

Attachment C
Standard Operating Procedures

AMBIENT AIR MONITORING PROGRAM
for the
130 LIBERTY STREET
DECONSTRUCTION PROJECT



LOWER MANHATTAN DEVELOPMENT CORPORATION
1 Liberty Plaza
New York, New York

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STANDARD OPERATING PROCEDURES

Thomas Pump for Asbestos

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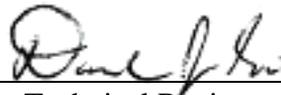
Standard Operating Procedures

Thomas Pump for Asbestos

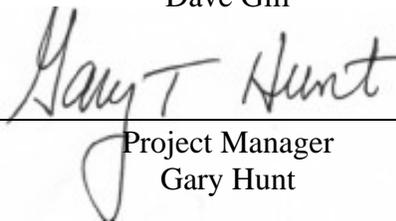
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1.0 PURPOSE OF SOP

This SOP was designed to describe the procedures used to sample for asbestos in ambient air in accordance with NIOSH Method 7402 – *Asbestos by TEM* following the recommendations for personal sampling.

2.0 EQUIPMENT DESCRIPTION

The Thomas Pump is a high volume air pump with a regulator to control airflow. The operator will refer to the manufacturer's operation manual for pictorials and additional information to aid in performing maintenance and operations.

2.1 Parts of the Asbestos Sampler

The system is made up of five primary parts: timer, pump, regulator, rubber tubing, and sample stand.

3.0 EQUIPMENT OPERATION

In order to operate the Thomas pump, it is necessary to assemble the instrument.

3.1 Equipment Assembly

1. Connect the regulator to the Thomas pump.
2. Connect one end of the rubber tubing to the regulator.
3. Connect the other end of the rubber tubing to the sample holder. The sample holder should be set at a height of approximately 3 feet.
4. Plug the Thomas pump into the electric timer and set the timer to the correct time.
5. Connect the male cord of the timer plugs into the line voltage.

Once the Thomas pump is assembled correctly according to this section and connected to a power supply, the instrument is ready for operation.

3.2 Setting/Verifying Flow Rate

The flow rates are set with a regulator that controls the airflow. Flow rates are verified before and after sampling as discussed in Section 4.0. (Note: For the 130 Liberty Street ambient air program, the desired sample volume is 2.88 m³. The flow rate is adjusted based on the work period.)

3.3 Sampling

The Asbestos sampler may be operated at ground level or on rooftops. The sampler should be located in an unobstructed area. NOTE: On and off times and weather conditions during sampling periods should be recorded. Air concentrations may fluctuate with time of day, temperature, humidity, wind direction, and velocity.

1. Remove the protective caps from the TEM cartridge.

NOTE: Sampling media for asbestos TEM consists of mixed cellulose ester membrane filters, 0.45- μ m pore size in a 25 mm diameter cassette. The media will be supplied and certified by the analytical laboratory.

2. Connect the asbestos TEM cartridge to the rubber tubing. Make sure the cartridge is hanging down to prevent water or other debris from falling into the filter.
3. Make sure all cords are plugged into their appropriate receptacles and that the rubber tubing between the sample and pump is connected and not pinched.
4. Prepare the timer:
 - a) To set the "START" time, attach a (green) "ON" tripper to the dial face on the desired "START" time (the beginning of the work shift).
 - b) To set the "STOP" time, attach a (red) "OFF" tripper to the dial face on the desired "STOP" time.
 - c) To set current time, grasp dial and rotate (clockwise only) until correct time appears at time pointer.
5. Manually trip timer switch on to determine if sampler is operating properly.
6. Manually trip the switch off. If the timer is set correctly you are ready to sample.
7. Record start time and pump flow rate.
8. At the end of the sampling period, record stop time and post pump flow rate.
9. Carefully remove the filter cartridge from the rubber tubing and place the protective caps on the cartridge.
10. Label the cartridge and transport it to the analytical laboratory.

4.0 CALIBRATION

The Thomas pump should be calibrated before and after every sample.

4.1 Calibration Procedure

1. Connect a Dry-Cell Bios flow meter to the actual sample cartridge by using a rubber tube.
2. The tubing is connected to a protective cap with a hole in the middle to allow airflow.
3. Adjust the regulator on the pump until the desired flow rate is achieved.

5.0 MAINTENANCE

Most of the routine maintenance items can be done in the field. If more time is needed to fix or troubleshoot a problem, replace the whole unit with a spare and finish working on it in the repair lab. This will minimize the station down time. All work on the equipment will be documented in the site equipment log, signed, and dated by the person performing the work.