

**FDNY**  
**INCIDENT ACTION PLAN**  
**OPERATIONAL PERIOD**  
**January 17 – January 21, 2002**  
**0700 – 0700**



*[Handwritten Signature]*  
**PLAN 104**

## FDNY RECOVERY TEAM PROTOCOL

There are approximately 13-15 FDNY Recovery teams formed each shift, depending upon available manpower. A Recovery team consists of 1 officer and 4-5 firefighters. The teams are assigned to various locations inside the recovery zones (see map) depending upon the location of heavy equipment being used to remove debris.

Each recovery team has designated spotters located at a safe distance from the heavy equipment. When human remains and/or personal items and equipment are observed the operator of the machine is ordered to stop and the remaining members of the team are summoned to examine the debris pile more closely. Upon the conclusion of their examination the machine operator is ordered to resume operation. There is a designated Chief Safety Officer for each of the three zones inside the recovery area. They act as a liaison between the FDNY operations and the construction company safety officers.

Heavy equipment is operated in such a way as to ensure a clear view of all material being loaded onto the trucks. One machine picks out the debris from the pile and lowers it to the ground in a clean area and spreads it out for viewing by the spotter. If a closer examination is required the remaining members of the team are summoned to examine the material. After being viewed, a second machine is used to pick up the material and load it into a truck for removal from the site. Occasionally one machine performs both "picks", when a second piece of heavy equipment is unavailable. Under no circumstances is the material being removed from the site by heavy equipment allowed to be placed directly into a truck without first being dropped to the ground for observation. In this way the chance of missing human remains and articles/items of importance is greatly reduced.

GPS is to be used to plot locations of all victims, remains, fire equipment and apparatus. If the GPS is not operational, hand held GPS operators will manually record grid locations using a grid map dated 09/20 or later. GPS units are available through the Sector Chiefs, who shall contact the GPS Team via channel 5.

**\* ALL FIRE DEPARTMENT CLOTHING (Bunker coat, pants, boots, gloves, etc.) MUST BE TREATED AS A RECOVERY AND REMOVED BY EMS TO THE MORGUE IMMEDIATELY.**



# FIRE DEPARTMENT

100 DUANE STREET NEW YORK, NY 10007  
TEL. FAX

## *WTC COMMAND*

### FATALITIES/RECOVERIES (AS OF 0700 HOURS 01/15/02)

MEMBERS OF SERVICE IDENTIFIED 160

FIREFIGHTERS IDENTIFIED 137

NYPD IDENTIFIED 7

PAPD IDENTIFIED 11

EMS IDENTIFIED 2

OTHER 3

CONFIRMED DEAD IDENTIFIED 653

HUMAN REMAINS FOUND 12,492

**PROJECT MEMORANDUM**

FILE: P409 RBG002 PROJECT: WTC Below Grade  
TO: FDNY VIA FAX: (646) 613-1649  
Duane St. Command  
FROM: Richard Garlock # Pages: 1  
DATE: 18 January 2002  
RE: Below Grade Entry

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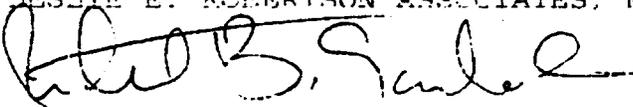
Dear FDNY Duane St. Command:

We request an insertion into the 6WTC below grade levels to instruct contractor where to cut intact slabs on Monday, January 21, 2002 from 12 noon to 2:00pm. If there is any exception to the time and date please contact me, otherwise please post on the IAP.

Thank you.

Regards,

LESLIE E. ROBERTSON ASSOCIATES, R.L.L.P.

  
Richard B. Garlock

RBG/r

cc: Mr. Peter Rinaldi, DDC/PANYNJ via fax: 212-640-9207

RZ. WE. WCH

FAX TO

646-613-8406

FDNY

1/19/02 - 1/26/02

Daily IAP Progress Report for Agency

Moretrachy

STAFFING CHANGES

Bill Klugel (973) - 266 - 3502

ACCOMPLISHMENTS

PLANNED ACTIONS (Next 24 hours)

Clean Screens in North & South Projection  
9:00 A.M. - 3:00 P.M.

