm B5	Window Frame	C	Metal	Intact	White	0.2	Negative
C Bldg	Counselor's Office	Wall	A	Plaster	Intact	Beige	0.0	Negative
C Bldg	Counselor's Office	Wall	B	Plaster	Intact	Beige	0.0	Negative
C Bldg	Counselor's Office	Wall	C	Plaster	Intact	Beige	0.0	Negative
C Bldg	Counselor's Office	Wall	D	Plaster	Intact	Beige	0.0	Negative
C Bldg	Counselor's Office	Door	A	Metal	Intact	Brown	0.0	Negative
C Bldg	Counselor's Office	Door Frame	A	Metal	Intact	Brown	0.1	Negative
C Bldg	Counselor's Office	Ceiling	N/A	Plaster	Intact	Beige	0.0	Negative
C Bldg	Exterior	Wall	A	Stucco	Intact	Beige	0.0	Negative
C Bldg	Exterior	Wall	B	Stucco	Intact	Beige	0.1	Negative
C Bldg	Exterior	Wall	C	Stucco	Intact	Beige	0.1	Negative
C Bldg	Exterior	Wall	D	Stucco	Intact	Beige	0.3	Negative
C Bldg	Exterior	Wall Tile	A	Ceramic Tile	Intact	Blue	0.0	Negative
C Bldg	Exterior	Door	A	Metal	Intact	Brown	0.2	Negative
C Bldg	Exterior	Door Frame	A	Metal	Intact	Brown	0.1	Negative
C Bldg	**Exterior**	**Eaves**	**C**	**Wood**	**Intact**	**Beige**	**4.8**	**Positive**
C Bldg	**Exterior**	**Fascia**	**C**	**Wood**	**Intact**	**Beige**	**5.2**	**Positive**
C Bldg	**Exterior**	**Joists**	**C**	**Metal**	**Intact**	**Beige**	**5.1**	**Positive**
C Bldg	Exterior	Electric Conduit	C	Metal	Intact	Beige	0.0	Negative
C Bldg	Rm C1	Wall	A	Plaster	Intact	Beige	0.0	Negative
C Bldg	Rm C1	Wall	B	Plaster	Intact	Beige	0.0	Negative
C Bldg	Rm C1	Wall	C	Plaster	Intact	Beige	0.1	Negative
C Bldg	Rm C1	Wall	D	Plaster	Intact	Beige	0.1	Negative
C Bldg	Rm C1	Door	A	Metal	Intact	Brown	0.0	Negative
C Bldg	Rm C1	Door	B	Wood	Intact	Beige	0.2	Negative
C Bldg	Rm C1	Door Frame	A	Metal	Intact	Brown	0.2	Negative
C Bldg	Rm C1	Door Frame	B	Metal	Intact	Beige	0.0	Negative
C Bldg	Rm C1	Window Frame	C	Metal	Intact	Beige	0.3	Negative
C Bldg	Rm C2	Wall	A	Drywall	Intact	Beige	0.0	Negative
C Bldg	Rm C2	Wall	B	Drywall	Intact	Beige	0.0	Negative
C Bldg	Rm C2	Wall	C	Drywall	Intact	Beige	0.0	Negative
C Bldg	Rm C2	Wall	D	Drywall	Intact	Beige	0.0	Negative
C Bldg	Rm C2	Door	A	Metal	Intact	Brown	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: San Andreas High School

PROJECT NO.:09008

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
C Bldg	Rm C2	Door	D	Wood	Intact	Beige	0.0	Negative
C Bldg	Rm C2	Door Frame	A	Metal	Intact	Brown	0.0	Negative
C Bldg	Rm C2	Door Frame	D	Metal	Intact	Brown	0.0	Negative
C Bldg	Rm C3	Wall	A	Plaster	Intact	Beige	0.0	Negative
C Bldg	Rm C3	Wall	B	Plaster	Intact	Beige	0.0	Negative
C Bldg	Rm C3	Wall	C	Plaster	Intact	Beige	0.2	Negative
C Bldg	Rm C3	Wall	D	Plaster	Intact	Beige	0.0	Negative
C Bldg	Rm C3	Door	A	Metal	Intact	Brown	0.1	Negative
C Bldg	Rm C3	Door	B	Wood	Intact	Beige	0.0	Negative
C Bldg	Rm C3	Door Frame	A	Metal	Intact	Brown	0.3	Negative
C Bldg	Rm C3	Door Frame	B	Metal	Intact	Beige	0.2	Negative
C Bldg	Rm C3	Window Frame	C	Metal	Intact	Beige	0.0	Negative
C Bldg	Rm C4	Wall	A	Plaster	Intact	Beige	0.0	Negative
C Bldg	Rm C4	Wall	B	Plaster	Intact	Beige	0.0	Negative
C Bldg	Rm C4	Wall	C	Plaster	Intact	Beige	0.0	Negative
C Bldg	Rm C4	Wall	D	Plaster	Intact	Beige	0.0	Negative
C Bldg	Rm C4	Door	A	Metal	Intact	Brown	0.0	Negative
C Bldg	Rm C4	Door	B	Wood	Intact	Beige	0.0	Negative
C Bldg	Rm C4	Door Frame	A	Metal	Intact	Brown	0.0	Negative
C Bldg	Rm C4	Door Frame	B	Metal	Intact	Beige	0.0	Negative
C Bldg	Rm C4	Window Frame	C	Metal	Intact	Beige	0.0	Negative
C Bldg	Rm C5	Wall	A	Wood	Intact	Beige	0.0	Negative
C Bldg	Rm C5	Wall	C	Drywall	Intact	Beige	0.0	Negative
C Bldg	Rm C5	Door	A	Metal	Intact	Brown	0.0	Negative
C Bldg	Rm C5	Door Frame	A	Wood	Intact	Brown	0.0	Negative
Cafeteria Bldg	Dining Area	Wall	A	Plaster	Intact	White	0.0	Negative
Cafeteria Bldg	Dining Area	Wall	B	Plaster	Intact	White	0.0	Negative
Cafeteria Bldg	Dining Area	Wall	C	Plaster	Intact	White	0.0	Negative
Cafeteria Bldg	Dining Area	Wall	D	Plaster	Intact	White	0.0	Negative
Cafeteria Bldg	Dining Area	Door	B	Metal	Intact	Grey	0.0	Negative
Cafeteria Bldg	Dining Area	Door	D	Metal	Intact	Grey	0.0	Negative
Cafeteria Bldg	Dining Area	Floor, Storage	N/A	Concrete	Intact	Red	0.0	Negative
Cafeteria Bldg	Dining Area	Door Frame	B	Metal	Intact	Grey	0.0	Negative
Cafeteria Bldg	Dining Area	Door Frame	D	Wood	Intact	Grey	0.0	Negative
Cafeteria Bldg	Exterior	Wall	A	Stucco	Intact	Beige	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: San Andreas High School

PROJECT NO.:09008

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Cafeteria Bldg	Exterior	Wall	B	Stucco	Intact	Beige	0.0	Negative
Cafeteria Bldg	Exterior	Wall	C	Stucco	Intact	Beige	0.0	Negative
Cafeteria Bldg	Exterior	Wall	D	Stucco	Intact	Beige	0.0	Negative
Cafeteria Bldg	Exterior	Wall Tile	B	Ceramic Tile	Intact	Blue	0.0	Negative
Cafeteria Bldg	**Exterior**	**Door**	**B**	**Metal**	**Intact**	**Grey**	**1.2**	**Positive**
Cafeteria Bldg	Exterior	Door Frame	B	Wood	Intact	Grey	0.4	Negative
Cafeteria Bldg	Exterior	Fascia	B	Wood	Intact	Tan	0.0	Negative
Cafeteria Bldg	Exterior	Joists	B	Wood	Intact	Tan	0.4	Negative
Cafeteria Bldg	Exterior	Joists	B	Wood	Intact	Tan	0.0	Negative
Cafeteria Bldg	Exterior	Porch Columns	B	Metal	Intact	Tan	0.5	Negative
Cafeteria Bldg	Exterior	Porch Ceiling	B	Wood	Intact	Tan	0.0	Negative
Cafeteria Bldg	Exterior	Gutter	B	Metal	Intact	Tan	0.0	Negative
Cafeteria Bldg	Kitchen	Wall	A	Plaster	Intact	White	0.0	Negative
Cafeteria Bldg	Kitchen	Wall	B	Plaster	Intact	White	0.0	Negative
Cafeteria Bldg	Kitchen	Wall	C	Plaster	Intact	White	0.0	Negative
Cafeteria Bldg	Kitchen	Wall	D	Plaster	Intact	White	0.0	Negative
Cafeteria Bldg	Kitchen	Door	A	Wood	Intact	White	0.0	Negative
Cafeteria Bldg	Kitchen	Door	D	Wood	Intact	White	0.0	Negative
Cafeteria Bldg	Kitchen	Door Frame	A	Wood	Intact	White	0.0	Negative
Cafeteria Bldg	Kitchen	Door Frame	D	Metal	Intact	White	0.0	Negative
Cafeteria Bldg	Kitchen	Window Frame	B	Wood	Intact	White	0.0	Negative
Cafeteria Bldg	Kitchen	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Red	0.0	Negative
Child Dev Cntr	Center	Wall	A	Drywall	Intact	Beige	0.0	Negative
Child Dev Cntr	Center	Wall	B	Concrete	Intact	Beige	0.0	Negative
Child Dev Cntr	Center	Wall	C	Drywall	Intact	Beige	0.1	Negative
Child Dev Cntr	Center	Wall	D	Drywall	Intact	Beige	0.1	Negative
Child Dev Cntr	Center	Door	D	Metal	Intact	Brown	0.0	Negative
Child Dev Cntr	Center	Door Frame	D	Wood	Intact	Beige	0.1	Negative
Child Dev Cntr	**Exterior**	**Wall**	**A**	**Brick**	**Intact**	**Beige**	**1.2**	**Positive**
Child Dev Cntr	**Exterior**	**Wall**	**B**	**Brick**	**Intact**	**Beige**	**1.2**	**Positive**
Child Dev Cntr	**Exterior**	**Wall**	**C**	**Brick**	**Intact**	**Beige**	**1.2**	**Positive**
Child Dev Cntr	**Exterior**	**Wall**	**D**	**Brick**	**Intact**	**Beige**	**1.2**	**Positive**
Child Dev Cntr	Exterior	Door	D	Metal	Intact	Brown	0.0	Negative
Child Dev Cntr	Exterior	Door	C	Metal	Intact	Brown	0.0	Negative
Child Dev Cntr	Exterior	Door Frame	D	Metal	Intact	Brown	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: San Andreas High School

PROJECT NO.:09008

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Child Dev Cntr	Exterior	Door Frame	C	Metal	Intact	Brown	0.4	Negative
Child Dev Cntr	**Exterior**	**Window Frame**	**C**	**Wood**	**Intact**	**Brown**	**11.3**	**Positive**
Child Dev Cntr	Exterior	Railings	C	Metal	Intact	Beige	0.0	Negative
Child Dev Cntr	Exterior	Electric Conduit	D	Metal	Intact	Beige	0.5	Negative
Child Dev Cntr	Playroom	Wall	A	Plaster	Intact	Beige	0.0	Negative
Child Dev Cntr	Playroom	Wall	B	Plaster	Intact	Beige	0.0	Negative
Child Dev Cntr	Playroom	Wall	C	Plaster	Intact	Beige	0.0	Negative
Child Dev Cntr	Playroom	Wall	D	Plaster	Intact	Beige	0.1	Negative
Child Dev Cntr	Playroom	Door Frame	A	Wood	Intact	Beige	0.0	Negative
Child Dev Cntr	**Playroom**	**Window Frame**	**C**	**Wood**	**Intact**	**Beige**	**2.1**	**Positive**
Child Dev Cntr	Playroom	Upper Cabinet	B	Wood	Intact	Tan	0.0	Negative
Child Dev Cntr	Playroom	Lower Cabinet	B	Wood	Intact	Tan	0.0	Negative
D Bldg	**Boys' RR**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Tan**	**14.2**	**Positive**
D Bldg	**Boys' RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Tan**	**15.0**	**Positive**
D Bldg	**Boys' RR**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Tan**	**16.8**	**Positive**
D Bldg	**Boys' RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Tan**	**16.2**	**Positive**
D Bldg	Boys' RR	Door	A	Wood	Intact	White	0.1	Negative
D Bldg	Boys' RR	Wall	A	Plaster	Intact	White	0.0	Negative
D Bldg	Boys' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.1	Negative
D Bldg	Exterior	Wall	A	Stucco	Intact	Beige	0.0	Negative
D Bldg	Exterior	Wall	B	Stucco	Intact	Beige	0.0	Negative
D Bldg	Exterior	Wall	C	Stucco	Intact	Beige	0.0	Negative
D Bldg	Exterior	Wall	D	Stucco	Intact	Beige	0.0	Negative
D Bldg	Exterior	Door	A	Metal	Intact	Brown	0.0	Negative
D Bldg	Exterior	Door	C	Metal	Intact	Brown	0.0	Negative
D Bldg	Exterior	Door Frame	A	Metal	Intact	Brown	0.0	Negative
D Bldg	Exterior	Door Frame	C	Metal	Intact	Brown	0.0	Negative
D Bldg	Exterior	Eaves	A	Wood	Intact	Beige	0.0	Negative
D Bldg	Exterior	Fascia	A	Wood	Intact	Beige	0.0	Negative
D Bldg	Exterior	Joists	A	Wood	Intact	Beige	0.0	Negative
D Bldg	Exterior	Electric Conduit	D	Metal	Intact	Beige	0.0	Negative
D Bldg	**Girls' RR**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Tan**	**16.8**	**Positive**
D Bldg	**Girls' RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Tan**	**16.8**	**Positive**
D Bldg	**Girls' RR**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Tan**	**16.8**	**Positive**
D Bldg	**Girls' RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Tan**	**16.8**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: San Andreas High School

PROJECT NO.:09008

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
D Bldg	Girls' RR	Door	A	Wood	Intact	White	0.0	Negative
D Bldg	Girls' RR	Wall	A	Plaster	Intact	White	0.0	Negative
D Bldg	Girls' RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative
D Bldg	Nurse's Office	Wall	A	Plaster	Intact	Beige	0.0	Negative
D Bldg	Nurse's Office	Wall	B	Plaster	Intact	Beige	0.0	Negative
D Bldg	Nurse's Office	Wall	C	Wood	Intact	Beige	0.0	Negative
D Bldg	Nurse's Office	Wall	D	Wood	Intact	Beige	0.0	Negative
D Bldg	Nurse's Office	Door	A	Metal	Intact	Brown	0.0	Negative
D Bldg	Nurse's Office	Door Frame	A	Metal	Intact	Brown	0.0	Negative
D Bldg	Rm D1	Wall	A	Plaster	Intact	Beige	0.0	Negative
D Bldg	Rm D1	Wall	B	Plaster	Intact	Beige	0.0	Negative
D Bldg	Rm D1	Wall	C	Plaster	Intact	Beige	0.0	Negative
D Bldg	Rm D1	Wall	D	Plaster	Intact	Beige	0.0	Negative
D Bldg	Rm D1	Door	A	Metal	Intact	Brown	0.0	Negative
D Bldg	Rm D1	Door	C	Metal	Intact	Brown	0.0	Negative
D Bldg	Rm D1	Door Frame	A	Metal	Intact	Brown	0.2	Negative
D Bldg	Rm D1	Door Frame	C	Metal	Intact	Brown	0.0	Negative
D Bldg	**Rm D1**	**Window Frame**	**C**	**Ceramic Tile**	**Intact**	**White**	**11.3**	**Positive**
D Bldg	Rm D2	Wall	A	Plaster	Intact	Beige	0.2	Negative
D Bldg	Rm D2	Wall	B	Plaster	Intact	Beige	0.2	Negative
D Bldg	Rm D2	Wall	C	Plaster	Intact	Beige	0.0	Negative
D Bldg	Rm D2	Wall	D	Plaster	Intact	Beige	0.3	Negative
D Bldg	Rm D2	Door	A	Metal	Intact	Brown	0.2	Negative
D Bldg	Rm D2	Door	C	Metal	Intact	Brown	0.0	Negative
D Bldg	Rm D2	Door Frame	A	Metal	Intact	Brown	0.0	Negative
D Bldg	Rm D2	Door Frame	C	Metal	Intact	Brown	0.1	Negative
D Bldg	**Rm D2**	**Window Frame**	**C**	**Ceramic Tile**	**Intact**	**White**	**10.0**	**Positive**
D Bldg	Rm D3	Wall	A	Plaster	Intact	Beige	0.1	Negative
D Bldg	Rm D3	Wall	B	Plaster	Intact	Beige	0.1	Negative
D Bldg	Rm D3	Wall	C	Plaster	Intact	Beige	0.0	Negative
D Bldg	Rm D3	Wall	D	Plaster	Intact	Beige	0.2	Negative
D Bldg	Rm D3	Door	A	Metal	Intact	Brown	0.2	Negative
D Bldg	Rm D3	Door	C	Metal	Intact	Brown	0.0	Negative
D Bldg	Rm D3	Door Frame	A	Metal	Intact	Brown	0.1	Negative
D Bldg	Rm D3	Door Frame	C	Metal	Intact	Brown	0.2	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: San Andreas High School

PROJECT NO.:09008

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
D Bldg	**Rm D3**	**Window Frame**	**C**	**Ceramic Tile**	**Intact**	**White**	**10.7**	**Positive**
D Bldg	Rm D4	Wall	A	Plaster	Intact	Beige	0.0	Negative
D Bldg	Rm D4	Wall	B	Plaster	Intact	Beige	0.0	Negative
D Bldg	Rm D4	Wall	C	Plaster	Intact	Beige	0.2	Negative
D Bldg	Rm D4	Wall	D	Plaster	Intact	Beige	0.3	Negative
D Bldg	Rm D4	Door	A	Metal	Intact	Brown	0.2	Negative
D Bldg	Rm D4	Door	C	Metal	Intact	Brown	0.0	Negative
D Bldg	Rm D4	Door Frame	A	Metal	Intact	Brown	0.1	Negative
D Bldg	Rm D4	Door Frame	C	Metal	Intact	Brown	0.0	Negative
D Bldg	**Rm D4**	**Window Frame**	**C**	**Ceramic Tile**	**Intact**	**White**	**11.0**	**Positive**
D Bldg	Rm D5	Wall	A	Plaster	Intact	Beige	0.0	Negative
D Bldg	Rm D5	Wall	B	Plaster	Intact	Beige	0.1	Negative
D Bldg	Rm D5	Wall	C	Plaster	Intact	Beige	0.0	Negative
D Bldg	Rm D5	Wall	D	Plaster	Intact	Beige	0.1	Negative
D Bldg	Rm D5	Door	A	Metal	Intact	Brown	0.0	Negative
D Bldg	Rm D5	Door	C	Metal	Intact	Brown	0.2	Negative
D Bldg	Rm D5	Door Frame	A	Metal	Intact	Brown	0.2	Negative
D Bldg	Rm D5	Door Frame	C	Metal	Intact	Brown	0.1	Negative
D Bldg	**Rm D5**	**Window Frame**	**C**	**Ceramic Tile**	**Intact**	**White**	**10.4**	**Positive**
D Bldg	SED Offices	Wall	A	Plaster	Intact	White	0.0	Negative
D Bldg	SED Offices	Wall	B	Plaster	Intact	White	0.0	Negative
D Bldg	SED Offices	Wall	C	Plaster	Intact	White	0.0	Negative
D Bldg	SED Offices	Wall	D	Plaster	Intact	White	0.0	Negative
D Bldg	SED Offices	Door	C	Wood	Intact	Tan	0.0	Negative
D Bldg	SED Offices	Door	A	Metal	Intact	Brown	0.0	Negative
D Bldg	SED Offices	Door Frame	C	Wood	Intact	White	0.0	Negative
D Bldg	SED Offices	Door Frame	A	Wood	Intact	White	0.0	Negative
Gym Bldg	Exterior	Wall	A	Stucco	Intact	Beige	0.0	Negative
Gym Bldg	Exterior	Wall	B	Stucco	Intact	Beige	0.0	Negative
Gym Bldg	Exterior	Wall	C	Stucco	Intact	Beige	0.0	Negative
Gym Bldg	Exterior	Wall	D	Stucco	Intact	Beige	0.0	Negative
Gym Bldg	**Exterior**	**Door**	**D**	**Metal**	**Intact**	**Brown**	**2.5**	**Positive**
Gym Bldg	**Exterior**	**Door Frame**	**D**	**Metal**	**Intact**	**Brown**	**1.3**	**Positive**
Gym Bldg	**Exterior**	**Window Frame**	**D**	**Wood**	**Intact**	**Beige**	**1.2**	**Positive**
Gym Bldg	**Exterior**	**Eaves**	**D**	**Wood**	**Intact**	**Beige**	**1.2**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: San Andreas High School

PROJECT NO.:09008

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Gym Bldg	**Exterior**	**Fascia**	**D**	**Wood**	**Intact**	**Beige**	**1.2**	**Positive**
Gym Bldg	**Exterior**	**Joists**	**D**	**Wood**	**Intact**	**Beige**	**1.5**	**Positive**
Gym Bldg	**Exterior**	**Porch Columns**	**D**	**Metal**	**Intact**	**Beige**	**3.4**	**Positive**
Gym Bldg	**Exterior**	**Porch Ceiling**	**D**	**Wood**	**Intact**	**Beige**	**1.2**	**Positive**
Gym Bldg	G! Break room RR	Wall	A	Plaster	Intact	White	0.0	Negative
Gym Bldg	G! Break room RR	Wall	B	Plaster	Intact	White	0.0	Negative
Gym Bldg	G! Break room RR	Wall	C	Plaster	Intact	White	0.1	Negative
Gym Bldg	G! Break room RR	Wall	D	Plaster	Intact	White	0.1	Negative
Gym Bldg	G! Break room RR	Door	C	Wood	Intact	Blue	0.0	Negative
Gym Bldg	G! Break room RR	Stair Railing	C	Metal	Intact	Brown	0.2	Negative
Gym Bldg	G! Break room RR	Door Frame	C	Wood	Intact	Blue	0.0	Negative
Gym Bldg	G! Break room RR	Window Frame	B	Metal	Intact	White	0.1	Negative
Gym Bldg	**G! Break room RR**	**Ceramic Shower Tile**	**C**	**Ceramic Tile**	**Intact**	**Tan**	**18.2**	**Positive**
Gym Bldg	Gym	Wall	A	Plaster	Intact	White	0.0	Negative
Gym Bldg	Gym	Wall	B	Plaster	Intact	White	0.0	Negative
Gym Bldg	Gym	Wall	C	Plaster	Intact	White	0.1	Negative
Gym Bldg	**Gym**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**White**	**15.6**	**Positive**
Gym Bldg	Gym	Stair Railing	A	Metal	Intact	Brown	0.0	Negative
Gym Bldg	Gym	Window Frame	D	Metal	Intact	White	0.2	Negative
Gym Bldg	Rm G1	Door	B	Wood	Intact	Brown	0.0	Negative
Gym Bldg	Rm G1	Door Frame	B	Wood	Intact	Brown	0.1	Negative
Gym Bldg	**Rm G1 RR**	**Wall**	**A**	**Ceramic Tile**	**Intact**	**Tan**	**14.6**	**Positive**
Gym Bldg	**Rm G1 RR**	**Wall**	**B**	**Ceramic Tile**	**Intact**	**Tan**	**14.4**	**Positive**
Gym Bldg	**Rm G1 RR**	**Wall**	**C**	**Ceramic Tile**	**Intact**	**Tan**	**14.6**	**Positive**
Gym Bldg	**Rm G1 RR**	**Wall**	**D**	**Ceramic Tile**	**Intact**	**Tan**	**14.1**	**Positive**
Gym Bldg	Rm G1 RR	Door	C	Wood	Intact	Brown	0.5	Negative
Gym Bldg	Rm G1 RR	Door Frame	C	Wood	Intact	Brown	0.0	Negative
Gym Bldg	Rm G1 RR	Ceramic Floor Tile	N/A	Ceramic Tile	Intact	Multi-Colored	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

POSITIVE RESULTS

PROJECT NAME: San Andreas High School

PROJECT NO.:09008

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
B Bldg	Exterior	Eaves	C	Wood	Intact	Beige	5.8
B Bldg	Exterior	Fascia	C	Wood	Intact	Beige	5.8
B Bldg	Exterior	Joists	C	Metal	Intact	Beige	5.8
C Bldg	Exterior	Eaves	C	Wood	Intact	Beige	4.8
C Bldg	Exterior	Fascia	C	Wood	Intact	Beige	5.2
C Bldg	Exterior	Joists	C	Metal	Intact	Beige	5.1
Cafeteria Bldg	Exterior	Door	B	Metal	Intact	Grey	1.2
Child Dev Cntr	Exterior	Wall	A	Brick	Intact	Beige	1.2
Child Dev Cntr	Exterior	Wall	B	Brick	Intact	Beige	1.2
Child Dev Cntr	Exterior	Wall	C	Brick	Intact	Beige	1.2
Child Dev Cntr	Exterior	Wall	D	Brick	Intact	Beige	1.2
Child Dev Cntr	Exterior	Window Frame	C	Wood	Intact	Brown	11.3
Child Dev Cntr	Playroom	Window Frame	C	Wood	Intact	Beige	2.1
D Bldg	Boys' RR	Wall	A	Ceramic Tile	Intact	Tan	14.2
D Bldg	Boys' RR	Wall	B	Ceramic Tile	Intact	Tan	15.0
D Bldg	Boys' RR	Wall	C	Ceramic Tile	Intact	Tan	16.8
D Bldg	Boys' RR	Wall	D	Ceramic Tile	Intact	Tan	16.2
D Bldg	Girls' RR	Wall	A	Ceramic Tile	Intact	Tan	16.8
D Bldg	Girls' RR	Wall	B	Ceramic Tile	Intact	Tan	16.8
D Bldg	Girls' RR	Wall	C	Ceramic Tile	Intact	Tan	16.8
D Bldg	Girls' RR	Wall	D	Ceramic Tile	Intact	Tan	16.8
D Bldg	Rm D1	Window Frame	C	Ceramic Tile	Intact	White	11.3
D Bldg	Rm D2	Window Frame	C	Ceramic Tile	Intact	White	10.0
D Bldg	Rm D3	Window Frame	C	Ceramic Tile	Intact	White	10.7
D Bldg	Rm D4	Window Frame	C	Ceramic Tile	Intact	White	11.0
D Bldg	Rm D5	Window Frame	C	Ceramic Tile	Intact	White	10.4
Gym Bldg	Exterior	Door	D	Metal	Intact	Brown	2.5
Gym Bldg	Exterior	Door Frame	D	Metal	Intact	Brown	1.3
Gym Bldg	Exterior	Window Frame	D	Wood	Intact	Beige	1.2
Gym Bldg	Exterior	Eaves	D	Wood	Intact	Beige	1.2
Gym Bldg	Exterior	Fascia	D	Wood	Intact	Beige	1.2
Gym Bldg	Exterior	Joists	D	Wood	Intact	Beige	1.5
Gym Bldg	Exterior	Porch Columns	D	Metal	Intact	Beige	3.4
Gym Bldg	Exterior	Porch Ceiling	D	Wood	Intact	Beige	1.2
Gym Bldg	G! Break room RR	Ceramic Shower Tile	C	Ceramic Tile	Intact	Tan	18.2

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

POSITIVE RESULTS

PROJECT NAME: San Andreas High School

PROJECT NO.:09008

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)
Gym Bldg	Gym	Wall	D	Ceramic Tile	Intact	White	15.6
Gym Bldg	Rm G1 RR	Wall	A	Ceramic Tile	Intact	Tan	14.6
Gym Bldg	Rm G1 RR	Wall	B	Ceramic Tile	Intact	Tan	14.4
Gym Bldg	Rm G1 RR	Wall	C	Ceramic Tile	Intact	Tan	14.6
Gym Bldg	Rm G1 RR	Wall	D	Ceramic Tile	Intact	Tan	14.1

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

Appendix E

DHS Form 8552

State of California – Health and Human Services Agency | California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 – Date of Lead Hazard Evaluation 1/12/2009

Section 2 – Type of Lead Hazard Evaluation (Check one box only)

☑ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 – Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
3232 Pacific Street	Highland	San Bernardino	92346

Construction date (year) of structure	Type of structure (check one box only)
1960	☐ Multi-unit building ☑ School or daycare ☐ Single family dwelling ☐ Other (specify)_____

Section 4 – Owner of Structure (If business/agency, list contact person)

Name	Telephone number
San Bernardino City Unified School District	909-381-1238

Address [number, street, apartment (if applicable)]	City	State	Zip Code
777 North F Street	San Bernardino	CA	92401

Section 5 – Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected. ☑ Lead-based paint detected.

☐ No lead hazards detected. ☐ Lead hazards detected.

Section 6 – Individual Conducting Lead Hazard Evaluation

Name	Telephone number
David Tillema	800.303.6484

Address [number, street, apartment (if applicable)]	City	State	Zip Code
28202 Cabot Road #300	Laguna Niguel	CA	92677

CDPH certification number	Signature	Date
17740		1/15/2009

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 – Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

CDPH 8552 (6/07)

Appendix F

XRF Performance Characteristics Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: June 26, 1996 **EDITION NO.: 3**

MANUFACTURER AND MODEL:

Make: *Scitec Corporation*
Model: *MAP-4*
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS

Test mode, Screen mode, or Unlimited mode.

XRF CALIBRATION CHECK LIMITS

0.6 to 1.2 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

When using Unlimited mode, substrate correction recommended for:

None

When using Unlimited mode, substrate correction <u>not</u> recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

When using Screen or Test mode, for XRF results below 4.0 mg/cm^2, substrate correction recommended for:

Drywall, Metal, and Wood

When using Screen or Test mode, substrate correction <u>not</u> recommended for:

Brick, Concrete, and Plaster

INCONCLUSIVE RANGE OR THRESHOLD

UNLIMITED MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm^2)
Results not corrected for substrate bias for unlimited mode readings	Brick	0.91 to 1.19
	Concrete	0.91 to 1.19
	Drywall	0.91 to 1.19
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.19
	Wood	0.91 to 1.19

SCREEN MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm²)
Results corrected for substrate bias for screen mode readings on drywall, metal, and wood substrates only	Brick	0.91 to 1.09
	Concrete	0.91 to 1.09
	Drywall	0.91 to 1.39
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.09
	Wood	0.91 to 1.29

TEST MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)	INCONCLUSIVE RANGE (mg/cm²)
Readings corrected for substrate bias for test mode readings on drywall, metal, and wood substrates only	Brick	0.9	None
	Concrete	0.9	None
	Drywall	None	0.91 to 1.39
	Metal	None	0.91 to 1.09
	Plaster	0.9	None
	Wood	None	0.91 to 1.29

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from an EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations. All of the test locations were tested in February 1996 using two different instruments. One instrument had a new source installed in July 1994 and its strength at the time of testing was calculated as 9.4 mCi. The other instrument had a new source installed in September 1994 and its strength at the time of testing was calculated as 10.6 mCi.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds

SUBSTRATE CORRECTION VALUE COMPUTATION

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

- Using the same XRF instrument, take three readings on a bare substrate area covered with the

NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

- Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

  For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\left.\begin{matrix}\text{Correction}\\ \text{Value}\end{matrix}\right\} = \frac{1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th}\ \text{Reading}}{6} - 1.02 mg/cm^2$$

- Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either 15-second readings or 60-second readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES

For screen, test, and confirm modes, the MAP 4 instrument tests until a K-shell result is obtained relative to a level of precision. A result is "positive", "negative" or "retest" as displayed by indicator lights. For the unlimited mode, the MAP 4 instrument tests until a K-shell result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the the reading is terminated by releasing the trigger. A few unlimited mode readings were terminated because they exceeded the two-minute limit used for archive testing. The following tables provide testing time information for three testing modes. Insufficient information is available to provide this information for confirm mode. All times have been scaled to match an initial 12 miC source. Note that source strength and factors such as substrate may affect testing times.

UNLIMITED MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	3	4	6	4	13	3
Metal	3	4	8	4	9	3
Brick Concrete Plaster	4	5	8	6	6	3

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

SCREEN MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	6	7	5	6	7
Metal	4	5	6	5	5	5
Brick Concrete Plaster	11	11	13	11	11	11

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

TEST MODE TESTING TIMES (Seconds)						
SUBSTRATE	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm²)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	17	22	27	21	20	28
Metal	13	20	23	20	20	20
Brick Concrete Plaster	41	42	52	41	46	43

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

BIAS AND PRECISION

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with laboratory-measured lead levels less than 4.0 mg/cm² lead. There were 15 testing locations taken in the screen mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were 15 testing locations taken in the test mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were not any testing locations taken in the confirm mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. There were 15 testing locations taken in the unlimited mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². All testing was done in February 1996 with two different instruments. The following data are for illustrative purposes only. Actual bias must be determined on the site. Inconclusive ranges provided above already account for bias and precision.

SCREEN MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.1	0.2
	Metal	0.1	0.3
	Plaster	-0.1	0.3
	Wood	0.0	0.2
0.5 mg/cm²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	0.1	0.4
	Concrete	0.1	0.4
	Drywall	0.5	0.6
	Metal	0.3	0.3
	Plaster	0.1	0.4
	Wood	0.4	0.6

2.0 mg/cm²	Brick	0.4	0.5
	Concrete	0.4	0.5
	Drywall	0.9	0.8
	Metal	0.5	0.3
	Plaster	0.4	0.5
	Wood	0.7	0.8

*Precision at 1 standard deviation

TEST MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.2
	Concrete	-0.1	0.2
	Drywall	0.1	0.1
	Metal	0.1	0.2
	Plaster	-0.1	0.2
	Wood	0.0	0.1
0.5 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.2
	Plaster	-0.1	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.5	0.6
	Metal	0.3	0.2
	Plaster	-0.1	0.3
	Wood	0.4	0.6
2.0 mg/cm²	Brick	0.0	0.4
	Concrete	0.0	0.4
	Drywall	1.0	0.8
	Metal	0.5	0.2
	Plaster	0.0	0.4
	Wood	0.8	0.8

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristics Sheet is a joint product of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD). The issuance of this sheet does not constitute rulemaking. The information provided here is intended solely as guidance to be used in conjunction with Chapter 7, Lead-Based Paint Inspection, of the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. EPA and HUD reserve the right to revise this guidance. Please address questions and comments on this sheet to: Director, Office of Lead Hazard Control (L), U.S. Department of Housing and Urban Development, 451 Seventh St, S.W., Washington, DC 20410.



Pacific Environmental Company

Asbestos and Lead Abatement Specifications

San Andreas High School Modernization Project
3232 Pacific Street
Highland, California 92346

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 21, 2009

Project Number: 09008



Pacific Environmental Company

Table of Contents

DIVISION 02. GENERAL REQUIREMENTS FOR ASBESTOS ABATEMENT

DIVISION 03. GENERAL REQUIREMENTS FOR LEAD ABATEMENT

DIVISION 2. GENERAL REQUIREMENTS FOR ASBESTOS ABATEMENT

PART 1 GENERAL

1.1 REFERENCES
1.2 DEFINITIONS
1.3 DESCRIPTION OF WORK
1.4 SUBMITTALS
1.5 QUALIFICATIONS
1.6 MEDICAL REQUIREMENTS
1.7 TRAINING PROGRAM
1.8 RESPIRATORY PROTECTION PROGRAM
1.9 HAZARD COMMUNICATION PROGRAM
1.10 LICENSES, PERMITS AND NOTIFICATIONS
1.11 PERSONAL PROTECTIVE EQUIPMENT
1.12 HYGIENE FACILITIES AND PRACTICES
1.13 REGULATED AREAS
1.14 WARNING SIGNS AND TAPE
1.15 WARNING LABELS
1.16 LOCAL EXHAUST VENTILATION
1.17 TOOLS
1.18 RENTAL EQUIPMENT
1.19 AIR MONITORING EQUIPMENT
1.20 EXPENDABLE SUPPLIES
1.21 MISCELLANEOUS ITEMS

PART 2 PRODUCTS

2.1 ENCAPSULANTS
2.2 ENCASEMENT PRODUCTS

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS
3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN
3.3 TEMPORARY POWER
3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS
3.5 TEMPORARY FACILITIES
3.6 METHODS OF COMPLIANCE
3.7 FINAL CLEANING AND VISUAL INSPECTION
3.8 LOCKDOWN
3.9 EXPOSURE ASSESSMENT AND AIR MONITORING
3.10 CLEARANCE CERTIFICATION
3.11 CLEANUP AND DISPOSAL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below 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)

ANSI Z9.2 (1979; R 1991)	Fundamentals Governing the Design and Operation of Local Exhaust Systems
ANSI Z87.1 (1989; Errata; Z87.1a)	Occupational and Educational Eye and Face Protection
ANSI Z88.2 (1992)	Respiratory Protection

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 732 (1995)	Aging Effects of Artificial Weathering on Latex Sealants
ASTM D 522 (1993a)	Mandrel Bend Test of Attached Organic Coatings
ASTM D 1331 (1989; R 1995)	Surface and Interfacial Tension of Solutions of Surface-ActiveAgents
ASTM D 2794 (1993)	Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
ASTM D 4397 (1996)	Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
ASTM E 84 (1996a)	Surface Burning Characteristics of Building Materials
ASTM E 96 (1995)	Water Vapor Transmission of Materials
ASTM E 119 (1995a)	Fire Tests of Building Construction and Materials
ASTM E 736 (1992)	Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members
ASTM E 1368 (1997)	Visual Inspection of Asbestos Abatement Projects

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 61	National Emissions Standards for Hazardous Air Pollutants
40 CFR 763	Asbestos
42 CFR 84	Approval of Respiratory Protective Devices
49 CFR 107	Hazardous Materials Program Procedures
49 CFR 171	General Information, Regulations and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packagings

COMPRESSED GAS ASSOCIATION (CGA)

CGA G-7 (1990)	Compressed Air for Human Respiration
CGA G-7.1 (1989)	Commodity Specification for Air

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 340/1-90-018 (1990)	Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance
EPA 340/1-90-019 (1990)	Asbestos/NESHAP Adequately Wet Guidance
EPA 560/5-85-024 (1985)	Guidance for Controlling Asbestos-Containing Materials in Buildings
SCAQMD Rule 1403	Asbestos Emissions from Renovation/Demolition Activities

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 701 (1996)	Methods of Fire Test for Flame-Resistant Textiles and Films

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 84-100 (1984; Supple 1985, 1987, 1988 & 1990)
NIOSH Manual of Analytical Methods

UNDERWRITERS LABORATORIES (UL)

UL 586 (1996)	High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

A. Adequately Wet: A term defined in 40 CFR 61, Subpart M, and EPA 340/1-90-019 meaning to sufficiently mix or penetrate with liquid to prevent the release of particulate. If visible emissions are observed coming from asbestos-containing material (ACM), then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wetted.

