Gilsenan, Michael

From: Atteloney, Leonard
Sent: Friday, August 16, 2002 3:41 PM
To: Gilsenan, Michael
Cc: Theodorellys, Penny; Radhakrishnan, Krish
Subject: AIR MONITORING SPECS FOR 125CEDAR AND 114 LIBERTY STREETS

Importance: High

REVISED 125 Cedar Street Scope...

New York City Department of Environmental Protection
Bureau of Environmental Compliance
Project Monitoring Contract Scope of Work
For
125 Cedar Street

Background

A follow-up visit to 125 Cedar Street, a.k.a. 110 Liberty Street, revealed debris and significant dust accumulations present on surfaces within the interior of the building. Project monitoring will be done by a licensed air-monitoring contractor hired by the Department of Environmental Protection (DEP) to oversee the clean-up of the building's interior. Environmental sampling will be done before and at the conclusion of the clean-up activity.

Purpose

The purpose of this contract is to acquire project-monitoring services including site monitoring during clean-up activities, wipe and air sampling and laboratory analysis. The Project Monitoring Contractor shall provide personnel experienced and certified in asbestos abatement monitoring, air and wipe sampling, to be on-site, full-time, during work area preparation and cleaning phases of building interiors.
The Monitoring Contractor shall perform the following tasks:

1. Monitor the cleanup of the building interiors to ensure all activities are being performed in accordance with the project specifications and the appropriate regulatory requirements;
2. Technicians hired by the Air Monitoring Contractor will collect area and personal air samples;
3. Technicians will collect samples for Total Dust, Asbestos, Metals, Silica, Calcite, Gypsum, Mercury, PolyAromatic Hydrocarbons (PAHs) and Dioxin;
4. A Certified Laboratory will analyze all samples collected.

Work shall be performed 24 hours per day, seven (7) days per week.

Qualifications

Project Monitors
The Project Monitors must be employees of the Air Monitoring Contractor. The Project Monitors must possess valid NYS Asbestos Project Monitor certificates. Monitors must have served as a third party project monitor on at least 25 asbestos abatement projects. Project Monitor must have performed final clearance inspections on at least 25 asbestos abatement projects. At a minimum at least 3 Project Monitors must be assigned to this project.

Technicians
Air monitoring technicians must possess valid NYS Asbestos Project Sampling Technician (APST) certificates. Technicians must have performed air sampling for at least 6 months. At a minimum at least 5 Air Sampling Technicians must be assigned to this project.

Wipe Sampling Technicians
Wipe sampling technicians must have 1 year experience in wipe sampling for a variety of contaminants. Employees shall have received state certified training in dust sampling. At a minimum at least 2 Wipe Sampling Technicians must be assigned to this project.

Analytical Laboratory
The New York State Department of Health must certify the environmental laboratory. Certification for all the analytes of interest must have been maintained for at least six consecutive proficiency testing rounds. Laboratory must possess a Gas Chromatograph equipped with a capillary column and a high resolution Mass Spectrometer for analyzing Dioxin and Inductively Coupled Plasma for Total Metals. Cold Vapor Method apparatus be used for Mercury analysis.

Proof of qualifications must be presented upon request to the DEP.

Specifications

Work area preparation and cleaning activities of the building interior is expected to be completed within 3 weeks. The monitoring contractor must be prepared to mobilize within 72 hours of the contract award . Cleaning activities shall be scheduled for 20 units per day. Air sampling shall be scheduled and completed within 24 hours of successful visual inspection by the Project Monitor.

Sampling equipment must be in sufficient quantity to provide the amount and type of samples required for this project. At a minimum the following equipment are required: air-sampling pumps with maximum flow rate capacity of 15 liters per minute, tripods, rotometers, sample cassettes with mixed cellulose ester filters having pore size of 0.8 microns, micro vacuum, disposable porous cellulosic towellette moistened with wetting agent and solvent-wetted sampling agent.

Laboratory must have all analytical instruments on site with sensitivities to the lowest level of detection as required by the analytical methods for each analyte.