\* Install Pump in Elevator Shaft to Dewater  
Bldg 4 Hudson station

168

ANTICIPATED ACTIONS (Next 24 hours)

North & South - Daily Prop Inspection

\* Install system in Bldg #4 Hudson station  
to Remove water in Basements, Check on  
Pump on Daily Basis!

# FDNY

F# 912-608-1611

Daily LAP Request Form for Agency DDC

*Boul's  
more trench*

## ACCOMPLISHMENTS (torch cutting, confined space entries, planned entries and vehicle removals)

## PLANNED ACTIONS (Next 24 hours for torch cutting, confined space entries, planned entries and vehicle removals)

HUDSON STATION B1 LEVEL Building 4  
ACCESS FROM EQUIPMENT LAYDOWN AREA.  
MORTRENCH - INSTALL DEWATERING PUMP  
AND PIPING  
7:30 AM SAT JAN 18 2002  
7:30 AM → 7 PM

## ANTICIPATED ACTIONS (Next 72 hours for torch cutting, confined space entries, planned entries and vehicle removals)

SAME AS ABOVE  
SUNDAY & MONDAY  
7:30 AM → 7 PM

FAX DAILY REQUESTS TO FD INCIDENT COMMAND CENTER, 646-613-8406 NO LATER THAN 1500 HOURS FOR INCLUSION IN FOLLOWING DAYS LAP. NO CUTTING, ENTRIES OR VEHICLE REMOVALS WILL BE ALLOWED WITHOUT PRIOR FD APPROVAL.

Ann Smalley - 973-332-6162 Bill Kline - 973-216-3502

# FDNY

Daily IAP Request Form for Agency

CC. PARD  
F# 212-608-1611

DDC

BOVI'S  
moremanly

## ACCOMPLISHMENTS (torch cutting, confined space entries, planned entries and vehicle removals)

ATTENTION:

DC THOMAS FOX

## PLANNED ACTIONS (Next 24 hours for torch cutting, confined space entries, planned entries and vehicle removals)

HUDSON STATION B1 LEVEL Building 4  
ACCESS FROM EQUIPMENT LAYDOWN AREA.

MORTTRENCH - INSTALL DEWATERING PUMP  
AND PIPING

7:30 AM SAT JAN 18 2002

7:30 AM → 7 PM

## ANTICIPATED ACTIONS (Next 72 hours for torch cutting, confined space entries, planned entries and vehicle removals)

SAME AS ABOVE

SUNDAY & MONDAY

7:30 AM → 7 PM

FAX DAILY REQUESTS TO FD INCIDENT COMMAND CENTER, 646-613-8406 NO LATER THAN 1500 HOURS FOR INCLUSION IN FOLLOWING DAYS IAP. NO CUTTING, ENTRIES OR VEHICLE REMOVALS WILL BE ALLOWED WITHOUT PRIOR FD APPROVAL.

RON SMOLLY - 973-332-6162

Bill Klinger - 973-216-3502

JANUARY 18-2002

# FDNY

Daily LAP Progress Report for Agency

Gateway Demolition  
BOVIS

**STAFFING CHANGES**

**ACCOMPLISHMENTS**

**PLANNED ACTIONS (Next 24 hours) JANUARY 19-2002**  
125 CEDAR: CUT steel on roof top  
with SAW, Job to take 2 hours.

**ANTICIPATED ACTIONS (Next 72 hours)**

# LERA

Leslie E. Robertson Associates, R.L.L.P.  
Consulting Structural Engineers

30 Broad Street, 47th Floor  
New York, NY 10004-2304

Tel: (212) 750-9000  
Fax: (212) 750-9002  
<http://www.lera.com>  
[info@lera.com](mailto:info@lera.com)

*Sent 01/18/02*

## PROJECT MEMORANDUM

FILE: P909 REG002 PROJECT: WTC Below Grade  
TO: FDNY V.A. FAX: (646) 613-1649  
Duane St. Command  
FROM: Richard Garlock # Pages: 1  
DATE: 17 January 2002  
RE: Below Grade Entry *R. S. Miller*

Dear FDNY Duane St. Command:

We request an insertion into the 6WTC below grade levels to instruct contractor where to cut intact slabs on Friday, January 18, 2002 from 12 noon to 1:30pm. If there is any exception to the time and date please contact me, otherwise please post on the IAP.