B. Aggressive Method: Removal or disturbance of building material by sanding, abrading, grinding, or other method that breaks, crumbles, or disintegrates intact asbestos-containing material (ACM).

C. Amended Water: Water containing a wetting agent or surfactant with a surface tension of at least 29 dynes per square centimeter when tested in accordance with ASTM D 1331.

D. Asbestos: Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophylite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered.

E. Asbestos-Containing Material (ACM): Any materials containing more than one percent asbestos.

F. Asbestos Fiber: A particulate form of asbestos, 5 micrometers or longer, with a length-to-width ratio of at least 3 to 1.

G. Authorized Person: Any person authorized by the Contractor and required by work duties to be present in the regulated areas.

H. Building Inspector: Individual who inspects buildings for asbestos and has EPA Model Accreditation Plan (MAP) "Building Inspector" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

I. Certified Industrial Hygienist (CIH): An Industrial Hygienist certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

J. Class I Asbestos Work: Activities defined by OSHA involving the removal of thermal system insulation (TSI) and surfacing ACM.

K. Class II Asbestos Work: Activities defined by OSHA involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos- containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic. Certain "incidental" roofing materials such as mastic, flashing and cements when they are still intact are excluded from Class II asbestos work. Removal of small amounts of these materials which would fit into a glovebag may be classified as a Class III job.

L. Class III Asbestos Work: Activities defined by OSHA that involve repair and maintenance operations, where ACM, including TSI and surfacing ACM, is likely to be disturbed. Operations may include drilling, abrading, cutting a hole, cable pulling, crawling through tunnels or attics and spaces above the ceiling, where asbestos is actively disturbed or asbestos-containing debris is actively disturbed.

M. Class IV Asbestos Work: Maintenance and custodial construction activities during which employees contact but do not disturb ACM and activities to clean-up dust, waste and debris resulting from Class I, II, and III activities. This may include dusting surfaces where ACM waste and debris and accompanying dust exists and cleaning up loose ACM debris from TSI or surfacing ACM following construction.

N. Clean room: An uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

O. Competent Person: In addition to the definition in 29 CFR 1926, Section .32(f), a person who is capable of identifying existing asbestos hazards as defined in 29 CFR 1926, Section .1101, selecting the appropriate control strategy, has the authority to take prompt corrective measures to eliminate them and has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

P. Contractor/Supervisor: Individual who supervises asbestos abatement work and has EPA Model Accreditation Plan "Contractor/Supervisor" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

Q. Critical Barrier: One or more layers of plastic sealed over all openings into a regulated area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a regulated area from migrating to an adjacent area.

R. Decontamination Area: An enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

S. Demolition: The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

T. Disposal Bag: A 0.15 mm 6 mil thick, leak-tight plastic bag, pre-labeled in accordance with 29 CFR 1926, Section .1101, used for transporting asbestos waste from containment to disposal site.

U. Disturbance: Activities that disrupt the matrix of ACM, crumble or pulverize ACM, or generate visible debris from ACM. Disturbance includes cutting away small amounts of ACM, no greater than the amount which can be contained in 1 standard sized glovebag or waste bag, not larger than 1.5 m 60 inches in length and width in order to access a building component.

V. Equipment Room or Area: An area adjacent to the regulated area used for the decontamination of employees and their equipment.

W. Employee Exposure: That exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

X. Fiber: A fibrous particulate, 5 micrometers or longer, with a length to width ratio of at least 3 to 1.

Y. Friable ACM: A term defined in 40 CFR 61, Subpart M and EPA 340/1-90-018 meaning any material which contains more than 1percent asbestos, as determined using the method specified in 40 CFR 763, Subpart E, Appendix A, Section 1, Polarized Light Microscopy (PLM), that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent, as determined by a method other than point counting by PLM, the asbestos content is verified by point counting using PLM.

Z. Glovebag: Not more than a 1.5 by 1.5 m 60 by 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

AA. High-Efficiency Particulate Air (HEPA) Filter: A filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

BB. Homogeneous Area: An area of surfacing material or thermal system insulation that is uniform in color and texture.

CC. Industrial Hygienist: A professional qualified by education, training, and experience to anticipate, recognize, evaluate, and develop controls for occupational health hazards.

DD. Intact: ACM which has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix. Removal of "intact" asphaltic, resinous, cementitious products does not render the ACM non-intact simply by being separated into smaller pieces.

EE. Model Accreditation Plan (MAP): USEPA training accreditation requirements for persons who work with asbestos as specified in 40 CFR 763, Subpart E, Appendix C.

FF. Modification: A changed or altered procedure, material or component of a control system, which replaces a procedure, material or component of a required system.

GG. Negative Exposure Assessment: A demonstration by the Contractor to show that employee exposure during an operation is expected to be consistently below the OSHA Permissible Exposure Limits (PELs).

HH. NESHAP: National Emission Standards for Hazardous Air Pollutants. The USEPA NESHAP regulation for asbestos is at 40 CFR 61, Subpart M.

II. Nonfriable ACM: A NESHAP term defined in 40 CFR 61, Subpart M and EPA 340/1-90-018 meaning any material containing more than 1 percent asbestos, as determined using the method specified in 40 CFR 763, Subpart E, Appendix A, Section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

JJ. Nonfriable ACM (Category I): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90-018 meaning asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in 40 CFR 763, Subpart F, Appendix A, Section 1, Polarized Light Microscopy.

KK. Nonfriable ACM (Category II): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90-018 meaning any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos, as determined using the methods specified in 40 CFR 763, Subpart F, Appendix A, Section 1, Polarized Light Microscopy, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

LL. Permissible Exposure Limits (PELs):

(1) PEL-Time weighted average(TWA): Concentration of asbestos not in excess of 0.1 fibers per cubic centimeter of air (f/cc) as an 8 hour time weighted average (TWA), as determined by the method prescribed in 29 CFR 1926, Section .1101, Appendix A, or the current version of NIOSH Pub No. 84-100 analytical method 7400.

(2) PEL-Excursion Limit: An airborne concentration of asbestos not in excess of 1.0 f/cc of air as averaged over a sampling period of 30 minutes as determined by the method prescribed in 29 CFR 1926, Section .1101, Appendix A, or the current version of NIOSH Pub No. 84-100 analytical method 7400.

MM. Regulated Area: An OSHA term defined in 29 CFR 1926, Section .1101 meaning an area established by the Contractor to demarcate areas where Class I, II, and III asbestos work is conducted; also any adjoining area where debris and waste from such asbestos work accumulate; and an area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit.

NN. Removal: All operations where ACM is taken out or stripped from structures or substrates, and includes demolition operations.

OO. Repair: Overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM attached to structures or substrates. If the amount of asbestos so "disturbed" cannot be contained in 1 standard glovebag or waste bag, Class I precautions are required.

PP. Spills/Emergency Cleanups: Cleanup of sizable amounts of asbestos waste and debris which has occurred, for example, when water damage occurs in a building, and sizable amounts of ACM are dislodged. A Competent Person evaluates the site and ACM to be handled, and based on the type, condition and extent of the dislodged material, classifies the cleanup as Class I, II, or III. Only if the material was intact and the cleanup involves mere contact of ACM, rather than disturbance, could there be a Class IV classification.

QQ. Surfacing ACM: Asbestos-containing material which contains more than 1% asbestos and is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

RR. Thermal system insulation (TSI) ACM: ACM which contains more than 1% asbestos and is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain or water condensation.

SS. Transite: A generic name for asbestos cement wallboard and pipe.

TT. Worker: Individual (not designated as the Competent Person or a supervisor) who performs asbestos work and has completed asbestos worker training required by 29 CFR 1926, Section .1101, to include EPA Model Accreditation Plan (MAP) "Worker" training; accreditation required by 40 CFR 763, Subpart E, Appendix C, if required by the OSHA Class of work to be performed or by the state where the work is to be performed.

1.3 DESCRIPTION OF WORK

1.3.1 The work covered by this section includes the removal of the asbestos-containing materials and demolition services required to facilitate access to the ACM, where the ACM is impacted by the planned modernization work. ACM that are likely to be impacted by the modernization project identified during our inspection include the following:

Building	Material	Location	Estimated Quantity
Building B	Transite Vent Pipes	Roof Vents	24 LF
	Roof Penetration Mastic	Roof Penetrations	100 SF
Building C	Transite Vent Pipes	Roof Vents over Copy Room	12 LF
	Roof Penetration Mastic	Roof Penetrations	60 SF
Building D	Exterior Stucco (ACCM)	Exterior Walls	4,500 SF
Cafeteria	Roof Penetration Mastic	Roof Penetrations	100 SF
Gymnasium	9”x9” Vinyl Floor Tile	Coaches’ Office	120 SF
	Basecove Mastic	Coaches’ Office	90 SF
	Roof Penetration Mastic	Roof Penetrations	100 SF
	Exterior Stucco (ACCM)	Exterior Walls	4,000 SF
Child Development	Roof Penetration Mastic	Roof Penetrations	70 SF

1.3.2 All work described or included in paragraph 1.3.1 shall be performed by the hazardous materials abatement contractor utilizing trained and AHERA certified asbestos workers. The only exception to this requirement may be the removal of intact non-asbestos-containing furnishings and equipment from the building prior to initiating any demolition activity and when such removal of intact materials or equipment does not have the potential for disturbing asbestos-containing materials.

1.3.3 The Work shall be performed in phases so as to maximize safety and minimize the potential for mixing hazardous and non-hazardous waste streams during their removal, transportation and disposal.

1.4 SUBMITTALS

1.4.1 Pre-Job Submittals: Prior to commencement of work, Contractor shall submit (two copies) to Owner's Representative documentation that includes, without limitation, the following:

A. Submit copies of licenses and registrations required by these specifications (include copies of subcontractor's licenses).

B. The Contractor shall carry comprehensive bodily injury and property damage liability insurance provided by an A-rated California Admitted Carrier with a combined single limit of $2,000,000.00 per occurrence. The insurance policy shall provide coverage for all liability arising out of or related to the Project or to the performance of the Work including asbestos and unintentional release of hazardous materials. The Contractor's insurance policies shall contain a 30-day Notice of Cancellation clause and shall list the following individuals and entities as Certificate holders and Additional Insured, San Bernardino City Unified School District and Pacific Environmental Company.

C. Submit copies written notification to the appropriate regulatory agencies (SCAQMD and CalOSHA).

D. Submit proof that required permits, site location and arrangements for transport and disposal of asbestos-containing waste materials have been made.

E. Submit proof of legal right to use patented equipment or processes.

F. Manufacturer's certification that HEPA vacuums, differential pressure air filtration devices and other local exhaust ventilation equipment conform to ANSI Z9.2-79.

G. Submit a construction schedule indicating milestones and dates of completion for each phase of the Work.

H. Submit documentation that Contractor's employees, including foreman, supervisor, and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received training as required by 29 CFR 1926.1101.

I. Submit documentation from Physician that all employees or agents who may be exposed to airborne asbestos fibers in excess of background levels have received medical monitoring to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. The Contractor must be aware of and provide information to the examining physician about unusual conditions in the workplace environment (e.g. high temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities.

J. Submit documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. This fit-testing shall be in accordance with qualitative procedures as required by OSHA regulations or be quantitative in nature.

K. Submit a project specific work plan.

L. Submit an emergency preparedness plan.

1.4.2 Ongoing Submittals: During abatement activities, Contractor shall submit to Owner's Representative documentation that includes, without limitation, the following:

A. Submit copies of the work area entry/exit log book. Log book must record name, affiliation, time in, and time out for each entry into the work area.

B. Submit copies of logs documenting filter changes on respirators, HEPA vacuums, differential pressure air filtration devices, water filtration device, and other engineering controls.

C. Submit copies of Material Safety Data Sheets (MSDS) for solvents, encapsulants, wetting agents and replacement materials, as necessary.

D. Submit results of all required OSHA air monitoring. Results shall be available prior to the start of the following shift and within 24 hours of completion of the last shift.

E. Submit copies of all accident/incident reports where injury or damage has occurred on or to the Owner's property.

F. Submit copies of all transport manifests, trip tickets and disposal receipts for all asbestos waste materials removed from the work area within 24 hours of the transport.

1.5 QUALIFICATIONS

1.5.1 Written Qualifications and Organization Report

The Contractor shall furnish a written qualifications and organization report providing evidence of qualifications of the Contractor, Contractor's Project Supervisor, Designated Competent Person, supervisors and workers; independent testing laboratory: all subcontractors to be used including disposal transportation and disposal facility firms, subcontractor supervisors, subcontractor workers; and any others assigned to perform asbestos abatement and support activities. The report shall include an organization chart showing the Contractor's staff organization for this project by name and title, chain of command and reporting relationship with all subcontractors. The report shall be signed by the Contractor, the Contractor's onsite project manager, Designated Competent Person, designated testing laboratory and the principals of all subcontractors to be used. The Contractor shall include the following statement in the report: "By signing this report I certify that the personnel I am responsible for during the course of this project fully understand the contents of 29 CFR 1926, Section .1101, 40 CFR 61, Subpart M, and the federal, state and local requirements specified in paragraph SAFETY AND HEALTH PROGRAM AND PLANS for those asbestos abatement activities that they will be involved in."

1.5.2 Specific Requirements

The Contractor shall designate in writing, personnel meeting the following qualifications:

A. Designated Competent Person: The name, address, telephone number, and resume of the Contractor's Designated Competent Person shall be provided. Evidence that the full-time Designated Competent Person is qualified in accordance with 29 CFR 1926, Sections .32 and .1101, has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by 40 CFR 763, Subpart E, Appendix C, and is experienced in the administration and supervision of asbestos abatement projects, including exposure assessment and monitoring, work practices, abatement methods, protective measures for personnel, setting up and inspecting

asbestos abatement work areas, evaluating the integrity of containment barriers, placement and operation of local exhaust systems, ACM generated waste containment and disposal procedures, decontamination units installation and maintenance requirements, site safety and health requirements, notification of other employees onsite, etc. The duties of the Competent Person shall include the following: controlling entry to and exit from the regulated area; supervising any employee exposure monitoring required by 29 CFR 1926, Section .1101; ensuring that all employees working within a regulated area wear the appropriate personal protective equipment (PPE), are trained in the use of appropriate methods of exposure control, and use the hygiene facilities and decontamination procedures specified; and ensuring that engineering controls in use are in proper operating conditions and are functioning properly. The Designated Competent Person shall be responsible for compliance with applicable federal, state and local requirements, the Contractor's Accident Prevention Plan and Asbestos Hazard Abatement Plan. The Designated Competent Person shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that this person has a minimum of 2 years of on-the-job asbestos abatement experience relevant to OSHA competent person requirements. The Designated Competent Person shall be onsite at all times during the conduct of this project.

B. Project and Other Supervisors: The Contractor shall provide the name, address, telephone number, and resume of the Project Supervisor and other supervisors who have responsibility to implement the Accident Prevention Plan, including the Asbestos Hazard Abatement Plan and Activity Hazard Analyses, the authority to direct work performed under this contract and verify compliance, and have EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by 40 CFR 763, Subpart E, Appendix C. The Project Supervisor and other supervisors shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that the Project Supervisor has a minimum of 2 years of on-the-job asbestos abatement experience relevant to project supervisor responsibilities and the other supervisors have a minimum of 1 year on-the-job asbestos abatement experience commensurate with the responsibilities they will have on this project.

C. Asbestos Abatement Workers: Asbestos abatement workers shall meet the requirements contained in 29 CFR 1926, Section .1101, 40 CFR 61, Subpart M, and other applicable federal, state and local requirements. Worker training documentation shall be provided as required on the "Certificate of Workers Acknowledgment" in this paragraph.

D. Worker Training and Certification of Worker Acknowledgment: Training documentation will be required for each employee who will perform OSHA Class I, Class II, Class III, or Class IV asbestos abatement operations. Such documentation shall be submitted on a Contractor generated form titled "Certificate of Workers Acknowledgment", to be completed for each employee in the same format and containing the same information as the example certificate at the end of this section. Training course completion certificates (initial and most recent update refresher) required by the information checked on the form shall be attached.

E. First Aid and CPR Trained Persons: The names of at least 2 persons who are currently trained in first aid and CPR by the American Red Cross or other approved agency shall be designated and shall be onsite at all times during site operations. They shall be trained in universal precautions and the use of PPE as described in the Bloodborne Pathogens Standard of 29 CFR 1910, Section. These persons may perform other duties but shall be immediately available to render first aid when needed. A copy of each designated person's current valid First Aid and CPR certificate shall be provided.

F. Disposal Facility, Transporter: The Contractor shall provide written evidence that the landfill to be used is approved for asbestos disposal by the USEPA, state and local regulatory agencies. Copies of signed agreements between the Contractor (including subcontractors and transporters) and the asbestos waste disposal facility to accept and dispose of all asbestos containing waste generated during the performance of this contract shall be provided. Qualifications shall be provided for each subcontractor or transporter to be used, indicating previous experience in transport and disposal of asbestos waste to include all required state and local waste hauler requirements for asbestos. The Contractor and transporters shall meet the DOT requirements of 49 CFR 171, 49 CFR 172, and 49 CFR 173 as well as registration requirements of 49 CFR 107 and other applicable state or local requirements. The disposal facility shall meet the requirements of 40 CFR 61, Sections .154 or .155, as required in 40 CFR 61, Section .150(b), and other applicable state or local requirements.

1.5.3 Federal, State or Local Citations on Previous Projects

The Contractor and all subcontractors shall submit a statement, signed by an officer of the company, containing a record of any citations issued by Federal, State or local regulatory agencies relating to asbestos activities (including projects, dates, and resolutions); a list of penalties incurred through non-compliance with asbestos project specifications, including liquidated damages, overruns in scheduled time limitations and resolutions; and situations in which an asbestos-related contract has been terminated (including projects, dates, and reasons for terminations). If there are none, a negative declaration signed by an officer of the company shall be provided.

1.6 MEDICAL REQUIREMENTS

Medical requirements shall conform to 29 CFR 1926, Section .1101.

1.6.1 Medical Examination

Before being exposed to airborne asbestos fibers, workers shall be provided with a medical examination as required by 29 CFR 1926, Section .1101 and other pertinent state or local requirements. This requirement shall have been satisfied within the last 12 months. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos and within 30 calendar days before or after the termination of employment in such occupation. X-ray films of asbestos workers shall be identified to the consulting radiologist and medical record jackets shall be marked with the word "asbestos."

1.6.1.1 Information Provided to the Physician

The Contractor shall provide the following information in writing to the examining physician:

a. A copy of 29 CFR 1926, Section .1101 and Appendices D, E, G, and I;
b. A description of the affected employee's duties as they relate to the employee's exposure;
c. The employee's representative exposure level or anticipated exposure level;
d. A description of any personal protective and respiratory equipment used or to be used;
e. Information from previous medical examinations of the affected employee that is not otherwise available to the examining physician.

1.6.1.2 Written Medical Opinion

For each worker, a written medical opinion prepared and signed by a licensed physician indicating the following:

a. Summary of the results of the examination.
b. The potential for an existing physiological condition that would place the employee at an increased risk of health impairment from exposure to asbestos.
c. The ability of the individual to wear personal protective equipment, including respirators, while performing strenuous work tasks under cold and/or heat stress conditions.
d. A statement that the employee has been informed of the results of the examination, provided with a copy of the results, informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure, and informed of any medical condition that may result from asbestos exposure.

1.6.2 Medical and Exposure Records

Complete and accurate records shall be maintained of each employee's medical examinations, medical records, and exposure data, as required by 29 CFR 1910, Section 1910.20 and 29 CFR 1926, Section .1101 for a period of 50 years after termination of employment. Records of the required medical examinations and exposure data shall be made available, for inspection and copying, to the Assistant Secretary of Labor for Occupational Safety and Health (OSHA) or authorized representatives of the employee and an employee's physician upon request of the employee or former employee. A copy of the required medical certification for each employee shall be maintained on file at the worksite for review, as requested by the Owner’s representatives.

1.7 TRAINING PROGRAM

1.7.1 General Training Requirements

The Contractor shall establish a training program as specified by EPA Model Accreditation Plan (MAP), training requirements at 40 CFR 763, Subpart E, Appendix C, the State of California, OSHA requirements at 29 CFR 1926, Section .1101(k)(9), and this specification. Contractor employees shall complete the required training for the type of work they are to perform and such training shall be documented.

1.7.2 Project Specific Training

Prior to commencement of work, each worker shall be instructed by the Owner’s Representative and Competent Person in the following project specific training:

a. The hazards and health effects of the specific types of ACM to be abated;
b. The content and requirements of the Contractor's Accident Prevention Plan to include the Asbestos Hazard Abatement Plan and Activity Hazard Analyses and site-specific safety and health precautions;
c. Hazard Communication Program;
d. Hands-on training for each asbestos abatement technique to be employed;
e. Heat and/or cold stress monitoring specific to this project;
f. Air monitoring program and procedures;
g. Medical surveillance to include medical and exposure record-keeping procedures;
h. The association of cigarette smoke and asbestos-related disease;
i. Security procedures;

j. Specific work practice controls and engineering controls required for each Class of work in accordance with 29 CFR 1926, Section .1101.

1.8 RESPIRATORY PROTECTION PROGRAM

The Contractor shall establish in writing, and implement a respiratory protection program in accordance with 29 CFR 1926, Section .1101, 29 CFR 1910, Section .134, ANSI Z88.2, CGA G-7, CGA G-7.1 and DETAIL SHEET 12. The Contractor shall establish minimum respiratory protection requirements based on measured or anticipated levels of airborne asbestos fiber concentrations encountered during the performance of the asbestos abatement work. The Contractor's respiratory
protection program shall include, but not be limited to, the following elements:

A. The company policy, used for the assignment of individual responsibility, accountability, and implementation of the respiratory protection program.

B. The standard operating procedures covering the selection and use of respirators. Respiratory selection shall be determined by the hazard to which the worker is exposed.

C. Medical evaluation of each user to verify that the worker may be assigned to an activity where respiratory protection is required.

D. Training in the proper use and limitations of respirators.

E. Respirator fit-testing, i.e., quantitative, qualitative and individual functional fit checks.

F. Regular cleaning and disinfection of respirators.

G. Routine inspection of respirators during cleaning and after each use when designated for emergency use.

H. Storage of respirators in convenient, clean, and sanitary locations.

I. Surveillance of regulated area conditions and degree of employee exposure (e.g., through air monitoring).

J. Regular evaluation of the continued effectiveness of the respiratory protection program.

K. Recognition and procedures for the resolution of special problems as they affect respirator use (e.g., no facial hair that comes between the respirator face piece and face or interferes with valve function; prescription eye wear usage; contact lenses usage; etc.).

L. Proper training in putting on and removing respirators.

1.8.1 Respiratory Fit Testing

A qualitative or quantitative fit test conforming to 29 CFR 1926, Section 1101, Appendix C shall be conducted by the Contractor Competent Person for each Contractor worker required to wear a respirator, and for authorized visitors who enter a regulated area where respirators are required to be worn. A respirator fit test shall be performed for each worker wearing a negative-pressure respirator prior to initially wearing a respirator on this project and every 6 months thereafter. The qualitative fit tests may be used only for testing the fit of half-mask respirators where they are permitted to be worn, or of full-facepiece air purifying respirators where they are worn at levels at which half-

facepiece air purifying respirators are permitted. If physical changes develop that will affect the fit, a new fit test for the worker shall be performed. Functional fit checks shall be performed by employees each time a respirator is put on and in accordance with the manufacturer's recommendation.

1.8.2 Respirator Selection and Use Requirements

The Contractor shall provide respirators, and ensure that they are used as required by 29 CFR 1926, Section .1101 and in accordance with the manufacturer's recommendations. Respirators shall be jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health (MSHA/NIOSH), or by NIOSH, under the provisions of 42 CFR 84, for use in environments containing airborne asbestos fibers. Personnel who handle ACM, enter regulated areas that require the wearing of a respirator, or who are otherwise carrying out abatement activities that require the wearing of a respirator, shall be provided with approved respirators that are fully protective of the worker at the measured or anticipated airborne asbestos concentration level to be encountered. For air-purifying respirators, the particulate filter portion of the cartridges or canister approved for use in airborne asbestos environments shall be high-efficiency particulate air (HEPA). The initial respirator selection and the decisions regarding the upgrading or downgrading of respirator type shall be made by the Owner’s Representative based on the measured or anticipated airborne asbestos fiber concentrations to be encountered. The Contractor's Designated Competent Person in consultation with the Owner’s Representative, shall have the authority to take immediate action to upgrade or downgrade respiratory type when there is an immediate danger to the health and safety of the wearer. Respirators shall be used in the following circumstances:

a. During all Class I asbestos jobs.
b. During all Class II work where the ACM is not removed in a substantially intact state.
c. During all Class II and III work which is not performed using wet methods. Respirators need not be worn during removal of ACM from sloped roofs when a negative exposure assessment has been made and ACM is removed in an intact state.
d. During all Class II and III asbestos jobs where the Contractor does not produce a negative exposure assessment.
e. During all Class III jobs where TSI or surfacing ACM is being disturbed.
f. During all Class IV work performed within regulated areas where employees performing other work are required to wear respirators.
g. During all work where employees are exposed above the PEL-TWA or PEL-Excursion Limit.
h. In emergencies

1.8.3 Class I Work

The Contractor shall provide: (1) a tight-fitting, powered air purifying respirator equipped with high efficiency filters, or (2) a full-facepiece supplied air respirator operated in the pressure demand mode, equipped with HEPA egress cartridges, or (3) an auxiliary positive pressure self-contained breathing apparatus, for all employees within the regulated area where Class I work is being performed; provided that a negative exposure assessment has not been produced, and that the exposure level will not exceed 1 f/cc as an 8-hour time weighted average. A full-facepiece supplied air respirator, operated in the pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus shall be provided under such conditions, if the exposure assessment indicates exposure levels above 1 f/cc as an 8-hour time weighted average.

1.8.4 Class II and III Work

The Contractor shall provide an air purifying respirator, other than a disposable respirator, equipped with high-efficiency filters whenever the employee performs Class II and III asbestos jobs where the

Contractor does not produce a negative exposure assessment; and Class III jobs where TSI or surfacing ACM is being disturbed.

1.8.5 Sanitation

Employees who wear respirators shall be permitted to leave work areas to wash their faces and respirator facepieces whenever necessary to prevent skin irritation associated with respirator use.

1.9 HAZARD COMMUNICATION PROGRAM

A hazard communication program shall be established and implemented in accordance with 29 CFR 1926, Section .59. Material safety data sheets (MSDSs) shall be provided for all hazardous materials brought onto the worksite. One copy shall be provided to the Owner's Representative and 1 copy shall be included in the Contractor's Hazard Communication Program.

1.10 LICENSES, PERMITS AND NOTIFICATIONS

1.10.1 General Legal Requirements

Necessary licenses, permits and notifications shall be obtained in conjunction with the project's asbestos abatement, transportation and disposal actions and timely notification furnished of such actions as required by federal, state, regional, and local authorities. The Contractor shall notify the SCAWMD and CalOSHA in writing, at least 14 days prior to the commencement of work, in accordance with 40 CFR 61, Subpart M, and state and local requirements to include the mandatory "Notification of Demolition and Renovation Record" form and other required notification documents. The Contractor shall furnish copies of the notifications to the Owner's Representative at least 3 days prior to the projects scheduled start date. For licenses, permits, and notifications that the Contractor is responsible for obtaining, the Contractor shall pay any associated fees or other costs incurred.

1.10.2 Litigation and Notification

The Contractor shall notify the Owner's Representative if any of the following occur:

a. The Contractor or any of the subcontractors are served with notice of violation of any law, regulation, permit or license which relates to this contract;
b. Proceedings are commenced which could lead to revocation of related permits or licenses; permits, licenses or other Government authorizations relating to this contract are revoked;
c. Litigation is commenced which would affect this contract;
d. The Contractor or any of the subcontractors become aware that their equipment or facilities are not in compliance or may fail to comply in the future with applicable laws or regulations.

1.11 PERSONAL PROTECTIVE EQUIPMENT

Three complete sets of personal protective equipment shall be made available to the authorized visitors for entry to the regulated area. Authorized visitors shall be provided with training equivalent to that provided to Contractor employees in the selection, fitting, and use of the required personal protective equipment and the site safety and health requirements. Contractor workers shall be provided with personal protective clothing and equipment and the Contractor shall ensure that it is worn properly. The Owner's Representative and

Designated Competent Person shall select and approve all the required personal protective clothing and equipment to be used.

1.11.1 Respirators

Respirators shall be in accordance with paragraph RESPIRATORY PROTECTION PROGRAM.

1.11.2 Whole Body Protection

Personnel exposed to airborne concentrations of asbestos that exceed the PELs, or for all OSHA Classes of work for which a required negative exposure assessment is not produced, shall be provided with whole body protection and such protection shall be worn properly. The Owner's Representative and Competent Person shall select and approve the whole body protection to be used. The Competent Person shall examine work suits worn by employees at least once per work shift for rips or tears that may occur during performance of work. When rips or tears are detected while an employee is working, rips and tears shall be immediately mended, or the work suit shall be immediately replaced. Disposable whole body protection shall be disposed of as asbestos contaminated waste upon exiting from the regulated area. Reusable whole body protection worn shall be either disposed of as asbestos contaminated waste upon exiting from the regulated area or be properly laundered in accordance with 29 CFR 1926, Section .1101. Whole body protection used for asbestos abatement shall not be removed from the worksite by a worker to be cleaned. The Contractor's Designated Competent Person, in consultation with the Owner's Representative, has the authority to take immediate action to upgrade or downgrade whole body protection when there is an immediate danger to the health and safety of the wearer.

1.11.2.1 Coveralls: Disposable coveralls with a zipper front shall be provided. Sleeves shall be secured at the wrists, and foot coverings secured at the ankles.

1.11.2.2 Underwear: Disposable underwear shall be provided. If reusable underwear are used, they shall be disposed of as asbestos contaminated waste or laundered in accordance with 29 CFR 1926, Section .1101. Asbestos abatement workers shall not remove contaminated reusable underwear worn during abatement of ACM from the site to be laundered.

1.11.2.3 Work Clothing: An additional coverall shall be provided when the abatement and control method employed does not provide for the exit from the regulated area directly into an attached decontamination unit. Cloth work clothes for wear under the protective coverall, and foot coverings, shall be provided when work is being conducted in low temperature conditions. Cloth work clothes shall be either disposed of as asbestos contaminated waste or properly laundered in accordance with 29 CFR 1926, Section .1101.

1.11.2.4 Gloves: Gloves shall be provided to protect the hands. Where there is the potential for hand injuries (i.e., scrapes, punctures, cuts, etc.) a suitable glove shall be provided and used.

1.11.2.5 Foot Coverings: Cloth socks shall be provided and worn next to the skin. Footwear, as required by OSHA, that is appropriate for safety and health hazards in the area shall be worn. Rubber boots shall be used in moist or wet areas. Reusable footwear removed from the regulated area shall be thoroughly decontaminated or disposed of as ACM waste. Disposable protective foot covering shall be disposed of as ACM waste. If rubber boots are not used, disposable foot covering shall be provided.

1.11.2.6 Head Covering: Hood type disposable head covering shall be provided. In addition, protective head gear (hard hats) shall be provided as required. Hard hats shall only be removed from the regulated area after being thoroughly decontaminated.

1.11.2.7 Protective Eye Wear: Eye protection provided shall be in accordance with ANSI Z87.1.

1.12 HYGIENE FACILITIES AND PRACTICES

The Contractor shall establish a decontamination area for the decontamination of employees, material and equipment. The Contractor shall ensure that employees enter and exit the regulated area through the decontamination area.

1.12.1 Shower Facilities

Shower facilities, when provided, shall comply with 29 CFR 1910, Section 141(d)(3).

1.12.2 3-Stage Decontamination Area

The decontamination unit shall have an equipment room and a clean room separated by a shower that complies with 29 CFR 1910, Section .141 (unless the Contractor can demonstrate that such facilities are not feasible). Equipment and surfaces of containers filled with ACM shall be cleaned prior to removing them from the equipment room or area. Surfaces of the equipment room shall be wet wiped 2 times after each shift. Materials used for wet wiping shall be disposed of as asbestos contaminated waste. Two separate lockers shall be provided for each asbestos worker, one in the equipment room and one in the clean room. [Hot water service may be secured from the building hot water system provided backflow protection is installed by the Contractor at the point of connection. The wastewater pump shall be sized for 1.25 times the showerhead flow-rate at a pressure head sufficient to satisfy the filter head loss and discharge line losses. The pump shall supply a minimum 1.6 L/s 25 gpm flow with 10.7 m35 ft. of pressure head. Used shower water shall be collected and filtered to remove asbestos contamination. Filters and residue shall be disposed of as asbestos contaminated. Filtered water shall be discharged to the sanitary system. Wastewater filters shall be installed in series with the first stage pore size of 20 microns and the second stage pore size of 5 microns. The floor of the decontamination unit's clean room shall be kept dry and clean at all times. Water from the shower shall not be allowed to wet the floor in the clean room. Surfaces of the clean room and shower shall be wet-wiped 2 times after each shift change with a disinfectant solution. Proper housekeeping and hygiene requirements shall be maintained. Soap and towels shall be provided for showering, washing and drying. Any cloth towels provided shall be disposed of as ACM waste or shall be laundered in accordance with 29 CFR 1926, Section .1101.

1.12.3 Load-Out Unit

A temporary load-out unit that is adjacent and connected to the regulated area may be constructed. Utilization of prefabricated units shall have prior approval of the Owner’s Representative. The load-out unit shall be attached in a leak-tight manner to each regulated area. Surfaces of the load-out unit and access tunnel shall be adequately wet-wiped 2 times after each shift change. Materials used for wet wiping shall be disposed of as asbestos contaminated waste.

1.12.4 Decontamination Area Entry Procedures

The Contractor shall ensure that employees entering the decontamination area through the clean room or clean area:

a. Remove street clothing in the clean room or clean area and deposit it in lockers.
b. Put on protective clothing and respiratory protection before leaving the clean room or clean area.
c. Pass through the equipment room to enter the regulated area.

1.12.5 Decontamination Area Exit Procedures

The Contractor shall ensure that the following procedures are followed:

a. Before leaving the regulated area, respirators shall be worn while employees remove all gross contamination and debris from their work clothing using a HEPA vacuum.
b. Employees shall remove their protective clothing in the equipment room and deposit the clothing in labeled impermeable bags or containers for disposal and/or laundering.
c. Employees shall not remove their respirators in the equipment room.
d. Employees shall shower prior to entering the clean room. If a shower has not been located between the equipment room and the clean room or the work is performed outdoors, the Contractor shall ensure that employees engaged in Class I asbestos jobs: a) Remove asbestos contamination from their work suits in the equipment room or decontamination area using a HEPA vacuum before proceeding to a shower that is not adjacent to the work area; or b) Remove their contaminated work suits in the equipment room, without cleaning worksuits, and proceed to a shower that is not adjacent to the work area.
e. After showering, employees shall enter the clean room before changing into street clothes.

1.12.6 Lunch Areas

The Contractor shall provide lunch areas in which the airborne concentrations of asbestos are below 0.01 f/cc.

1.12.7 Smoking

Smoking, shall not be permitted unless in designated areas approved by the Owner.

1.13 REGULATED AREAS

All Class I, II, and III asbestos work shall be conducted within regulated areas. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they shall demarcate the regulated area. Access to regulated areas shall be limited to authorized persons. The Contractor shall control access to regulated areas, ensure that only authorized personnel enter, and verify that Contractor required medical surveillance, training and respiratory protection program requirements are met prior to allowing entrance.

1.14 WARNING SIGNS AND TAPE

Warning signs and tape printed in English and Spanish shall be provided at the regulated boundaries and entrances to regulated areas. The Contractor shall ensure that all personnel working in areas contiguous to regulated areas comprehend the warning signs. Signs shall be located to allow personnel to read the signs

and take the necessary protective steps required before entering the area. Warning signs, shall be in vertical format conforming to 29 CFR 1910 and 29 CFR 1926, Section .1101, a minimum of 500 by 350 mm 20 by 14 inches, and displaying the following legend in the lower panel:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE
REQUIRED IN THIS AREA

Spacing between lines shall be at least equal to the height of the upper of any two lines. Warning tape shall be provided.

1.15 WARNING LABELS

Warning labels shall be affixed to all asbestos disposal containers used to contain asbestos materials, scrap, waste debris, and other products contaminated with asbestos. Containers with preprinted warning labels conforming to requirements are acceptable. Warning labels conform to 29 CFR 1926, Section .1101 and shall be of sufficient size to be clearly legible displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

1.16 LOCAL EXHAUST VENTILATION

Local exhaust ventilation units shall conform to ANSI Z9.2 and 29 CFR 1926, Section .1101. Filters on local exhaust system equipment shall conform to ANSI Z9.2 and UL 586. Filter shall be UL labeled.

1.17 TOOLS

Vacuums shall be leak proof to the filter, equipped with HEPA filters, of sufficient capacity and necessary capture velocity at the nozzle or nozzle attachment to efficiently collect, transport and retain the ACM waste material. Power tools shall not be used to remove ACM unless the tool is equipped with effective, integral HEPA filtered exhaust ventilation capture and collection system, or has otherwise been approved for use by the Owner’s Representative. Residual asbestos shall be removed from reusable tools prior to storage and reuse. Reusable tools shall be thoroughly decontaminated prior to being removed from regulated areas.

1.18 RENTAL EQUIPMENT

If rental equipment is to be used, written notification shall be provided to the rental agency, concerning the intended use of the equipment, the possibility of asbestos contamination of the equipment and the steps that will be taken to decontaminate such equipment. A written acceptance of the terms of the Contractor's notification shall be obtained from the rental agency.