All appropriate data, original field forms/data sheets, chain of custody forms and typed reports must be accurate and complete before submittal to DEP.

Project Monitoring

The project monitor shall provide oversight of clean-up activities to ensure compliance with project specifications, tenants authorizations, and applicable rules and regulations. The project monitor shall be present on site during all cleaning activities. The project monitor shall coordinate all scheduling requirements for timely completion of the work (completion of work area preparation and cleaning activities is expected to be completed within 3 weeks). The project monitor shall maintain the inventory of valuable items in each unit as

provided by tenants. A copy of the contractor requirements is attached. For additional and specific tasks, refer to this attachment.

The project monitor shall provide daily monitoring of all work activities to insure compliance with the scope-of-work, the applicable rules and regulations, and the contracts. This includes but is not limited to the verification of worker certification status, the use of proper engineering controls and appropriate work practices.

The project monitor shall direct corrective actions when appropriate and shall be responsible to stop work until corrections are made. Findings must be reported immediately to DEP via telephone call. Written notification of observation and corrective actions must be received by the DEP within 48 hours of the telephone call.

Monitor shall complete a Project Completion Report for each work area and submit it to DEP within 48 hours of successful clearance results.

Pre-cleaning Sampling Schedule

The Sampling Technicians will collect Pre-Cleanup Samples in Accordance with the following Tables:

Sampling Matrix for Clean up Project

Wipe Sampling Locations	**Asbestos/ MMWF**	**Lead/ Metals**	**Dioxin**	**PAHs**	**Silica/ Calcite/ Gypsum**	**Total Dust**	**Total # of Samples**
Ceiling	1	0	0	0	0	0	1
Walls	1	1	1	1	1	0	5
Bare Floor	1	1	1	1	1	0	5
Counter Tops or Furniture (table tops)	1	1	1	1	1	1	6
Total Wipe Samples/ Parameter	**4**	**3**	**3**	**3**	**3**	**1**	**17**

Micro-vacuum Sampling Locations	**Asbestos/ MMWF**	**Lead/ Metals**	**Dioxin**	**PAHs**	**Silica/ Calcite/ Gypsum**	**Total Dust**	**Total # of Samples**
Carpet or Drapery	3	3	0	0	0	0	6
Fabric Furniture (couch or chair)	3	3	0	0	0	0	6
Micro-vacuum Samples/ Parameter	**6**	**6**	**0**	**0**	**0**	**0**	**12**

Indoor Air Sampling Locations	Asbestos/ MMWF	Lead/ Metals	Dioxin	PAHs	Silica/ Calcite/ Gypsum	Total Dust	Total # of Samples
Main Living Space	0	0	2	2	0	0	4
Total Air Samples/ Parameter	**0**	**0**	**2**	**2**	**0**	**0**	**4**

Bulk Dust Sampling Locations	Asbestos/ MMWF	Lead/ Metals	Dioxin	PAHs	Silica/ Calcite/ Gypsum	Total Dust	Total # of Samples
	1	1	1	1	1	1	6
Total Bulk Dust Samples/ Parameter	**1**	**1**	**1**	**1**	**1**	**1**	**6**

Notes:
1. MMVF – Man made Vitreous Fibers
2. The total number of samples represents the number of samples to be collected in each apartment per floor.
3. Dioxin and PAHs samples in indoor air will be collected in each apartment per floor.

The Sampling Technicians will collect Post - Cleanup Samples in accordance with the following Tables:

Sampling Matrix Clean up Project

Wipe Sampling Locations	Asbestos/ MMWF	Lead/ Metals	Dioxin	PAHs	Silica/ Calcite/ Gypsum	Total Dust	Total # of Samples
Ceiling	1	0	0	0	0	0	1
Walls	1	1	1	1	1	0	5
Bare Floor	1	1	1	1	1	0	5
Counter Tops or Furniture (table tops)	1	1	1	1	1	1	6
Total Wipe Samples/ Parameter	**4**	**3**	**3**	**3**	**3**	**1**	**17**