Thank you.

Regards,

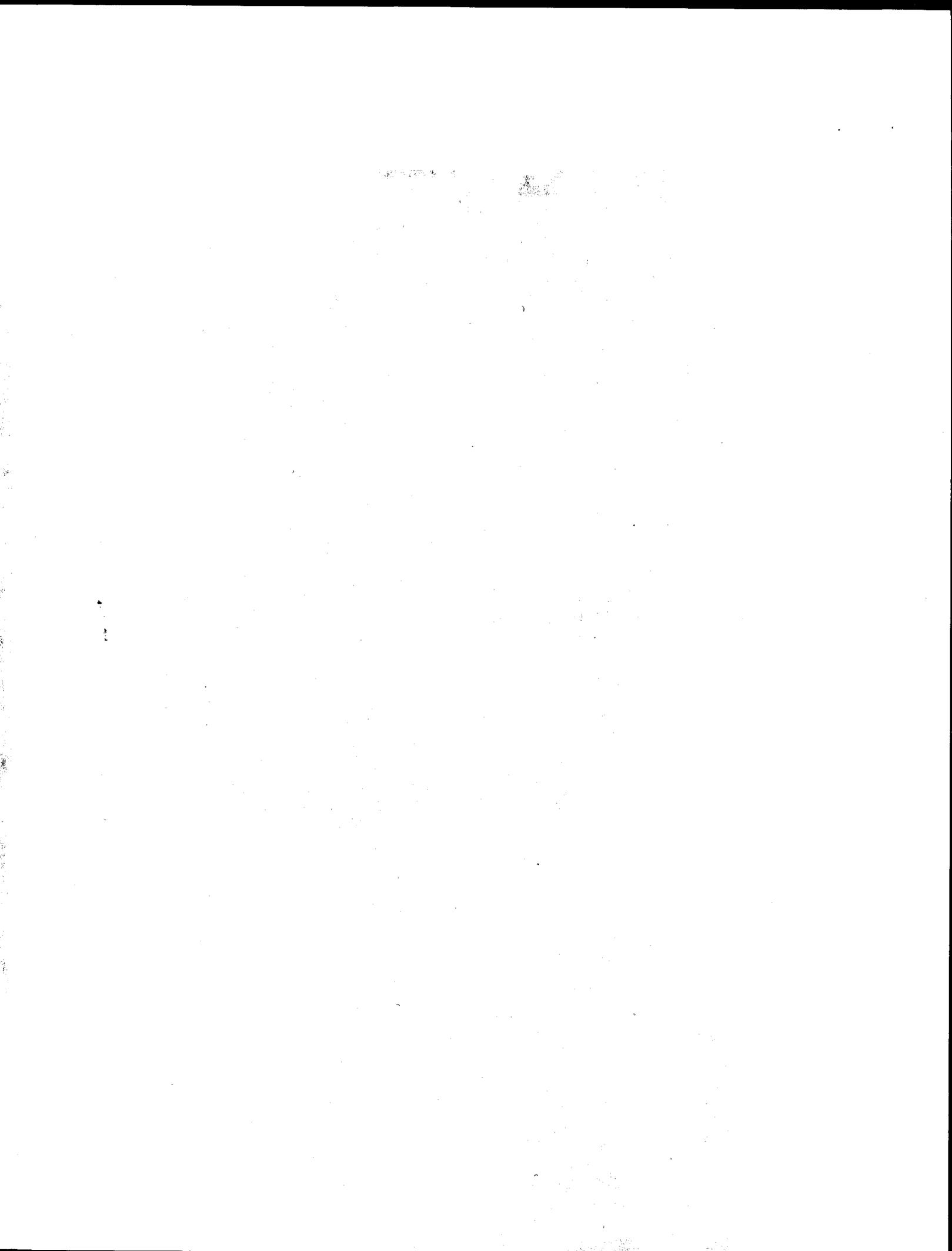
LESLIE E. ROBERTSON ASSOCIATES, R.L.L.P.