1.19 AIR MONITORING EQUIPMENT

The Owner's Representative shall approve air monitoring equipment to be used to collect personal samples. The equipment shall include, but shall not be limited to:

a. Low-volume, battery powered, body-attachable, portable personal pumps that can be calibrated to a constant airflow up to approximately 3.5 liters per minute when equipped with a sampling train of tubing and filter cassette, and a self-contained rechargeable power pack capable of sustaining the calibrated flow rate for a minimum of 10 hours. The pumps shall also be equipped with an automatic flow control unit which shall maintain a constant flow, even as filter resistance increases due to accumulation of fiber and debris on the filter surface.
b. Single use standard 25 mm diameter cassette, open face, 0.8 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive extension cowl, and shrink bands, to be used with low flow pumps in accordance with 29 CFR 1926, Section .1101 for personal air sampling.
c. Single use standard 25 mm diameter cassette, open face, 0.45 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive cowl, and shrink bands, to be used with high flow pumps when conducting environmental area sampling using NIOSH Pub No. 84-100 Methods 7400 and 7402, (and the transmission electric microscopy method specified at 40 CFR 763 if required).
d. Appropriate plastic tubing to connect the air sampling pump to the selected filter cassette.
e. A flow calibrator capable of calibration to within plus or minus 2 percent of reading over a temperature range of minus 20 to plus 60 degrees C minus 4 to plus 140 degrees F and traceable to a NIST primary standard.

1.20 EXPENDABLE SUPPLIES

1.20.1 Glovebag: Glovebags shall be provided as described in 29 CFR 1926, Section .1101. The glovebag assembly shall be 0.15 mm 6 mil thick plastic, prefabricated and seamless at the bottom with preprinted OSHA warning label.

1.20.2 Duct Tape: Industrial grade duct tape of appropriate widths suitable for bonding sheet plastic and disposal container shall be provided.

1.20.3 Disposal Container: Leak-tight (defined as solids, liquids, or dust that cannot escape or spill out) disposal containers shall be provided for ACM wastes as required by 29 CFR 1926 Section .1101.

1.20.4 Disposal Bags: Leak-tight bags, 0.15 mm 6 mil thick, shall be provided for placement of asbestos generated waste.

1.20.5 Sheet Plastic: Sheet plastic shall be polyethylene of 0.15 mm 6 mil minimum thickness and shall be provided in the largest sheet size necessary to minimize seams. Film shall be frosted or clear and conform to ASTM D 4397, except as specified below:

1.20.5.1 Flame Resistant: Where a potential for fire exists, flame-resistant sheets shall be provided. Film shall be frosted and shall conform to the requirements of NFPA 701.

1.20.5.2 Reinforced: Reinforced sheets shall be provided where high skin strength is required, such as where it constitutes the only barrier between the regulated area and the outdoor environment. The sheet stock shall consist of translucent, nylon-reinforced or woven-polyethylene thread laminated between 2 layers of polyethylene film. Film shall meet flame resistant standards of NFPA 701.

1.20.6 Amended Water: Amended water shall meet the requirements of ASTM D 1331.

1.20.7 Mastic Removing Solvent: Mastic removing solvent shall be nonflammable and shall not contain methylene chloride, glycol ether, or halogenated hydrocarbons. Solvents used onsite shall have a flash point greater than 60 degrees C. 140 degrees F.

1.20.8 Leak-tight Wrapping: Two layers of 0.15 mm 6 mil minimum thick polyethylene sheet stock shall be used for the containment of removed asbestos-containing components or materials such as reactor vessels, large tanks, boilers, insulated pipe segments and other materials too large to be placed in disposal bags. Upon placement of the ACM component or material, each layer shall be individually leak-tight sealed with duct tape.

1.20.9 Viewing Inspection Window: Where feasible, a minimum of 1 clear, 3 mm 1/8 inch thick, acrylic sheet, 450 by 610 mm 18 by 24 inches, shall be installed as a viewing inspection window at eye level on a wall in each containment enclosure. The windows shall be sealed leak-tight with industrial grade duct tape.

1.20.10 Wetting Agents: Removal encapsulant (a penetrating encapsulant) shall be provided when conducting removal abatement activities that require a longer removal time or are subject to rapid evaporation of amended water. The removal encapsulant shall be capable of wetting the ACM and retarding fiber release during disturbance of the ACM greater than or equal to that provided by amended water. Performance requirements for penetrating encapsulants are specified in paragraph ENCAPSULANTS.

1.21 MISCELLANEOUS ITEMS

A sufficient quantity of other items, such as, but not limited to: scrapers, brushes, brooms, staple guns, tarpaulins, shovels, rubber squeegees, dust pans, other tools, scaffolding, staging, enclosed chutes, wooden ladders, lumber necessary for the construction of containments, UL approved temporary electrical equipment, material and cords, ground fault circuit interrupters, water hoses of sufficient length, fire extinguishers, first aid kits, portable toilets, logbooks, log forms, markers with indelible ink, spray paint in bright color to mark areas, project boundary fencing, etc., shall be provided.

PART 2 PRODUCTS

2.1 ENCAPSULANTS

Encapsulants shall conform to USEPA requirements, shall contain no toxic or hazardous substances and no solvent and shall meet the following requirements:

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol
Life Expectancy, 20 yrs Accelerated Aging Test	ASTM C 732
Permeability, Min. 23 ng per Pa-sec-square m	ASTM E 96

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 730 N/m	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Min. 4.7 N-m (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 730 N/m	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Min.	ASTM D 2794

4.7 N-m (Gardner Impact Test)	
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119
Bond Strength, 1.5 kN/m (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol
Life Expectancy, 20 yrs Accelerated Aging Test	ASTM C 732
Permeability, Minimum 0.4 perms	ASTM E 96

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 50 pounds of force/foot	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Minimum 43 in-lb (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test,	ASTM E 736

50 pounds of force/foot	
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test(Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Minimum 43 in-lb (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test(Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119

ALL ENCAPSULANTS

Requirement	Test Standard
Bond Strength, 100 pounds of force/foot (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

2.2 ENCASEMENT PRODUCTS

This section has been deleted.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Asbestos abatement work tasks shall be performed as summarized in phase-specific Workplans which are to be used in conjunction with this master specification for abatement. The Contractor shall use the engineering controls and work practices required in 29 CFR 1926, Section .1101(g) in all operations regardless of the levels of exposure. Personnel shall wear and utilize protective clothing and equipment as specified. The Contractor shall not permit eating, smoking, drinking, chewing or applying cosmetics in the regulated area. All hot work (burning, cutting, welding, etc.) shall be conducted under controlled conditions in conformance with 29 CFR 1926, Section .352, Fire Prevention. Personnel of other trades, not engaged in asbestos abatement activities, shall not be exposed at any time to airborne concentrations of asbestos unless all the administrative and personal protective provisions of the Contractor's Accident Prevention Plan are complied with. Power to the regulated area shall be locked-out and tagged in accordance with 29 CFR 1910, and temporary electrical service with ground fault circuit interrupters shall be provided as needed. Temporary electrical service shall be disconnected when necessary for wet removal. The Contractor shall stop abatement work in the regulated area immediately when the airborne total fiber concentration: (1) equals or exceeds 0.01 f/cc, or the pre-abatement concentration, whichever is greater, outside the regulated area; or (2) equals or exceeds 1.0 f/cc inside the regulated area. The Contractor shall correct the condition to the satisfaction of the Owner’s Representative, including visual inspection and air sampling. Work shall resume only upon notification by the Owner’s Representative. Corrective actions shall be documented.

3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN

Asbestos abatement shall be performed without damage to or contamination of adjacent work or area. Where such work or area is damaged or contaminated, as verified by the Owner’s Representative using visual inspection or sample analysis, it shall be restored to its original condition or decontaminated by the Contractor at no expense to the Owner, as deemed appropriate by the Owner’s Representative. When satisfactory visual inspection and air sampling analysis results are obtained and have been evaluated by the Owner’s Representative, work shall proceed.

3.3 TEMPORARY POWER

The Contractor shall provide a temporary power system of sufficient capacity to provide for the electrical demand for work covered under this specification.

The Contractor shall shut down and lock out electric power to the entire work area, and any interruption of power to other parts of the building shall be minimal, and coordinated with the Owner.

Contractor shall insure a safe installation (including ground faulting) of temporary power sources and equipment, and; Compliance with all applicable electrical code requirements and Cal-OSHA requirements for temporary electrical systems.

The temporary electrical service shall be sized to provide 150% of the maximum demand of the Contractor's equipment during the performance of the Project. Contractor shall provide a power distribution schedule and amperage calculation for all electrical devices to be used.

Contractor shall ensure that all power cords are free of cuts, nicks or other damage. Power cords shall not be allowed to gather or coil where they may create a trip hazard. Power cords repaired with duct tape will not be permitted inside contained areas.

3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS

Building ventilating systems supplying air into or returning air out of a regulated area shall be shut down and isolated by lockable switch or other positive means in accordance with 29 CFR 1910, Section .147. Air-tight critical barriers shall be installed on building ventilating openings located inside the regulated area that supply or return air from the building ventilation system or serve to exhaust air from the building. The critical barriers shall consist of 2 layers of polyethylene. Edges to wall, ceiling and floor surfaces shall be sealed with industrial grade duct tape. Critical barriers shall be installed.

3.5 TEMPORARY FACILITIES

If it is deemed necessary during the bidding of the project, the abatement contractor will provide a trailer with two separate offices, large enough to serve as the job site office. The offices will be air conditioned and the power will be provided by the Owner. The Owner will direct the Contractor as to the location of said field office.

3.6 METHODS OF COMPLIANCE

3.6.1 Mandated Practices

The Contractor shall employ proper handling procedures in accordance with 29 CFR 1926 and 40 CFR 61, Subpart M, and the specified requirements. The specific abatement techniques and items identified shall be detailed in the Contractor's Asbestos Hazard Abatement Plan including, but not limited to, details of construction materials, equipment, and handling procedures. The Contractor shall use the following engineering controls and work practices in all operations, regardless of the levels of exposure:

a. Vacuum cleaners equipped with HEPA filters to collect debris and dust containing ACM.
b. Wet methods or wetting agents to control employee exposures during asbestos handling, mixing, removal, cutting, application, and cleanup; except where it can be demonstrated that the use of wet methods is unfeasible due to, for example, the creation of electrical hazards, equipment malfunction, and in roofing.
c. Prompt clean-up and disposal in leak-tight containers of wastes and debris contaminated with asbestos.
d. Inspection and repair of polyethylene in work and high traffic areas.
e. Cleaning of equipment and surfaces of containers filled with ACM prior to removing them from the equipment room or area.

3.6.2 Control Methods

The Contractor shall use the following control methods to comply with the PELs:

a. Local exhaust ventilation equipped with HEPA filter dust collection systems;
b. Enclosure or isolation of processes producing asbestos dust;
c. Ventilation of the regulated area to move contaminated air away from the breathing zone of employees and toward a filtration or collection device equipped with a HEPA filter;
d. Use of other work practices and engineering controls;
e. Where the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the PELs, the Contractor shall use them to reduce

employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with paragraph, RESPIRATORY PROTECTION PROGRAM.

3.6.3 Unacceptable Practices

The following work practices and engineering controls shall not be used for work related to asbestos or for work which disturbs ACM, regardless of measured levels of asbestos exposure or the results of initial exposure assessments:

a. High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
b. Compressed air used to remove asbestos, or materials containing asbestos, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.
c. Dry sweeping, shoveling, or other dry clean-up of dust and debris containing ACM.
d. Employee rotation as a means of reducing employee exposure to asbestos.

3.6.4 Class I Work Procedures

In addition to requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the installation and operation of the control system.
b. For jobs involving the removal of more than 7.5 m 25 feet or 0.9 square meters 10 square feet of TSI or surfacing material, the Contractor shall place critical barriers over all openings to the regulated area.
c. HVAC systems shall be isolated in the regulated area by sealing with a double layer of plastic or air-tight rigid covers.
d. Impermeable dropcloths (0.15 mm 6 mil or greater thickness) shall be placed on surfaces beneath all removal activity.
e. Objects within the regulated area shall be handled as specified in paragraph OBJECTS.
f. Where a negative exposure assessment has not been provided or where exposure monitoring shows the PEL was exceeded, the regulated area shall be ventilated to move contaminated air away from the employee's breathing zone toward a HEPA unit or collection device.

3.6.5 Specific Control Methods for Class I Work

In addition to requirements of paragraph Class I Work Procedures, Class I asbestos work shall be performed using the control methods identified in
the subparagraphs below.

3.6.5.1 Negative Pressure Enclosure (NPE) System: The system shall provide at least 4 air changes per hour inside the containment. The local exhaust unit equipment shall be operated 24 hours per day until the containment is removed, and shall be leak-proof to the filter and equipped with HEPA filters. Air movement shall be directed away from the employees and toward a HEPA filtration device. The NPE shall be smoke tested for leaks at the beginning of each shift. Local exhaust equipment shall be sufficient to maintain a minimum pressure differential of minus 0.5 mm 0.02 inch of water column relative to adjacent, unsealed areas. Pressure differential shall be monitored continuously, 24 hours per day, with an automatic manometric recording instrument. Pressure differential recordings shall be provided daily on the same day collected. Readings shall be reviewed by the Contractor's Designated Competent Person and Owner’s Representative. The building ventilation system shall

not be used as the local exhaust system for the regulated area. The local exhaust system shall terminate outdoors unless an alternate arrangement is allowed by the Owner. All filters used shall be new at the beginning of the project and shall be periodically changed as necessary and disposed of as ACM waste.

3.6.5.2 Glovebag Systems: The glovebag system shall be used to remove ACM from straight runs of piping and elbows and other connections. Glovebags shall be used without modification and shall be smoke-tested for leaks and any leaks sealed prior to use. Glovebags shall be installed to completely cover the circumference of pipe or other structures where the work is to be done. Glovebags shall be used only once and shall not be moved. Glovebags shall not be used on surfaces that have temperatures exceeding 66 degrees C. 150 degrees F. Prior to disposal, glovebags shall be collapsed by removing air within them using a HEPA vacuum. Before beginning the operation, loose and friable material adjacent to the glovebag operation shall be wrapped and sealed in 2 layers of plastic or otherwise rendered intact. At least 2 persons shall perform Class I glovebag removal. Asbestos regulated work areas shall be established as specified and shown on detailed drawings and plans for glovebag abatement. Designated boundary limits for the asbestos work shall be established with rope or other continuous barriers and all other requirements for asbestos control areas shall be maintained, including area signage and boundary warning tape.

a. In addition to requirements for negative pressure glovebag systems above, the Contractor shall attach HEPA vacuum systems or other devices to the bag to prevent collapse during removal of ACM from straight runs of piping and elbows and other connections.

b. The negative pressure glove boxes used to remove ACM from pipe runs shall be fitted with gloved apertures and a bagging outlet and constructed with rigid sides from metal or other material which can withstand the weight of the ACM and water used during removal. A negative pressure shall be created in the system using a HEPA filtration system. The box shall be smoke tested for leaks prior to each use.

3.6.5.3 Mini-Enclosures: Mini-containment (small walk-in enclosure)to accommodate no more than 2 persons, may be used if the disturbance or removal can be completely contained by the enclosure with the following specifications and work practices. The mini-enclosure shall be inspected for leaks and smoke tested before each use. Air movement shall be directed away from the employee's breathing zone within the mini-enclosure.

3.6.5.4 Wrap and Cut Operation: Prior to cutting pipe, the asbestos-containing insulation shall be wrapped with polyethylene and securely sealed with duct tape to prevent asbestos becoming airborne as a result of the cutting process. The following steps shall be taken: install glovebag, strip back sections to be cut 150 mm 6 inches from point of cut, and cut pipe into manageable sections.

3.6.6 Class II Work

In addition to the requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the work.
b. For indoor work, critical barriers shall be placed over all openings to the regulated area.
c. Impermeable dropcloths shall be placed on surfaces beneath all removal activity.

3.6.7 Specific Control Methods for Class II Work

In addition to requirements of paragraph Class II Work, Class II work shall be performed using the following methods:

3.6.7.1 Vinyl and Asphalt Flooring Materials: When removing vinyl and asphalt flooring materials [which contain ACM] Resilient sheeting shall be removed by adequately wet methods. Tiles shall be removed intact (if possible); wetting is not required when tiles are heated and removed intact. Flooring or its backing shall not be sanded. Scraping of residual adhesive and/or backing shall be performed using wet methods. Mechanical chipping is prohibited unless performed in a negative pressure enclosure. Dry sweeping is prohibited. The Contractor shall use vacuums equipped with HEPA filter, disposable dust bag, and metal floor tool (no brush) to clean floors.

3.6.7.2 Roofing Material: Roofing material shall be removed in an intact state. Wet methods shall be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards. When removing built-up roofs, with asbestos-containing roofing felts and an aggregate surface, using a power roof cutter, all dust resulting from the cutting operations shall be collected by a HEPA dust collector, or shall be HEPA vacuumed by vacuuming along the cut line. Asbestos-containing roofing material shall not be dropped or thrown to the ground, but shall be lowered to the ground via covered, dust-tight chute, crane, hoist or other method approved by the Owner's Representative. Any ACM that is not intact shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. While the material remains on the roof it shall be kept wet or placed in an impermeable waste bag or wrapped in plastic sheeting. Intact ACM shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. Unwrapped material shall be transferred to a closed receptacle precluding the dispersion of dust. Critical barriers shall be placed over roof level heating and ventilation air intakes.

3.6.7.3 Cementitious Siding and Shingles or Transite Panels: Intentionally cutting, abrading or breaking siding, shingles, or transite panels is prohibited. Each panel or shingle shall be sprayed with amended water prior to removal. Nails shall be cut with flat, sharp instruments. Unwrapped or unbagged panels or shingles shall be immediately lowered to the ground via covered dust-tight chute, crane or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.

3.6.7.4 Gaskets: Gaskets shall be thoroughly wetted with amended water prior to removal and immediately placed in a disposal container. If a gasket is visibly deteriorated and unlikely to be removed intact, removal shall be undertaken within a glovebag. Any scraping to remove residue shall be performed wet.

3.6.7.5 Other Class II Jobs: The Contractor shall use the following work practices when performing Class II removal miscellaneous ACM: The material shall be thoroughly wetted with amended water prior and during its removal. The material shall be removed in an intact state. Cutting, abrading or breaking the material is prohibited. The ACM removed shall be immediately bagged or wrapped.

3.6.8 Specific Control Methods for Class III Work

Class III asbestos work shall be conducted using engineering and work practice controls which minimize the exposure to employees performing the asbestos work and to bystander employees. The work shall be performed using wet methods and, to the extent feasible, using local exhaust ventilation. The Contractor shall use impermeable dropcloths and shall isolate the operation, using mini-enclosures or glovebag systems, where the disturbance involves drilling, cutting, abrading, sanding, chipping, breaking, or sawing of TSI or surfacing material.

January 15, 2009

San Bernardino City Unified School District
Facilities Management
777 North "F" Street
San Bernardino, California 92410

Attention: Michael Plunkett

Subject: Budgets for Abatement at San Andreas High School

Dear Mr. Plunkett:

Pacific Environmental Company conducted a hazardous materials survey for San Andreas High School in anticipation of modernizations per your request.

Asbestos-containing floorings, basecove mastics, transite vent pipes, roofing mastics and ACCM stucco materials were identified at the site and must be removed prior to the modernization work if they are going to be impacted, otherwise they can be managed in place since they are in good condition. Current EPA regulations require that ACM be removed from a building prior to renovation or demolition or renovation that will impact the ACM. Asbestos-containing materials must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

Lead-based paints (LBP) components were also identified at the site. Lead abatement, treatment and/or recycling should be conducted in full compliance with the Cal-OSHA Lead-Related Construction Standard. Paints containing lead greater than 0.5% lead by weight that are to be scraped, sanded, torched, or otherwise disturbed during the demolition should be removed or stabilized prior to the demolition by a licensed contractor and workers with California Department of Health Services (DHS) certification in lead-related construction. Waste streams must be characterized to ensure appropriate disposal methods.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures and transformers should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and Department of Toxic Substances Control (DTSC) guidelines. The batteries stored on site should be recycled.

For planning purposes, we have prepared the following preliminary estimates for abatement. This is not a bid to do the work, rather a planning tool based on our site observations, current industry trends and discussions with abatement contractors regarding the project.

Building	Material	Location	Estimated Qty.	Unit Cost	Abatement Estimate
Building B	Transite Vent Pipes	Roof Vents	24 LF	$100	$2400
	Roof Penetration Mastic	Roof Penetrations	100 SF	$10	$1000
Building C	Transite Vent Pipe	Roof Vent over Copy Room	12 LF	$100	$1200
	Roof Penetration Mastic	Roof Penetrations	60 SF	$10	$600
Building D	Exterior Stucco (ACCM)	Exterior Walls	4,500 SF	Budget for Penetrations	$10000
Cafeteria	Roof Penetration Mastic	Roof Penetrations	100 SF	$10	$1000
Gymnasium	9"x9" Vinyl Floor Tile	Coaches Office	120 SF	$30	$3600
	Basecove Mastic	Coaches Office	90 SF	$10	$900
	Roof Penetration Mastic	Roof Penetrations	100 SF	$10	$1000
	Exterior Stucco (ACCM)	Exterior Walls	4,000 SF	Budget for Penetrations	$10000
Child Development	Roof Penetration Mastic	Roof Penetrations	70 SF	$10	$700
Estimated Total for Asbestos Abatement					$32,400.00
Lead painted components					$30,000.00
PCB Ballasts and Miscellaneous					$10,000.00
Project Compliance Monitoring and Inspections					$10,000.00
Subtotal					**$82,400.00**
Contingency (10%)					**$8,240.00**
Total Estimate					**$90,640.00**

If you have any questions or require additional information, please call me at (800)303-6484 extension 701.

Respectfully,

Pacific Environmental Company



Michael Lyssy
President

Pacific Environmental Company

Limited Asbestos and Lead Survey Report

Sierra High School Modernization Project
570 East 9th Street
San Bernardino, California 92410

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 20, 2009

Project Number: 09009

Limited Asbestos and Lead Survey Report

Sierra High School Modernization Project
570 East 9th Street
San Bernardino, California 92410

Executive Summary

Pacific Environmental Company conducted a limited asbestos and lead survey in anticipation of modernizations at Sierra High School, which is located at 570 East 9th Street in San Bernardino, California. All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by AmeriSci Los Angeles, an independent and accredited laboratory.

This executive summary is not to be utilized as a stand-alone document. The report shall be read in its entirety. The reader must review the detailed information provided in the accompanying text. Any interpretation, use, or conclusions resulting from the data contained in this report is the responsibility of the reader.

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos as determined by PLM, however, the California Department of Occupational Safety and Health (CalOSHA) classifies any material as having greater than one tenth of one percent asbestos as asbestos-containing construction material (ACCM).

The following table details our ACM and ACCM findings:

Building	Material	Location	Estimated Quantity
A Building	Transite Vent Pipes	Roof Vents	10 LF
B Building	Roof Penetration Mastics	Roof Penetrations, Patches & AC Units	100 SF
C Buildings	Roof Penetration Mastics	Roof Penetrations, Patches & AC Units	150 SF
	Exterior Metal Wall Texture	C4-C5 Exterior Walls	2,000 SF
	Exterior Metal Wall Texture	C6-C8 Exterior Walls	3,600 SF
Kitchen Building	Exterior Metal Wall Texture	C6-C8 Exterior Walls	800 SF
	Roof Penetration Mastics	Roof Penetrations	20 SF

Current EPA regulations require that the asbestos-containing building materials and ACCM be removed prior to demolition or renovation, if they are going to be impacted. If any of the identified asbestos-containing materials are to be impacted by the renovations, then they must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

A licensed and certified asbestos abatement contractor must perform any asbestos abatement that takes place at the subject property. Waste generated from the asbestos abatement must be properly transported and disposed of.

A summary of the lead components identified at the subject site during our inspection include the following:

Building	Location	Lead-Containing Components
A Building	Exterior	Eaves, Fascia Boards, Painted Joists, Porch Columns
B Building	Exterior	Wood Door Frames, Eaves, Fascia Boards, Painted Joists, Porch Columns
	Interior	Window Frames
C Building	Exterior	Wood Door Frames, Eaves, Fascia Boards, Painted Joists, Porch Columns
	Interior	Window Frames in C1-C3

The lead-based paints are generally in good condition with some exceptions but will likely need to be removed in areas to facilitate the modernizations at the site. Defective paints identified which should be treated to prevent exposure to lead dust. A complete listing of our assays with our condition assessment is in included within the appendices of this report.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and DTSC guidelines.

Pacific Environmental recommends that all future renovation, demolition, construction or abatement activities with the potential for disturbing the identified ACM or lead-laden components, be performed by properly trained and qualified personnel. These activities should employ state-of-the-art techniques, and be conducted in accordance with all applicable local, State and Federal laws and regulations.

Every effort was made to sample all of the building materials, however the school was occupied at the time of our assessment which limited some of our access and some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition or renovation activities, please call us and we will sample and analyze accordingly.

The presence of the identified hazardous materials should be brought to the attention of contractors and personnel involved in the project at the subject site. Specifications have been prepared for the removal and handling of specific hazardous materials, such as those containing asbestos and lead.

Any employees, visitors, or contractors entering this building should be notified of the presence and condition of the asbestos-containing materials, lead-based paints, and other hazardous materials (including those listed under Proposition 65), in accordance with applicable regulations.

Table of Contents

Introduction	1
Quality Control Procedures	2
Site Description	2
Asbestos Inspection and Sampling Procedures	3
Asbestos Inspection Results	4
Summary and Recommendations for Asbestos-Containing Materials	5
Lead Inspection and Sampling Procedures	6
Lead Inspection Results	7
Lead Summary and Recommendations	7
Other Hazardous Materials	8
Limitations	8
References	9

Appendix A	Site Plans
Appendix B	Bulk Sample Summary Table
Appendix C	Asbestos Sample Analysis Reports and Chain of Custody
Appendix D	XRF Sampling Results
Appendix E	DHS Form 8552
Appendix F	XRF Performance Characteristics Sheet

Limited Asbestos and Lead Survey Report

Sierra High School Modernization Project
570 East 9th Street
San Bernardino, California 92410

Introduction

Pacific Environmental Company was retained by the San Bernardino City Unified School District to conduct a limited investigation to identify the presence of asbestos-containing materials, lead-based paints and other lead laden components that will require abatement or treatment, in conjunction with the school modernizations at Sierra High School, which is located at 570 East 9th Street in San Bernardino, California.

All work was conducted by State of California certified personnel and sampling was conducted in accordance with established sampling protocols. Laboratory analysis was performed by America Los Angeles, an independent and accredited laboratory.

Field Services for the inspection were conducted from January 15, 2009. The project team included David Tillema, Raed Sahawneh and Victor Sanchez, all of whom are Cal/OSHA Certified Site Surveillance Technicians and DHS Certified Lead Paint Inspector/Assessors, Thomas Gannon, a Cal/OSHA Certified Site Surveillance Technician, and Michael Lyssy, a State Certified Asbestos Consultant and Registered Environmental Assessor.

The scope of work for this project included the following key elements:

- Review, verification and incorporation of the original AHERA inspection and re-inspection data and any subsequent reports detailing the results of prior asbestos and lead testing at the School into this report.
- Inspection and assessment of asbestos-containing materials, lead-based paints, lead glazed ceramics and PCB light ballasts
- Preparation of a final report that is suitable for inclusion in the District's specifications for abatement of hazardous building materials.

Prior to our asbestos assessments, we evaluated the site conditions and developed our sampling strategy to ensure identification of all asbestos-containing materials. Representative sampling of homogeneous materials was conducted per SCAQMD guidelines, and all identifiable suspect materials were sampled. Asbestos analysis was performed by an independent, State Certified, NVLAP Accredited Laboratory. Bulk samples were analyzed by polarized light microscopy (PLM), EPA Method 600/R-93/116. This report details the specific site conditions and estimated quantities of Asbestos Containing Material (ACM) for the project. Areas affected by destructive sampling were repaired so as not to cause hazards to school personnel, survey crew, visitors and the general public.

Testing for lead-based paint was performed using an EDAX Map-4 portable X-ray fluorescence (XRF) spectrum analyzer. Testing was modeled after the protocol outlined in the Department of Housing and Urban Developments document titled Lead-Based Paint: Interim Guidelines For Hazard Identification and Abatement in Public and Indian Housing (1997 Revision).

Quality Control Procedures

Pacific Environmental Company's integrated resources, technologies, discipline, and expertise combine to ensure that the inspection and analysis for each project is conducted based on the following principles:

- All applicable regulations are addressed in order to ensure that our field inspectors and lab personnel meet their responsibilities, do so cost-effectively, and are equipped with the practical knowledge they need in order to understand and comply with regulations that affect them.
- Care is taken to make certain that the information provided and actions recommended are practical and cost effective in achieving regulatory compliance.

The 'management' approach utilized for this project assured that all work was performed using the highest standard of quality. All project results, reports and recommendations are reviewed for accuracy, content and quality prior to presentation. We recognize that, for each assignment we undertake, the information we develop and the conclusions and advice we provide, will be used to support important management decisions.

Pacific Environmental Company's Quality Assurance Program requires that all personnel:

- Provide specific objectives so that project activities can be evaluated with regard to precision, accuracy, reproducibility, completeness, and comparability.
- Provide specific guidance on the proper methodology for all activities.
- Be provided with ongoing training to enhance their technical skills.
- Be trained in QA/QC procedures and QC activities.
- Review all reports until they are acceptable in terms of technical and editorial quality, and all quality assurance activities have been successfully performed.

Site Description

Buildings evaluated for our assessment included Buildings A (Administration), B, C, Portables D, E, F, and the Kitchen Building.

The permanent structures (A, B and C1-C3) are frame and stucco construction with applications of masonry construction and portable buildings that have been added to the campus over the years. Interior finishes include vinyl and carpet floorings, suspended ceiling systems, plaster, drywall and metal walls. Exteriors are stucco, metal and wood siding.

The school was occupied at the time of our assessment and we worked after hours in an effort to characterize the site conditions. If any additional suspect materials are identified during the modernizations, please contact us to perform supplemental sampling.

Asbestos Inspection and Sampling Procedures

Asbestos-containing material (ACM) is defined by the Federal Environmental Protection Agency (EPA) as material containing more than one percent asbestos, as determined by polarized light microscopy (PLM). Title 8, Section 1529, of the California Code of Regulations, however, defines asbestos-containing construction material (ACCM) as any manufactured construction material that contains more than one-tenth of one percent asbestos by weight.

We reviewed the District's asbestos records on file in order to formulate our sampling strategy. The only documentation on file for the site was the Power Masters, Inc. AHERA summaries that were prepared originally in the late 1980s. This documentation had been marked-up to reflect the changes that have impacted ACMs over the years. The Power Masters Inc. summary reports were generally deficient for demolition or renovation purposes and therefore, we collected confirmation samples of all identified materials that are likely to be impacted by the modernization project.

A visual assessment of the suspect building materials located throughout the subject facility was completed prior to the collection of samples. During the visual assessment, the building materials suspected of containing asbestos were categorized by homogeneous areas. Materials are classified as homogenous when they appear uniform, have a consistent texture, and appear to have been installed at the same time. The laboratory testing for the bulk samples was conducted in accordance with the recommended EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993).

The field investigation began with an initial site walk-through and identification of homogenous building materials suspected of containing asbestos. Samples were collected based on building layout, structural features, and mechanical and plumbing systems. Pacific Environmental then performed the following tasks:

- Evaluated whether materials suspected of containing asbestos were present at the site.
- Collected bulk samples, as required, to adequately characterize the suspect materials.
- Identified approximate sample locations and locations of identified ACM on field drawings or with photographs.
- Estimated the amount of ACM, where access allowed.
- Assessed the condition of the suspected and known ACMs.

At the time of inspection, suspect materials are assessed to be in good, damaged, or significantly damaged condition based on the following criteria:

> Good Condition - No or very limited visible damage or deterioration observed.
>
> Damaged Condition - Crumbling, blistering, water damage, gouges or other damage observed over less than 25% of the materials (one-tenth if evenly distributed); or accumulation of suspect powder, dust or debris observed below the material.
>
> Significantly Damaged - Crumbling, blistering, water damage, gouges or other damage observed over greater than 25% of the materials (one-tenth if evenly distributed); material delaminating or showing adhesive failure; or accumulation of suspect powder, dust or debris observed below the material.

The assessment process also includes classifying the material as Friable ACM or Non-Friable ACM. Friable ACM is the term given to any material that contains more than one percent (1%) asbestos by weight, which can be crumbled, pulverized, or reduced to powder by hand or mechanical pressure. The word "Friability" refers to a material's likeliness to release airborne fibers when in situ, or under mechanical pressure. There is a greater possibility that a friable material will release fibers into the air when disturbed than will a non-friable material (i.e., floor tiles, roofing materials, etc.), thereby causing a potential hazard.

After identifying those materials suspected of containing asbestos, the materials were grouped into homogeneous sampling areas. A homogeneous sampling area includes building materials that are uniform in texture and color and appear identical in every other respect. A modified AHERA protocol was used in estimating the number of samples to be collected. Actual samples collected were determined by field conditions. A total of fifty-seven (57) bulk samples were collected and analyzed.

Bulk samples were collected by wetting the suspect material with amended water and cutting, scraping or coring it from its substrate using an appropriate sampling tool. Sampling tools were cleaned before and after each use to prevent cross contamination between sampling events. Small quantities of material, approximately 1/2 square inch each, were extracted from suspect materials and placed in sterile, airtight bags or vials, and sealed. Each sample was labeled with a unique identification number, utilizing a sequential numbering system. The sample was logged in on the bulk survey sheet and a description noted on the type of sample. Each sample container was then placed inside a larger sterile, airtight bag. As other samples were taken from each area, they were also placed inside this larger airtight bag. Sample locations were repaired using caulk, spray glue, encapsulant, or patching material as needed, but were not always returned to their original condition. The samples were transported under chain-of-custody to an independent NVLAP participating laboratory for analysis utilizing polarized light microscopy.

The laboratory testing was conducted in accordance with the EPA Interim Method for Determination of Asbestos in Bulk Samples (EPA-600/R-93/116, July 1993). Samples were examined for homogeneity, and non-homogeneous samples were ground to ensure homogeneity. Microscopic slides were prepared from each sample using a refractive index liquid, such as trisection and ethyl cinnamate, having a refractive index of 1.550; 1-bromo-naphthalene and 1-Iodonaphthalene, having a refractive index of 1.680; or hydrogenated terthenyl and 1-bromonaphtahlene, having a refractive index of 1.605. The slides were then examined for the presence of asbestos, utilizing polarized light microscopy (PLM) and dispersion staining techniques.

The percentage of asbestos was estimated by visual examination of fibers greater than five microns in length and with an aspect ratio of 3:1 or greater. The aspect ratio of 3:1 refers to the length of the fiber being three times as long as its width. If present, the identity of asbestos fibers was confirmed with appropriate refractive index liquids, application of dispersion staining and other techniques. The results were tabulated and detailed in the laboratory reports, which are included in the appendices of this report.

Asbestos Inspection Results

Based on our assessment services, the following materials were confirmed, or assumed, to contain greater than one percent (1%) asbestos, and are therefore classified as ACM and ACCM.

The following table details our ACM and ACCM findings:

Building	Material	Location	Estimated Quantity
A Building	Transite Vent Pipes	Roof Vents	10 LF
B Building	Roof Penetration Mastics	Roof Penetrations, Patches & AC Units	100 SF
C Buildings	Roof Penetration Mastics	Roof Penetrations, Patches & AC Units	150 SF
	Exterior Metal Wall Texture*	C4-C5 Exterior Walls	2,000 SF
	Exterior Metal Wall Texture*	C6-C8 Exterior Walls	3,600 SF
Kitchen Building	Exterior Metal Wall Texture*	C6-C8 Exterior Walls	800 SF
	Roof Penetration Mastics	Roof Penetrations	20 SF

*While there are negative and trace results for the exterior metal coating in some locations, the material appears homogeneous and since at least one of the samples is classified as ACM, we have characterized all of the exterior metal wall texture finish as ACM per the EPA Guidellines.

Approximate sample locations have been plotted on site plans that we prepared for this assessment. The Bulk Sample Summary Table, which identifies each sample and the corresponding analytical results, is included in Appendix B. The laboratory reports and chain of custody forms are included in Appendix C.

Summary and Recommendations for Asbestos-Containing Materials

All ACM that will be impacted by the planned modernizations must be removed pursuant to Rule 1403 of the South Coast Air Quality Management District's and CalOSHA Asbestos Regulations.

Abatement activities must be conducted in compliance with all applicable regulations, standards and generally accepted environmental and safety practices, including Federal OSHA (29 CFR 1926.58), EPA NESHAPS (40 CFR Part 61), and Toxic Substances Control Act (TSCA) Title II AHERA/ASHARA (40 CFR Part 763) Asbestos Regulations, the Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101, and Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard.

All asbestos waste must be properly disposed of and documented. Waste Manifests must be submitted at the end of a project. Disposing of a known hazardous waste is illegal in the State of California. Every effort was made to sample all of the building materials, however some materials may have been concealed and could not be exposed without demolition. If any additional materials are encountered during the demolition activities, we will arrange to sample and analyze them accordingly.

Lead Inspection and Sampling Procedures

Lead-based paint and lead glazing on ceramics is of concern both as a source of direct exposure through ingestion of paint chips, and as a contributor to lead interior dust and exterior soil. Lead was widely used as a major ingredient in most interior and exterior oil-based paints prior to 1950. Lead compounds continued to be used as corrosion inhibitors, pigments and drying agents beginning in the early 1950's. In 1972, the Consumer Products Safety Commission limited lead content in new paint to 0.5% (5000 ppm) and, in 1978, to 0.06% (600 ppm). It has also been used extensively as a glaze on ceramic and porcelain finishes.

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) define an inspection as a surface-by-surface investigation to determine the presence of lead-based paint (see 40 CFR part 745 and Title X of the 1992 Housing and Community Development Act).

As per the EPA & HUD guidelines, lead-based paint is defined as a dried paint film with a lead concentration of greater than or equal to 1.0 mg/cm2 or 0.5 percent by weight. Lead paint amounts were reported in mg/cm2 because this unit of measurement does not depend on the number of layers of non-lead based paint.