Micro-vacuum Sampling Locations	Asbestos/ MMWF	Lead/ Metals	Dioxin	PAHs	Silica/ Calcite/ Gypsum	Total Dust	Total # of Samples
Carpet or Drapery	3	3	0	0	0	0	6
Fabric Furniture (couch or chair)	3	3	0	0	0	0	6
Micro-vacuum Samples/ Parameter	**6**	**6**	**0**	**0**	**0**	**0**	**12**

Indoor Air Sampling Locations	Asbestos	Lead/ Metals	Dioxin	PAHs	Silica/ Calcite/ Gypsum	Total Dust	Total # of Samples
Main Living Space	5	1	0	0	1	0	7
Total Air Samples/ Parameter	**5**	**1**	**0**	**0**	**1**	**0**	**7**

Notes: The total number of samples represents the number of samples to be collected per apartment.

All Samples shall be Collected and Analyzed in Accordance with the following Schedule;

Collection and Analytical Methods for Background and Clean up Project

Analyte Code	Analytical Method	Collection Method	Turnaround Time
Asbestos	1. NIOSH 7400 PCM Fibers >5µm 2. PCMe by TEM(asbestos fibers>5 µm 3. TEM by AHERA asbestos fibers >0.5 µm	Micro vacuum – ASTM D 5755-95 Wipe Samples – ATSM D6480-99 Air Samples – NIOSH 7400	Clearance results within 24 hours
Dioxin	EPA SW-846 8290	Wipe Sample – ASTM D 6661-01, Air – TO-9(Modified for indoor air)	7 Days
Lead	EPA SW-846 7082	Wipe Sample - HUD Appendix 13.1	14 Days
PAH	EPA SW-846 8270C	Wipe Sample – ASTM D	14 Days

		6661-01, Air – NIOSH 5515	
Metals	EPA SW – 846 6010B	Micro vacuum – ASTM E 1973-99 Wipe Samples – HUD Appendix 13.1 Air Samples – NIOSH 7300 Bulk Samples – Collection method that reduces the potential for dust release.	Clearance results for Lead Wipes within 24 hours Metals 14 Days
Mercury	EPA SW – 846 7471A	Wipe Samples – HUD Appendix 13.1	14 Days
Silica, Calcites, Gypsum	NIOSH 7500(XRD)	Wipe Samples – HUD Appendix 13.1 Air Samples – NIOSH 7500 Bulk Samples – Collection method that reduces the potential for dust release.	14 Days
MMVF	EMSL MSD.0300	Collected with asbestos, Micro vacuum – ASTM D 5755-95 Wipe Samples – ATSM D6480-99 Air Samples – NIOSH 7400	14 Days
MMVF/Asbestos	PLM NYS 198.1/EMSL MSD.0300	Collected with asbestos, Bulk	14 Days

The Technician will document all the necessary information regarding sampling activities and complete all field logs, data sheets, and chain-of-custody forms. Samples must be labeled and accompanied with completed chain-of-custody forms before submitting to the laboratory for analysis.

Post Cleaning Aggressive Air Sampling Procedures by Air Sampling Technician

Sampling shall not begin until a visual inspection confirms the absence of visible dust and debris. Post cleaning air sampling shall be performed upon successful visual inspection and completed within 24 hours. A successful visual inspection shall be an inspection that verifies the absence of dust and debris. All surfaces must be completely dry prior to the start of sampling. Based on consultation with the resident or owner, aggressive or modified aggressive air sampling will be conducted. Residents shall not be present during aggressive air sampling activities.

Before beginning aggressive air sampling, a 1 horsepower electric leaf blower shall be used to direct exhaust air against walls, ceilings, floors and other surfaces. This shall continue for at least five minutes per 1,000 square

feet of floor. When directing the exhaust, caution shall be taken to minimize disturbance and potential damage to furnishings and personal belongings.

Personal protective equipment including disposable clothing, gloves, and respirators shall be worn during aggressive air sampling activities.