*Richard B. Garlock*  
Richard B. Garlock

RBG/c

cc: Mr. Peter Rinaldi, ILC/EANTW via fax: 212-640-9207

RZ, WE, WCH





January 28, 1997

**FIELD INFECTION EXPOSURE PROCEDURES  
AND REPORT FORM (MD-X2)****1. INTRODUCTION / PURPOSE**

These procedures are established to ensure the timely and accurate reporting of member's exposures to airborne or bloodborne pathogens. Further, these procedures will expedite an informed response by the Bureau of Health Services to members regarding reported exposures.

**2. PROCEDURES**

2.1 Whenever a CD-73 is prepared to report an exposure to a **Bloodborne** or **Airborne Pathogen**, Form MD-X2 must also be submitted. The Officer on Duty shall notify the Medical Officer on Emergency Duty as follows:

2.1.1 Fax the completed MD-X2 to the Medical Officer on Emergency Duty at (212) 274-0283. Telephone confirmation of receipt of MD-X2 will be received within 10 minutes.

2.1.2 If unable to complete transmission of MD-X2 via Fax OR if telephone confirmation of receipt of MD-X2 is not received within ten (10) minutes, call the Bureau of Health Services at (212) 570-4200.

NOTE: Be prepared to supply all information required by MD-X2.

**3. MD-X2 NOT REQUIRED**

3.1 Whenever a CD-73 is prepared to report an exposure to other than a bloodborne or airborne pathogen (i.e., hazardous substance, insect infestation, etc.), Form MD-X2 is NOT required. The CD-73 shall be processed in the normal manner with the Officer on Duty notifying the Medical Officer on Emergency Duty via telephone as follows:

3.1.1 During clinic hours (0800 hrs. to 1400 hrs. Sunday through Saturday) telephone the Medical Officer on Emergency Duty directly, at (212) 219-8696.

3.1.2 At other times telephone the Emergency Notification Center at (718) 694-2094; this office will notify the Medical Officer on Emergency Duty.

NOTE: Use this number on New Year's Day, Thanksgiving Day and Christmas.

**4. FIELD INFECTION EXPOSURE REPORT FORM MD-X2**

- 4.1 MD-X2 **MUST** be prepared and forwarded whenever a CD-73 is prepared to report an exposure to a **bloodborne** or **airborne pathogen**.  
(DO NOT forward MD-X2 for other exposures)
- 4.2 Member preparing the CD-73 shall also prepare the MD-X2.

**5. INSTRUCTIONS FOR FILLING OUT MD-X2**

- 5.1 **HEADING SECTION** Enter required information - Self-Explanatory.
- 5.2 **SECTIONS 1, 2, 3,** CIRCLE the all appropriate choices and enter required information.
- 5.3 **SECTIONS 4, 5** Supply as much information as possible, however, DO NOT delay submission of MD-X2 to obtain Member's Personal Infection History information (#4) or Victim/Patient information (# 5).
- 5.4 **SECTION 6** Signatures of member and immediate Officer and dates required.
- 5.5 **SECTION 7** For use by Bureau of Health Services Only.
6. **AFTER FAXING** to the Medical Officer on Emergency Duty, the original MD-X2 shall be attached and filed with the GOLD copy of the related CD-73 in the injury folder (UFS 2.5.5) of the unit where the member was working when exposed.
7. **A DUPLICATE COPY** of the MD-X2 will be returned to the member's assigned unit together with a copy of the Bureau of Health Service "Exposure Response Protocol", a history of the member's infection control record and any treatment or preventive measures ordered by the Medical Officer. These copies shall be filed together with the PINK copy of the related CD-73 in the member's personal folder.

**BY ORDERS OF THE FIRE COMMISSIONER AND CHIEF OF DEPARTMENT**



# Bovis Lend Lease

Memorandum

To	F.D.N.Y.
CC	
From	Russ Gilroy (BOVIS)
Date	1/16/02
Subject	90 WEST ST.