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections because of their demonstrated abilities to:

1. Determine if lead is present on many different types of surfaces

2. Measure the paint without destructive sampling or paint removal

3. Provide sample results immediately and at a relatively low cost per sample

Portable XRF instruments expose a building component to X-rays or gamma radiation, which causes lead to emit X-rays with a characteristic frequency or energy. The intensity of this radiation is measured by the XRF instrument. The inspector must then compare this displayed value (reading) with the inconclusive range or threshold specified in the XRF Performance Characteristic Sheet for the specific substrate beneath the painted surface. If the reading is less than the lower boundary of the inconclusive range, or less than the threshold, then the reading is considered negative. If the reading is greater than the upper boundary of the inconclusive range, or greater or equal to the threshold, then the reading is considered positive. Readings within the inconclusive range, including its boundary values, are considered inconclusive. Because the inconclusive ranges and/or thresholds shown in the Performance Characteristic Sheet are based on 1.0 mg/cm2, positive and negative readings are consistent with the HUD definition of lead-based paint for identification and disclosure purposes. The method employed for paint testing for this project was X-Ray Fluorescence (XRF) using an EDAX MAP4 lead paint analyzer (Serial Number M41509) with the capability to measure the lead content in dry paint films in the range of 0 to 50 milligrams per square centimeter.

The instrument's calibration was verified according to the manufacturer's specifications, in compliance with the Performance Characteristic Sheet (PCS) developed for this instrument. The PCS is located in Appendix F of this report. The readings from this instrument produce a 95% confidence level that the "lead" reading accurately reflects the actual level of lead in the tested surfaces, relative to the federal action level. Current industry standards suggest that, when it is determined that paint abatement and/or interim control activities will be performed on components, they should be performed according to practices that are in the HUD Guidelines and the regulations under section 402 of the Toxic Substances Control Act (TSCA), 15 USC 2682.

Lead Inspection Results

Sampling for this inspection was representative and any components that were not tested, but are similar to those components that tested positive for lead, should be considered and treated as lead laden.

A summary of the lead components identified at the subject site during our inspection include the following:

Building	Location	Lead-Containing Components
A Building	Exterior	Eaves, Fascia Boards, Painted Joists, Porch Columns
B Building	Exterior	Wood Door Frames, Eaves, Fascia Boards, Painted Joists, Porch Columns
	Interior	Window Frames
C Building	Exterior	Wood Door Frames, Eaves, Fascia Boards, Painted Joists, Porch Columns
	Interior	Window Frames in C1-C3

The lead-based paints are generally in good condition with some exceptions but will likely need to be removed in areas to facilitate the modernizations at the site. Defective paints identified which should be treated to prevent exposure to lead dust. A complete listing of our assays with our condition assessment is in included within the appendices of this report.

Lead Summary and Recommendations

The federal and CAL/OSHA regulations for lead in construction do not specify a level of a lead in paint that classifies it as LBP. However, federal and state OSHA regulations specify ***airborne lead levels*** that should not be exceeded during construction without appropriate protection and training.

The action level for lead is 30 micrograms per cubic meter of air (µg/m3), and the permissible exposure limit (PEL) is 50 µg/m3. These airborne lead levels can be exceeded during construction activities such as scraping, sanding, grinding, blasting, and torching LBP surfaces, even when levels of lead in paint are far below the HUD definition of LBP of 1.0 mg/cm2 or 0.5 percent lead by weight. The XRF is designed to accurately quantify paint around the set abatement level (1.0 mg/cm2, 5,000 parts per million, or 0.5 percent by weight). However, painted surfaces tested with XRF that result in instrument readings much less than 1.0 mg/cm2 (even 0.0 mg/cm2 and negative results) may contain amounts of lead that could create an airborne hazard to workers during construction.

Based on the levels of lead in the components identified in the building survey, Pacific Environmental recommends that only properly trained and equipped individuals be assigned site preparation tasks that would involve treatment or demolition of these components. Procedures and engineering controls must be designed to follow CAL/OSHA and Department of Health Services (State of California) requirements, and workers must wear appropriate personal protective equipment during the work.

Other Hazardous Materials

During our assessment of the structures, we visually inspected the locations of fluorescent light tubes and PCB ballasts. There are fluorescent fixtures throughout the main building with ballasts that are assumed to contain PCB's and fluorescent tubes. All PCB's and spent fluorescent light tubes should be handled, packaged and disposed of in compliance with current California Environmental Protection Agency, Department of Toxic Substances Control Guidelines.

Limitations

This report is not intended to identify all hazards or unsafe conditions or to imply that others do not exist. This survey was planned and implemented on the basis of a mutually agreed upon scope of work, and Pacific Environmental's experience in performing this type of assessment.

Pacific Environmental has performed this survey in a professional manner, using the degree of skill and care exercised for similar projects, under similar conditions, by reputable and competent environmental consultants. Pacific Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time that this survey was conducted.

Pacific Environmental further states that no warranties, expressed or implied, are made regarding the quality, fitness, or results to be achieved as a consequence of this report, or impacted by information not properly disclosed to Pacific at the time of this report. It further states that no responsibility is assumed for the control or correction of conditions or practices existing at the premises of the client.

References

AHERA Summary, prepared by Power Masters, Inc.

Title 17, California Code of Regulations, Division 1, Chapter 8: Accreditation, Certification and Work Practices for Lead-Based Paint and Lead Hazards

Title 8, California Code of Regulations, Section 1532.1: Cal/OSHA Construction Safety Orders, Lead

"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," US Department of Housing and Urban Development, June 1995

South Coast Air Quality Management District Requirements (Rule 1403)

National Emissions Standards for Hazardous Air Pollutants, 40 CFR 61, M

Occupational Safety and Health Administration, Asbestos in the Workplace, 29 CFR 1910.1001

Occupational Safety and Health Administration, Asbestos Construction Standard, 29 CFR 1926.1101

Title 8, California Code of Regulations Section 1529, Cal-OSHA Construction Standard

Appendix A

Site Plans



Lead Sampling Key

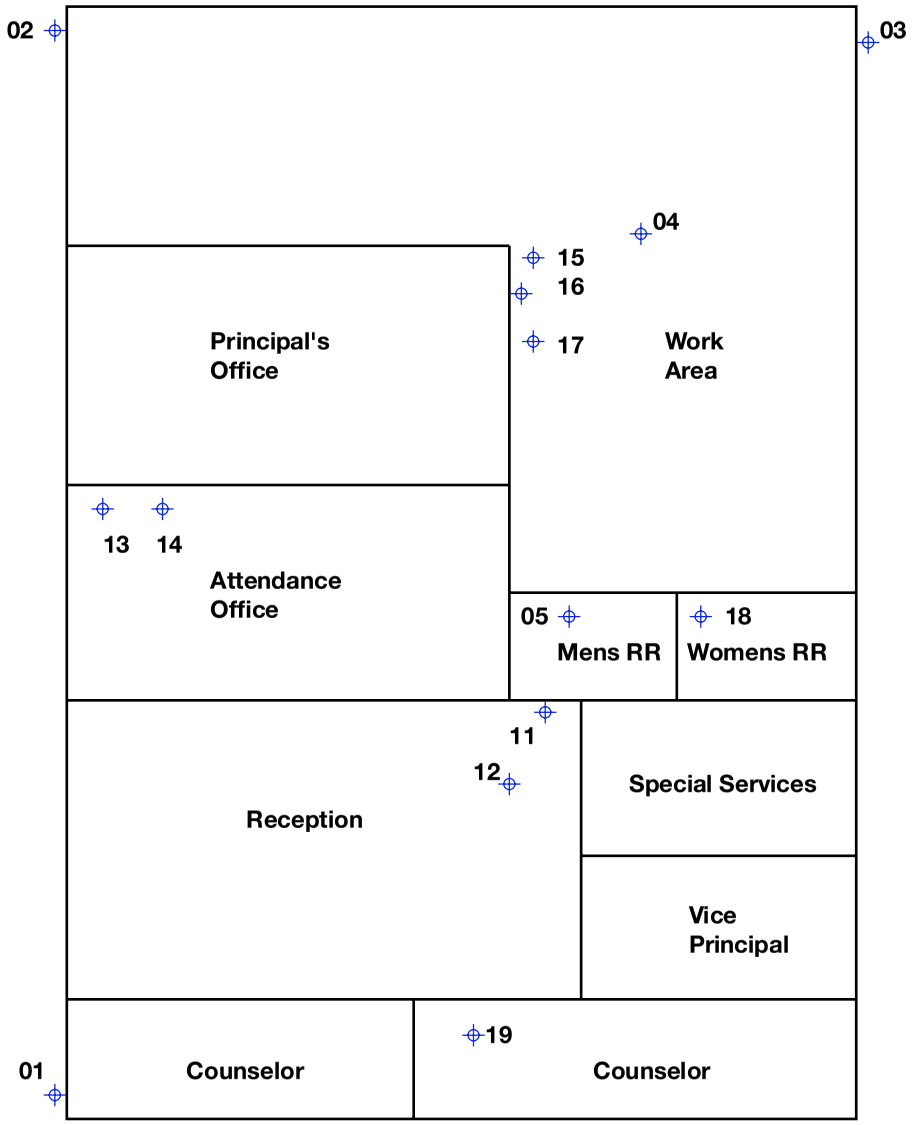
C
B + D
A

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.	DRAWING TITLE: Overall Site Plan Sierra High School 570 East 9th Street San Bernardino, California 92410
REVISION:	SOURCE:	
PROJECT NO: 09009	OTHER:	

PROJECT NAME: Asbestos and Lead Survey for School Modernizations

CLIENT: San Bernardino City Unified School District

FIGURE NO. 1



indicates approximate sample location

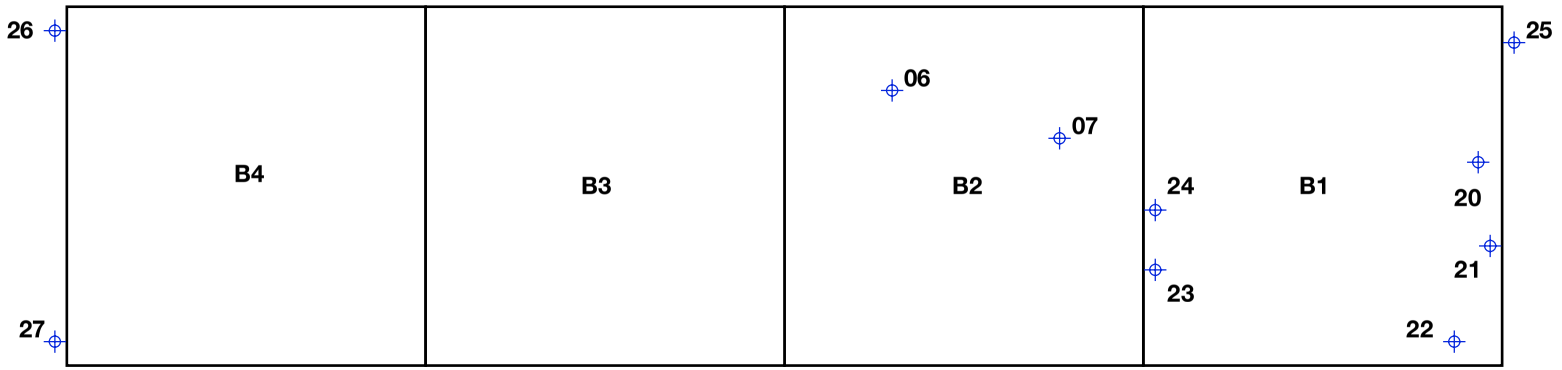
DATE PREPARED: 1/19/2009	DRAWN BY: C.T.
REVISION:	SOURCE:
PROJECT NO: 09009	OTHER:

DRAWING TITLE:
A Building Site and Sample Location Plan
Sierra High School
570 East 9th Street
San Bernardino, California 92410

PROJECT NAME:
Asbestos and Lead Survey for School Modernizations

CLIENT:
San Bernardino City Unified School District

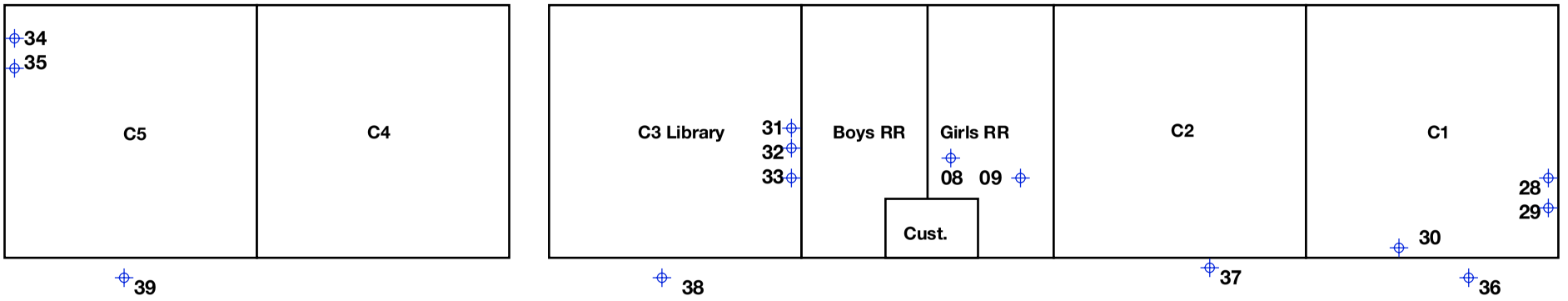
FIGURE NO.
A



indicates approximate sample location

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.	DRAWING TITLE: BBuilding Site and Sample Location Plan Sierra High School 570 East 9th Street San Bernardino, California 92410
REVISION:	SOURCE:	
PROJECT NO: 09009	OTHER:	
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District

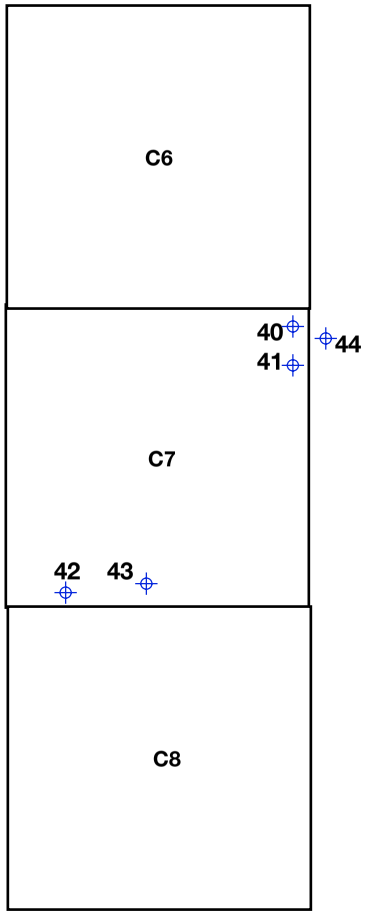
FIGURE NO. B



indicates approximate sample location

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.	DRAWING TITLE: C Building Site and Sample Location Plan Sierra High School 570 East 9th Street San Bernardino, California 92410
REVISION:	SOURCE:	
PROJECT NO: 09009	OTHER:	
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District

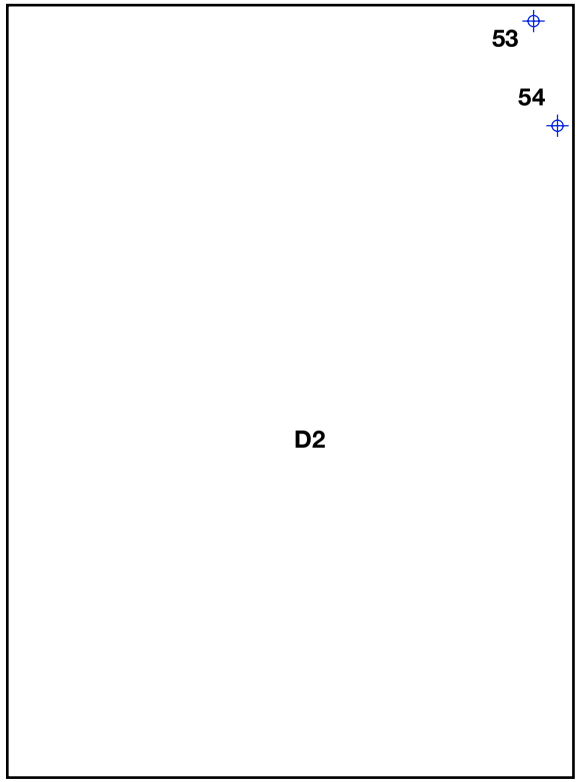
FIGURE NO. C1



⊕ indicates approximate sample location

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.	DRAWING TITLE: C6-8 Building Site and Sample Location Plan Sierra High School 570 East 9th Street San Bernardino, California 92410
REVISION:	SOURCE:	
PROJECT NO: 09009	OTHER:	
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District

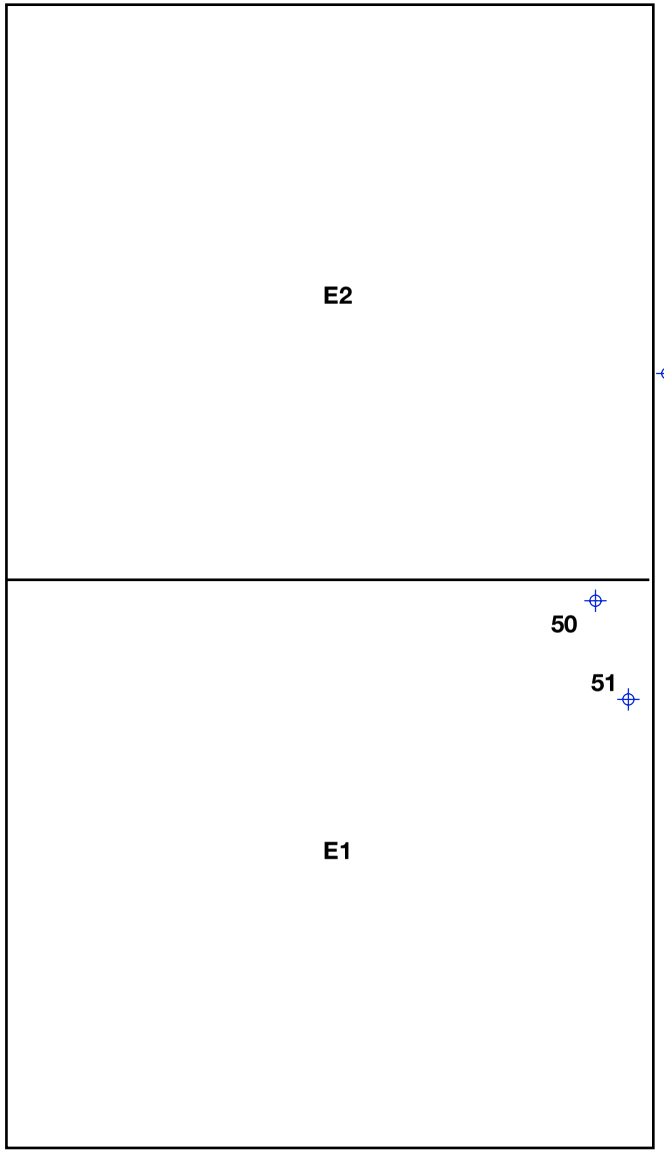
FIGURE NO. C2



⌖ indicates approximate sample location

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.	DRAWING TITLE: D Building Site and Sample Location Plan Sierra High School 570 East 9th Street San Bernardino, California 92410
REVISION:	SOURCE:	
PROJECT NO: 09009	OTHER:	
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District

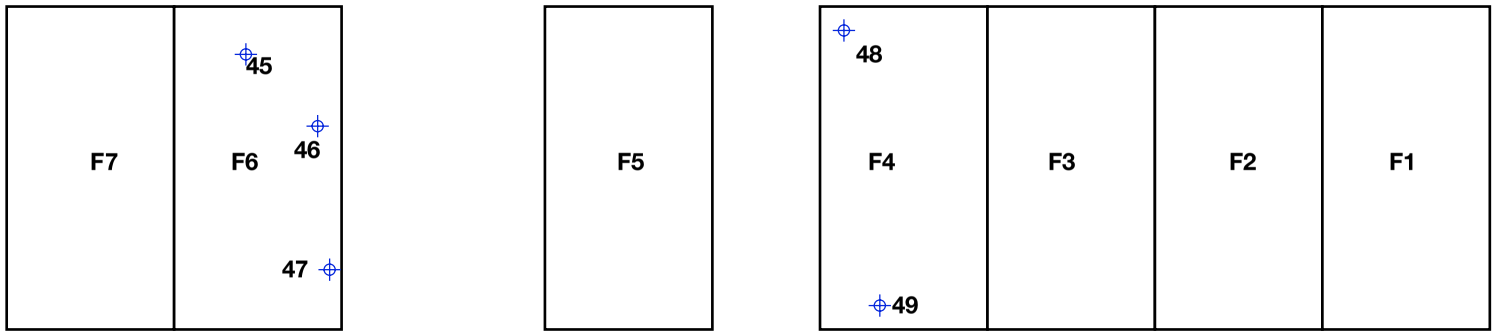
FIGURE NO. D



⌖ indicates approximate sample location

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.	DRAWING TITLE: E Building Site and Sample Location Plan Sierra High School 570 East 9th Street San Bernardino, California 92410
REVISION:	SOURCE:	
PROJECT NO: 09009	OTHER:	
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District

FIGURE NO. E



indicates approximate sample location

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.	DRAWING TITLE: F Building Site and Sample Location Plan Sierra High School 570 East 9th Street San Bernardino, California 92410
REVISION:	SOURCE:	
PROJECT NO: 09009	OTHER:	
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District

FIGURE NO. F



⌖ indicates approximate sample location

DATE PREPARED: 1/19/2009	DRAWN BY: C.T.	DRAWING TITLE: Kitchen Building Site and Sample Location Plan Sierra High School 570 East 9th Street San Bernardino, California 92410
REVISION:	SOURCE:	
PROJECT NO: 09009	OTHER:	
PROJECT NAME: Asbestos and Lead Survey for School Modernizations		CLIENT: San Bernardino City Unified School District

FIGURE NO. K

Appendix B

Bulk Sample Summary Table

SIERRA HIGH SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09009

Sample No.	Sample Description	Sample Location	Asbestos %
01	Exterior Stucco	A Building Exterior	No Asbestos Detected
02	Exterior Stucco	A Building Exterior	No Asbestos Detected
03	Exterior Stucco	A Building Exterior	NA
04	Roof Core	A Building Roof	No Asbestos Detected
05	Penetration Mastic	A Building Roof	No Asbestos Detected
06	Roof Core	B Building Roof	No Asbestos Detected
07	Penetration Mastic	B Building Roof	3% Chrysotile
08	Roof Core	C Building Roof	No Asbestos Detected
09	Penetration Mastic	C Building Roof	3% Chrysotile
10	Penetration Mastic	Kitchen Building Roof	3% Chrysotile
11	4" Brown Covebase & Mastic	A Building Front Desk Area	No Asbestos Detected
12	12"X12" Beige Floor Tile and Mastic	A Building Front Desk Area	No Asbestos Detected
13	Plaster	A Building Attendance	No Asbestos Detected
14	4" Brown Covebase & Mastic	A Building Attendance	No Asbestos Detected
15	Plaster	A Building Work Area	No Asbestos Detected
16	12"X12" Beige Floor Tile and Mastic	A Building Work Area	No Asbestos Detected
17	Carpet Glue	A Building Work Area	No Asbestos Detected
18	12"x12" Blue Floor Tile and Mastic	A Building Restrooms	No Asbestos Detected
19	2'x4' Fissured Ceiling Tiles	A Building Office	No Asbestos Detected
20	Plaster	B Building B1	No Asbestos Detected
21	4" Brown Covebase & Mastic	B Building B1	No Asbestos Detected
22	12"X12" Beige Floor Tile and Mastic	B Building B1	No Asbestos Detected
23	12"X12" Beige Floor Tile and Mastic	B Building B1	No Asbestos Detected
24	Plaster	B Building B1	No Asbestos Detected
25	Exterior Stucco	B Building Exterior	No Asbestos Detected
26	Exterior Stucco	B Building Exterior	No Asbestos Detected
27	Exterior Stucco	B Building Exterior	No Asbestos Detected
28	12"x12" Tan Floor Tile and Mastic	C Building C1	No Asbestos Detected
29	Plaster	C Building C1	No Asbestos Detected
30	4" Brown Covebase & Mastic	C Building C1	No Asbestos Detected
31	12"X12" Beige Floor Tile and Mastic	C Building Library	No Asbestos Detected
32	Plaster	C Building Library	No Asbestos Detected
33	4" Brown Covebase & Mastic	C Building Library	No Asbestos Detected
34	12"x12" Tan Floor Tile and Mastic	C Building C5	No Asbestos Detected
35	4" Brown Covebase & Mastic	C Building C5	No Asbestos Detected
36	Exterior Stucco	C Building C1 Exterior	No Asbestos Detected
37	Exterior Stucco	C Building C2 Exterior	No Asbestos Detected
38	Exterior Stucco	C Building C3 Exterior	No Asbestos Detected
39	Exterior Metal Coating	C Building C5 Exterior	<1% Chrysotile
40	Drywall	C Building C7	No Asbestos Detected
41	Joint Compound	C Building C7	No Asbestos Detected
42	Carpet Glue	C Building C7	No Asbestos Detected
43	4"Gray Basecve & Mastic	C Building C7	No Asbestos Detected
44	Exterior Metal Coating	C Building C7 Exterior	No Asbestos Detected
45	2'x4' Fissured Ceiling Tiles	F Building F6	No Asbestos Detected
46	Drywall	F Building F6	No Asbestos Detected
47	Carpet Glue	F Building F6	No Asbestos Detected
48	4" Brown Covebase & Mastic	F Building F4	No Asbestos Detected
49	12"X12" Beige Floor Tile and Mastic	F Building F4	No Asbestos Detected
50	12"X12" Beige Floor Tile and Mastic	E Building E1	No Asbestos Detected
51	4" Brown Covebase & Mastic	E Building E1	No Asbestos Detected
52	Exterior Metal Coating	E Building E2 Exteiror	No Asbestos Detected
53	4" Brown Covebase & Mastic	D Building Room D2	No Asbestos Detected
54	Carpet Glue	D Building Room D2	No Asbestos Detected
55	12" Gray Floor Tile and Mastic	Kitchen Building Kitchen	No Asbestos Detected

SIERRA HIGH SCHOOL
BULK SAMPLE SUMMARY
PROJECT# 09009

Sample No.	Sample Description	Sample Location	Asbestos %
56	4" Brown Covebase	Kitchen Building Kitchen	No Asbestos Detected
57	Exterior Metal Coating	Kitchen Building Exterior Wall	2% Chrysotile

Appendix C

Asbestos Sample Analysis Reports and Chain of Custody

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

Pacific Environmental Company
Attn: Mike Lyssy
28202 Cabot Road
Suite 300
Laguna Niguel, CA 92677

Date Received 01/17/09
Date Examined 01/19/09
AmeriSci Job # 909011576
P.O. #

RE: SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	909011576-01.1	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: Ext. Stucco / Ext. SW			
Analyst Description: Green, Heterogeneous, Non-Fibrous, Cementitious, Plaster			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
01	909011576-01.2	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: Ext. Stucco / Ext. SW			
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Stucco			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
02	909011576-02.1	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: Ext. Stucco / Ext. NW			
Analyst Description: Green, Heterogeneous, Non-Fibrous, Cementitious, Plaster			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
02	909011576-02.2	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: Ext. Stucco / Ext. NW			
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Stucco			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
03	909011576-03		NA
Location: Ext. Stucco / Ext. NE			
Analyst Description: Bulk Material			
Asbestos Types:			
Other Material:			
Comment: Bulk Material Not Found In Sample Bag			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
04	909011576-04	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Roof Core / Bldg. - A		
	Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Fibrous glass 15 %, Non-fibrous 85 %		
05	909011576-05	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Roof Penetration Mastic / Bldg. A		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
06	909011576-06	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Roof Core / Bldg. - B		
	Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Fibrous glass 15 %, Non-fibrous 85 %		
07	909011576-07	***Yes***	3 % (by CVES) by Raymundo Orozco on 01/19/09
	Location: Roof Penetration Mastic / Bldg. - B		
	Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 3.0 %		
	Other Material: Non-fibrous 97 %		
08	909011576-08	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Roof Core / Bldg. - C		
	Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Fibrous glass 15 %, Non-fibrous 85 %		
09	909011576-09	***Yes***	3 % (by CVES) by Raymundo Orozco on 01/19/09
	Location: Roof Penetration Mastic / Bldg. C		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 3.0 %		
	Other Material: Non-fibrous 97 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
10	909011576-10	***Yes***	3 % (by CVES) by Raymundo Orozco on 01/19/09
	Location: Roof Penetration Mastic / Bldg. C		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Bulk Material		
	Asbestos Types: Chrysotile 3.0 %		
	Other Material: Non-fibrous 97 %		
11	909011576-11L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove Brown 4" / Bldg. A Front Deck Area NE		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Cove Base		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
11	909011576-11L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove Brown 4" / Bldg. A Front Deck Area NE		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
11	909011576-11L3	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove Brown 4" / Bldg. A Front Deck Area NE		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Wollastonite 3 %, Non-fibrous 97 %		
12	909011576-12L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12"x Beige FT / Bldg. A Front Deck Area NE		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
12	909011576-12L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12"x Beige FT / Bldg. A Front Deck Area NE		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Cellulose 5 %, Non-fibrous 95 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
13	909011576-13	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Plaster / Atlendane Area NW		
	Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
14	909011576-14L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove B. 4" / Atlendane Area NW		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Cove Base		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
14	909011576-14L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove B. 4" / Atlendane Area NW		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
14	909011576-14L3	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove B. 4" / Atlendane Area NW		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Wollastonite 2 %, Non-fibrous 98 %		
15	909011576-15	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Plaster / Work Area Bldg. A		
	Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
16	909011576-16L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Beige Ft / Work Area Bldg. A		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
16	909011576-16L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Beige Ft / Work Area Bldg. A		
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 2 %, Non-fibrous 98 %			
17	909011576-17L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Carpet Mastic / Work Area Bldg. A		
Analyst Description: Mixture, Heterogeneous, Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Synthetic fibers 85 %, Non-fibrous 15 %			
17	909011576-17L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Carpet Mastic / Work Area Bldg. A		
Analyst Description: Yellow/Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 5 %, Non-fibrous 95 %			
18	909011576-18L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Ft Blue / Mens Womens RR		
Analyst Description: Grey, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
18	909011576-18L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Ft Blue / Mens Womens RR		
Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 2 %, Non-fibrous 98 %			
18	909011576-18L3	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Ft Blue / Mens Womens RR		
Analyst Description: Beige, Homogeneous, Non-Fibrous, Leveling Compound **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
19	909011576-19	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x4 Ct. Fissured / Office Area		
	Analyst Description: Grey, Heterogeneous, Fibrous, Bulk Material		
	Asbestos Types:		
	Other Material: Cellulose 55 %, Fibrous glass 15 %, Non-fibrous 30 %		
20	909011576-20	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Plaster / Rm B-1 E.		
	Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
21	909011576-21L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Cove Base Brown 4" / Rm. B-1		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Cove Base		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
21	909011576-21L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Cove Base Brown 4" / Rm. B-1		
	Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		
21	909011576-21L3	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Cove Base Brown 4" / Rm. B-1		
	Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic		
	Asbestos Types:		
	Other Material: Cellulose 2 %, Non-fibrous 98 %		
22	909011576-22L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Beige Ft / Rm B-1 E.		
	Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile		
	Asbestos Types:		
	Other Material: Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
22	909011576-22L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Beige Ft / Rm B-1 E.		
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 3 %, Non-fibrous 97 %			
23	909011576-23L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Beige Ft / Rm. B-1 W.		
Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
23	909011576-23L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Beige Ft / Rm. B-1 W.		
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 2 %, Non-fibrous 98 %			
24	909011576-24	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Plaster / Rm B-1 W.		
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
25	909011576-25	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Exterior Stucco / Ext. NE.		
Analyst Description: Grey/Green, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
26	909011576-26	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Exterior Stucco / Ext. NW.		
Analyst Description: Grey/Green, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
27	909011576-27	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Exterior Stucco / Ext. SW.		
Analyst Description: Grey/Green, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
28	909011576-28	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Tan Ft / Rm. C-1		
Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
29	909011576-29	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Plaster / Rm C-1		
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
30	909011576-30L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove 4" Brown / Rm C-1		
Analyst Description: Brown, Homogeneous, Non-Fibrous, Cove Base **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
30	909011576-30L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove 4" Brown / Rm C-1		
Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
31	909011576-31L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Biege Ft / Library		
Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
31	909011576-31L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Biege Ft / Library		
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 2 %, Non-fibrous 98 %			
31	909011576-31L3	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Biege Ft / Library		
Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
32	909011576-32	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Plaster / Library		
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
33	909011576-33L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove Brown 4" / Library		
Analyst Description: Brown, Homogeneous, Non-Fibrous, Cove Base **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
33	909011576-33L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove Brown 4" / Library		
Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
34	909011576-34	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 12x Tan / Rm C-5		
Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
35	909011576-35	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: Base Cove Brwon 4" / Rm C-5			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
36	909011576-36	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: Exterior Stucco / Bldg. C-1			
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
37	909011576-37	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: Exterior Stucco / Bldg. C-2			
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
38	909011576-38	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: Exterior Stucco / Bldg. C-3			
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
39	909011576-39	***Yes***	Trace (<1 %) (by CVES) by Raymundo Orozco on 01/19/09
Location: Exterior Metal Coating / C-5			
Analyst Description: Tan, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile <1. % **Other Material:** Non-fibrous 100 %			
40	909011576-40	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: Drywall / C-7			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
41	909011576-41	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Joint Compound / C-7		
Analyst Description: Beige, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
42	909011576-42L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Carpet Glue / C-7		
Analyst Description: Blue/Red, Heterogeneous, Fibrous, Carpet **Asbestos Types:** **Other Material:** Synthetic fibers 90 %, Non-fibrous 10 %			
42	909011576-42L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Carpet Glue / C-7		
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 2 %, Non-fibrous 98 %			
43	909011576-43L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove Gray 4" / C-7		
Analyst Description: Grey, Homogeneous, Non-Fibrous, Cove Base **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
43	909011576-43L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove Gray 4" / C-7		
Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
44	909011576-44	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Exterior Metal Texture / Coating / C-7 NE.		
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
45	909011576-45	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 2x4 Ct Fissured / Rm F-6		
	Analyst Description: Grey, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 70 %, Non-fibrous 30 %		
46	909011576-46L1	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Drywall / Rm F-6		
	Analyst Description: Beige/Brown, Heterogeneous, Fibrous, Drywall **Asbestos Types:** **Other Material:** Cellulose 15 %, Non-fibrous 85 %		
46	909011576-46L2	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Drywall / Rm F-6		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 2 %, Non-fibrous 98 %		
47	909011576-47L1	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Carpet Glue / Rm F-6		
	Analyst Description: Red, Heterogeneous, Fibrous, Carpet **Asbestos Types:** **Other Material:** Synthetic fibers 90 %, Non-fibrous 10 %		
47	909011576-47L2	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Carpet Glue / Rm F-6		
	Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Synthetic fibers 3 %, Non-fibrous 97 %		
48	909011576-48L1	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove Brown 4" / Rm F-4		
	Analyst Description: Brown, Homogeneous, Non-Fibrous, Cove Base **Asbestos Types:** **Other Material:** Non-fibrous 100 %		

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
48	909011576-48L2	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: Base Cove Brown 4" / Rm F-4			
Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
49	909011576-49L1	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: 12" Biege Ft / Rm F-4			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
49	909011576-49L2	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: 12" Biege Ft / Rm F-4			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 3 %, Non-fibrous 97 %			
50	909011576-50L1	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: 12x Biege Ft / Rm E-1			
Analyst Description: Beige, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
50	909011576-50L2	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: 12x Biege Ft / Rm E-1			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 2 %, Non-fibrous 98 %			
50	909011576-50L3	*No*	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: 12x Biege Ft / Rm E-1			
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Leveling Compound **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
51	909011576-51L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 4" Brown Base Cove / Rm E-1		
Analyst Description: Brown, Homogeneous, Non-Fibrous, Cove Base **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
51	909011576-51L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: 4" Brown Base Cove / Rm E-1		
Analyst Description: Cream, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
52	909011576-52	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Ext. Metal Coating / Rm E-2		
Analyst Description: Grey, Heterogeneous, Non-Fibrous, Cementitious, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
53	909011576-53.1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove 4" Brown / Rm D-2		
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Cove Base **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
53	909011576-53.2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Base Cove 4" Brown / Rm D-2		
Analyst Description: Cream, Heterogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
54	909011576-54L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
	Location: Carpet Mastic / Glue / Rm D-2		
Analyst Description: Brown, Heterogeneous, Fibrous, Carpet **Asbestos Types:** **Other Material:** Cellulose 10 %, Synthetic fibers 80 %, Non-fibrous 10 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
54	909011576-54L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: Carpet Mastic / Glue / Rm D-2			
Analyst Description: Yellow, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 3 %, Synthetic fibers 5 %, Non-fibrous 92 %			
55	909011576-55L1	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: 12x Gray Ft / Kitchen			
Analyst Description: Grey, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
55	909011576-55L2	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: 12x Gray Ft / Kitchen			
Analyst Description: Green, Homogeneous, Non-Fibrous, Floor Tile **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
55	909011576-55L3	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: 12x Gray Ft / Kitchen			
Analyst Description: Black, Homogeneous, Non-Fibrous, Mastic **Asbestos Types:** **Other Material:** Cellulose 3 %, Non-fibrous 97 %			
56	909011576-56	***No***	NAD (by CVES) by Raymundo Orozco on 01/19/09
Location: Base Cove Brown 4" / Kitchen			
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
57	909011576-57	***Yes***	2 % (by CVES) by Raymundo Orozco on 01/19/09
Location: Ext. Metal Coating / Kitchen			
Analyst Description: Green, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 2.0 % **Other Material:** Non-fibrous 98 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

SBCUSD; Sierra High School

Reporting Notes:

Analyzed By: Raymundo Orozco _____; Date Analyzed: 1/19/2009 1/19/09

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0, CA ELAP lab #2322); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

Reviewed By: _____ 1/19/09

909011576

PACIFIC ENVIRONMENTAL

Date:	01 / 15 /2009
Client:	SBCUSD
Site:	SIERRA HIGH SCHOOL
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity	Bldg
01	EXT. STUCCO	EXT SW		
02	" "	" NW		
03	" "	" NE		
04	ROOF CORE	BLDG-A		
05	ROOF PENETRATION MASTIC	" "		
06	ROOF CORE	BLDG-B		
07	ROOF PENETRATION MASTIC	BLDG-B		
08	ROOF CORE	BLDG-C		
09	ROOF PENETRATION MASTIC	BLDG-C		
10	ROOF PENETRATION MASTIC	BLDG-KITCHEN		
11	BASECOVE BROWN 4"	BLDG-A. FRONT DESK AREA	NE	"A"
12	12X BIEGE FT	" " " "		"A"
13	PLASTER	ATTENDANCE AREA NW		"A"
14	BASE COVE BROWN 4"	" "	NW	"A"
15	PLASTER	WORK AREA BLDG A		"A"
16	12X BIEGE FT	WORK AREA BLDG A		"A"
17	CARPET MASTIC	WORK AREA " "		"A"
18	12X FT BLUE	MENS WOMENS RR		"A"
19	2X4 CT. ENSVREAL	OFFICE AREA		"A"
20	PLASTER	RM B-1 E.		B
21	COVEBASE BROWN 4"	RM B-1		B
22	12X BIEGE FT	RM B-1 E.		B
23	" " "	" " W.		B
24	PLASTER	" " W.		B

Analytical Method: PLM

Turn Around Time: 24 hr.

