

## Gilsenan, Michael

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**From:** Maddaloni.Mark@epamail.epa.gov  
**Sent:** Thursday, February 06, 2003 6:10 PM  
**To:** Theodorellys, Penny  
**Cc:** nace.charles@epamail.epa.gov; Radhakrishnan, Krish; Gilsenan, Michael  
**Subject:** Re: 114 Liberty Street Monitoring Contractor Specifications



114 Liberty St  
 Monitoring 2 6 ...

Penny,

There are still a few loose threads re: the asbestos air sampling rates.

Page 2 (Equipment) - The protocol calls for pumps with a flow rate capacity of 2 - 10 liters/min but bullet #6 on page 5 (NIOSH 7400 method) calls for a flow rate of 10 - 15 liters per min. On a related subject, the NIOSH 7400 method specifies a flow rate of .5 - 16 liters/min (and a minimum volume of 400 liters) but we want the large (3,600 liter) sample volumes, and therefore high flow rates (approx 10 liters/min), to attain the necessary detection limits for the TEM analysis.

Page 4 (Asbestos Air Monitoring) bullet # 2 The protocol calls for a flow rate not to exceed 3 liters/min. At that rate it would take 20 hours to get the desired sample volume of 3,600 liters.

|            |                                |                                                          |
|------------|--------------------------------|----------------------------------------------------------|
| Charles    | "Theodorellys,<br>Penny"       | To: Mark Maddaloni/R2/USEPA/US@EPA,                      |
|            | <pthodorellys@de<br>p.nyc.gov> | Nace/R2/USEPA/US@EPA                                     |
| Michael"   |                                | cc: "Radhakrishnan, Krish"                               |
|            |                                | <kradhakrishnan@dep.nyc.gov>, "Gilsenan,                 |
| Contractor | 02/06/2003 02:53<br>PM         | <mgilsenan@dep.nyc.gov>                                  |
|            |                                | Subject: 114 Liberty Street Monitoring<br>Specifications |

<<114 Liberty St Monitoring 2 6 03.doc>>

Attached please find the revised monitoring specification with your comments included. I am awaiting the attachments referenced in your correspondence and will include your reporting guidelines. We will be moving forward quickly and I would appreciate any other feedback as soon as possible.

Thanks again, the inclusion of the language for the changes was very helpful.

Please confirm receipt and review of this document.

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Penny

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(See attached file: 114 Liberty St Monitoring 2 6 03.doc)

**DRAFT 2/6/03**

**New York City Department of Environmental Protection  
Bureau of Environmental Compliance**

**Monitoring Contractor  
Scope of Work for 114 Liberty Street, Manhattan**

**Background**

A follow-up visit to 114 Liberty Street revealed minor dust accumulations present on surfaces within the interior of the building. The interior cleaning is to be accomplished by a licensed asbestos abatement contractor and monitored by a Monitoring Contractor.

**Purpose**

The Monitoring Contractor shall provide personnel experienced, trained, and certified in environmental sampling and asbestos air monitoring to be on-site, full-time, during work area preparation and cleaning phases of building interiors (12 stories –5,000 to 6,000 square feet per floor). Each apartment occupies an entire floor with the exception of the top floor that is a duplex and the apartment on the third floor that shares the floor with two commercial spaces. The entire interior of the building (residential, commercial, retail spaces, common spaces, etc.) is included in this work. Each floor has central HVAC systems.

The Monitoring Contractor shall provide qualified staff to observe the work, conduct air monitoring and sampling, and monitor the cleanup of the building interiors to ensure compliance with the project specifications and appropriate regulatory requirements. The Monitoring Contractor shall provide clearance sampling and analyses.

The Monitoring Contractor shall provide qualified staff to collect samples for asbestos, lead, polyaromatic hydrocarbons (PAHs), dioxin, fibrous glass, and crystalline silica.

An accredited laboratory shall perform all sample analyses.

The Work shall be performed 24 hours per day, seven (7) days per week. Pre-clean up sampling must begin within 24 hours of receipt of the *Commence Work* letter. All pre-clean up samples must be completed and submitted to the laboratory for analysis within 48 hours.

**Air Monitoring/Construction Inspection Services**

Air monitoring by a Monitoring Contractor shall be conducted during all cleanup activities. The Monitoring Contractor shall provide individuals certified as project monitors and air sampling technicians to perform daily air sampling and inspections from the commencement of the project through final clearance sampling. The Monitoring Contractor shall provide sufficient equipment and experienced personnel to monitor work area preparation and cleaning phases of the building interiors.

**Qualifications**

***Project Monitoring***

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. The Project

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Monitor must have performed final clearance inspections on at least 25 asbestos abatement projects. A single individual with Asbestos Project Monitor and Asbestos Project Sampling Technician certification shall not perform the functions of both Monitor and Technician during this project.