Bovis Lend Lease LMB, Inc.  
 World Trade Disaster Recovery  
 52 Chambers Street  
 New York, New York 10007  
 Telephone  
 212 528-3174  
 Facsimile  
 212 528-3161

[www.bovislendlease.com](http://www.bovislendlease.com)

Regional Headquarters  
 London  
 New York  
 Sydney

PLEASE BE ADVISED AT 7:00 AM. 1/17/02  
 WE WILL BE BURNING STEEL &  
 WELDING ON THE FOLLOWING FLOORS.

- Basement
- 1<sup>ST</sup> FL.
- 2<sup>1<sup>ST</sup></sup> FL.
- 2<sup>2<sup>ND</sup></sup> FL.

Thanks  
 Russ Gilroy



# OSHA SAMPLING RESULTS SUMMARY AS OF 1/18 /02

## Asbestos:

A total of 844 samples (excluding bulk and blank samples) for asbestos have been taken. From 9/13 -9/21, 177 samples were taken in the financial district. They were taken on OSHA personnel as they walked within certain predetermined zones. Results revealed asbestos concentrations ranging from ND (none detected) to .037 f/cc., well below OSHA's permissible exposure limit (PEL) of 0.1 f/cc. After 9/21, sampling focused on the rubble pile and those workers working on or immediately next to it. 108 of the samples analyzed exceeded OSHA's limit via PCM analysis. However, upon further analysis using discriminating counting methods and/or TEM analysis, the number of asbestos fibers found dropped dramatically to below detectable levels or well below .1 f/cc.

## Carbon Monoxide:

A total of 108 personal samples of workers on the rubble pile showed results ranging from 1 ppm to 34 ppm which are well below the OSHA permissible exposure limit of 50 PPM.

## Noise:

OSHA is monitoring the noise exposures of employees who perform (or work near) noisy operations such as jack hammering and drilling. To date the 88 samples collected indicate that employee noise exposures range from 73.7 dBA to 94.5 dBA. One personal sample and one area sample taken during core drilling operations have exceeded the applicable permissible exposure limit of 90 dBA. Accordingly, OSHA continues to recommend the use of appropriate hearing protection in noisy operations.

## Total Dust (PNOR)

A total of 96 samples (excluding bulk and blank samples) for total dust in and around the rubble pile were taken. Two samples were found to be in excess of the PEL for Total dust (15mg/m3). The highest exposure was found on one operator who was exposed at approximately 4X PEL.

## Respirable

### Silica:

The overwhelming majority of 475 silica samples (excluding bulk and blank samples) show no detectable levels of airborne silica. However, 27 exposures exceeded the PEL. The highest sample result was approximately twenty-one times the OSHA limit (jack hammering concrete 16 feet below grade). The other elevated exposures were approximately one to twelve times the OSHA limit. These exposures occurred during: 1) pre-drilling on the slurry wall 2) jack hammering, 3) rubble removal and loading operations in the Winter Garden; 4) during the breaking up of concrete in the pit; 5) while drilling the concrete slurry wall, and 6) while chipping concrete with power tools

WHAT FREQ ARE  
EMS UNITS ON  
CITY WIDE?  
MANHATTAN?

212  
570 4261  
MANHATTAN DISP.

AMEC HAD BEING  
REMOVED REVIEW  
EMC PLAN.  
SNAWY SITE FOR  
ESCAPE ROUTES  
UNDER STAIRS  
ONLY 1 NOISE  
MEANS OF ESCAPE

- EMERG EMC SIGNAL TESTED EVERY THURS 1200 HRS.

during demolition activities at 7 WTC's parking garage. Most of the work areas where apparent overexposures to silica occurred were in the rubble pile/pit; an area where OSHA continues to encourage the use of respiratory protection.

**Organic**

**Compounds:**

OSHA has taken a total of 579 samples (excluding bulk and blank samples) of organic compounds such as acetaldehyde, acrolein, acrylonitrile, benzene, 2-butanone, carbofurans, dioxin, PCBs, ethyl benzene, formaldehyde, Freon R-22 (chlorodifluoromethane), hexone, isocyanates (e.g. MDI, TDI), perchloroethylene, polynuclear aromatics, phosgene, styrene, toluene, 1-3 butadiene, trichloroethylene, vinyl chloride, glutaraldehyde, and xylene. Screening samples initially showed elevated levels of some organic chemicals resulting from the fires burning in the rubble pile. Subsequent personal and area samples show worker exposure levels to be below OSHA limits. However, one personal sample result for a benzene sample taken was found to be at the 8-hr. OSHA Allowable Limit concentration of 1 ppm. This was found on a backhoe operator moving debris on 10/7/01. See information below for the specific counts in regards to polynuclear aromatics, Freon R-22, phosgene and dioxin.