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		01/15/2009

RECEIVED
JAN 15 2009
K. ARELLANO

9090115760

PACIFIC ENVIRONMENTAL

Date:	01 / 15 /2009
Client:	SBCUSD
Site:	SIERRA HIGH SCHOOL
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity	BUDG
25	EXTERIOR STUCCO	EXT. NE.		B
26	" "	EXT. NW.		B
27	" "	EXT. SW.		B
28	12X TAN FT	Rm- C-1		C
29	Plaster	Rm - C-1		C
30	Basecove 4" Brown	Rm - C-1		C
31	12x Biege FT	Library		C
32	Plaster	" "		C
33	Basecove. Brown 4"	" "		C
34	12X TAN	Rm C-5		C
35	Basecove Brown 4"	Rm C-5		C
36	Exterior Stucco	Bldg C-1		C
37	" "	Bldg C-2		C
38	" "	Bldg C-3		C
39	Exterior Metal Coating	C-5		C
40	Drywall	C-7		C
41	Joint Compound	C-7		C
42	Carpet Glue	C-7		C
43	Basecove Gray 4"	C-7		C
44	Exterior Metal Texture/Coating	C-7 - NE		C
45	2x4 CT Exposed	Rm F-6		F
46	Drywall	Rm F-6		F
47	CARPET GLUE	Rm F-6		F
48	Basecove Brown 4"	Rm F-4		F
49	12x Biege FT	Rm F-4		F

Analytical Method: PLM

Turn Around Time: 24 hr.

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		01/15/2009
Name	Signature	Date/Time

RECEIVED
JAN 15 2009
K. ARELLANO

900011570

PACIFIC ENVIRONMENTAL

Date:	01 / 15 /2009
Client:	SBCUSD
Site:	Sierra High School
Project No:	To Be Determined
Inspector(s):	Thomas Gannon

CELL # 949-289-3567

ASBESTOS BULK SAMPLE FIELD LOG AND CHAIN OF CUSTODY

Sample Number	Material Sampled	Sample Location	Condition/ Quantity	
S0	12x Beige FT	Rm E-1		E-1
S1	4" Brown Basecove	Rm E-1		E
S2	Ext Metal Coating	Rm E-2		E
S3	Basecove 4" Brown	Rm-D-2		D
S4	Carpet Mastic / Glue	Rm D-2		D
S5	12x Gray FT	Kitchen		K
S6	Basecove Brown 4"	Kitchen		K
S7	Ext Metal Coating	Kitchen		K

Analytical Method: PLM

Turn Around Time: 24 HR

Please fax results to (714) 776-3500
Pacific Environmental

CHAIN OF CUSTODY:

Name	Signature	Date/Time
Thomas Gannon		01 / 15 /2009

RECEIVED
JAN 15 2009
K. ARELLANO

Appendix D

XRF Sampling Results

FIELD DATA REPORT

PROJECT NAME: Sierra High School

PROJECT NO.:09009

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
A	Exterior	Wall	A	Stucco	Intact	White	0.1	Negative
A	Exterior	Wall	B	Stucco	Intact	White	0.3	Negative
A	Exterior	Wall	C	Stucco	Intact	White	0.1	Negative
A	Exterior	Wall	D	Stucco	Intact	White	0.1	Negative
A	Exterior	Door	B	Metal	Intact	Blue	0.5	Negative
A	Exterior	Door Frame	B	Metal	Intact	Blue	0.4	Negative
A	Exterior	Porch Ceiling	B	Metal	Intact	White	0.3	Negative
A	**Exterior**	**Eaves**	**D**	**Wood**	**Intact**	**White**	**1.2**	**Positive**
A	**Exterior**	**Fascia**	**D**	**Wood**	**Intact**	**Tan**	**1.2**	**Positive**
A	**Exterior**	**Joist**	**D**	**Metal**	**Intact**	**Tan**	**1.3**	**Positive**
A	**Exterior**	**Porch Column**	**B**	**Metal**	**Intact**	**Blue**	**1.2**	**Positive**
B	Exterior	Wall	A	Stucco	Intact	Beige	0.1	Negative
B	Exterior	Wall	B	Stucco	Intact	Beige	0.1	Negative
B	Exterior	Wall	C	Stucco	Intact	Beige	0.0	Negative
B	Exterior	Wall	D	Stucco	Intact	Beige	0.1	Negative
B	Exterior	Door	C	Metal	Intact	Blue	0.3	Negative
B	Exterior	Door	A	Wood	Intact	Blue	2.0	Negative
B	Exterior	Door Frame	C	Metal	Intact	Blue	1.7	Negative
B	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Blue**	**2.2**	**Positive**
B	**Exterior**	**Eaves**	**C**	**Wood**	**Intact**	**Beige**	**1.2**	**Positive**
B	**Exterior**	**Fascia**	**C**	**Wood**	**Defective**	**Beige**	**1.3**	**Positive**
B	**Exterior**	**Joist**	**C**	**Metal**	**Intact**	**Beige**	**1.5**	**Positive**
B	**Exterior**	**Porch Column**	**A**	**Metal**	**Intact**	**Blue**	**1.2**	**Positive**
B	Exterior	Porch Ceiling	A	Metal	Intact	White	0.4	Negative
C	Exterior	Wall	A	Stucco	Intact	Beige	0.1	Negative
C	Exterior	Wall	B	Stucco	Intact	Beige	0.1	Negative
C	Exterior	Wall	C	Stucco	Intact	Beige	0.0	Negative
C	Exterior	Wall	D	Stucco	Intact	Beige	0.1	Negative
C	Exterior	Door	C	Metal	Intact	Blue	0.3	Negative
C	Exterior	Door	A	Wood	Intact	Blue	2.0	Negative
C	Exterior	Door Frame	C	Metal	Intact	Blue	1.7	Negative
C	**Exterior**	**Door Frame**	**A**	**Wood**	**Intact**	**Blue**	**2.2**	**Positive**
C	**Exterior**	**Eaves**	**C**	**Wood**	**Intact**	**Beige**	**1.2**	**Positive**
C	**Exterior**	**Fascia**	**C**	**Wood**	**Defective**	**Beige**	**1.3**	**Positive**
C	**Exterior**	**Joist**	**C**	**Metal**	**Intact**	**Beige**	**1.5**	**Positive**

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Sierra High School

PROJECT NO.:09009

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
C	**Exterior**	**Porch Column**	**A**	**Metal**	**Intact**	**Blue**	**1.2**	**Positive**
C	Exterior	Porch Ceiling	A	Metal	Intact	White	0.4	Negative
C6-C8	Exterior	Wall	A	Metal	Intact	White	0.1	Negative
C6-C8	Exterior	Wall	B	Metal	Intact	White	0.3	Negative
C6-C8	Exterior	Wall	C	Metal	Intact	White	0.1	Negative
C6-C8	Exterior	Wall	D	Metal	Intact	White	0.1	Negative
C6-C8	Exterior	Door	A	Metal	Intact	Blue	0.1	Negative
C6-C8	Exterior	Door Frame	A	Metal	Intact	Blue	0.0	Negative
C6-C8	Exterior	Fascia	B	Metal	Intact	Tan	0.5	Negative
C6-C8	Exterior	Joist	A	Metal	Intact	White	0.6	Negative
C6-C8	Exterior	Porch Ceiling	A	Metal	Intact	White	0.4	Negative
D2	Exterior	Wall	A	Wood	Intact	Beige	0.1	Negative
D2	Exterior	Wall	B	Wood	Intact	Beige	0.1	Negative
D2	Exterior	Wall	C	Wood	Intact	Beige	0.0	Negative
D2	Exterior	Wall	D	Wood	Intact	Beige	0.1	Negative
D2	Exterior	Door	A	Metal	Intact	Brown	0.0	Negative
D2	Exterior	Door Frame	A	Metal	Intact	Brown	0.1	Negative
D2	Exterior	Railing	A	Metal	Defective	Beige	0.0	Negative
D2	Exterior	Ramp	A	Metal	Intact	Gray	0.0	Negative
E	Exterior	Wall	A	Metal	Intact	White	0.0	Negative
E	Exterior	Wall	B	Metal	Intact	White	0.2	Negative
E	Exterior	Wall	C	Metal	Intact	White	0.0	Negative
E	Exterior	Wall	D	Metal	Intact	White	0.5	Negative
E	Exterior	Door	A	Metal	Intact	Blue	0.0	Negative
E	Exterior	Door Frame	A	Metal	Intact	Blue	0.5	Negative
E	Exterior	Eaves	A	Metal	Intact	White	0.3	Negative
E	Exterior	Fascia	A	Metal	Intact	Tan	0.5	Negative
F	Exterior	Wall	A	Wood	Intact	Tan	0.1	Negative
F	Exterior	Wall	B	Wood	Intact	Tan	0.0	Negative
F	Exterior	Wall	C	Wood	Intact	Tan	0.0	Negative
F	Exterior	Wall	D	Wood	Intact	Tan	0.0	Negative
F	Exterior	Door	A	Metal	Intact	Blue	0.0	Negative
F	Exterior	Door Frame	A	Metal	Intact	Blue	0.1	Negative
F	Exterior	Railing	A	Metal	Defective	Tan	0.0	Negative
F	Exterior	Ramp	A	Metal	Intact	Gray	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Sierra High School

PROJECT NO.:09009

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
Kitchen	Exterior	Wall	A	Metal	Intact	White	0.0	Negative
Kitchen	Exterior	Wall	B	Metal	Intact	White	0.0	Negative
Kitchen	Exterior	Wall	C	Metal	Intact	White	0.0	Negative
Kitchen	Exterior	Wall	D	Metal	Intact	White	0.0	Negative
Kitchen	Exterior	Wall	A	Wood	Intact	Beige	0.0	Negative
Kitchen	Exterior	Door	A	Metal	Intact	Blue	0.3	Negative
Kitchen	Exterior	Door Frame	A	Metal	Intact	Blue	0.3	Negative
Kitchen	Exterior	Fascia	A	Metal	Intact	Tan	0.0	Negative
Kitchen	Exterior	Porch Column	A	Metal	Intact	Blue	0.4	Negative
Kitchen	Exterior	Porch Beam	-	Metal	Intact	White	0.4	Negative
Kitchen	Exterior	Porch Ceiling	A	Metal	Intact	White	0.4	Negative
A	Attendance	Wall	A	Plaster	Intact	White	0.1	Negative
A	Attendance	Wall	B	Plaster	Intact	White	0.3	Negative
A	Attendance	Wall	C	Plaster	Intact	White	0.1	Negative
A	Attendance	Wall	D	Plaster	Intact	White	0.1	Negative
A	Attendance	Door	B	Metal	Intact	Tan	0.3	Negative
A	Attendance	Door Frame	B	Metal	Intact	Tan	0.3	Negative
A	Attendance	Window Frame	A	Wood	Intact	Tan	0.0	Negative
A	Work Room	Wall	A	Plaster	Intact	White	0.0	Negative
A	Work Room	Wall	B	Plaster	Intact	White	0.0	Negative
A	Work Room	Wall	C	Plaster	Intact	White	0.0	Negative
A	Work Room	Wall	D	Plaster	Intact	White	0.0	Negative
A	Work Room	Door Frame	B	Wood	Intact	Tan	0.3	Negative
A	Work Room	Upper Cabinet	D	Wood	Intact	Tan	0.0	Negative
A	Work Room	Lower Cabinet	D	Wood	Intact	Tan	0.0	Negative
A	Work Room RR	Wall	A	Drywall	Intact	White	0.1	Negative
A	Work Room RR	Wall	B	Drywall	Intact	White	0.0	Negative
A	Work Room RR	Wall	C	Drywall	Intact	White	0.0	Negative
A	Work Room RR	Wall	D	Drywall	Intact	White	0.1	Negative
A	Work Room RR	Door	C	Wood	Intact	White	0.1	Negative
A	Work Room RR	Door Frame	C	Wood	Intact	Tan	0.0	Negative
B	B1	Wall	A	Plaster	Intact	White	0.0	Negative
B	B1	Wall	B	Plaster	Intact	White	0.0	Negative
B	B1	Wall	C	Plaster	Intact	White	0.0	Negative
B	B1	Wall	D	Plaster	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Sierra High School

PROJECT NO.:09009

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
B	B1	Door	A	Wood	Intact	Blue	0.4	Negative
B	B1	Door	C	Metal	Intact	Blue	0.3	Negative
B	B1	Door Frame	A	Wood	Intact	Blue	0.1	Negative
B	B1	Door Frame	C	Metal	Intact	Blue	0.3	Negative
B	**B1**	**Window Frame**	**C**	**Metal**	**Defective**	**White**	**1.9**	**Positive**
B	B2	Wall	A	Plaster	Intact	White	0.0	Negative
B	B2	Wall	B	Plaster	Intact	White	0.0	Negative
B	B2	Wall	C	Plaster	Intact	White	0.0	Negative
B	B2	Wall	D	Plaster	Intact	White	0.0	Negative
B	B2	Door	A	Wood	Intact	Blue	0.4	Negative
B	B2	Door	C	Metal	Intact	Blue	0.3	Negative
B	B2	Door Frame	A	Wood	Intact	Blue	0.1	Negative
B	B2	Door Frame	C	Metal	Intact	Blue	0.3	Negative
B	**B2**	**Window Frame**	**C**	**Metal**	**Defective**	**White**	**1.9**	**Positive**
B	B3	Wall	A	Plaster	Intact	White	0.0	Negative
B	B3	Wall	B	Plaster	Intact	White	0.0	Negative
B	B3	Wall	C	Plaster	Intact	White	0.0	Negative
B	B3	Wall	D	Plaster	Intact	White	0.0	Negative
B	B3	Door	A	Wood	Intact	Blue	0.4	Negative
B	B3	Door	C	Metal	Intact	Blue	0.3	Negative
B	B3	Door Frame	A	Wood	Intact	Blue	0.1	Negative
B	B3	Door Frame	C	Metal	Intact	Blue	0.3	Negative
B	**B3**	**Window Frame**	**C**	**Metal**	**Defective**	**White**	**1.2**	**Positive**
B	B4	Wall	A	Plaster	Intact	White	0.0	Negative
B	B4	Wall	B	Plaster	Intact	White	0.0	Negative
B	B4	Wall	C	Plaster	Intact	White	0.0	Negative
B	B4	Wall	D	Plaster	Intact	White	0.0	Negative
B	B4	Door	A	Wood	Intact	Blue	0.2	Negative
B	B4	Door	C	Metal	Intact	Blue	0.3	Negative
B	B4	Door Frame	A	Wood	Intact	Blue	0.1	Negative
B	B4	Door Frame	C	Metal	Intact	Blue	0.3	Negative
B	**B4**	**Window Frame**	**C**	**Metal**	**Intact**	**White**	**1.4**	**Positive**
C	C1	Wall	A	Plaster	Intact	White	0.3	Negative
C	C1	Wall	B	Plaster	Intact	White	0.1	Negative
C	C1	Wall	C	Plaster	Intact	White	0.3	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Sierra High School

PROJECT NO.:09009

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
C	C1	Wall	D	Plaster	Intact	White	0.2	Negative
C	C1	Door	A	Metal	Intact	Blue	0.2	Negative
C	C1	Door	C	Metal	Intact	Blue	0.3	Negative
C	C1	Door Frame	A	Metal	Intact	Blue	0.2	Negative
C	C1	Door Frame	C	Metal	Intact	Blue	0.3	Negative
C	**C1**	**Window Frame**	**C**	**Metal**	**Intact**	**White**	**1.6**	**Positive**
C	C2	Wall	A	Plaster	Intact	White	0.3	Negative
C	C2	Wall	B	Plaster	Intact	White	0.1	Negative
C	C2	Wall	C	Plaster	Intact	White	0.3	Negative
C	C2	Wall	D	Plaster	Intact	White	0.2	Negative
C	C2	Door	A	Metal	Intact	Blue	0.2	Negative
C	C2	Door	C	Metal	Intact	Blue	0.3	Negative
C	C2	Door Frame	A	Metal	Intact	Blue	0.2	Negative
C	C2	Door Frame	C	Metal	Intact	Blue	0.3	Negative
C	**C2**	**Window Frame**	**C**	**Metal**	**Intact**	**White**	**1.6**	**Positive**
C	C3	Wall	A	Plaster	Intact	White	0.3	Negative
C	C3	Wall	B	Plaster	Intact	White	0.1	Negative
C	C3	Wall	C	Plaster	Intact	White	0.3	Negative
C	C3	Wall	D	Plaster	Intact	White	0.2	Negative
C	C3	Door	A	Metal	Intact	Blue	0.2	Negative
C	C3	Door	C	Metal	Intact	Blue	0.3	Negative
C	C3	Door Frame	A	Metal	Intact	Blue	0.2	Negative
C	C3	Door Frame	C	Metal	Intact	Blue	0.3	Negative
C	**C3**	**Window Frame**	**C**	**Metal**	**Intact**	**White**	**1.6**	**Positive**
C	Mens Restroom	Wall	A	Ceramic	Intact	White	0.1	Negative
C	Mens Restroom	Wall	B	Ceramic	Intact	White	0.0	Negative
C	Mens Restroom	Wall	C	Ceramic	Intact	White	0.0	Negative
C	Mens Restroom	Wall	D	Ceramic	Intact	White	0.1	Negative
C	Mens Restroom	Door	A	Metal	Intact	Blue	0.1	Negative
C	Mens Restroom	Door Frame	A	Metal	Intact	Blue	0.3	Negative
C	Mens Restroom	Ceiling	-	Plaster	Intact	White	0.0	Negative
C	Mens Restroom	Floor Tile	-	Ceramic	Intact	Tan	0.0	Negative
C	Womens Restroom	Wall	A	Ceramic	Intact	White	0.1	Negative
C	Womens Restroom	Wall	B	Ceramic	Intact	White	0.0	Negative
C	Womens Restroom	Wall	C	Ceramic	Intact	White	0.0	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Sierra High School

PROJECT NO.:09009

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
C	Womens Restroom	Wall	D	Ceramic	Intact	White	0.1	Negative
C	Womens Restroom	Door	A	Metal	Intact	Blue	0.1	Negative
C	Womens Restroom	Door Frame	A	Metal	Intact	Blue	0.3	Negative
C	Womens Restroom	Ceiling	-	Plaster	Intact	White	0.0	Negative
C	Womens Restroom	Floor Tile	-	Ceramic	Intact	Tan	0.0	Negative
C	C5	Wall	A	Metal	Intact	White	0.1	Negative
C	C5	Wall	B	Metal	Intact	White	0.0	Negative
C	C5	Wall	C	Metal	Intact	White	0.0	Negative
C	C5	Wall	D	Metal	Intact	White	0.0	Negative
C	C5	Door	A	Metal	Intact	Blue	0.1	Negative
C	C5	Door Frame	A	Metal	Intact	Blue	0.3	Negative
C	C4	Wall	A	Metal	Intact	White	0.1	Negative
C	C4	Wall	B	Metal	Intact	White	0.0	Negative
C	C4	Wall	C	Metal	Intact	White	0.0	Negative
C	C4	Wall	D	Metal	Intact	White	0.0	Negative
C	C4	Door	A	Metal	Intact	Blue	0.1	Negative
C	C4	Door Frame	A	Metal	Intact	Blue	0.3	Negative
C	C6	Wall	A	Metal	Intact	White	0.1	Negative
C	C6	Wall	B	Metal	Intact	White	0.0	Negative
C	C6	Wall	C	Metal	Intact	White	0.1	Negative
C	C6	Wall	D	Metal	Intact	White	0.1	Negative
C	C6	Door	A	Metal	Intact	Blue	0.4	Negative
C	C6	Door Frame	A	Metal	Intact	Blue	0.4	Negative
C	C7	Wall	A	Metal	Intact	White	0.1	Negative
C	C7	Wall	B	Metal	Intact	White	0.0	Negative
C	C7	Wall	C	Metal	Intact	White	0.1	Negative
C	C7	Wall	D	Metal	Intact	White	0.1	Negative
C	C7	Door	A	Metal	Intact	Blue	0.4	Negative
C	C7	Door Frame	A	Metal	Intact	Blue	0.4	Negative
C	C8	Wall	A	Metal	Intact	White	0.1	Negative
C	C8	Wall	B	Metal	Intact	White	0.0	Negative
C	C8	Wall	C	Metal	Intact	White	0.1	Negative
C	C8	Wall	D	Metal	Intact	White	0.1	Negative
C	C8	Door	A	Metal	Intact	Blue	0.4	Negative
C	C8	Door Frame	A	Metal	Intact	Blue	0.4	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Sierra High School

PROJECT NO.:09009

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
E	E1	Wall	A	Metal	Intact	White	0.0	Negative
E	E1	Wall	B	Metal	Intact	White	0.0	Negative
E	E1	Wall	C	Metal	Intact	White	0.0	Negative
E	E1	Wall	D	Metal	Intact	White	0.0	Negative
E	E1	Door	B	Metal	Intact	Blue	0.2	Negative
E	E1	Door	D	Metal	Intact	Blue	0.3	Negative
E	E1	Door Frame	B	Metal	Intact	Blue	0.5	Negative
E	E1	Door Frame	D	Metal	Intact	Blue	0.3	Negative
E	E2	Wall	A	Metal	Intact	White	0.0	Negative
E	E2	Wall	B	Metal	Intact	White	0.0	Negative
E	E2	Wall	C	Metal	Intact	White	0.0	Negative
E	E2	Wall	D	Metal	Intact	White	0.0	Negative
E	E2	Door	B	Metal	Intact	Blue	0.2	Negative
E	E2	Door	D	Metal	Intact	Blue	0.3	Negative
E	E2	Door Frame	B	Metal	Intact	Blue	0.5	Negative
E	E2	Door Frame	D	Metal	Intact	Blue	0.3	Negative
D	D2	Door	A	Metal	Intact	Brown	0.0	Negative
D	D2	Door Frame	A	Metal	Intact	Brown	0.0	Negative
Kitchen	Kitchen	Wall	A	Metal	Intact	White	0.0	Negative
Kitchen	Kitchen	Wall	B	Metal	Intact	White	0.0	Negative
Kitchen	Kitchen	Wall	C	Metal	Intact	White	0.0	Negative
Kitchen	Kitchen	Wall	D	Metal	Intact	White	0.0	Negative
Kitchen	Kitchen	Door	A	Metal	Intact	Blue	0.1	Negative
Kitchen	Kitchen	Door Frame	A	Metal	Intact	Brown	0.3	Negative
F	Exterior	Wall	A	Metal	Intact	White	0.0	Negative
F	Exterior	Wall	B	Metal	Intact	White	0.0	Negative
F	Exterior	Wall	C	Metal	Intact	White	0.0	Negative
F	Exterior	Wall	D	Metal	Intact	White	0.0	Negative
F	Exterior	Door	A	Metal	Intact	Blue	0.1	Negative
F	Exterior	Door Frame	A	Metal	Intact	Brown	0.3	Negative
F	F1	Wall	A	Metal	Intact	White	0.0	Negative
F	F1	Wall	B	Metal	Intact	White	0.0	Negative
F	F1	Wall	C	Metal	Intact	White	0.0	Negative
F	F1	Wall	D	Metal	Intact	White	0.0	Negative
F	F1	Door	A	Metal	Intact	Blue	0.1	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

FIELD DATA REPORT

PROJECT NAME: Sierra High School

PROJECT NO.:09009

Building	Area	Component	Location	Substrate	Condition	Color	Pb(mg/cm2)	Results
F	F1	Door Frame	A	Metal	Intact	Brown	0.3	Negative

The HUD/EPA action level for lead-based paint is 1.0 mg/cm2.
Negative readings are below LOD for XRF

Appendix E

DHS Form 8552

State of California – Health and Human Services Agency | California Department of Public Health

LEAD HAZARD EVALUATION REPORT

Section 1 – Date of Lead Hazard Evaluation 1/5/2009

Section 2 – Type of Lead Hazard Evaluation (Check one box only)

☑ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☐ Other (specify) _____

Section 3 – Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
570 East 9th Street	San Bernardino	San Bernardino	92410

Construction date (year) of structure	Type of structure (check one box only)
1960	☐ Multi-unit building ☑ School or daycare ☐ Single family dwelling ☐ Other (specify)_____

Section 4 – Owner of Structure (If business/agency, list contact person)

Name	Telephone number
San Bernardino City Unified School District	909-381-1238

Address [number, street, apartment (if applicable)]	City	State	Zip Code
777 North F Street	San Bernardino	CA	92401

Section 5 – Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected. ☑ Lead-based paint detected.

☐ No lead hazards detected. ☐ Lead hazards detected.

Section 6 – Individual Conducting Lead Hazard Evaluation

Name	Telephone number
David Tillema	800.303.6484

Address [number, street, apartment (if applicable)]	City	State	Zip Code
28202 Cabot Road #300	Laguna Niguel	CA	92677

CDPH certification number	Signature	Date
17740		1/20/2009

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 – Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

CDPH 8552 (6/07)

Appendix F

XRF Performance Characteristics Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: June 26, 1996 **EDITION NO.: 3**

MANUFACTURER AND MODEL:

Make: *Scitec Corporation*
Model: *MAP-4*
Source: ^{57}Co
Note: This sheet supersedes all previous sheets for the XRF instrument of the make, model, and source shown above.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS

Test mode, Screen mode, or Unlimited mode.

XRF CALIBRATION CHECK LIMITS

0.6 to 1.2 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

When using Unlimited mode, substrate correction recommended for:

None

When using Unlimited mode, substrate correction <u>not</u> recommended for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

When using Screen or Test mode, for XRF results below 4.0 mg/cm^2, substrate correction recommended for:

Drywall, Metal, and Wood

When using Screen or Test mode, substrate correction <u>not</u> recommended for:

Brick, Concrete, and Plaster

INCONCLUSIVE RANGE OR THRESHOLD

UNLIMITED MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm^2)
Results not corrected for substrate bias for unlimited mode readings	Brick	0.91 to 1.19
	Concrete	0.91 to 1.19
	Drywall	0.91 to 1.19
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.19
	Wood	0.91 to 1.19

SCREEN MODE READING DESCRIPTION	SUBSTRATE	INCONCLUSIVE RANGE (mg/cm²)
Results corrected for substrate bias for screen mode readings on drywall, metal, and wood substrates only	Brick	0.91 to 1.09
	Concrete	0.91 to 1.09
	Drywall	0.91 to 1.39
	Metal	0.91 to 1.19
	Plaster	0.91 to 1.09
	Wood	0.91 to 1.29

TEST MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)	INCONCLUSIVE RANGE (mg/cm²)
Readings corrected for substrate bias for test mode readings on drywall, metal, and wood substrates only	Brick	0.9	None
	Concrete	0.9	None
	Drywall	None	0.91 to 1.39
	Metal	None	0.91 to 1.09
	Plaster	0.9	None
	Wood	None	0.91 to 1.29

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from an EPA/HUD evaluation using archived building components. Testing was conducted on approximately 150 test locations. All of the test locations were tested in February 1996 using two different instruments. One instrument had a new source installed in July 1994 and its strength at the time of testing was calculated as 9.4 mCi. The other instrument had a new source installed in September 1994 and its strength at the time of testing was calculated as 10.6 mCi.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds

SUBSTRATE CORRECTION VALUE COMPUTATION

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

- Using the same XRF instrument, take three readings on a bare substrate area covered with the

NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

- Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

  For each substrate type (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\left.\begin{matrix}\text{Correction}\\ \text{Value}\end{matrix}\right\} = \frac{1^{st} + 2^{nd} + 3^{rd} + 4^{th} + 5^{th} + 6^{th}\ \text{Reading}}{6} - 1.02 mg/cm^2$$

- Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use either 15-second readings or 60-second readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES

For screen, test, and confirm modes, the MAP 4 instrument tests until a K-shell result is obtained relative to a level of precision. A result is "positive", "negative" or "retest" as displayed by indicator lights. For the unlimited mode, the MAP 4 instrument tests until a K-shell result is indicated relative to an action level (1.0 mg/cm ^{2} for archive testing) and the current precision, or until the the reading is terminated by releasing the trigger. A few unlimited mode readings were terminated because they exceeded the two-minute limit used for archive testing. The following tables provide testing time information for three testing modes. Insufficient information is available to provide this information for confirm mode. All times have been scaled to match an initial 12 miC source. Note that source strength and factors such as substrate may affect testing times.

UNLIMITED MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	3	4	6	4	13	3
Metal	3	4	8	4	9	3
Brick Concrete Plaster	4	5	8	6	6	3

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

SCREEN MODE TESTING TIMES (Seconds)

SUBSTRATE*	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm^2)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	6	7	5	6	7
Metal	4	5	6	5	5	5
Brick Concrete Plaster	11	11	13	11	11	11

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

TEST MODE TESTING TIMES (Seconds)						
SUBSTRATE	ALL DATA			MEDIAN FOR LABORATORY-MEASURED LEAD LEVELS (mg/cm²)		
	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	17	22	27	21	20	28
Metal	13	20	23	20	20	20
Brick Concrete Plaster	41	42	52	41	46	43

*The general calibration was used for wood, drywall, brick, concrete, plaster. Steel calibration was used for metal. (There are no aluminum samples in the archive facility).

BIAS AND PRECISION

Do not use these bias and precision data to correct for substrate bias. These bias and precision data were computed without substrate correction from samples with laboratory-measured lead levels less than 4.0 mg/cm² lead. There were 15 testing locations taken in the screen mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were 15 testing locations taken in the test mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². There were not any testing locations taken in the confirm mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. There were 15 testing locations taken in the unlimited mode with a laboratory-measured lead levels equal to or greater than 4.0 mg/cm² lead. None of these had XRF readings less than 1.0 mg/cm². All testing was done in February 1996 with two different instruments. The following data are for illustrative purposes only. Actual bias must be determined on the site. Inconclusive ranges provided above already account for bias and precision.

SCREEN MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.1	0.2
	Metal	0.1	0.3
	Plaster	-0.1	0.3
	Wood	0.0	0.2
0.5 mg/cm²	Brick	0.0	0.3
	Concrete	0.0	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.3
	Plaster	0.0	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	0.1	0.4
	Concrete	0.1	0.4
	Drywall	0.5	0.6
	Metal	0.3	0.3
	Plaster	0.1	0.4
	Wood	0.4	0.6

2.0 mg/cm²	Brick	0.4	0.5
	Concrete	0.4	0.5
	Drywall	0.9	0.8
	Metal	0.5	0.3
	Plaster	0.4	0.5
	Wood	0.7	0.8

*Precision at 1 standard deviation

TEST MODE READING MEASURED AT	SUBSTRATE	BIAS (mg/cm²)	PRECISION* (mg/cm²)
0.0 mg/cm²	Brick	-0.1	0.2
	Concrete	-0.1	0.2
	Drywall	0.1	0.1
	Metal	0.1	0.2
	Plaster	-0.1	0.2
	Wood	0.0	0.1
0.5 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.3	0.4
	Metal	0.2	0.2
	Plaster	-0.1	0.3
	Wood	0.2	0.4
1.0 mg/cm²	Brick	-0.1	0.3
	Concrete	-0.1	0.3
	Drywall	0.5	0.6
	Metal	0.3	0.2
	Plaster	-0.1	0.3
	Wood	0.4	0.6
2.0 mg/cm²	Brick	0.0	0.4
	Concrete	0.0	0.4
	Drywall	1.0	0.8
	Metal	0.5	0.2
	Plaster	0.0	0.4
	Wood	0.8	0.8

*Precision at 1 standard deviation

CLASSIFICATION OF RESULTS

XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, and negative if they are less than the lower boundary of the inconclusive range, or inconclusive if in between. The inconclusive range includes both its upper and lower bounds. Earlier editions of this *XRF Performance Characteristics Sheet* did not include both bounds of the inconclusive range as "inconclusive." While this edition of the Performance Characteristics Sheet uses a different system, the specific XRF readings that are considered positive, negative, or inconclusive for a given XRF model and substrate remain unchanged, so previous inspection results are not affected.

DOCUMENTATION

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristics Sheet is a joint product of the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Housing and Urban Development (HUD). The issuance of this sheet does not constitute rulemaking. The information provided here is intended solely as guidance to be used in conjunction with Chapter 7, Lead-Based Paint Inspection, of the *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. EPA and HUD reserve the right to revise this guidance. Please address questions and comments on this sheet to: Director, Office of Lead Hazard Control (L), U.S. Department of Housing and Urban Development, 451 Seventh St, S.W., Washington, DC 20410.

Pacific Environmental Company

Asbestos and Lead Abatement Specifications

Sierra High School Modernization Project
570 East 9th Street
San Bernardino, California 92410

Prepared for:

San Bernardino City Unified School District
777 North F Street
San Bernardino, CA 92401

Prepared by:

Pacific Environmental Company
28202 Cabot Road, Suite 300
Laguna Niguel, CA 92677

January 20, 2009

Project Number: 09009



Pacific Environmental Company

Table of Contents

DIVISION 02. GENERAL REQUIREMENTS FOR ASBESTOS ABATEMENT

DIVISION 03. GENERAL REQUIREMENTS FOR LEAD ABATEMENT

DIVISION 2. GENERAL REQUIREMENTS FOR ASBESTOS ABATEMENT

PART 1 GENERAL

1.1 REFERENCES
1.2 DEFINITIONS
1.3 DESCRIPTION OF WORK
1.4 SUBMITTALS
1.5 QUALIFICATIONS
1.6 MEDICAL REQUIREMENTS
1.7 TRAINING PROGRAM
1.8 RESPIRATORY PROTECTION PROGRAM
1.9 HAZARD COMMUNICATION PROGRAM
1.10 LICENSES, PERMITS AND NOTIFICATIONS
1.11 PERSONAL PROTECTIVE EQUIPMENT
1.12 HYGIENE FACILITIES AND PRACTICES
1.13 REGULATED AREAS
1.14 WARNING SIGNS AND TAPE
1.15 WARNING LABELS
1.16 LOCAL EXHAUST VENTILATION
1.17 TOOLS
1.18 RENTAL EQUIPMENT
1.19 AIR MONITORING EQUIPMENT
1.20 EXPENDABLE SUPPLIES
1.21 MISCELLANEOUS ITEMS

PART 2 PRODUCTS

2.1 ENCAPSULANTS
2.2 ENCASEMENT PRODUCTS

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS
3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN
3.3 TEMPORARY POWER
3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS
3.5 TEMPORARY FACILITIES
3.6 METHODS OF COMPLIANCE
3.7 FINAL CLEANING AND VISUAL INSPECTION
3.8 LOCKDOWN
3.9 EXPOSURE ASSESSMENT AND AIR MONITORING
3.10 CLEARANCE CERTIFICATION
3.11 CLEANUP AND DISPOSAL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below 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)

ANSI Z9.2 (1979; R 1991)	Fundamentals Governing the Design and Operation of Local Exhaust Systems
ANSI Z87.1 (1989; Errata; Z87.1a)	Occupational and Educational Eye and Face Protection
ANSI Z88.2 (1992)	Respiratory Protection

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 732 (1995)	Aging Effects of Artificial Weathering on Latex Sealants
ASTM D 522 (1993a)	Mandrel Bend Test of Attached Organic Coatings
ASTM D 1331 (1989; R 1995)	Surface and Interfacial Tension of Solutions of Surface-ActiveAgents
ASTM D 2794 (1993)	Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
ASTM D 4397 (1996)	Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications
ASTM E 84 (1996a)	Surface Burning Characteristics of Building Materials
ASTM E 96 (1995)	Water Vapor Transmission of Materials
ASTM E 119 (1995a)	Fire Tests of Building Construction and Materials
ASTM E 736 (1992)	Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members
ASTM E 1368 (1997)	Visual Inspection of Asbestos Abatement Projects

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 61	National Emissions Standards for Hazardous Air Pollutants
40 CFR 763	Asbestos
42 CFR 84	Approval of Respiratory Protective Devices
49 CFR 107	Hazardous Materials Program Procedures
49 CFR 171	General Information, Regulations and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packagings

COMPRESSED GAS ASSOCIATION (CGA)

CGA G-7 (1990)	Compressed Air for Human Respiration
CGA G-7.1 (1989)	Commodity Specification for Air

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 340/1-90-018 (1990)	Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance
EPA 340/1-90-019 (1990)	Asbestos/NESHAP Adequately Wet Guidance
EPA 560/5-85-024 (1985)	Guidance for Controlling Asbestos-Containing Materials in Buildings
SCAQMD Rule 1403	Asbestos Emissions from Renovation/Demolition Activities

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 701 (1996)	Methods of Fire Test for Flame-Resistant Textiles and Films

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH Pub No. 84-100 (1984; Supple 1985, 1987, 1988 & 1990)
NIOSH Manual of Analytical Methods

UNDERWRITERS LABORATORIES (UL)

UL 586 (1996)	High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

A. Adequately Wet: A term defined in 40 CFR 61, Subpart M, and EPA 340/1-90-019 meaning to sufficiently mix or penetrate with liquid to prevent the release of particulate. If visible emissions are observed coming from asbestos-containing material (ACM), then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wetted.

B. Aggressive Method: Removal or disturbance of building material by sanding, abrading, grinding, or other method that breaks, crumbles, or disintegrates intact asbestos-containing material (ACM).

C. Amended Water: Water containing a wetting agent or surfactant with a surface tension of at least 29 dynes per square centimeter when tested in accordance with ASTM D 1331.

D. Asbestos: Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophylite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered.

E. Asbestos-Containing Material (ACM): Any materials containing more than one percent asbestos.

F. Asbestos Fiber: A particulate form of asbestos, 5 micrometers or longer, with a length-to-width ratio of at least 3 to 1.

G. Authorized Person: Any person authorized by the Contractor and required by work duties to be present in the regulated areas.