## ***Air Sampling 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. A single individual with Asbestos Project Monitor and Asbestos Project Sampling Technician certification shall not perform the functions of both Monitor and Technician during this project.

## ***Wipe Sampling Technicians***

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

## ***Equipment***

Sampling equipment must be in sufficient quantity to provide the amount and type of samples required for this project. The following equipment is required: air-sampling pumps with flow rate capacities of 2 to 10 liters per minute, tripods, rotometers, sample cassettes with mixed cellulose ester filters having pore size of 0.8µm, micro vacuum, disposable porous cellulosic towlettes moistened with wetting agent, solvent-wetted sampling agent, and all other equipment required to perform the specified monitoring and sampling.

## ***Analytical Laboratory***

The environmental laboratory must be certified by the New York State Department of Health. Certification for all the analytes specified herein must have been maintained for at least six (6) consecutive proficiency testing rounds. The laboratory must possess a gas chromatograph equipped with a capillary column and high-resolution mass spectrometer for analyzing dioxin and inductively coupled plasma for total metals.

**Proof of qualifications must be presented** to the NYCDEP prior to commencement of work. The NYCDEP reserves the right to disqualify any individual(s) from work on this project for non-compliance with these specifications or the requirements of applicable rules and regulations.

## **Specifications**

It is anticipated that the work will be completed within three (3) weeks. Post clean up sampling shall begin within 4 hours of successful visual inspection and shall be completed within 2 days.

## **Sampling and Analytical Procedures for Lead, PAHs, Dioxin, Fibrous Glass, and Silica**

1. Sampling for lead, PAHs, and dioxin shall be performed by the wipe sampling technician. A completed chain of custody must accompany all samples. A unique sample number shall be assigned to each sample. A complete written description and/or diagram shall clearly identify each sampling location.

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2. Post cleaning air samples for fibrous glass and silica shall be collected concurrently with the asbestos clearance air sampling procedures specified herein. Five samples for fibrous glass and one sample for silica shall be collected in each apartment.

3. Wipe samples shall be collected before and after cleaning for lead, dioxin, and PAHs.

*Prior to the cleaning activities, three wipe samples shall be collected for each of these parameters in each apartment. The sampling locations shall be a wall, a bare floor, and a counter or tabletop.*

*After cleaning activities, three wipe samples shall be collected for each of these parameters in each apartment. The sampling locations shall be a wall, a bare floor, and a counter or tabletop; preferably at the same location as the pre-cleaning samples.*

4. The required sampling and analytical procedures are specified in Table 1.
5. The detection limit for PAHs shall be no greater than 1  $\mu\text{g}/\text{m}^2$ .
6. Samples containing concentrations of specific congeneric analytes (PCDDs and PCDFs) considered within the scope of the dioxin sampling method that are greater than ten times the upper MCLs must be analyzed by a protocol designed for such concentration levels, e.g., Method 8280. Analytical results shall be reported using a 2,3,7,8-TCDD toxicity equivalence (TEQ). The TEQs shall be reported four ways. A TEQ which sets non-detects to zero (i.e., TEQ (ND=0)), a TEQ which sets non-detects at 1/2 the detection limit (i.e., TEQ (ND=1/2)), a TEQ Estimated Maximum Potential Concentration with non-detects set to zero (i.e., TEQ EMPC (ND=0)), and a TEQ Estimated Maximum Potential Concentration with non-detects set to 1/2 the detection limit (i.e., TEQ EMPC (ND=1/2)). Please see attachment 2 for the format and data to report for dioxin wipe samples.

**Table 1: Sampling and Analytical Methods**

| Parameter          | Description  | Sampling Methodology           | Analytical Method                                                                                                                                                            | Maximum Turnaround Time |
|--------------------|--------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Lead               | Wipe samples | HUD Appendix 13.1              | EPA Method SW-846-6010B                                                                                                                                                      | 1 day                   |
| PAHs               | Wipe samples | ASTM D6661-01                  | ASTM-6661-01<br>EPA SW-846-8270C                                                                                                                                             | 14 days                 |
| Dioxin             | Wipe samples | ASTM 6661-01                   | ASTM 6661-01<br>EPA Method SW-846-8290                                                                                                                                       | 14 days                 |
| Fibrous Glass      | Air samples  | NIOSH 7400                     | NIOSH 7400,<br>Counting Method "B"                                                                                                                                           | 3 days                  |
| Crystalline Silica | Air samples  | NIOSH 7500                     | NIOSH 7500 (XRD)                                                                                                                                                             | 14 days                 |
| Asbestos           | Air samples  | Collection using<br>NIOSH 7400 | Asbestos Fiber Analysis by<br>Transmission Electron Microscopy<br>(TEM) Performed by EPA 40 CRF<br>Part 763 Final Rule (AHERA) [see<br>Attachment 1] and NIOSH 7400<br>(PCM) | 1 day                   |