**Dioxins:**

OSHA has taken 10 dioxin samples (excluding blanks) in the plume over hot spots in (and around the perimeter of) the rubble pile. Dioxin levels detected around the perimeter are lower than those found directly over the pile. To date, only one sample taken on the rubble pile showed dioxin levels which exceeded background levels. Dioxins are considered collectively as suspect human carcinogens. OSHA does not have a PEL for dioxins.

**Polynuclear Aromatic  
Hydrocarbons**

OSHA has taken 110 samples (excluding blanks). The majority of the samples have not shown the presence of benzo(a)pyrene and/or one or more of five additional fused polycyclic hydrocarbons: anthracene, acridine, pyrene, chrysene and phenanthrene. Sample results to date have identified eight samples which reached or exceeded OSHA's coal tar pitch volatile PEL of 0.2mg/m<sup>3</sup>. These personal samples were taken on the pile on iron workers and grappeler operators. OSHA continues to strongly recommend the use of respiratory protection when working on the rubble pile.

**Freon R-22,  
Hydrogen Fluoride  
& Phosgene:**

OSHA has taken a total of 198 samples for Freon R-22 (chlorodifluoromethane), hydrogen fluoride, and phosgene. Only one Freon sample resulted in a detectable level of 6.4 ppm during the transfer of Freon from the auxiliary chiller, and all other samples were none-detected. OSHA does not have an exposure limit for Freon R-22. The NIOSH

287 0381 100MT YABVA 057087 100R17 0000 100000

REL for Freon is 1000ppm.) Sampling for the decomposition products of Freon R-22, hydrofluoric acid (HF) and phosgene showed no detectable levels.

**Inorganic Acids**

OSHA has taken approximately 79 samples for inorganic acids such as hydrochloric, phosphoric, and sulfuric acids. Two samples for sulfuric acid were found to exceed OSHA's permissible exposure limit (PEL) of 1 mg/m<sup>3</sup>.

**Oxides of Nitrogen/**

**Sulfur:**

Sampling on grappler operators on the rubble pile, and on employees at the truck wash stations revealed trace levels of nitric oxide and nitrogen dioxide. This was repeated (1) sample, now that the wash station is been enclosed. SO<sub>2</sub> personal and area results were found to be below OSHA limits.

**Metals:**

OSHA has taken a total of 950 samples (excluding bulk and blank samples) to monitor worker exposures to dusts, fumes, oxides, and other compounds of metals such as antimony, beryllium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, vanadium, zinc, cadmium, magnesium, and arsenic. Results from these samples are generally well below the applicable OSHA limits. However, torch cutting and burning structural steel at the rubble pile have resulted in instances of overexposures as follows: copper (12); iron oxide (23); lead (12); and cadmium (2). Accordingly, OSHA is recommending that workers engaged in these operations wear appropriate respiratory protection. See information below for the specific counts in regards to mercury.

**Mercury**

OSHA has taken 223 air samples for inorganic mercury. Results for 223 of those air samples have been received and no mercury was detected. Also, 36 bulk samples previously collected from rubble were re-analyzed for mercury and none was detected. Additionally, 10 bulks were taken on 1/3, with one (1) sample detecting mercury at 0.9ppm and nine (9) samples being non-detected. 38 bulk samples were taken between 1/8 and 1/11/02; results indicate 0.1 to 0.2 ppm mostly in around the footprint of Bldg.-6, in the pit between WTC tower 1&2.

**Ionizing Radiation:**

A survey of the rubble pile was conducted on 10/22-10/23 to check for latent radiation with particular attention to alpha radiation. Results show no elevated levels of concern from either known building latent radiation sources or any terrorist origin source materials.