H. Building Inspector: Individual who inspects buildings for asbestos and has EPA Model Accreditation Plan (MAP) "Building Inspector" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

I. Certified Industrial Hygienist (CIH): An Industrial Hygienist certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

J. Class I Asbestos Work: Activities defined by OSHA involving the removal of thermal system insulation (TSI) and surfacing ACM.

K. Class II Asbestos Work: Activities defined by OSHA involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos- containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic. Certain "incidental" roofing materials such as mastic, flashing and cements when they are still intact are excluded from Class II asbestos work. Removal of small amounts of these materials which would fit into a glovebag may be classified as a Class III job.

L. Class III Asbestos Work: Activities defined by OSHA that involve repair and maintenance operations, where ACM, including TSI and surfacing ACM, is likely to be disturbed. Operations may include drilling, abrading, cutting a hole, cable pulling, crawling through tunnels or attics and spaces above the ceiling, where asbestos is actively disturbed or asbestos-containing debris is actively disturbed.

M. Class IV Asbestos Work: Maintenance and custodial construction activities during which employees contact but do not disturb ACM and activities to clean-up dust, waste and debris resulting from Class I, II, and III activities. This may include dusting surfaces where ACM waste and debris and accompanying dust exists and cleaning up loose ACM debris from TSI or surfacing ACM following construction.

N. Clean room: An uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

O. Competent Person: In addition to the definition in 29 CFR 1926, Section .32(f), a person who is capable of identifying existing asbestos hazards as defined in 29 CFR 1926, Section .1101, selecting the appropriate control strategy, has the authority to take prompt corrective measures to eliminate them and has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

P. Contractor/Supervisor: Individual who supervises asbestos abatement work and has EPA Model Accreditation Plan "Contractor/Supervisor" training; accreditation required by 40 CFR 763, Subpart E, Appendix C.

Q. Critical Barrier: One or more layers of plastic sealed over all openings into a regulated area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a regulated area from migrating to an adjacent area.

R. Decontamination Area: An enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

S. Demolition: The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

T. Disposal Bag: A 0.15 mm 6 mil thick, leak-tight plastic bag, pre-labeled in accordance with 29 CFR 1926, Section .1101, used for transporting asbestos waste from containment to disposal site.

U. Disturbance: Activities that disrupt the matrix of ACM, crumble or pulverize ACM, or generate visible debris from ACM. Disturbance includes cutting away small amounts of ACM, no greater than the amount which can be contained in 1 standard sized glovebag or waste bag, not larger than 1.5 m 60 inches in length and width in order to access a building component.

V. Equipment Room or Area: An area adjacent to the regulated area used for the decontamination of employees and their equipment.

W. Employee Exposure: That exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

X. Fiber: A fibrous particulate, 5 micrometers or longer, with a length to width ratio of at least 3 to 1.

Y. Friable ACM: A term defined in 40 CFR 61, Subpart M and EPA 340/1-90-018 meaning any material which contains more than 1percent asbestos, as determined using the method specified in 40 CFR 763, Subpart E, Appendix A, Section 1, Polarized Light Microscopy (PLM), that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. If the asbestos content is less than 10 percent, as determined by a method other than point counting by PLM, the asbestos content is verified by point counting using PLM.

Z. Glovebag: Not more than a 1.5 by 1.5 m 60 by 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which material and tools may be handled.

AA. High-Efficiency Particulate Air (HEPA) Filter: A filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

BB. Homogeneous Area: An area of surfacing material or thermal system insulation that is uniform in color and texture.

CC. Industrial Hygienist: A professional qualified by education, training, and experience to anticipate, recognize, evaluate, and develop controls for occupational health hazards.

DD. Intact: ACM which has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix. Removal of "intact" asphaltic, resinous, cementitious products does not render the ACM non-intact simply by being separated into smaller pieces.

EE. Model Accreditation Plan (MAP): USEPA training accreditation requirements for persons who work with asbestos as specified in 40 CFR 763, Subpart E, Appendix C.

FF. Modification: A changed or altered procedure, material or component of a control system, which replaces a procedure, material or component of a required system.

GG. Negative Exposure Assessment: A demonstration by the Contractor to show that employee exposure during an operation is expected to be consistently below the OSHA Permissible Exposure Limits (PELs).

HH. NESHAP: National Emission Standards for Hazardous Air Pollutants. The USEPA NESHAP regulation for asbestos is at 40 CFR 61, Subpart M.

II. Nonfriable ACM: A NESHAP term defined in 40 CFR 61, Subpart M and EPA 340/1-90-018 meaning any material containing more than 1 percent asbestos, as determined using the method specified in 40 CFR 763, Subpart E, Appendix A, Section 1, Polarized Light Microscopy, that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.

JJ. Nonfriable ACM (Category I): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90-018 meaning asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in 40 CFR 763, Subpart F, Appendix A, Section 1, Polarized Light Microscopy.

KK. Nonfriable ACM (Category II): A NESHAP term defined in 40 CFR 61, Subpart E and EPA 340/1-90-018 meaning any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos, as determined using the methods specified in 40 CFR 763, Subpart F, Appendix A, Section 1, Polarized Light Microscopy, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

LL. Permissible Exposure Limits (PELs):

(1) PEL-Time weighted average(TWA): Concentration of asbestos not in excess of 0.1 fibers per cubic centimeter of air (f/cc) as an 8 hour time weighted average (TWA), as determined by the method prescribed in 29 CFR 1926, Section .1101, Appendix A, or the current version of NIOSH Pub No. 84-100 analytical method 7400.

(2) PEL-Excursion Limit: An airborne concentration of asbestos not in excess of 1.0 f/cc of air as averaged over a sampling period of 30 minutes as determined by the method prescribed in 29 CFR 1926, Section .1101, Appendix A, or the current version of NIOSH Pub No. 84-100 analytical method 7400.

MM. Regulated Area: An OSHA term defined in 29 CFR 1926, Section .1101 meaning an area established by the Contractor to demarcate areas where Class I, II, and III asbestos work is conducted; also any adjoining area where debris and waste from such asbestos work accumulate; and an area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit.

NN. Removal: All operations where ACM is taken out or stripped from structures or substrates, and includes demolition operations.

OO. Repair: Overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM attached to structures or substrates. If the amount of asbestos so "disturbed" cannot be contained in 1 standard glovebag or waste bag, Class I precautions are required.

PP. Spills/Emergency Cleanups: Cleanup of sizable amounts of asbestos waste and debris which has occurred, for example, when water damage occurs in a building, and sizable amounts of ACM are dislodged. A Competent Person evaluates the site and ACM to be handled, and based on the type, condition and extent of the dislodged material, classifies the cleanup as Class I, II, or III. Only if the material was intact and the cleanup involves mere contact of ACM, rather than disturbance, could there be a Class IV classification.

QQ. Surfacing ACM: Asbestos-containing material which contains more than 1% asbestos and is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

RR. Thermal system insulation (TSI) ACM: ACM which contains more than 1% asbestos and is applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain or water condensation.

SS. Transite: A generic name for asbestos cement wallboard and pipe.

TT. Worker: Individual (not designated as the Competent Person or a supervisor) who performs asbestos work and has completed asbestos worker training required by 29 CFR 1926, Section .1101, to include EPA Model Accreditation Plan (MAP) "Worker" training; accreditation required by 40 CFR 763, Subpart E, Appendix C, if required by the OSHA Class of work to be performed or by the state where the work is to be performed.

1.3 DESCRIPTION OF WORK

1.3.1 The work covered by this section includes the removal of the asbestos-containing materials and demolition services required to facilitate access to the ACM, where the ACM is impacted by the planned modernization work. ACM that are likely to be impacted by the modernization project identified during our inspection include the following:

Building	Material	Location	Estimated Quantity
A Building	Transite Vent Pipes	Roof Vents	10 LF
B Building	Roof Penetration Mastics	Roof Penetrations, Patches & AC Units	100 SF
C Buildings	Roof Penetration Mastics	Roof Penetrations, Patches & AC Units	150 SF
	Exterior Metal Wall Texture	C4-C5 Exterior Walls	2,000 SF
	Exterior Metal Wall Texture	C6-C8 Exterior Walls	3,600 SF
Kitchen Building	Exterior Metal Wall Texture	C6-C8 Exterior Walls	800 SF
	Roof Penetration Mastics	Roof Penetrations	20 SF

1.3.2 All work described or included in paragraph 1.3.1 shall be performed by the hazardous materials abatement contractor utilizing trained and AHERA certified asbestos workers. The only exception to this requirement may be the removal of intact non-asbestos-containing furnishings and equipment from the building prior to initiating any demolition activity and when such removal of intact materials or equipment does not have the potential for disturbing asbestos-containing materials.

1.3.3 The Work shall be performed in phases so as to maximize safety and minimize the potential for mixing hazardous and non-hazardous waste streams during their removal, transportation and disposal.

1.4 SUBMITTALS

1.4.1 Pre-Job Submittals: Prior to commencement of work, Contractor shall submit (two copies) to Owner's Representative documentation that includes, without limitation, the following:

A. Submit copies of licenses and registrations required by these specifications (include copies of subcontractor's licenses).

B. The Contractor shall carry comprehensive bodily injury and property damage liability insurance provided by an A-rated California Admitted Carrier with a combined single limit of $2,000,000.00 per occurrence. The insurance policy shall provide coverage for all liability arising out of or related to the Project or to the performance of the Work including asbestos and unintentional release of hazardous materials. The Contractor's insurance policies shall contain a 30-day Notice of Cancellation clause and shall list the following individuals and entities as Certificate holders and Additional Insured, San Bernardino City Unified School District and Pacific Environmental Company.

C. Submit copies written notification to the appropriate regulatory agencies (SCAQMD and CalOSHA).

D. Submit proof that required permits, site location and arrangements for transport and disposal of asbestos-containing waste materials have been made.

E. Submit proof of legal right to use patented equipment or processes.

F. Manufacturer's certification that HEPA vacuums, differential pressure air filtration devices and other local exhaust ventilation equipment conform to ANSI Z9.2-79.

G. Submit a construction schedule indicating milestones and dates of completion for each phase of the Work.

H. Submit documentation that Contractor's employees, including foreman, supervisor, and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received training as required by 29 CFR 1926.1101.

I. Submit documentation from Physician that all employees or agents who may be exposed to airborne asbestos fibers in excess of background levels have received medical monitoring to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. The Contractor must be aware of and provide information to the examining physician about unusual conditions in the workplace environment (e.g. high temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities.

J. Submit documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. This fit-testing shall be in accordance with qualitative procedures as required by OSHA regulations or be quantitative in nature.

K. Submit a project specific work plan.

L. Submit an emergency preparedness plan.

1.4.2 Ongoing Submittals: During abatement activities, Contractor shall submit to Owner's Representative documentation that includes, without limitation, the following:

A. Submit copies of the work area entry/exit log book. Log book must record name, affiliation, time in, and time out for each entry into the work area.

B. Submit copies of logs documenting filter changes on respirators, HEPA vacuums, differential pressure air filtration devices, water filtration device, and other engineering controls.

C. Submit copies of Material Safety Data Sheets (MSDS) for solvents, encapsulants, wetting agents and replacement materials, as necessary.

D. Submit results of all required OSHA air monitoring. Results shall be available prior to the start of the following shift and within 24 hours of completion of the last shift.

E. Submit copies of all accident/incident reports where injury or damage has occurred on or to the Owner's property.

F. Submit copies of all transport manifests, trip tickets and disposal receipts for all asbestos waste materials removed from the work area within 24 hours of the transport.

1.5 QUALIFICATIONS

1.5.1 Written Qualifications and Organization Report

The Contractor shall furnish a written qualifications and organization report providing evidence of qualifications of the Contractor, Contractor's Project Supervisor, Designated Competent Person, supervisors and workers; independent testing laboratory: all subcontractors to be used including disposal transportation and disposal facility firms, subcontractor supervisors, subcontractor workers; and any others assigned to perform asbestos abatement and support activities. The report shall include an organization chart showing the Contractor's staff organization for this project by name and title, chain of command and reporting relationship with all subcontractors. The report shall be signed by the Contractor, the Contractor's onsite project manager, Designated Competent Person, designated testing laboratory and the principals of all subcontractors to be used. The Contractor shall include the following statement in the report: "By signing this report I certify that the personnel I am responsible for during the course of this project fully understand the contents of 29 CFR 1926, Section .1101, 40 CFR 61, Subpart M, and the federal, state and local requirements specified in paragraph SAFETY AND HEALTH PROGRAM AND PLANS for those asbestos abatement activities that they will be involved in."

1.5.2 Specific Requirements

The Contractor shall designate in writing, personnel meeting the following qualifications:

A. Designated Competent Person: The name, address, telephone number, and resume of the Contractor's Designated Competent Person shall be provided. Evidence that the full-time Designated Competent Person is qualified in accordance with 29 CFR 1926, Sections .32 and .1101, has EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by 40 CFR 763, Subpart E, Appendix C, and is experienced in the administration and supervision of asbestos abatement projects, including exposure assessment and monitoring, work practices, abatement methods, protective measures for personnel, setting up and inspecting asbestos abatement work areas, evaluating the integrity of containment barriers, placement and operation of local exhaust systems, ACM generated waste containment and disposal procedures, decontamination units installation and maintenance requirements, site safety and health requirements, notification of other employees onsite, etc. The duties of the Competent Person shall include the following: controlling entry to and exit from the regulated area; supervising any employee exposure monitoring required by 29 CFR 1926, Section .1101; ensuring that all employees working

within a regulated area wear the appropriate personal protective equipment (PPE), are trained in the use of appropriate methods of exposure control, and use the hygiene facilities and decontamination procedures specified; and ensuring that engineering controls in use are in proper operating conditions and are functioning properly. The Designated Competent Person shall be responsible for compliance with applicable federal, state and local requirements, the Contractor's Accident Prevention Plan and Asbestos Hazard Abatement Plan. The Designated Competent Person shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that this person has a minimum of 2 years of on-the-job asbestos abatement experience relevant to OSHA competent person requirements. The Designated Competent Person shall be onsite at all times during the conduct of this project.

B. Project and Other Supervisors: The Contractor shall provide the name, address, telephone number, and resume of the Project Supervisor and other supervisors who have responsibility to implement the Accident Prevention Plan, including the Asbestos Hazard Abatement Plan and Activity Hazard Analyses, the authority to direct work performed under this contract and verify compliance, and have EPA Model Accreditation Plan (MAP) "Contractor/Supervisor" training accreditation required by 40 CFR 763, Subpart E, Appendix C. The Project Supervisor and other supervisors shall provide, and the Contractor shall submit, the "Contractor/Supervisor" course completion certificate and the most recent certificate for required refresher training with the employee "Certificate of Worker Acknowledgment" required by this paragraph. The Contractor shall submit evidence that the Project Supervisor has a minimum of 2 years of on-the-job asbestos abatement experience relevant to project supervisor responsibilities and the other supervisors have a minimum of 1 year on-the-job asbestos abatement experience commensurate with the responsibilities they will have on this project.

C. Asbestos Abatement Workers: Asbestos abatement workers shall meet the requirements contained in 29 CFR 1926, Section .1101, 40 CFR 61, Subpart M, and other applicable federal, state and local requirements. Worker training documentation shall be provided as required on the "Certificate of Workers Acknowledgment" in this paragraph.

D. Worker Training and Certification of Worker Acknowledgment: Training documentation will be required for each employee who will perform OSHA Class I, Class II, Class III, or Class IV asbestos abatement operations. Such documentation shall be submitted on a Contractor generated form titled "Certificate of Workers Acknowledgment", to be completed for each employee in the same format and containing the same information as the example certificate at the end of this section. Training course completion certificates (initial and most recent update refresher) required by the information checked on the form shall be attached.

E. First Aid and CPR Trained Persons: The names of at least 2 persons who are currently trained in first aid and CPR by the American Red Cross or other approved agency shall be designated and shall be onsite at all times during site operations. They shall be trained in universal precautions and the use of PPE as described in the Bloodborne Pathogens Standard of 29 CFR 1910, Section. These persons may perform other duties but shall be immediately available to render first aid when needed. A copy of each designated person's current valid First Aid and CPR certificate shall be provided.

F. Disposal Facility, Transporter: The Contractor shall provide written evidence that the landfill to be used is approved for asbestos disposal by the USEPA, state and local regulatory agencies. Copies of signed agreements between the Contractor (including subcontractors and transporters) and the asbestos waste disposal facility to accept and dispose of all asbestos containing waste generated during the performance of this contract shall be provided. Qualifications shall be provided for each

subcontractor or transporter to be used, indicating previous experience in transport and disposal of asbestos waste to include all required state and local waste hauler requirements for asbestos. The Contractor and transporters shall meet the DOT requirements of 49 CFR 171, 49 CFR 172, and 49 CFR 173 as well as registration requirements of 49 CFR 107 and other applicable state or local requirements. The disposal facility shall meet the requirements of 40 CFR 61, Sections .154 or .155, as required in 40 CFR 61, Section .150(b), and other applicable state or local requirements.

1.5.3 Federal, State or Local Citations on Previous Projects

The Contractor and all subcontractors shall submit a statement, signed by an officer of the company, containing a record of any citations issued by Federal, State or local regulatory agencies relating to asbestos activities (including projects, dates, and resolutions); a list of penalties incurred through non-compliance with asbestos project specifications, including liquidated damages, overruns in scheduled time limitations and resolutions; and situations in which an asbestos-related contract has been terminated (including projects, dates, and reasons for terminations). If there are none, a negative declaration signed by an officer of the company shall be provided.

1.6 MEDICAL REQUIREMENTS

Medical requirements shall conform to 29 CFR 1926, Section .1101.

1.6.1 Medical Examination

Before being exposed to airborne asbestos fibers, workers shall be provided with a medical examination as required by 29 CFR 1926, Section .1101 and other pertinent state or local requirements. This requirement shall have been satisfied within the last 12 months. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos and within 30 calendar days before or after the termination of employment in such occupation. X-ray films of asbestos workers shall be identified to the consulting radiologist and medical record jackets shall be marked with the word "asbestos."

1.6.1.1 Information Provided to the Physician

The Contractor shall provide the following information in writing to the examining physician:

a. A copy of 29 CFR 1926, Section .1101 and Appendices D, E, G, and I;
b. A description of the affected employee's duties as they relate to the employee's exposure;
c. The employee's representative exposure level or anticipated exposure level;
d. A description of any personal protective and respiratory equipment used or to be used;
e. Information from previous medical examinations of the affected employee that is not otherwise available to the examining physician.

1.6.1.2 Written Medical Opinion

For each worker, a written medical opinion prepared and signed by a licensed physician indicating the following:

a. Summary of the results of the examination.

b. The potential for an existing physiological condition that would place the employee at an increased risk of health impairment from exposure to asbestos.
c. The ability of the individual to wear personal protective equipment, including respirators, while performing strenuous work tasks under cold and/or heat stress conditions.
d. A statement that the employee has been informed of the results of the examination, provided with a copy of the results, informed of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure, and informed of any medical condition that may result from asbestos exposure.

1.6.2 Medical and Exposure Records

Complete and accurate records shall be maintained of each employee's medical examinations, medical records, and exposure data, as required by 29 CFR 1910, Section 1910.20 and 29 CFR 1926, Section .1101 for a period of 50 years after termination of employment. Records of the required medical examinations and exposure data shall be made available, for inspection and copying, to the Assistant Secretary of Labor for Occupational Safety and Health (OSHA) or authorized representatives of the employee and an employee's physician upon request of the employee or former employee. A copy of the required medical certification for each employee shall be maintained on file at the worksite for review, as requested by the Owner's representatives.

1.7 TRAINING PROGRAM

1.7.1 General Training Requirements

The Contractor shall establish a training program as specified by EPA Model Accreditation Plan (MAP), training requirements at 40 CFR 763, Subpart E, Appendix C, the State of California, OSHA requirements at 29 CFR 1926, Section .1101(k)(9), and this specification. Contractor employees shall complete the required training for the type of work they are to perform and such training shall be documented.

1.7.2 Project Specific Training

Prior to commencement of work, each worker shall be instructed by the Owner's Representative and Competent Person in the following project specific training:

a. The hazards and health effects of the specific types of ACM to be abated;
b. The content and requirements of the Contractor's Accident Prevention Plan to include the Asbestos Hazard Abatement Plan and Activity Hazard Analyses and site-specific safety and health precautions;
c. Hazard Communication Program;
d. Hands-on training for each asbestos abatement technique to be employed;
e. Heat and/or cold stress monitoring specific to this project;
f. Air monitoring program and procedures;
g. Medical surveillance to include medical and exposure record-keeping procedures;
h. The association of cigarette smoke and asbestos-related disease;
i. Security procedures;
j. Specific work practice controls and engineering controls required for each Class of work in accordance with 29 CFR 1926, Section .1101.

1.8 RESPIRATORY PROTECTION PROGRAM

The Contractor shall establish in writing, and implement a respiratory protection program in accordance with 29 CFR 1926, Section .1101, 29 CFR 1910, Section .134, ANSI Z88.2, CGA G-7, CGA G-7.1 and DETAIL SHEET 12. The Contractor shall establish minimum respiratory protection requirements based on measured or anticipated levels of airborne asbestos fiber concentrations encountered during the performance of the asbestos abatement work. The Contractor's respiratory
protection program shall include, but not be limited to, the following elements:

A. The company policy, used for the assignment of individual responsibility, accountability, and implementation of the respiratory protection program.

B. The standard operating procedures covering the selection and use of respirators. Respiratory selection shall be determined by the hazard to which the worker is exposed.

C. Medical evaluation of each user to verify that the worker may be assigned to an activity where respiratory protection is required.

D. Training in the proper use and limitations of respirators.

E. Respirator fit-testing, i.e., quantitative, qualitative and individual functional fit checks.

F. Regular cleaning and disinfection of respirators.

G. Routine inspection of respirators during cleaning and after each use when designated for emergency use.

H. Storage of respirators in convenient, clean, and sanitary locations.

I. Surveillance of regulated area conditions and degree of employee exposure (e.g., through air monitoring).

J. Regular evaluation of the continued effectiveness of the respiratory protection program.

K. Recognition and procedures for the resolution of special problems as they affect respirator use (e.g., no facial hair that comes between the respirator face piece and face or interferes with valve function; prescription eye wear usage; contact lenses usage; etc.).

L. Proper training in putting on and removing respirators.

1.8.1 Respiratory Fit Testing

A qualitative or quantitative fit test conforming to 29 CFR 1926, Section 1101, Appendix C shall be conducted by the Contractor Competent Person for each Contractor worker required to wear a respirator, and for authorized visitors who enter a regulated area where respirators are required to be worn. A respirator fit test shall be performed for each worker wearing a negative-pressure respirator prior to initially wearing a respirator on this project and every 6 months thereafter. The qualitative fit tests may be used only for testing the fit of half-mask respirators where they are permitted to be worn, or of full-facepiece air purifying respirators where they are worn at levels at which half-facepiece air purifying respirators are permitted. If physical changes develop that will affect the fit, a new fit test for the worker shall be performed. Functional fit checks shall be performed by employees each time a respirator is put on and in accordance with the manufacturer's recommendation.

1.8.2 Respirator Selection and Use Requirements

The Contractor shall provide respirators, and ensure that they are used as required by 29 CFR 1926, Section .1101 and in accordance with the manufacturer's recommendations. Respirators shall be jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health (MSHA/NIOSH), or by NIOSH, under the provisions of 42 CFR 84, for use in environments containing airborne asbestos fibers. Personnel who handle ACM, enter regulated areas that require the wearing of a respirator, or who are otherwise carrying out abatement activities that require the wearing of a respirator, shall be provided with approved respirators that are fully protective of the worker at the measured or anticipated airborne asbestos concentration level to be encountered. For air-purifying respirators, the particulate filter portion of the cartridges or canister approved for use in airborne asbestos environments shall be high-efficiency particulate air (HEPA). The initial respirator selection and the decisions regarding the upgrading or downgrading of respirator type shall be made by the Owner's Representative based on the measured or anticipated airborne asbestos fiber concentrations to be encountered. The Contractor's Designated Competent Person in consultation with the Owner's Representative, shall have the authority to take immediate action to upgrade or downgrade respiratory type when there is an immediate danger to the health and safety of the wearer. Respirators shall be used in the following circumstances:

a. During all Class I asbestos jobs.
b. During all Class II work where the ACM is not removed in a substantially intact state.
c. During all Class II and III work which is not performed using wet methods. Respirators need not be worn during removal of ACM from sloped roofs when a negative exposure assessment has been made and ACM is removed in an intact state.
d. During all Class II and III asbestos jobs where the Contractor does not produce a negative exposure assessment.
e. During all Class III jobs where TSI or surfacing ACM is being disturbed.
f. During all Class IV work performed within regulated areas where employees performing other work are required to wear respirators.
g. During all work where employees are exposed above the PEL-TWA or PEL-Excursion Limit.
h. In emergencies

1.8.3 Class I Work

The Contractor shall provide: (1) a tight-fitting, powered air purifying respirator equipped with high efficiency filters, or (2) a full-facepiece supplied air respirator operated in the pressure demand mode, equipped with HEPA egress cartridges, or (3) an auxiliary positive pressure self-contained breathing apparatus, for all employees within the regulated area where Class I work is being performed; provided that a negative exposure assessment has not been produced, and that the exposure level will not exceed 1 f/cc as an 8-hour time weighted average. A full-facepiece supplied air respirator, operated in the pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus shall be provided under such conditions, if the exposure assessment indicates exposure levels above 1 f/cc as an 8-hour time weighted average.

1.8.4 Class II and III Work

The Contractor shall provide an air purifying respirator, other than a disposable respirator, equipped with high-efficiency filters whenever the employee performs Class II and III asbestos jobs where the Contractor does not produce a negative exposure assessment; and Class III jobs where TSI or surfacing ACM is being disturbed.

1.8.5 Sanitation

Employees who wear respirators shall be permitted to leave work areas to wash their faces and respirator facepieces whenever necessary to prevent skin irritation associated with respirator use.

1.9 HAZARD COMMUNICATION PROGRAM

A hazard communication program shall be established and implemented in accordance with 29 CFR 1926, Section .59. Material safety data sheets (MSDSs) shall be provided for all hazardous materials brought onto the worksite. One copy shall be provided to the Owner's Representative and 1 copy shall be included in the Contractor's Hazard Communication Program.

1.10 LICENSES, PERMITS AND NOTIFICATIONS

1.10.1 General Legal Requirements

Necessary licenses, permits and notifications shall be obtained in conjunction with the project's asbestos abatement, transportation and disposal actions and timely notification furnished of such actions as required by federal, state, regional, and local authorities. The Contractor shall notify the SCAWMD and CalOSHA in writing, at least 14 days prior to the commencement of work, in accordance with 40 CFR 61, Subpart M, and state and local requirements to include the mandatory "Notification of Demolition and Renovation Record" form and other required notification documents. The Contractor shall furnish copies of the notifications to the Owner's Representative at least 3 days prior to the projects scheduled start date. For licenses, permits, and notifications that the Contractor is responsible for obtaining, the Contractor shall pay any associated fees or other costs incurred.

1.10.2 Litigation and Notification

The Contractor shall notify the Owner's Representative if any of the following occur:

a. The Contractor or any of the subcontractors are served with notice of violation of any law, regulation, permit or license which relates to this contract;
b. Proceedings are commenced which could lead to revocation of related permits or licenses; permits, licenses or other Government authorizations relating to this contract are revoked;
c. Litigation is commenced which would affect this contract;
d. The Contractor or any of the subcontractors become aware that their equipment or facilities are not in compliance or may fail to comply in the future with applicable laws or regulations.

1.11 PERSONAL PROTECTIVE EQUIPMENT

Three complete sets of personal protective equipment shall be made available to the authorized visitors for entry to the regulated area. Authorized visitors shall be provided with training equivalent to that provided to Contractor employees in the selection, fitting, and use of the required personal protective equipment and the site safety and health requirements. Contractor workers shall be provided with personal protective clothing and equipment and the Contractor shall ensure that it is worn properly. The Owner's Representative and Designated Competent Person shall select and approve all the required personal protective clothing and equipment to be used.

1.11.1 Respirators

Respirators shall be in accordance with paragraph RESPIRATORY PROTECTION PROGRAM.

1.11.2 Whole Body Protection

Personnel exposed to airborne concentrations of asbestos that exceed the PELs, or for all OSHA Classes of work for which a required negative exposure assessment is not produced, shall be provided with whole body protection and such protection shall be worn properly. The Owner's Representative and Competent Person shall select and approve the whole body protection to be used. The Competent Person shall examine work suits worn by employees at least once per work shift for rips or tears that may occur during performance of work. When rips or tears are detected while an employee is working, rips and tears shall be immediately mended, or the work suit shall be immediately replaced. Disposable whole body protection shall be disposed of as asbestos contaminated waste upon exiting from the regulated area. Reusable whole body protection worn shall be either disposed of as asbestos contaminated waste upon exiting from the regulated area or be properly laundered in accordance with 29 CFR 1926, Section .1101. Whole body protection used for asbestos abatement shall not be removed from the worksite by a worker to be cleaned. The Contractor's Designated Competent Person, in consultation with the Owner's Representative, has the authority to take immediate action to upgrade or downgrade whole body protection when there is an immediate danger to the health and safety of the wearer.

1.11.2.1 Coveralls: Disposable coveralls with a zipper front shall be provided. Sleeves shall be secured at the wrists, and foot coverings secured at the ankles.

1.11.2.2 Underwear: Disposable underwear shall be provided. If reusable underwear are used, they shall be disposed of as asbestos contaminated waste or laundered in accordance with 29 CFR 1926, Section .1101. Asbestos abatement workers shall not remove contaminated reusable underwear worn during abatement of ACM from the site to be laundered.

1.11.2.3 Work Clothing: An additional coverall shall be provided when the abatement and control method employed does not provide for the exit from the regulated area directly into an attached decontamination unit. Cloth work clothes for wear under the protective coverall, and foot coverings, shall be provided when work is being conducted in low temperature conditions. Cloth work clothes shall be either disposed of as asbestos contaminated waste or properly laundered in accordance with 29 CFR 1926, Section .1101.

1.11.2.4 Gloves: Gloves shall be provided to protect the hands. Where there is the potential for hand injuries (i.e., scrapes, punctures, cuts, etc.) a suitable glove shall be provided and used.

1.11.2.5 Foot Coverings: Cloth socks shall be provided and worn next to the skin. Footwear, as required by OSHA, that is appropriate for safety and health hazards in the area shall be worn. Rubber boots shall be used in moist or wet areas. Reusable footwear removed from the regulated area shall be thoroughly decontaminated or disposed of as ACM waste. Disposable protective foot covering shall be disposed of as ACM waste. If rubber boots are not used, disposable foot covering shall be provided.

1.11.2.6 Head Covering: Hood type disposable head covering shall be provided. In addition, protective head gear (hard hats) shall be provided as required. Hard hats shall only be removed from the regulated area after being thoroughly decontaminated.

1.11.2.7 Protective Eye Wear: Eye protection provided shall be in accordance with ANSI Z87.1.

1.12 HYGIENE FACILITIES AND PRACTICES

The Contractor shall establish a decontamination area for the decontamination of employees, material and equipment. The Contractor shall ensure that employees enter and exit the regulated area through the decontamination area.

1.12.1 Shower Facilities

Shower facilities, when provided, shall comply with 29 CFR 1910, Section 141(d)(3).

1.12.2 3-Stage Decontamination Area

The decontamination unit shall have an equipment room and a clean room separated by a shower that complies with 29 CFR 1910, Section .141 (unless the Contractor can demonstrate that such facilities are not feasible). Equipment and surfaces of containers filled with ACM shall be cleaned prior to removing them from the equipment room or area. Surfaces of the equipment room shall be wet wiped 2 times after each shift. Materials used for wet wiping shall be disposed of as asbestos contaminated waste. Two separate lockers shall be provided for each asbestos worker, one in the equipment room and one in the clean room. [Hot water service may be secured from the building hot water system provided backflow protection is installed by the Contractor at the point of connection. The wastewater pump shall be sized for 1.25 times the showerhead flow-rate at a pressure head sufficient to satisfy the filter head loss and discharge line losses. The pump shall supply a minimum 1.6 L/s 25 gpm flow with 10.7 m35 ft. of pressure head. Used shower water shall be collected and filtered to remove asbestos contamination. Filters and residue shall be disposed of as asbestos contaminated. Filtered water shall be discharged to the sanitary system. Wastewater filters shall be installed in series with the first stage pore size of 20 microns and the second stage pore size of 5 microns. The floor of the decontamination unit's clean room shall be kept dry and clean at all times. Water from the shower shall not be allowed to wet the floor in the clean room. Surfaces of the clean room and shower shall be wet-wiped 2 times after each shift change with a disinfectant solution. Proper housekeeping and hygiene requirements shall be maintained. Soap and towels shall be provided for showering, washing and drying. Any cloth towels provided shall be disposed of as ACM waste or shall be laundered in accordance with 29 CFR 1926, Section .1101.

1.12.3 Load-Out Unit

A temporary load-out unit that is adjacent and connected to the regulated area may be constructed. Utilization of prefabricated units shall have prior approval of the Owner’s Representative. The load-out unit shall be attached in a leak-tight manner to each regulated area. Surfaces of the load-out unit and access tunnel shall be adequately wet-wiped 2 times after each shift change. Materials used for wet wiping shall be disposed of as asbestos contaminated waste.

1.12.4 Decontamination Area Entry Procedures

The Contractor shall ensure that employees entering the decontamination area through the clean room or clean area:

a. Remove street clothing in the clean room or clean area and deposit it in lockers.

b. Put on protective clothing and respiratory protection before leaving the clean room or clean area.
c. Pass through the equipment room to enter the regulated area.

1.12.5 Decontamination Area Exit Procedures

The Contractor shall ensure that the following procedures are followed:

a. Before leaving the regulated area, respirators shall be worn while employees remove all gross contamination and debris from their work clothing using a HEPA vacuum.
b. Employees shall remove their protective clothing in the equipment room and deposit the clothing in labeled impermeable bags or containers for disposal and/or laundering.
c. Employees shall not remove their respirators in the equipment room.
d. Employees shall shower prior to entering the clean room. If a shower has not been located between the equipment room and the clean room or the work is performed outdoors, the Contractor shall ensure that employees engaged in Class I asbestos jobs: a) Remove asbestos contamination from their work suits in the equipment room or decontamination area using a HEPA vacuum before proceeding to a shower that is not adjacent to the work area; or b) Remove their contaminated work suits in the equipment room, without cleaning worksuits, and proceed to a shower that is not adjacent to the work area.
e. After showering, employees shall enter the clean room before changing into street clothes.

1.12.6 Lunch Areas

The Contractor shall provide lunch areas in which the airborne concentrations of asbestos are below 0.01 f/cc.

1.12.7 Smoking

Smoking, shall not be permitted unless in designated areas approved by the Owner.

1.13 REGULATED AREAS

All Class I, II, and III asbestos work shall be conducted within regulated areas. The regulated area shall be demarcated to minimize the number of persons within the area and to protect persons outside the area from exposure to airborne asbestos. Where critical barriers or negative pressure enclosures are used, they shall demarcate the regulated area. Access to regulated areas shall be limited to authorized persons. The Contractor shall control access to regulated areas, ensure that only authorized personnel enter, and verify that Contractor required medical surveillance, training and respiratory protection program requirements are met prior to allowing entrance.

1.14 WARNING SIGNS AND TAPE

Warning signs and tape printed in English and Spanish shall be provided at the regulated boundaries and entrances to regulated areas. The Contractor shall ensure that all personnel working in areas contiguous to regulated areas comprehend the warning signs. Signs shall be located to allow personnel to read the signs and take the necessary protective steps required before entering the area. Warning signs, shall be in vertical format conforming to 29 CFR 1910 and 29 CFR 1926, Section .1101, a minimum of 500 by 350 mm 20 by 14 inches, and displaying the following legend in the lower panel:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE
REQUIRED IN THIS AREA

Spacing between lines shall be at least equal to the height of the upper of any two lines. Warning tape shall be provided.

1.15 WARNING LABELS

Warning labels shall be affixed to all asbestos disposal containers used to contain asbestos materials, scrap, waste debris, and other products contaminated with asbestos. Containers with preprinted warning labels conforming to requirements are acceptable. Warning labels conform to 29 CFR 1926, Section .1101 and shall be of sufficient size to be clearly legible displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

1.16 LOCAL EXHAUST VENTILATION

Local exhaust ventilation units shall conform to ANSI Z9.2 and 29 CFR 1926, Section .1101. Filters on local exhaust system equipment shall conform to ANSI Z9.2 and UL 586. Filter shall be UL labeled.

1.17 TOOLS

Vacuums shall be leak proof to the filter, equipped with HEPA filters, of sufficient capacity and necessary capture velocity at the nozzle or nozzle attachment to efficiently collect, transport and retain the ACM waste material. Power tools shall not be used to remove ACM unless the tool is equipped with effective, integral HEPA filtered exhaust ventilation capture and collection system, or has otherwise been approved for use by the Owner’s Representative. Residual asbestos shall be removed from reusable tools prior to storage and reuse. Reusable tools shall be thoroughly decontaminated prior to being removed from regulated areas.

1.18 RENTAL EQUIPMENT

If rental equipment is to be used, written notification shall be provided to the rental agency, concerning the intended use of the equipment, the possibility of asbestos contamination of the equipment and the steps that will be taken to decontaminate such equipment. A written acceptance of the terms of the Contractor's notification shall be obtained from the rental agency.

1.19 AIR MONITORING EQUIPMENT

The Owner’s Representative shall approve air monitoring equipment to be used to collect personal samples. The equipment shall include, but shall not be limited to:

a. Low-volume, battery powered, body-attachable, portable personal pumps that can be calibrated to a constant airflow up to approximately 3.5 liters per minute when equipped with a sampling train of tubing and filter cassette, and a self-contained rechargeable power pack capable of sustaining the calibrated flow rate for a minimum of 10 hours. The pumps shall also be equipped with an automatic flow control unit which shall maintain a constant flow, even as filter resistance increases due to accumulation of fiber and debris on the filter surface.
b. Single use standard 25 mm diameter cassette, open face, 0.8 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive extension cowl, and shrink bands, to be used with low flow pumps in accordance with 29 CFR 1926, Section .1101 for personal air sampling.
c. Single use standard 25 mm diameter cassette, open face, 0.45 micron pore size, mixed cellulose ester membrane filters and cassettes with 50 mm electrically conductive cowl, and shrink bands, to be used with high flow pumps when conducting environmental area sampling using NIOSH Pub No. 84-100 Methods 7400 and 7402, (and the transmission electric microscopy method specified at 40 CFR 763 if required).
d. Appropriate plastic tubing to connect the air sampling pump to the selected filter cassette.
e. A flow calibrator capable of calibration to within plus or minus 2 percent of reading over a temperature range of minus 20 to plus 60 degrees C minus 4 to plus 140 degrees F and traceable to a NIST primary standard.