HVAC systems shall be shut down or isolated locally during aggressive air sampling.

Room and window air conditioners shall not be operated during aggressive air sampling.

Leaf blowers shall not be employed for modified aggressive air sampling.

All other procedures are identical for aggressive and modified aggressive air sampling, unless otherwise noted.

At least one 20-inch fan shall be placed in the center of each room sampled. One fan per 10,000 cubic feet of room space shall be used. The fans shall be operated on slow speed and pointed toward the ceiling. The fans shall run for at least 15 minutes prior to the start of sampling. The fans shall operate continuously throughout sampling and shall not be turned off until sampling is completed.

Five samples will be collected per unit area. Sampling equipment shall be placed in living areas and away from obstructions. The sampling cassette must be placed on a tripod, not taped to existing surface and should be directed downward at a 45 degree angle.

Common spaces will be sampled without the use of forced air devices (fans, leaf blowers etc). **Five asbestos samples will be collected in each apartment per floor**. Sampling equipment shall be placed away from obstructions. The sampling cassette must be placed on a tripod directed downward at a 45^0 angle and not taped to existing surfaces.

Air samples will be collected in accordance with the procedures specified in NIOSH 7400 Method. The flow rate for collection of air samples shall be at least 10 liters per minute and no more than 15 liters per minute. Air sampling cassettes need to be monitored to ensure that the filters do not develop dark spots that would indicate clogging. The minimum sampling volume required is 3600 liters. If clogging develops then the cassette must be changed .

All clearance air samples and completed chain of custody forms must be submitted to the laboratory immediately after sampling is completed.

A turn-around time of 24 hours is required for the analysis of asbestos post-clearance air samples.

Reporting of Laboratory Sample Results

Asbestos Air Fiber Samples
All samples collected will be analyzed by the NIOSH 7400 Method , Counting rule "A." The remaining portion of the filter will be analyzed by AHERA Method which counts fibers >0.5 μm in length. The laboratory must also record fibers >5μ m in length to determine the PCMe value.
The PCMe Value is determined by counting all fibers >5μm with 3:1 aspect ratio by TEM.

Asbestos Air Fiber Samples
All samples collected will be analyzed by the NIOSH 7400 Method , Counting rule "A." The remaining portion of the filter will be analyzed by AHERA Method which counts fibers >0.5 μm in length. The laboratory must also record fibers >5μ m in length to determine the PCMe value.
The PCMe Value is determined by counting all fibers >5μm with 3:1 aspect ratio by TEM.

The primary clearance level established by the US EPA is **0.0009 fibers/cc (PCME measured by TEM)** for each sample. This clean-up criterion may be reevaluated and revised, if determined necessary based on field conditions and analytical limitations.

Total Metals and Mercury Wipe Samples
Analysis of Total Metals (23 Target Metals) must be done utilizing the EPA Method SW-846 6010B. Mercury wipes must be analyzed in accordance with EPA Method SW-846 7471A. The clearance criteria for all the Target Metals in Wipe Samples except Lead is presently under review by the EPA. The EPA primary clearance level for Lead in Settled Dust is **<25μg/ft2.**

Dioxin Wipe Samples
Analysis of Dioxin Wipe samples must be done utilizing EPA Method SW-846 8290. The criteria as established by the EPA for primary clearance is **4 ngms/m.^{2}**

Clean up will not be considered complete unless all primary clearance levels are achieved.

Secondary clearance levels are have been established by the US EPA for the following analytes but will not trigger additional cleaning if these levels are met:

- Fiberglass in Air <0.01f/cc
- Crystalline Silica in Air 0.5μg/m^3
- PAHs in Settled Dust <0.3mg/m^2
- Mercury in Wipes 1- 2mg/m^2

A final report shall be submitted to the DEP within **1 week** of the project completion. The report shall clearly identify the work performed in each unit and shall include all laboratory reports, chain-of-custody forms, field notes, copies of employee credentials (i.e. certificates), tenant and owner authorizations, etc.