**DRAFT 2/6/03****Asbestos Air Sample Collection and Analysis**

1. All asbestos air sampling methodologies shall be in accordance with the applicable sections of Title 15, Chapter 1 of the Rules of the City of New York and AHERA. (see reference in Table 1)
2. Asbestos air samples shall be analyzed in accordance with EPA 40 CRF Part 763 Final Rule (AHERA) using a transmission electron microscope (TEM) and reported as shown in Attachment 1. For the TEM analysis, two size fractions should be reported, a fraction that represents fibers >0.5 microns and a fraction that represents fibers >5 microns. The fraction that represents the fibers >5 microns is considered to be the PCM equivalent (i.e., PCMe) that should be compared to the primary clearance value of 0.0009 s/cc. In addition, the asbestos air samples shall be analyzed in accordance with NIOSH 7400 for standard PCM analysis. These results shall be reported on a separate sheet. The detection limit shall be 0.0004 f/cc.
3. A turnaround time of 24 hours is required for all samples.

**Asbestos Air Monitoring**

1. Five (5) ambient air samples shall be collected outside but in the general vicinity of the work site. Samplers shall be placed in reasonable proximity to the building and away from obstructions, vents, and drafts that may unduly affect airflow.
2. Five (5) air samples shall be collected per day during cleanup activities. The flow rate shall be set at the minimum collection flow rate specified by the manufacturer for the sampling pump. The flow rate shall not exceed 3 liters per minute. A minimum sampling volume of 3600 liters shall be collected.

Samples shall be collected at isolation barriers outside the work area, the clean room of the worker/waste decontamination facility, and outside of the building.

3. Sample collection methodologies shall be in accordance with Title 15, Chapter 1 of the Rules of the City of New York (RCNY) and AHERA regarding documentation and sample locations and the requirements set forth herein regarding the rates of flow, and required volumes to achieve the necessary analytical sensitivity.
4. Sampling equipment shall be placed at representative locations and away from obstruction. Sampling cassette must be placed on a tripod and not taped to existing surfaces. All air sampling equipment shall be pre- and post- calibrated to insure accurate air sampling volumes.
5. The Air Sampling Technician shall perform clearance air sampling after the areas are free of dust accumulations as determined by the Project Monitor. All surfaces must be completely dry prior to the start of sampling. Clearance air sampling shall be performed at each apartment. Five samples shall be collected in each apartment and two samples shall be collected at the first floor lobby. The elevator shaft shall be cleared separately. Clearance air monitoring shall be performed after the

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completion of all clean up activities at the work site. Clearance air sampling shall be aggressive and performed in accordance with Title 15, Chapter 1 of the RCNY Section 1-43 (a)-(d).

6. Clearance air samples shall be collected in accordance with the procedures specified in the 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 must be monitored to ensure the filters do not develop dark spots that would indicate clogging. The minimum sampling volume is 3600 liters. If clogging develops, the cassette must be changed.
7. All clearance air samples and completed chain of custody forms must be transported to the laboratory immediately after sampling is completed.

### **Clearance Criteria**

1. The following clearance levels have been established by the USEPA for clean up activities resulting from the collapse of the WTC.

**Table 2: Clearance Criteria**

| <b><i>Parameter</i></b>   | <b><i>Clearance Level</i></b> | <b><i>Note</i></b>        |
|---------------------------|-------------------------------|---------------------------|
| Asbestos in air           | 0.0009 f/cc PCMe              | Primary clearance level   |
| Lead in settled dust      | <25 µg/ft <sup>2</sup>        | Primary clearance level   |
| Dioxin in settled dust    | <4ng/m <sup>2</sup>           | Primary clearance level   |
| Fibrous glass in air      | <0.01 f/cc                    | Secondary clearance level |
| Crystalline silica in air | 1µg/m <sup>3</sup>            | Secondary clearance level |
| PAHs in settled dust      | <0.3 mg/m <sup>2</sup>        | Primary clearance level   |

Cleaning shall not be considered complete unless the primary clearance levels are achieved (see Table 2). The apartment will be re-cleaned and retested if the primary clearance levels are not achieved. These clearance levels may be re-evaluated and revised if determined necessary based on field conditions and analytical limitations. Secondary clearance levels shall be considered in determining the need for additional cleanup, however failure to meet the secondary clearance levels does not automatically trigger the re-cleaning. In the event re-cleaning is required, re-sampling shall be performed immediately upon completion of the cleaning.

### **Project Monitoring**

1. 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 within three (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.
2. 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.

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3. 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 telephone call.
4. A final report shall be submitted to the DEP within 7 days of 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.