1.20 EXPENDABLE SUPPLIES

1.20.1 Glovebag: Glovebags shall be provided as described in 29 CFR 1926, Section .1101. The glovebag assembly shall be 0.15 mm 6 mil thick plastic, prefabricated and seamless at the bottom with preprinted OSHA warning label.

1.20.2 Duct Tape: Industrial grade duct tape of appropriate widths suitable for bonding sheet plastic and disposal container shall be provided.

1.20.3 Disposal Container: Leak-tight (defined as solids, liquids, or dust that cannot escape or spill out) disposal containers shall be provided for ACM wastes as required by 29 CFR 1926 Section .1101.

1.20.4 Disposal Bags: Leak-tight bags, 0.15 mm 6 mil thick, shall be provided for placement of asbestos generated waste.

1.20.5 Sheet Plastic: Sheet plastic shall be polyethylene of 0.15 mm 6 mil minimum thickness and shall be provided in the largest sheet size necessary to minimize seams. Film shall be frosted or clear and conform to ASTM D 4397, except as specified below:

1.20.5.1 Flame Resistant: Where a potential for fire exists, flame-resistant sheets shall be provided. Film shall be frosted and shall conform to the requirements of NFPA 701.

1.20.5.2 Reinforced: Reinforced sheets shall be provided where high skin strength is required, such as where it constitutes the only barrier between the regulated area and the outdoor environment. The sheet stock shall consist of translucent, nylon-reinforced or woven-polyethylene thread laminated between 2 layers of polyethylene film. Film shall meet flame resistant standards of NFPA 701.

1.20.6 Amended Water: Amended water shall meet the requirements of ASTM D 1331.

1.20.7 Mastic Removing Solvent: Mastic removing solvent shall be nonflammable and shall not contain methylene chloride, glycol ether, or halogenated hydrocarbons. Solvents used onsite shall have a flash point greater than 60 degrees C. 140 degrees F.

1.20.8 Leak-tight Wrapping: Two layers of 0.15 mm 6 mil minimum thick polyethylene sheet stock shall be used for the containment of removed asbestos-containing components or materials such as reactor vessels, large tanks, boilers, insulated pipe segments and other materials too large to be placed in disposal bags. Upon placement of the ACM component or material, each layer shall be individually leak-tight sealed with duct tape.

1.20.9 Viewing Inspection Window: Where feasible, a minimum of 1 clear, 3 mm 1/8 inch thick, acrylic sheet, 450 by 610 mm 18 by 24 inches, shall be installed as a viewing inspection window at eye level on a wall in each containment enclosure. The windows shall be sealed leak-tight with industrial grade duct tape.

1.20.10 Wetting Agents: Removal encapsulant (a penetrating encapsulant) shall be provided when conducting removal abatement activities that require a longer removal time or are subject to rapid evaporation of amended water. The removal encapsulant shall be capable of wetting the ACM and retarding fiber release during disturbance of the ACM greater than or equal to that provided by amended water. Performance requirements for penetrating encapsulants are specified in paragraph ENCAPSULANTS.

1.21 MISCELLANEOUS ITEMS

A sufficient quantity of other items, such as, but not limited to: scrapers, brushes, brooms, staple guns, tarpaulins, shovels, rubber squeegees, dust pans, other tools, scaffolding, staging, enclosed chutes, wooden ladders, lumber necessary for the construction of containments, UL approved temporary electrical equipment, material and cords, ground fault circuit interrupters, water hoses of sufficient length, fire extinguishers, first aid kits, portable toilets, logbooks, log forms, markers with indelible ink, spray paint in bright color to mark areas, project boundary fencing, etc., shall be provided.

PART 2 PRODUCTS

2.1 ENCAPSULANTS

Encapsulants shall conform to USEPA requirements, shall contain no toxic or hazardous substances and no solvent and shall meet the following requirements:

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol
Life Expectancy, 20 yrs Accelerated Aging Test	ASTM C 732
Permeability, Min. 23 ng per Pa-sec-square m	ASTM E 96

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 730 N/m	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Min. 4.7 N-m (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 730 N/m	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Min.	ASTM D 2794

4.7 N-m (Gardner Impact Test)	
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119
Bond Strength, 1.5 kN/m (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

ALL ENCAPSULANTS

Requirement	Test Standard
Flame Spread - 25, Smoke Emission - 50	ASTM E 84
Combustion Toxicity Zero Mortality	Univ. of Pittsburgh Protocol
Life Expectancy, 20 yrs Accelerated Aging Test	ASTM C 732
Permeability, Minimum 0.4 perms	ASTM E 96

Additional Requirements for Bridging Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test, 50 pounds of force/foot	ASTM E 736
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test (Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Minimum 43 in-lb (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Penetrating Encapsulant

Requirement	Test Standard
Cohesion/Adhesion Test,	ASTM E 736

50 pounds of force/foot	
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test(Classified by UL for use over fibrous and cementitious sprayed fireproofing)	ASTM E 119
Impact Resistance, Minimum 43 in-lb (Gardner Impact Test)	ASTM D 2794
Flexibility, no rupture or cracking (Mandrel Bend Test)	ASTM D 522

Additional Requirements for Lockdown Encapsulant

Requirement	Test Standard
Fire Resistance, Negligible affect on fire resistance rating over 3 hour test(Tested with fireproofing over encapsulant applied directly to steel member)	ASTM E 119

ALL ENCAPSULANTS

Requirement	Test Standard
Bond Strength, 100 pounds of force/foot (Tests compatibility with cementitious and fibrous fireproofing)	ASTM E 736

2.2 ENCASEMENT PRODUCTS

This section has been deleted.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Asbestos abatement work tasks shall be performed as summarized in phase-specific Workplans which are to be used in conjunction with this master specification for abatement. The Contractor shall use the engineering controls and work practices required in 29 CFR 1926, Section .1101(g) in all operations regardless of the levels of exposure. Personnel shall wear and utilize protective clothing and equipment as specified. The Contractor shall not permit eating, smoking, drinking, chewing or applying cosmetics in the regulated area. All hot work (burning, cutting, welding, etc.) shall be conducted under controlled conditions in conformance with 29 CFR 1926, Section .352, Fire Prevention. Personnel of other trades, not engaged in asbestos abatement activities, shall not be exposed at any time to airborne concentrations of asbestos unless all the administrative and personal protective provisions of the Contractor's Accident Prevention Plan are complied with. Power to the regulated area shall be locked-out and tagged in accordance with 29 CFR 1910, and temporary electrical service with ground fault circuit interrupters shall be provided as needed. Temporary electrical service shall be disconnected when necessary for wet removal. The Contractor shall stop abatement work in the regulated area immediately when the airborne total fiber concentration: (1) equals or exceeds 0.01 f/cc, or the pre-abatement concentration, whichever is greater, outside the regulated area; or (2) equals or exceeds 1.0 f/cc inside the regulated area. The Contractor shall correct the condition to the satisfaction of the Owner’s Representative, including visual inspection and air sampling. Work shall resume only upon notification by the Owner’s Representative. Corrective actions shall be documented.

3.2 PROTECTION OF ADJACENT WORK OR AREAS TO REMAIN

Asbestos abatement shall be performed without damage to or contamination of adjacent work or area. Where such work or area is damaged or contaminated, as verified by the Owner’s Representative using visual inspection or sample analysis, it shall be restored to its original condition or decontaminated by the Contractor at no expense to the Owner, as deemed appropriate by the Owner’s Representative. When satisfactory visual inspection and air sampling analysis results are obtained and have been evaluated by the Owner’s Representative, work shall proceed.

3.3 TEMPORARY POWER

The Contractor shall provide a temporary power system of sufficient capacity to provide for the electrical demand for work covered under this specification.

The Contractor shall shut down and lock out electric power to the entire work area, and any interruption of power to other parts of the building shall be minimal, and coordinated with the Owner.

Contractor shall insure a safe installation (including ground faulting) of temporary power sources and equipment, and; Compliance with all applicable electrical code requirements and Cal-OSHA requirements for temporary electrical systems.

The temporary electrical service shall be sized to provide 150% of the maximum demand of the Contractor's equipment during the performance of the Project. Contractor shall provide a power distribution schedule and amperage calculation for all electrical devices to be used.

Contractor shall ensure that all power cords are free of cuts, nicks or other damage. Power cords shall not be allowed to gather or coil where they may create a trip hazard. Power cords repaired with duct tape will not be permitted inside contained areas.

3.4 BUILDING VENTILATION SYSTEM AND CRITICAL BARRIERS

Building ventilating systems supplying air into or returning air out of a regulated area shall be shut down and isolated by lockable switch or other positive means in accordance with 29 CFR 1910, Section .147. Air-tight critical barriers shall be installed on building ventilating openings located inside the regulated area that supply or return air from the building ventilation system or serve to exhaust air from the building. The critical barriers shall consist of 2 layers of polyethylene. Edges to wall, ceiling and floor surfaces shall be sealed with industrial grade duct tape. Critical barriers shall be installed.

3.5 TEMPORARY FACILITIES

If it is deemed necessary during the bidding of the project, the abatement contractor will provide a trailer with two separate offices, large enough to serve as the job site office. The offices will be air conditioned and the power will be provided by the Owner. The Owner will direct the Contractor as to the location of said field office.

3.6 METHODS OF COMPLIANCE

3.6.1 Mandated Practices

The Contractor shall employ proper handling procedures in accordance with 29 CFR 1926 and 40 CFR 61, Subpart M, and the specified requirements. The specific abatement techniques and items identified shall be detailed in the Contractor's Asbestos Hazard Abatement Plan including, but not limited to, details of construction materials, equipment, and handling procedures. The Contractor shall use the following engineering controls and work practices in all operations, regardless of the levels of exposure:

a. Vacuum cleaners equipped with HEPA filters to collect debris and dust containing ACM.
b. Wet methods or wetting agents to control employee exposures during asbestos handling, mixing, removal, cutting, application, and cleanup; except where it can be demonstrated that the use of wet methods is unfeasible due to, for example, the creation of electrical hazards, equipment malfunction, and in roofing.
c. Prompt clean-up and disposal in leak-tight containers of wastes and debris contaminated with asbestos.
d. Inspection and repair of polyethylene in work and high traffic areas.
e. Cleaning of equipment and surfaces of containers filled with ACM prior to removing them from the equipment room or area.

3.6.2 Control Methods

The Contractor shall use the following control methods to comply with the PELs:

a. Local exhaust ventilation equipped with HEPA filter dust collection systems;
b. Enclosure or isolation of processes producing asbestos dust;
c. Ventilation of the regulated area to move contaminated air away from the breathing zone of employees and toward a filtration or collection device equipped with a HEPA filter;
d. Use of other work practices and engineering controls;
e. Where the feasible engineering and work practice controls described above are not sufficient to reduce employee exposure to or below the PELs, the Contractor shall use them to reduce

employee exposure to the lowest levels attainable by these controls and shall supplement them by the use of respiratory protection that complies with paragraph, RESPIRATORY PROTECTION PROGRAM.

3.6.3 Unacceptable Practices

The following work practices and engineering controls shall not be used for work related to asbestos or for work which disturbs ACM, regardless of measured levels of asbestos exposure or the results of initial exposure assessments:

a. High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
b. Compressed air used to remove asbestos, or materials containing asbestos, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.
c. Dry sweeping, shoveling, or other dry clean-up of dust and debris containing ACM.
d. Employee rotation as a means of reducing employee exposure to asbestos.

3.6.4 Class I Work Procedures

In addition to requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the installation and operation of the control system.
b. For jobs involving the removal of more than 7.5 m 25 feet or 0.9 square meters 10 square feet of TSI or surfacing material, the Contractor shall place critical barriers over all openings to the regulated area.
c. HVAC systems shall be isolated in the regulated area by sealing with a double layer of plastic or air-tight rigid covers.
d. Impermeable dropcloths (0.15 mm 6 mil or greater thickness) shall be placed on surfaces beneath all removal activity.
e. Objects within the regulated area shall be handled as specified in paragraph OBJECTS.
f. Where a negative exposure assessment has not been provided or where exposure monitoring shows the PEL was exceeded, the regulated area shall be ventilated to move contaminated air away from the employee's breathing zone toward a HEPA unit or collection device.

3.6.5 Specific Control Methods for Class I Work

In addition to requirements of paragraph Class I Work Procedures, Class I asbestos work shall be performed using the control methods identified in
the subparagraphs below.

3.6.5.1 Negative Pressure Enclosure (NPE) System: The system shall provide at least 4 air changes per hour inside the containment. The local exhaust unit equipment shall be operated 24 hours per day until the containment is removed, and shall be leak-proof to the filter and equipped with HEPA filters. Air movement shall be directed away from the employees and toward a HEPA filtration device. The NPE shall be smoke tested for leaks at the beginning of each shift. Local exhaust equipment shall be sufficient to maintain a minimum pressure differential of minus 0.5 mm 0.02 inch of water column relative to adjacent, unsealed areas. Pressure differential shall be monitored continuously, 24 hours per day, with an automatic manometric recording instrument. Pressure differential recordings shall be provided daily on the same day collected. Readings shall be reviewed by the Contractor's Designated Competent Person and Owner’s Representative. The building ventilation system shall

not be used as the local exhaust system for the regulated area. The local exhaust system shall terminate outdoors unless an alternate arrangement is allowed by the Owner. All filters used shall be new at the beginning of the project and shall be periodically changed as necessary and disposed of as ACM waste.

3.6.5.2 Glovebag Systems: The glovebag system shall be used to remove ACM from straight runs of piping and elbows and other connections. Glovebags shall be used without modification and shall be smoke-tested for leaks and any leaks sealed prior to use. Glovebags shall be installed to completely cover the circumference of pipe or other structures where the work is to be done. Glovebags shall be used only once and shall not be moved. Glovebags shall not be used on surfaces that have temperatures exceeding 66 degrees C. 150 degrees F. Prior to disposal, glovebags shall be collapsed by removing air within them using a HEPA vacuum. Before beginning the operation, loose and friable material adjacent to the glovebag operation shall be wrapped and sealed in 2 layers of plastic or otherwise rendered intact. At least 2 persons shall perform Class I glovebag removal. Asbestos regulated work areas shall be established as specified and shown on detailed drawings and plans for glovebag abatement. Designated boundary limits for the asbestos work shall be established with rope or other continuous barriers and all other requirements for asbestos control areas shall be maintained, including area signage and boundary warning tape.

a. In addition to requirements for negative pressure glovebag systems above, the Contractor shall attach HEPA vacuum systems or other devices to the bag to prevent collapse during removal of ACM from straight runs of piping and elbows and other connections.

b. The negative pressure glove boxes used to remove ACM from pipe runs shall be fitted with gloved apertures and a bagging outlet and constructed with rigid sides from metal or other material which can withstand the weight of the ACM and water used during removal. A negative pressure shall be created in the system using a HEPA filtration system. The box shall be smoke tested for leaks prior to each use.

3.6.5.3 Mini-Enclosures: Mini-containment (small walk-in enclosure)to accommodate no more than 2 persons, may be used if the disturbance or removal can be completely contained by the enclosure with the following specifications and work practices. The mini-enclosure shall be inspected for leaks and smoke tested before each use. Air movement shall be directed away from the employee's breathing zone within the mini-enclosure.

3.6.5.4 Wrap and Cut Operation: Prior to cutting pipe, the asbestos-containing insulation shall be wrapped with polyethylene and securely sealed with duct tape to prevent asbestos becoming airborne as a result of the cutting process. The following steps shall be taken: install glovebag, strip back sections to be cut 150 mm 6 inches from point of cut, and cut pipe into manageable sections.

3.6.6 Class II Work

In addition to the requirements of paragraphs Mandated Practices and Control Methods, the following engineering controls and work practices shall be used:

a. A Competent Person shall supervise the work.
b. For indoor work, critical barriers shall be placed over all openings to the regulated area.
c. Impermeable dropcloths shall be placed on surfaces beneath all removal activity.

3.6.7 Specific Control Methods for Class II Work

In addition to requirements of paragraph Class II Work, Class II work shall be performed using the following methods:

3.6.7.1 Vinyl and Asphalt Flooring Materials: When removing vinyl and asphalt flooring materials [which contain ACM] Resilient sheeting shall be removed by adequately wet methods. Tiles shall be removed intact (if possible); wetting is not required when tiles are heated and removed intact. Flooring or its backing shall not be sanded. Scraping of residual adhesive and/or backing shall be performed using wet methods. Mechanical chipping is prohibited unless performed in a negative pressure enclosure. Dry sweeping is prohibited. The Contractor shall use vacuums equipped with HEPA filter, disposable dust bag, and metal floor tool (no brush) to clean floors.

3.6.7.2 Roofing Material: Roofing material shall be removed in an intact state. Wet methods shall be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards. When removing built-up roofs, with asbestos-containing roofing felts and an aggregate surface, using a power roof cutter, all dust resulting from the cutting operations shall be collected by a HEPA dust collector, or shall be HEPA vacuumed by vacuuming along the cut line. Asbestos-containing roofing material shall not be dropped or thrown to the ground, but shall be lowered to the ground via covered, dust-tight chute, crane, hoist or other method approved by the Owner's Representative. Any ACM that is not intact shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. While the material remains on the roof it shall be kept wet or placed in an impermeable waste bag or wrapped in plastic sheeting. Intact ACM shall be lowered to the ground as soon as practicable, but not later than the end of the work shift. Unwrapped material shall be transferred to a closed receptacle precluding the dispersion of dust. Critical barriers shall be placed over roof level heating and ventilation air intakes.

3.6.7.3 Cementitious Siding and Shingles or Transite Panels: Intentionally cutting, abrading or breaking siding, shingles, or transite panels is prohibited. Each panel or shingle shall be sprayed with amended water prior to removal. Nails shall be cut with flat, sharp instruments. Unwrapped or unbagged panels or shingles shall be immediately lowered to the ground via covered dust-tight chute, crane or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.

3.6.7.4 Gaskets: Gaskets shall be thoroughly wetted with amended water prior to removal and immediately placed in a disposal container. If a gasket is visibly deteriorated and unlikely to be removed intact, removal shall be undertaken within a glovebag. Any scraping to remove residue shall be performed wet.

3.6.7.5 Other Class II Jobs: The Contractor shall use the following work practices when performing Class II removal miscellaneous ACM: The material shall be thoroughly wetted with amended water prior and during its removal. The material shall be removed in an intact state. Cutting, abrading or breaking the material is prohibited. The ACM removed shall be immediately bagged or wrapped.

3.6.8 Specific Control Methods for Class III Work

Class III asbestos work shall be conducted using engineering and work practice controls which minimize the exposure to employees performing the asbestos work and to bystander employees. The work shall be performed using wet methods and, to the extent feasible, using local exhaust ventilation. The Contractor shall use impermeable dropcloths and shall isolate the operation, using mini-enclosures or glovebag systems, where the disturbance involves drilling, cutting, abrading, sanding, chipping, breaking, or sawing of TSI or surfacing material.

3.6.9 Specific Control Methods for Class IV Work

Class IV jobs shall be conducted using wet methods, HEPA vacuums, and prompt clean-up of debris containing ACM. Employees cleaning up debris and waste in a regulated area where respirators are required shall wear the selected respirators.

3.6.10 Alternative Methods for Roofing Materials and Asphaltic Wrap

The Contractor shall use the following engineering controls and work practices when removing, repairing, or maintaining intact pipeline asphaltic wrap, or roof cements, mastics, coatings, or flashings which contain asbestos fibers encapsulated or coated by bituminous or resinous compounds. If during the course of the job the material does not remain intact, the Contractor shall use the procedures described in paragraph Roofing Material. Before work begins, and as needed during the job, the Designated Competent Person shall conduct an inspection and determine that the roofing material is intact and will likely remain intact. The material shall not be sanded, abraded, or ground. Manual methods which would render the material non-intact shall not be used. Roofing material shall not be dropped or thrown to the ground but shall be lowered via covered, dust-tight chute, crane, hoist or other method approved by the Owner's Representative. All such material shall be removed from the roof as soon as practicable, but not later than the end of the work shift. Removal or disturbance of pipeline asphaltic wrap shall be performed using wet methods.

3.6.11 Cleaning After Asbestos Removal

After completion of all asbestos removal work, surfaces from which ACM has been removed shall be wet wiped or sponged clean, or cleaned by some equivalent method to remove all visible residue. Run-off water shall be collected and filtered through a dual filtration system. A first filter shall be provided to remove fibers 20 micrometers and larger, and a final filter provided that removes fibers 5 micrometers and larger. After the gross amounts of asbestos have been removed from every surface, remaining visible accumulations of asbestos on floors shall be collected using plastic shovels, rubber squeegees, rubber dustpans, and HEPA vacuum cleaners as appropriate to maintain the integrity of the regulated area. When TSI and surfacing material has been removed, workmen shall use HEPA vacuum cleaners to vacuum every surface. Surfaces or locations which could harbor accumulations or residual asbestos dust shall be checked after vacuuming to verify that no asbestos-containing material remains; and shall be re-vacuumed as necessary to remove the ACM.

3.7 FINAL CLEANING AND VISUAL INSPECTION

Upon completion of abatement, the regulated area shall be cleaned by collecting, packing, and storing all gross contamination. A final cleaning shall be performed using HEPA vacuum and wet cleaning of all exposed surfaces and objects in the regulated area. Upon completion of the cleaning, the Contractor shall conduct a visual pre-inspection of the cleaned area in preparation for a final inspection before final air clearance monitoring and recleaning, as necessary. Upon completion of the final cleaning, the Contractor and the Owner's Representative shall conduct a final visual inspection of the cleaned regulated area in accordance with ASTM E 1368 and document the results. If the Owner's Representative rejects the clean regulated area as not meeting final cleaning requirements, the Contractor shall reclean as necessary and have a follow-on inspection conducted with the Owner's Representative. Recleaning and follow-up reinspection shall be at the Contractor's expense.

3.8 LOCKDOWN

Prior to removal of plastic barriers and after clean-up of gross contamination and final visual inspection, a post removal (lockdown) encapsulant shall be spray applied to ceiling, walls, floors, and other surfaces in the regulated area.

3.9 EXPOSURE ASSESSMENT AND AIR MONITORING

3.9.1 General Requirements For Exposure

Exposure assessment, air monitoring and analysis of airborne concentration of asbestos fibers shall be performed in accordance with 29 CFR 1926, Section .1101, the Contractor's air monitoring plan, and as specified. Personal exposure air monitoring (collected at the breathing zone) that is representative of the exposure of each employee who is assigned to work within a regulated area shall be performed by the Contractor. Breathing zone samples shall be taken for at least 25 percent of the workers in each shift, or a minimum of 2, whichever is greater. Air monitoring results at the 95 percent confidence level shall be calculated as shown in Table 2 at the end of this section. The Owner's Representative will provide an onsite technician and appropriate equipment to conduct sample analyses of air samples using the methods prescribed in 29 CFR 1926, Section .1101, to include NIOSH Pub No. 84-100 Method 7400.] Preabatement and abatement environmental air monitoring shall be performed by the Owner's Representative. Final clearance environmental air monitoring, shall be performed by the Owner's Representative. Environmental and final clearance air monitoring shall be performed using [NIOSH Pub No. 84-100 Method 7400 (PCM) with optional confirmation of results by the EPA TEM Method specified in 40 CFR 763. For environmental and final clearance, air monitoring shall be conducted at a sufficient velocity and duration to establish the limit of detection of the method used at 0.005 f/cc. Confirmation of asbestos fiber concentrations (asbestos f/cc) from environmental and final clearance samples collected and analyzed by NIOSH Pub No. 84-100 Method 7400 (total f/cc) may be conducted using TEM in accordance with NIOSH Pub No. 84-100 Method 7402. When such confirmation is conducted, it shall be from the same sample filter used for the NIOSH Pub No. 84-100 Method 7400 PCM analysis. For all Contractor required environmental or final clearance air monitoring, confirmation of asbestos fiber concentrations, using NIOSH Pub No. 84-100 Method 7402, shall be at the Contractor's expense. Results of breathing zone samples shall be posted at the job site and made available to the Owner's Representative. The Contractor shall maintain a fiber concentration inside a regulated area less than or equal to 0.1 f/cc expressed as an 8 hour, time-weighted average (TWA) during the conduct of the asbestos abatement. If fiber concentration rises above 0.1 f/cc, work procedures shall be investigated with the Owner's Representative to determine the cause. At the discretion of the Owner's Representative, fiber concentration may exceed 0.1 f/cc but shall not exceed 1.0 f/cc expressed as an 8-hour TWA. The Contractor's workers shall not be exposed to an airborne fiber concentration in excess of 1.0 f/cc, as averaged over a sampling period of 30 minutes. Should either an environmental concentration of 1.0 f/cc expressed as an 8-hour TWA or a personal excursion concentration of 1.0 f/cc expressed as a 30-minute sample occur inside a regulated work area, the Contractor shall stop work immediately, notify the Owner's Representative, and implement additional engineering controls and work practice controls to reduce airborne fiber levels below prescribed limits in the work area. Work shall not restart until authorized by the Owner's Representative.

3.9.2 Initial Exposure Assessment

The Contractor shall conduct an exposure assessment immediately before or at the initiation of an asbestos abatement operation to ascertain expected exposures during that operation. The assessment shall be completed in time to comply with the requirements which are triggered by

exposure data or the lack of a negative exposure assessment, and to provide information necessary to assure that all control systems planned are appropriate for that operation. The assessment shall take into consideration both the monitoring results and all observations, information or calculations which indicate employee exposure to asbestos, including any previous monitoring conducted in the workplace, or of the operations of the Contractor which indicate the levels of airborne asbestos likely to be encountered on the job.

3.9.3 Negative Exposure Assessment

The Contractor shall provide a negative exposure assessment for the specific asbestos job which will be performed. The negative exposure assessment shall be provided within five days of the initiation of the project and conform to the following criteria:

a. Objective Data: Objective data demonstrating that the product or material containing asbestos minerals or the activity involving such product or material cannot release airborne fibers in concentrations exceeding the PEL-TWA and PEL-Excursion Limit under those work conditions having the greatest potential for releasing asbestos.

b. Prior Asbestos Jobs: Where the Contractor has monitored prior asbestos jobs for the PEL and the PEL-Excursion Limit within 12 months of the current job, the monitoring and analysis were performed in compliance with asbestos standard in effect; the data were obtained during work operations conducted under workplace conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the Contractor's current operations; the operations were conducted by employees whose training and experience are no more extensive than that of employees performing the current job; and these data show that under the conditions prevailing and which will prevail in the current workplace, there is a high degree of certainty that the monitoring covered exposure from employee exposures will not exceed the PEL-TWA and PEL-Excursion Limit.

c. Initial Exposure Monitoring: The results of initial exposure monitoring of the current job, made from breathing zone air samples that are representative of the 8-hour PEL-TWA and 30-minute short-term exposures of each employee. The monitoring covered exposure from operations which are most likely during the performance of the entire asbestos job to result in exposures over the PELs.

3.9.4 Preabatement Environmental Air Monitoring

Preabatement environmental air monitoring shall be established prior to the masking and sealing operations for each regulated area to determine background concentrations before abatement work begins. As a minimum, preabatement air samples shall be collected using NIOSH Pub No. 84-100 Method 7400, PCM at these locations: outside the building; inside the building, but outside the regulated area perimeter; and inside each regulated work area. One sample shall be collected for every 185 square meters 2000 square feet of floor space. At least 2 samples shall be collected outside the building: at the exhaust of the HEPA unit; and downwind from the abatement site. The PCM samples shall be analyzed within 24 hours; and if any result in fiber concentration greater than 0.01 f/cc, asbestos fiber concentration shall be confirmed using NIOSH Pub No. 84-100 Method 7402 (TEM).

3.9.5 Environmental Air Monitoring During Abatement

Environmental air monitoring shall be conducted at locations and frequencies that will accurately characterize any evolving airborne asbestos fiber concentrations. The assessment shall demonstrate that the product or material containing asbestos minerals, or the abatement involving such product or material, cannot release airborne asbestos fibers in concentrations exceeding 0.01 f/cc as a TWA under those work conditions having the greatest potential for releasing asbestos. The monitoring shall be at least once per shift at locations including, but not limited to, close to the work inside a regulated area; preabatement sampling locations; outside entrances to a regulated area; close to glovebag operations; representative locations outside of the perimeter of a regulated area; inside clean room; and at the exhaust discharge point of local exhaust system ducted to the outside of a containment (if used). If the sampling outside regulated area shows airborne fiber levels have exceeded background or 0.01 f/cc, whichever is greater, work shall be stopped immediately, and the Owner's Representative notified. The condition causing the increase shall be corrected. Work shall not restart until authorized by the Owner's Representative.

3.9.6 Final Clearance Air Monitoring

Prior to conducting final clearance air monitoring, the Contractor and the Owner's Representative shall conduct a final visual inspection of the regulated area where asbestos abatement has been completed. Final clearance air monitoring shall not begin until acceptance of the Contractor's final cleaning by the Owner's Representative. The Owner's Representative will] conduct final clearance air monitoring using aggressive air sampling techniques as defined in EPA 560/5-85-024 or as otherwise required by federal or state requirements. The sampling and analytical method used will be NIOSH Pub No. 84-100Method 7400 (PCM.

3.9.6.1 Final Clearance Requirements, NIOSH PCM Method: For PCM sampling and analysis using NIOSH Pub No. 84-100 Method 7400, the fiber concentration inside the abated regulated area, for each airborne sample, shall be less than 0.01 f/cc. The abatement inside the regulated area is considered complete when every PCM final clearance sample is below the clearance limit. If any sample result is greater than 0.01 total f/cc, the asbestos fiber concentration (asbestos f/cc) shall be confirmed from that same filter using NIOSH Pub No. 84-100 Method 7402 (TEM) at Contractor's expense. If any confirmation sample result is greater than 0.01 asbestos f/cc, abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.6.2 Final Clearance Requirements, EPA TEM Method: For EPA TEM sampling and analysis, using the EPA Method specified in 40 CFR 763, abatement inside the regulated area is considered complete when the arithmetic mean asbestos concentration of the 5 inside samples is less than or equal to 70 structures per square millimeter (70 S/mm). When the arithmetic mean is greater than 70 S/mm, the 3 blank samples shall be analyzed. If the 3 blank samples are greater than 70 S/mm, resampling shall be done. If less than 70 S/mm, the 5 outside samples shall be analyzed and a Z-test analysis performed. When the Z-test results are less than 1.65, the decontamination shall be considered complete. If the Z-test results are more than 1.65, the abatement is incomplete and cleaning shall be repeated. Upon completion of any required recleaning, resampling with results to meet the above clearance criteria shall be done.

3.9.6.3 Air Clearance Failure: If clearance sampling results fail to meet the final clearance requirements, the Contractor shall pay all costs associated with the required recleaning, resampling, and analysis, until final clearance requirements are met.

3.9.7 Air-Monitoring Results and Documentation

Air sample fiber counting shall be completed and results provided within 24 hours (breathing zone samples) after completion of a sampling period. The Owner's Representative shall be notified immediately of any airborne levels of asbestos fibers in excess of established requirements. Written sampling results shall be provided within 5 working days of the date of collection. The written results shall be signed by testing laboratory analyst. The air sampling results shall be documented on a Contractor's daily air monitoring log. The daily air monitoring log shall contain the following information for each sample:

a. Sampling and analytical method used;
b. Date sample collected;
c. Sample number;
d. Sample type: BZ = Breathing Zone (Personal)
e. Activity/name where sample collected;
f. Sampling pump manufacturer, model and serial number, beginning flow rate, end flow rate, average flow rate (L/min);
g. Calibration date, time, method, location, name of calibrator, signature;
h. Sample period (start time, stop time, elapsed time (minutes);
i. Total air volume sampled (liters);
j. Sample results (f/cc and S/mm square)
k. Laboratory name, location, analytical method, analyst, confidence level.

3.10 CLEARANCE CERTIFICATION

When asbestos abatement is complete, ACM waste is removed from the regulated areas, and final clean-up is completed, the Owner's Representative will certify the areas as safe before allowing the warning signs and boundary warning tape to be removed. The Contractor and the Owner's Representative shall visually inspect all surfaces within the containment for residual material or accumulated debris. The Contractor shall reclean all areas showing dust or residual materials. The Owner's Representative will certify in writing that the area is safe before unrestricted entry is permitted.

3.11 CLEANUP AND DISPOSAL

3.11.1 Collection and Disposal of Asbestos

All ACM waste including contaminated wastewater filters, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing, shall be collected and placed in leak-tight containers such as double plastic bags; sealed double wrapped polyethylene sheet: or other approved containers. Waste within the containers shall be wetted in case the container is breeched. Asbestos-containing waste shall be disposed of at an EPA, state and local approved asbestos landfill. For temporary storage, sealed impermeable containers shall be stored in an asbestos waste load-out unit or in a storage/transportation conveyance (i.e., dumpster, roll-off waste boxes, etc.) in a manner acceptable to and in an area assigned by the Owner's Representative. Procedure for hauling and disposal shall comply with 40 CFR 61, Subpart M, state, regional, and local standards.

3.11.2 Asbestos Waste Shipment Record

The Contractor shall complete and provide the Owner's Representative final completed copies of the Waste Shipment Record for all shipments of waste material as specified in 40 CFR 61, Subpart M and other required state waste manifest shipment records, within 3 days of delivery to the landfill. Each Waste Shipment Record shall be signed and dated by the Contractor, Owner or Owner's Representative, the waste transporter and disposal facility operator.

End of Asbestos Abatement Specifications

PART 1 GENERAL

1.1 REFERENCES

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

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
40 CFR 148	Hazardous Waste Injection Restrictions
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 268	Land Disposal Restrictions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD)

HUD-01 (1996)	Lead-Based Paint: Guidelines for the Availability and Control of Lead-Based Paint Hazards in Housing

CALIFORNIA CODE OF REGULATIONS

Title 17, CCR, Div. 1, Ch. 8	Accreditation, Certification And Work Practices In Lead-Related Construction

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH OSHA Booklet 3142 Lead in Construction

UNDERWRITERS LABORATORIES (UL)

UL 586 (1996)	High-Efficiency, Particulate, Air Filter Units

1.2 DEFINITIONS

A. Abatement: "Abatement" means any set of measures designed to reduce or eliminate lead hazards.

B. Accreditation: The Department has reviewed and finds acceptable a training provider's written application for accreditation, and has conducted and finds acceptable, an on-site audit as specified in Subsection 35078(f).

C. Accredited Training Provider: "Accredited training provider" means any individual, corporation, partnership or other unincorporated association or public entity to which the Department has granted accreditation or provisional accreditation to offer lead-related construction courses and continuing education instruction.

D. Certified Lead Supervisor: "Certified lead supervisor" means an individual who is responsible for implementing lead-related construction work and enforcing work practices that ensure worker safety in residential or public buildings and who has received a certificate or an interim certificate from the Department as a "certified lead supervisor".

E. Certified Lead Worker: "Certified lead worker" means an individual who performs lead-related construction work in residential or public buildings under the direction of a certified lead supervisor and has received a certificate from the Department as a "certified lead worker".

F. Clearance Inspection: "Clearance inspection" means an on-site limited investigation, as described in Chapter 15: Clearance, Sections II-VI, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.

G. Component: "Component" means a structural element or fixture, including a wall, floor, ceiling, door, window, molding, trim, trestle, tank, stair, railing, cabinet, gutter, or downspout.

H. Containment: "Containment" means a system, process, or barrier used to contain lead hazards inside a work area as described in "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, Chapter 8, "Containment and Barrier Systems," Table 8.1, Table 8.2, and Table 8.3.

I. Department: "Department" means the California Department of Health Services (DHS).

J. Deteriorated Paint: Deteriorated paint" means paint or surface coating that is cracking, chalking, flaking, chipping, peeling, non-intact, or otherwise separating from a component.

K. DHS-Approved Course: "DHS-Approved course" means any lead-related construction course that satisfies the requirements specified in Sections, 35056, 35057, 35061, 35065, 35066, or 35067 as determined by DHS pursuant to Sections 35076 and 35078.

L. Interim Certificate: "Interim certificate" means the document issued by the Department to an individual who meets requirements for interim certification as described in Section 35093.

M. Job Tasks: "Job tasks" mean the specific activities performed in the context of work.

N. Lead-Based Paint: Lead-based paint" means paint or other surface coatings that contain an amount of lead equal to, or in excess of one milligram per square centimeter (1.0 mg/cm2) or more than half of one percent (0.5%) by weight.

O. Lead-Contaminated Dust: "Lead-contaminated dust" means dust that contains an amount of lead equal to, or in excess of, one hundred micrograms per square foot (100_g/ft2) for floor surfaces and five hundred micrograms per square foot (500 _g/ft2) for horizontal window surfaces.

P. Lead-Contaminated Soil: "Lead-contaminated soil" means bare soil that contains an amount of lead equal to, or in excess of, four hundred parts per million (400 ppm) in children's play areas and one thousand parts per million (1000 ppm) in all other areas.

Q. Lead Hazard: "Lead hazard" means deteriorated lead-based paint, lead contaminated dust, lead contaminated soil, disturbing lead-based paint or presumed lead-based paint without containment, or any other nuisance which results in environmental lead contamination.

R. Lead-Related Construction Work: "Lead-related construction work" means any construction, alteration, painting, demolition, salvage, renovation, repair, or maintenance of any residential or public building, including preparation and cleanup, that, by using or disturbing lead-containing material or soil, may result in significant exposure of adults or children to lead.

S. Presumed Lead-Based Paint: "Presumed lead-based paint" means paint or surface coating affixed to a component in or on a structure, excluding paint or surface coating affixed to a component in or on a residential dwelling constructed on or after January 1, 1978.

T. Public Building: "Public building" means a structure which is generally accessible to the public, including but not limited to, schools, daycare centers, museums, airports, hospitals, stores, convention centers, government facilities, office buildings and any other building which is not an industrial building or a residential building.

U. Residential Building; "Residential building" means a structure which is used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of one or more persons.

V. Work Area: "Work area" means an area where lead-based paint or presumed lead-based paint is disturbed, or abatement is conducted.

1.3 DESCRIPTION OF WORK

The scope of this project is to remove LBP and lead ceramics where they are to be impacted by the planned modernizations. A summary of the lead components identified at the subject site during our inspection include the following:

Building	Location	Lead-Containing Components
A Building	Exterior	Eaves, Fascia Boards, Painted Joists, Porch Columns
B Building	Exterior	Wood Door Frames, Eaves, Fascia Boards, Painted Joists, Porch Columns
	Interior	Window Frames
C Building	Exterior	Wood Door Frames, Eaves, Fascia Boards, Painted Joists, Porch Columns
	Interior	Window Frames in C1-C3

1.4 SUBMITTALS

1.4.1 Lead-Based Paint (LBP) Management Plan; The Contractor shall prepare a detailed LBP Management Plan that identifies the work procedures, health, and safety measures to be used in LBP abatement. The plan shall address the various sources of lead and the methods to be undertaken to abate the lead hazards to include the following key elements:

a. Abatement methods for each LBP containing component.
b. Training requirements as required by Federal, state, and local regulations.
c. Unique problems associated with the LBP abatement project.
d. Eating, drinking, smoking, and rest room procedures.
e. Sequencing of LBP related work.
f. Personnel protective equipment; respiratory protection program and controls.
g. Engineering controls, containment structures and safety measures.
h. Worker exposure assessment procedures.
i. Work Practice controls.
j. Housekeeping.
k. Hygiene facilities and practice.
l. Medical surveillance, including medical removal protection.
m. Sampling, testing and analytical methods to include personal air sampling requirements of 29 CFR 1926 Section .62 and toxicity characteristic leaching procedure (TCLP) of the waste material in accordance with 40 CFR 261. Procedures must include frequency, locations, and sampling and analytical methods to be used.

1.4.2 Emergency Contingency Plan; An emergency contingency plan shall be prepared in accordance with 40 CFR 261. Procedure must address the following LBP abatement hazards as appropriate to the project:

a. Negative air pressure system failure.
b. Major breech of containment barriers.
c. Detection of unexpected lead levels on adjacent grounds.
d. Spilling of lead debris bags or containers.
e. Phone numbers for project manager, local fire, police and medical personnel.

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

a. Identification or documentation of potential hazardous wastes associated with the work.
b. Names and qualifications of each Contractor that will be transporting, storing, treating, and disposing of the wastes; the facility location, phone number, and name of a 24-hour point of contact shall be included. Two copies of EPA, state, and local hazardous waste permit applications, permits, and EPA identification numbers.
c. Names and qualifications (experience and training) of personnel who will be working onsite with hazardous waste.
d. Spill prevention, containment, and clean-up contingency measures to be implemented.
g. Work plan and schedule for waste containment, removal, and disposal. Waste shall be cleaned up and containerized daily.

1.4.4 Sampling Result; A daily log of the personal air sampling test results shall be reviewed by the Competent Person 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. Documentation of results that exceed specified limits (personal air samples that exceed 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.

1.5 QUALITY ASSURANCE

1.5.1 Qualifications

a. Contractor: Certification that the Contractor has prior experience on LBP abatement projects similar in nature and extent to ensure the capability to perform the abatement in a satisfactory manner.
b. Competent Person: Certification that the Contractor's full-time onsite Competent Person meets the competent person requirements of 29 CFR 1926 Section .62 and Title 8 and is experienced in administration and supervision of LBP abatement projects, including work practices, protective measures for building and personnel, disposal procedures, etc. This person shall have completed a Contractor Supervisor LBP abatement course by an EPA Training Center or an equivalent certification course, and have had a minimum of 2 years on-the-job experience.

c. Testing Laboratory: The name, address, and telephone number of the independent testing laboratory selected to perform analysis] for personal air samples and TCLP analysis. Documentation that the laboratory performing the analysis is an EPA National Lead Laboratory Accreditation Program (NLLAP) and California ELAP accredited laboratory and that it is rated proficient in the NIOSH/EPA Environmental Lead Proficiency Analytical Testing Program (ELPAT). 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.

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.

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); High Efficiency Particulate Air (HEPA) filtration capabilities for all cartridges, filters, and HEPA vacuum systems.

1.5.4 Medical Records: Certification that employees who are involved in LBP abatement work have received medical examinations and will receive continued medical surveillance, including biological monitoring, as required by 29 CFR 1926 Section .62 and by the state and local regulations pertaining to such work. Records shall be retained, at Contractor expense, in accordance with 29

1.5.5 Training: Training certification shall be provided prior to the start of work involving LBP abatement, for all of the Contractors' workers, supervisors and Competent Person. Training shall meet the requirements of 29 CFR 1926 Section .62, 29 CFR 1926 Section .59 and 49 CFR 172, and that required by EPA or the state LBP course for the work to be performed. Training shall be provided prior to the time of job assignment and, at least, annually.

1.6 RESPIRATORY PROTECTION PROGRAM

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

1.7 HAZARD COMMUNICATION PROGRAM

A Hazard Communication Program shall be implemented in accordance with 29 CFR 1926 Section .59. Material safety data sheets (MSDSs) shall be provided for all hazardous materials brought onto the worksite. One copy shall be provided to the Owner's Representative and 1 copy shall be included in the Contractor's Hazard Communication Program.

1.8 SAFETY AND HEALTH OVERSIGHT

The Competent Person shall be the onsite person responsible for coordination, safety, security and execution of the work. The Competent Person shall be able to identify existing and predictable lead hazards and shall have the authority to take corrective measures to eliminate them. The Competent Person shall be responsible for personal sampling.

PART 2 PRODUCTS

2.1 SUBSTITUTION OF MATERIALS AND/ OR METHODS

A. Any substitution in materials or methods to those specified shall be approved by the Owner's Representative prior to use. Any requests for substitution shall be provided in writing to the Consultant and the Owner. The request shall clearly state the rationale for the substitution.

B. Submit to the Owner's Representative and the Owner product data and samples of all materials to be considered as an alternate.

C. Product data shall consist of manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, material safety data sheets (MSDS) and other standard descriptive data. Submittal data shall be clearly marked to identify pertinent materials, products or models and show performance characteristics and capacities. Samples shall be of sufficient size and quantity to clearly illustrate the functional characteristics of the product or material with integrally related parts and attachment devices.

D. No work shall begin which requires submittal for approval until the Owner's Representative has "approved" or "approved as noted" the submittal.

2.2 INTRODUCTION

2.2.1 Materials and Equipment

A. The work of this Section, without limiting the generality thereof, includes the furnishing of labor, materials, tools, equipment, services and incidentals necessary to complete all Lead Based Paint Abatement in accordance with the Plans and Specifications. These Plans and Specifications are intended to describe, and provide for a finished and complete piece of work; work which is described by any portion of these documents shall be complete in every detail and in accordance with established trade practice, notwithstanding whether or not every item or detail necessarily involved is particularly mentioned.

B. Approvals and Inspections. All temporary facilities, work procedures, equipment, materials, services, and agreements must strictly adhere to and meet this Section along with EPA, OSHA, NIOSH, HUD regulations recommendations, and guidelines, as well as any other federal state, and local regulations. Where there exists an overlap of these regulations and guidelines, the most stringent one applies. All work performed by the Abatement Contractor is further subject to approval of the Owner, and/ or Owner's Representative.

2.2.2 Materials

A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description.

B. Damaged or deteriorating materials shall not be used and shall be removed from the premises.

C. Polyethylene sheet in a roll size to minimize the frequency of joints shall be delivered to job site with factory label indicating 6 mil.

D. Polyethylene disposable bags shall be six (6) mil with pre- printed label. Tie wraps for bags shall be plastic, five (5) inches long (minimum), pointed and looped to secure filled plastic bags.

E. Tape or adhesive spray will be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.

F. Impermeable containers are to be used to receive and retain any lead containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with EPA and DOT standards.

G. HEPA filtered exhaust systems shall be used during any dust generating abatement operations.

H. All caustics shall be properly labeled and containerized in leak- tight containers.

I. Machine Sanding Equipment - Sanders shall be of the dual action, rotary action, orbital or straight line system type, fitted with a high efficiency particulate air (HEPA) dust pick- up system. Air compressors utilized to operate this equipment shall be designed to continuously provide 90 to 110 p. s. i. or as recommended by the manufacturer.

J. Heat Blower Gun Equipment - Electrically- operated, heat- blower gun shall be a flameless electrical paint softener type. Heat- blower shall have electronically controlled temperature settings to allow usage below a temperature of 1,100 degrees Fahrenheit. Heat- blower shall be DI type (non-grounded) 120 V, AC application. Heat- blower shall be equipped with various nozzles to cover all common applications (cone, fan, glass protector, spoon reflector, etc.).

K. Chemical Stripping Removers - Chemical removers shall contain no methylene chloride products. Chemical removers shall be compatible with, and not harmful to the substrate that they are applied to. Chemical removers used on masonry surfaces shall contain anti- stain formulation that inhibits discoloration of stone, granite, brick and other masonry construction. Chemical removers used on interior surfaces shall not raise or discolor the surface being abated.

L. Chemical Stripping Agent Neutralizer - Chemical stripping agent neutralizers may be used on exterior surfaces only. Neutralizers shall be compatible with and not harmful to the substrate that they are applied to. Neutralizers shall be compatible with the stripping agent that has been applied to the surface substrate.

2.2.3 TOOLS AND EQUIPMENT

A. Provide suitable tools for all abatement operations.

B. The Abatement Contractor shall have available sufficient inventory or dated purchase orders for materials necessary for the job including protective clothing, respirators, filter cartridges, polyethylene sheeting of proper size and thickness, tape, and air filters.

C. The Abatement Contractor shall have available power cables or sources such as generators (where required).

D. Vacuum units, of suitable size and capacities for project, shall have HEPA filter(s) capable of trapping and retaining at least 99.97% of all monodispersed particles of 0.3 micrometers in diameter.

E. The Abatement Contractor will have reserve units so that the station system will operate continuously.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

Abatement shall:

A. Be conducted only by a certified lead supervisor or a certified lead worker. A certified lead supervisor shall be onsite during all work site preparation and during the post-abatement cleanup of work areas. At all other times when abatement is conducted, the certified lead supervisor shall be onsite or available by telephone, pager or answering service, and able to be present at the work area in no more than two hours.

B. Be conducted using containment and in a manner which does not result in contamination of non-work areas with lead-contaminated dust, lead-contaminated soil, or lead-based paint debris.

C. Be conducted according to the procedures specified in:

1. Chapter 12: Abatement, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, if the abatement is designed to reduce lead paint or lead hazards for a minimum of twenty years; or

1 Chapter 11: Interim Controls, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995, if the abatement is designed to reduce lead paint or lead hazards for less than twenty yearS.

3.2 WORK AREA SET UP

3.2.1 General

A. Site Safety. The Abatement Contractor is responsible for all safety at the work site. This includes, but is not limited to electrical safety, mechanical (tool) safety, fire safety, and personnel protective safety. Safety requirements are, for the most part, common sense and sound business practice; however, the Abatement Contractor is advised that federal, state and local regulations exist which govern safety on the work site. Therefore, in addition to the following, the Abatement Contractor is responsible for adhering to the most stringent requirements in affect by any of the following entities or these Specifications.

B. A primary concern in this type of work is to ensure that adequate exits exist in the event of an emergency and conversely, that adequate entrances exist for emergency personnel. The nature of this work requires sealing entrances and the extensive use of six- mil polyethylene sheeting; however, the Abatement Contractor should never permanently seal (i. e., nail, bolt, hard cover) any potential escape exits and should take extra care to clearly identify potential exits and inform the workers.

C. Work Site Safety Plan. Prior to the initiation of the abatement work, the following tasks must be completed by the Contractor:

The Abatement Contractor shall establish a work site safety plan which includes a set of emergency procedures and shall post them in a conspicuous place at the work site. The safety plan should include provisions for the following:

1) Evacuation of injured workers

2) Emergency and fire exit routes from all work areas, including local telephone numbers for fire and medical emergency personnel

3) Copies of applicable insurance certificates

4) Employee work logs

The Abatement Contractor is responsible for training all workers in safety procedures. At a minimum, one employee on site shall be trained and certified in basic first aid by the American Red Cross or equivalent. A general first aid kit may be maintained in the containment for treating minor medical problems.

D. Access to Work Areas

1. The Owner will provide specific access as required during the project to the Abatement Contractor and personnel assigned to the project. The Abatement Contractor will be responsible for the security of each building or portion thereof involved in the abatement project. It will also be the Abatement Contractor's responsibility to allow only authorized personnel as defined below in Section 3.5 into the work area, and to secure all assigned entrances and exits at the end of the work day so as to prevent unauthorized entry.

2. The Abatement Contractor shall maintain a bound log book in which any person entering or leaving the lead abatement work area must sign and enter the dates and times of entry and departure.

3. Use of waste containers on- site shall be controlled under the following requirements:

   (a) Location of waste containers on- site shall be coordinated with the Owner and Owner's Representative.
   (b) The waste containers shall be solid enclosed containers, lined with two layers of six- mil polyethylene sheeting and locked and secured at all times.
   (c) The Abatement Contractor shall comply with all federal, state and local regulations and ordinances regarding lead waste storage.

4. The Abatement Contractor, supervisor will not allow anyone access to the dwelling unless they have successfully passed an approved training program.

3.2.2 Abatement Preparation

A. Prior to the commencement of any abatement procedures, notification requirements must be met; required signs shall be posted and moveable objects shall be moved a minimum of four feet from the perimeter walls of the room.

B. Pre-abatement work shall be performed prior to any abatement or component removal commencing on each side of the building.

C. Decontamination Unit. At a minimum, the Abatement Contractor shall construct a two- stage decontamination unit. This unit shall be directly adjacent to the abatement area for the decontamination of workers contaminated with lead. The decontamination unit shall consist of an equipment room, dirty room, and wash area in series. The Contractor shall ensure that employees use the worker decontamination chamber prior to leaving the work area.

   1. The decontamination unit shall be constructed with six-mil polyethylene sheeting on floors, walls and ceiling. Doors through this unit shall be constructed as described above.

D. Clean area. The Abatement Contractor shall select a clean area outside the abatement area for the workers to change into protective equipment. This area shall contain warm water hand washing facilities (potable water), clean cloths, storage for a HEPA vacuum, and respirator storage space. Table, chairs and a rest facility shall also be available at this location. Contaminated equipment or personnel shall not be permitted in this area.

E. Abatement area.

1. The Abatement Contractor shall pre-clean all surfaces with a HEPA vacuum and protect occupants' belongings by covering with one layer of six mil polyethylene and have joints taped. All debris gathered during this clean- up shall be disposed of properly. In addition, any existing loose paint or paint bearing materials found in the buildings are to be assumed hazardous and packaged and disposed of properly. The amount of the material should be estimated during the pre-bid walkthrough.

2. The Abatement Contractor shall prepare the area as follows:

   a) Doors and Windows: Doors and windows upon which a dust- generating method is being used, and on the same floor and all floors below, must be closed and covered with six- mil thick polyethylene sheeting.

   b) Plants and Ground: The ground and any plants or shrubs in the area in which exterior abatement is occurring shall be covered with a waterproof canvas tarp and weighted at all edges so as to prevent blowing. Such covering shall cover from the side of the structure to a point at least eight feet away from the structure. The covering shall be taped or otherwise attached to the structure.

      (1) The waterproof canvas tarp shall always be placed in a manner that traps all debris and water. This is best accomplished by elevating the edges.

      (2) The waterproof canvas tarp shall be properly disposed of and not re-used.

3. Special Areas. Any abatement project being performed on any structure other than a building shall be arranged, equipped and operated in a manner which will eliminate the possibility of lead contaminants or lead contaminated materials escaping from the work area.

   a) The Abatement Contractor shall maintain polyethylene barriers, and a clean area as long as needed for the safe and proper completion of the work. Any openings or tears in the work area barriers shall be corrected by the Abatement Contractor at the beginning of each work day and as necessary during the workday with such openings or tears reported immediately to the Owner. Work will not be allowed to commence until all barriers are in place and acceptable to the Owner's Representative.

4. Barriers shall not be removed until the work areas are thoroughly cleaned, and the area approved by the Owner's Representative. All debris must be properly bagged and removed from work areas, and the lead surface wipe samples must have passed final clearance tests, in accordance with provisions detailed in the Specification prior to barrier removal.

5. At the Owner's and Owner's Representative's approval, the Abatement Contractor may utilize a portable mini-isolation chamber to create an isolated work area around single components to be removed. This chamber shall still be equipped with an adjacent clean room, and become an isolated work area sealed at all seams to where it is attached to adjacent surfaces. It shall also satisfy all requirements for a work area and satisfy all clearance criteria, as identified in this Section and Local Law.

F. Signs. Prior to the preparation of a dwelling for abatement, the Abatement Contractor shall place warning signs immediately outside all entrances and exits to the dwelling, warning that abatement work is being conducted in the vicinity. The signs shall be at least 20" x 14" and read:

WARNING:
LEAD PAINT REMOVAL HAZARD
UNAUTHORIZED ENTRY PROHIBITED
NO SMOKING, EATING OR DRINKING ALLOWED IN THE WORK AREA

Signs shall be in bold lettering with lettering not smaller than two inches tall.

G. Construct and maintain suitable polyethylene barriers within the building to isolate the exterior work area from the interior of the building.

H. The polyethylene barriers termed "critical barriers" for the removal of windows shall consist of the following:

1. Pre- Clean all interior window surfaces with a HEPA- equipped vacuum.

2. Seal duct tape lip to inner most sill, casing and header surfaces of the window.

3. Seal two layers of six mil polyethylene sheeting from the duct tape lip on the inside sill of the dwelling unit window and extend up to the inside surface of the top interior casing. The first layer of sheeting applied shall be sealed to the inside faces of the window casing. The polyethylene sheeting shall be sealed to a piece of three- inch wide duct tape forming a lip attached to the interior window perimeter of the window casing.

4. There shall be no cavity in the polyethylene sheeting created that would allow lead dust to accumulate, which cannot be removed with HEPA vacuuming. This shall allow for removal of this polyethylene sheeting from the exterior of the building, without the generation of lead dust, once the window is removed and cleanup is complete.

5. The second layer of polyethylene sheeting shall be applied over the first layer and sealed directly to the inner face of the cut tape lip and window sill and casing.

6. This sealing of windows shall be done from the interior prior to the beginning of any exterior work.

I. The critical barriers for the removal of doors and door jambs, casing, and associated trim, shall consist of the following:

1. After precleaning activities of HEPA vacuuming floor and surfaces to be abated, seal with duct tape one layer of polyethylene sheeting over a 4’ x 4’ floor area extending in from the entrance doorway. This floor sheeting shall extend a minimum of six inches up the adjacent wall.

2. Remove the entrance door as described in this section.

3. Construct a mini- containment chamber with a double layer of six- mil polyethylene sheeting to isolate the inside door frame from the interior of the unit.

4. Seal mini- containment chamber to the interior wall a minimum of six inches from the interior door casing. Seal walls of the chamber to the floor poly. Cover ceiling with one layer of six- mil polyethylene. A prefabricated containment system may be used if approved by the Owner’s Representative.

5. Allow sufficient clearance around the door frame and casing to permit workers adequate access to remove the components without breaching the containment system.

J. Maintain polyethylene barriers, as long as needed for the safe and proper completion of the work. Any breeches in the work area barriers shall be corrected immediately and as necessary during the work day with such breeches reported immediately to the Owner. Work will not be allowed to commence until all barriers are in place and acceptable to the Owner's Representative.

3.3 PROTECTIVE PROCEDURES

3.3.1 Personal Air monitoring. Both personal air and area (ambient) air sampling will occur periodically throughout the project. The Abatement Contractor is advised of the following sampling:

A. Owner's Representative will perform clean area air monitoring sampling and analysis for all phases of the work in this Section. The Contractor is responsible for performance of personal air monitoring of Abatement Contractor employees.

B. Air samples may also be collected by the Owner's Representative outside critical barriers of the work area in the clean room, and in areas adjacent to the clean room.

C. The Owner's Representative will also collect wipe samples both within the abatement area and outside.

D. Any adjustment, tampering, and/ or deliberate interference with Owner's Representative air monitoring equipment by the Abatement Contractor's personnel will not be tolerated. Furthermore, the Abatement Contractor may be held liable for prosecution under applicable laws and regulations for attempting to falsify test results.

3.3.2 Worker Protection Requirements

A. Biological Monitoring. All workers must have baseline and post- abatement blood lead level measurements determined by the whole blood lead method, utilizing the Vena-Puncture technique with results provided to the Owner and Owner's Representative. This screening shall be performed every two months for the first six (6) months, and every six months thereafter if blood lead levels do not increase by more than 10 «g/ dl. In addition, the Abatement Contractor shall have a medical examination performed on each employee. This medical examination must be performed before workers begin lead contaminated work area and at the termination of an employee's employment or yearly, whichever comes first. A worker shall be removed from the job whenever three blood sampling tests average more than 25 «g/ dl or if a single test exceeds 30 «g/ dl. A formal investigation shall occur whenever a worker's blood lead level rises more than 10 «g/ dl over the baseline level. The Abatement Contractor shall be responsible for medical surveillance and record keeping, as defined in the OSHA Lead in Construction Standard (29 CFR 1926.62) and Local Law.

B. Training Requirements. All workers and supervisors shall have successfully completed a course provided by a licensed training provider meeting all requirements of EPA and Local Law. Supervisors shall be licensed by the responsible Local State Agency responsible. The Abatement Contractor will adhere to the requirements of OSHA regulations CFR 1910.1200 and 1926.62.

C. Supervision. The Abatement Contractor shall provide one site supervisor whose responsibilities include coordination, safety, security and execution of all phases of the lead removal project. The supervisor shall not be used as a lead removal worker, and shall be assigned full time to the project. The supervisor shall be fully qualified in all aspects of lead abatement practices and procedures, and have a three- day training course provided by a certified training provider and approved by the responsible Local State Agency within the previous year prior to commencement of lead-related work.

D. Respirators and Personal Protective Equipment (PPE)

1) Personal protection in the form of disposable coveralls and NIOSH and MSHA approved respirators, is required for all workers, supervisors, and authorized visitors entering the work area during the abatement and cleaning operations. A half- face negative pressure respirator is required until air monitoring data proves otherwise. Authorized visitors (i. e., federal, state, and local inspectors) must provide a current health and medical report certifying them as approved to wear half- face respirators, and must wear PAPRs until air monitoring data permits the use of half face respirators.

2) Each worker shall be supplied with a minimum of two (2) complete disposable suits every day. Removal workers shall not be limited to two (2) suits, and the Abatement Contractor will be required to supply additional suits as is necessary. In addition to disposable suits for the workers, the Abatement Contractor shall also supply suits for the Owner's Representative and other personnel who are authorized to inspect the worksite. Contractor must consider this cost in the bid. Disposable suits, such as TYVEK suits, and other personal protective equipment (PPE) must be donned prior to entering work area. A clean area will be provided for workers to put on suits and other personal protective equipment and to store their street clothes.

Suits will be worn inside the work area after the area passes pre- abatement inspection and shall remain in use until the area passes final clearance inspection. Light weight nylon clothes may be worn under the suit, but these clothes must be changed before leaving the work area and should be laundered separately.

3) Work clothes shall consist of moisture repellent, disposable full- body suits, head covers, gloves with cuffs extending outside the sleeves of the protective suit, boot or shoe covers, a face shield and eye protection. Hard hats shall be worn when deemed necessary. In addition, when caustic paste is used as an abatement agent, full-body suits and gloves impervious to caustics, glove extenders, face shields and boot or shoe covers are required.

4) Eye protection to personnel engaged in lead operations shall be furnished when the use of a full face respirator is not required.

5) Goggles with side shields will be worn when working with a material that may splash or fragment, or if protective eye wear is specified on the Material Safety Data Sheet (MSDS) for that product.

6) Additional respiratory protection by supplemental filters, such as organic vapor cartridges, may be needed when handling some coating products. Consult the Material Safety Data Sheets (MSDS) and obtain the proper filters as necessary.

7) The Abatement Contractor shall provide portable eyewash stations inside all work areas where caustic paste is to be used.

The stations should be capable of providing a flow of water for at least five minutes. The Abatement Contractor shall provide another station capable of providing a flow of water for at least fifteen minutes in the clean area. Squeeze bottles are not sufficient eyewash stations.

8) The Abatement Contractor shall supply workers and supervisory personnel with NIOSH and MSHA approved respirators and HEPA filters. Respiratory protection shall be implemented for all work performed by the Abatement Contractor under this Section. The respirators shall be sanitized and maintained according to the manufacturer's specifications. Disposable respirators shall not be considered acceptable under any circumstances. The Abatement Contractor will maintain on- site a sufficient supply of HEPA filters to allow workers and supervisory personnel to change contaminated

filters per manufacturer's recommendations or when breathing resistance is encountered. The Abatement Contractor is solely responsible for means and methods used and for compliance with applicable regulations:

(a) Half- mask, negative pressure, air purifying respirators equipped with high efficiency filters for airborne lead dust levels not in excess of 0.5 mg/ m3 (10 times the Permissible Exposure Limit) shall be used during component removal and enclosure abatement methods, with the exception of surface preparation for enclosures.

(b) Full- face Powered Air Purifying Respirators (PAPRs) with high efficiency filters for airborne dust levels not in excess of 2.5 mg/ m3 (50 time the Permissible Exposure Limit) will be required during all abatement demolition methods and encapsulation surface preparation methods and as required by OSHA 1926.62.

(c) Pressure demand, full face, supplied air respirators are required when airborne lead dust concentrations are expected to meet or exceed 50 mg/ m3 (1000 times the Permissible Exposure Limit). Respirators will not be removed until the worker enters the washing area of the decontamination chamber.

9) Respirators shall be individually assigned to removal workers for their exclusive use. All respiratory protection shall be provided to workers in accordance with the approved respiratory protection program, which includes all items in OSHA 29 CFR 1910.134 (B),(D),(E), & (F), and the OSHA lead standard 29 CFR 1926.62. A copy of this program shall be kept at the worksite, and shall be posted in the clean area.

10) Workers must perform negative and positive pressure fit checks each time a respirator is put on, whenever the respirator design so permits.

11) Powered air purifying respirators (PAPR) shall be tested for adequate flow as specified by the manufacturer.

12) Workers shall be given a qualitative fit test in accordance with procedures detailed in OSHA 29 CFR 1910.1025, Appendix D, Qualitative Fit Test Protocols, for all respirators to be used on this abatement project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.

13) If a question exists as to the proper selection of respirators, the Contractor may consult the OSHA Lead in Construction Standard (29 CFR 1926.62).

14) Upon leaving the active work area, cartridges must be removed, and respirators cleaned in a disinfectant solution and clean water rinsed.

15) Clean respirators should be stored in plastic bags when not in use.

16) The Abatement Contractor shall inspect respirators daily for broken, missing, or damaged parts.

17) The Abatement Contractor shall provide personal sampling to check personal exposure levels. Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken every day but must be taken in accordance with 29 CFR 1926.62. Sampling will determine eight- hour Time- Weighted Average exposures (TWA). Results shall be provided to the Owner and Owner's Representatives within 48 hours of the sampling.

18) Abatement Contractor shall comply with all OSHA, state, or other applicable requirements of worker medical examinations for approval to wear respiratory protection, and shall submit document of such approval to the Owner.

E. Exposure Conditions.

If air monitoring data, gathered by the Abatement Contractor or Owner's Representative shows that worker exposure to airborne lead exceeds 50 «g/ m3, the following conditions apply:

1) Clothing. Street clothes cannot be worn into containment. Workers must wear nylon shorts, TYVEK shorts, or nothing under disposable suit.

2) Showers. Showers must be provided. Shower water must pass through at least a 5.0 micron filter before returning to the public waste system.

(a) All workers must shower upon leaving the work area.

(b) A five- stage decontamination unit must be constructed of six- mil polyethylene sheeting and consisting of a dirty room, airlock, shower, airlock, and clean room.

3.3.3 Personal Air Sampling

A. General. The Abatement Contractor is required to perform the personal air sampling activities during all lead paint abatement work. The results of such sampling shall be posted, provided to individual workers, and submitted to Owner and Owner's Representative as described herein.

B. Sampling. Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken every day after the first day if working conditions remain unchanged, but must be taken every time there is a change in the removal operation, either in terms of the location or the type of work. Sampling will be used to determine eight- hour Time-Weighted Averages (TWA). The Abatement Contractor is responsible for personal sampling as outlined in OSHA Standard 29 CFR 1926.62. This sampling will determine the degree of respirator protection required, subject to the regulations.

C. Sampling Results. Air sampling results shall be transmitted to the Owner and individual workers in written form no more than forty- eight (48) hours after the completion of a sampling cycle. The reporting document shall list each sample's result, sampling time and date, personnel monitored and their social security numbers, flow rate, sample duration, sample yield, cassette size, and analysts' name and company, and shall include an interpretation of the results. Air sample analysis results will be reported in micrograms of lead per cubic meter of air («g/ m3).

D. Testing Laboratory. The Abatement Contractor's testing lab shall be certified for lead air sample by the American Industrial Hygiene Association. Abatement Contractor shall submit for the Owner's and Owner's Representative's review and acceptance the name and address of the laboratory, certification(s) of accreditation for heavy metal analysis, and a listing of relevant experience in air lead analysis, and presentation of a documented Quality Assurance and Quality Control program.

E. Air Monitoring Frequency. The air monitoring frequency for Abatement Contractor operations will be established in accordance with the requirements set forth in 29 CFR 1926.62.

3.4 WORKER HYGIENE PRACTICES

In order to avoid possible exposure to dangerous levels of lead and to prevent possible contamination of areas outside the demarcated work area, work shall follow the general guidelines listed below:

3.4.1. Work Area Entry. At no time shall a worker or other authorized personnel entering the work area go further than the Clean Area without proper respiratory protection and protective clothing.

3.4.2. Work Area Departure. The worker shall remove all gross contamination, debris and dust from the disposable suit by completely HEPA vacuuming them before leaving work area.

3.4.3 Personal Protective Equipment. All persons leaving the work area must remove their personal protective equipment (except respirators) before leaving the containment. Suits shall be removed "inside out" to minimize the dispersal of lead dust.

3.4.4 Wash Facilities. All workers must wash upon leaving the work area. Wash facilities will be provided by the abatement Contractor. This wash facility will consist of, at least, warm running potable water, soap, and towels. All waste water must be contained and disposed of in accordance with this Specification.

3.4.5 Equipment. All equipment used by the workers inside the work area shall be either left in the work area or thoroughly decontaminated before being removed from the area. Extra work clothing (in addition to the disposable suits supplied by the Abatement Contractor) shall be left in the clean area until the completion of work in that area. The clean area shall be cleaned of all visible debris and disposable materials daily.

3.4.6. Prohibited Activities. Under no circumstances shall workers or supervisory personnel eat, drink, smoke, chew gum, or chew tobacco or remove their respirators in the work area. To do so shall be grounds for the Owner and/ or Owner's Representative to STOP all removal operations. Only in the case of life threatening emergency shall workers or supervisory personnel be allowed to remove their protective respirators while in the work area. In this situation, respirators are to be removed for as short a duration as possible.

3.4.7 Footwear. As with additional clothing, all work footwear shall be left inside the decontamination area until the completion of the job and then shall be HEPA vacuumed and wiped or discarded as contaminated waste.

3.4.8 Shock Hazards. The Abatement Contractor is responsible for using safe procedures to avoid electrical hazards. Power will be shut off and checked before work begins when a hazard exists. all extension cords and power tools used within the work area shall be attached to Ground Fault Circuit Interrupters (GFCI).

3.5 CONTROL OVER ABATEMENT WORK

All work procedures shall be continuously controlled and monitored by the Contractor to assure that the building will not be further contaminated. The following controls shall be instituted on each working day:

3.5.1 Start Up. Prior to work on any given day, the Contractor's designated project supervisor will discuss the day's work schedule with his work force to evaluate job tasks with respect to safety procedures and requirements specified to prevent contamination of the other parts of the building or the employees. This includes a visual survey of the work area and the decontamination enclosure systems.

3.5.2 Access. The Contractor shall maintain control of and be responsible for access to all work areas to ensure the following requirements:

A. Non- authorized personnel are prohibited from entering the area at all times of day and night;

B. All authorized personnel entering the work area shall be familiar with the worker protection procedures contained in this specification and shall be equipped with properly fitted respirators and protective clothing;

C. All personnel who are exiting from the decontamination enclosure system shall be properly decontaminated;

D. Lead waste which is taken out of the work area must be properly handled in accordance with these specifications. The surface of any waste containers, removed from the work area, shall be wiped down with a minimum of a 5% solution of tri-sodium phosphate or other equivalent cleaning agent prior to removing it from the work area.

E. Building components with lead painted surfaces shall be removed from the work area and placed directly into a labeled and secured disposal container or a designated storage area.

3.6 VISUAL INSPECTIONS

The Abatement Contractor shall request a visual inspection by the Owner's Representative. If the area does not pass a visual inspection (e. g., no visible dust or debris), the Abatement Subcontractor shall reclean the area. Clearance monitoring shall be conducted according to the procedures specified in Chapter 15: Clearance, "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," U.S. Department of Housing and Urban Development, June 1995.

3.6.1 Post-abatement Visual Inspection. The Owner's Representative shall confirm job completeness by determining whether all surfaces have been abated according to the approved abatement plan and project specification. The Owner's Representative will then determine if the building has been adequately cleaned by examining all surfaces for dust and debris. If dust is found, the work area should be recleaned, and the damp cloth test repeated.

3.6.2 Post- abatement Clearance. When all surfaces have passed visual inspection, and the building rehabilitation is complete, clearance wipe samples shall be performed by the Owner's Representative. The standards for passing a wipe test are outlined in the HUD Guidelines. Should laboratory results indicate that the wipe test clearance level is exceeded, the Abatement Subcontractor shall re-clean the affected area, at no additional cost to the Owner, utilizing the methods specified above. Retesting will then be performed to verify compliance with the mandated levels. Abatement Contractor shall pay for all additional testing and provide, at no additional cost, a recleaning of an effected area and personal belongings until the clearance level is achieved.

3.7 DISPOSAL

The waste generated by this procedure will be profiled and disposed of in compliance AB 2784 and all other current standards.

The following testing must be performed by a laboratory properly certified by the State of California. The name of the laboratory must be supplied to the Owner prior to the initiation of the testing.

TCLP Test. Testing on lead- based paint abatement waste materials by use of the Toxicity Characteristic Leaching Procedure (TCLP) will be completed and paid by the Abatement Contractor, and results shall be supplied to the Owner's Representative and Owner.

The testing of material shall be performed as obtained to minimize the storage of "assumed" hazardous material. In absence of written official state guidance, the Abatement Contractor shall take at least one (1) composite sample of the items listed below for the RCRA eight (8) heavy metals. The Abatement Contractor shall also determine if additional testing for other compounds, such as pH, flashpoint, etc., are required for disposal at a particular landfill. The following materials shall be tested to determine whether or not they are hazardous:

1. Waste water.
2. Dust from HEPA filters.
3. Metals that have not been previously tested.
4. Plastic sheets, duct tape, or tape used to cover floors and other services during the lead- based paint removal.
5. Solvents and caustics used during the stripping process.
6. Liquid waste, such as wash water used to decontaminate wood after solvents have been used, and liquid waste from exterior (or interior) water blasting.
7. Rags, sponges, mops, scrapers, and other materials used for testing, abatement, and clean- up.
8. Disposable work clothes and respirator filters cartridges.
9. Any other items contaminated with lead- based paint or items produced as a result of lead- based paint abatement activity, such as the water filters.

End of Lead Abatement Specifications

January 20, 2009

San Bernardino City Unified School District
Facilities Management
777 North "F" Street
San Bernardino, California 92410

Attention: Michael Plunkett

Subject: Budgets for Abatement at Sierra High School

Dear Mr. Plunkett:

Pacific Environmental Company conducted a hazardous materials survey for Sierra High School in anticipation of modernizations per your request.

Asbestos-containing transite vent pipes, roofing mastics and exterior wall texture materials were identified at the site and must be removed prior to the modernization work if they are going to be impacted, otherwise they can be managed in place since they are in good condition. Current EPA regulations require that ACM be removed from a building prior to renovation or demolition or renovation that will impact the ACM. Asbestos-containing materials must be removed in accordance with State of California Division of Occupational Safety and Health (Cal/OSHA) and South Coast Air Quality Management District (SCAQMD) requirements.

Lead-based paints (LBP) were also identified at the site. Lead abatement, treatment and/or recycling should be conducted in full compliance with the Cal-OSHA Lead-Related Construction Standard. Paints containing lead greater than 0.5% lead by weight that are to be scraped, sanded, torched, or otherwise disturbed during the demolition should be removed or stabilized prior to the demolition by a licensed contractor and workers with California Department of Health Services (DHS) certification in lead-related construction. Waste streams must be characterized to ensure appropriate disposal methods.

Existing fluorescent lamps (containing mercury vapor) should be removed, and the mercury recycled. PCB-containing electrical ballasts in light fixtures and transformers should also be segregated, and either disposed in a hazardous waste landfill or incinerated, in accordance with federal and state regulations and Department of Toxic Substances Control (DTSC) guidelines. The batteries stored on site should be recycled.

For planning purposes, we have prepared the following preliminary estimates for abatement. This is not a bid to do the work, rather a planning tool based on our site observations, current industry trends and discussions with abatement contractors regarding the project.

Building	Material	Location	Estimated Qty.	Unit Cost	Abatement Estimate
A Building	Transite Vent Pipes	Roof Vents	10 LF	$100	$1000
B Building	Roof Penetration Mastic	Roof Penetrations, Patches, ACs	100 SF	$10	$1000
C Buildings	Roof Penetration Mastic	Roof Penetrations, Patches, ACs	150 SF	$100	$1,500
	Exterior Wall Texture	C4-C5 Exterior Walls	2,000 SF	$10	$20,000
	Exterior Wall Texture	C6-C8 Exterior Walls	3,600 SF	$10	$36,000
Kitchen Building	Exterior Wall Texture	Exterior Walls	800 SF	$10	$8,000
	Roof Penetration Mastic	Roof Penetrations	20 SF	$10	$200
Estimated Total for Asbestos Abatement					$67,700.00
Lead painted components					$40,000.00
PCB Ballasts and Miscellaneous					$10,000.00
Project Compliance Monitoring and Inspections					$10,000.00
Subtotal					**$127,700.00**
Contingency (10%)					**$12,770.00**
Total Estimate					**$140,470.00**

If you have any questions or require additional information, please call me at (800)303-6484 extension 701.

Respectfully,

Pacific Environmental Company



Michael Lyssy
President