

466 Southern Boulevard
Chatham, N.J. 07928
Tel: 973-765-0991
Fax: 973-765-0994

Emilcott Associates, Inc.

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To: Tom Scotto

From: Dale Wilson

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**EMILCOTT
ASSOCIATES, INC.****ENVIRONMENTAL, SAFETY & INDUSTRIAL HYGIENE****488 SOUTHERN BOULEVARD
CHATHAM, NJ 07928-1462****PHONE: (973) 765-0991
FAX: (973) 765-0994****September 28, 2001**

**Mr. Tom Scotto, President
NYC Detectives Endowment Association, Inc.
26 Thomas Street
New York, NY 10007**

**Re: Preliminary Report on the H&S Evaluation of the Fresh Kills Landfill Project
Supporting the WTC Disaster Recovery**

Dear Mr. Scotto:

On 27 September, 2001, representatives of Emilcott Associates, Inc. (Dale Wilson, CIH, Doug Ogden and Bruce Groves, CIH) conducted a walkthrough survey of the Fresh Kill Landfill operation supporting the WTC disaster. Emilcott was asked by the NYPD Detectives Endowment Association (DEA) to conduct a third party evaluation of the operation to identify issues that may impact the health and safety of the NYPD detectives working at the landfill.

Emilcott recognizes that this is an emergency operation responding to a horrific disaster where many lives have been lost. Overall, we were highly impressed and humbled by the energy and willingness of all personnel involved in this operation to get the job done and to do the right thing. The cooperation displayed by Inspector Luongo and the rest of the NYPD staff at the Fresh Kills Landfill was extraordinary.

The comments and recommendations summarized below and presented in the attached report and photos, focus on items that need immediate attention in order to make the greatest improvements to the health and safety program of NYPD personnel working at this operation.

The summary of our findings is as follows:

- There is evidence and data showing that the WTC debris contains asbestos and as such creates an inhalation exposure potential to NYPD personnel working on this site.
- Health and safety on this site is continually evolving. Additional program elements are required to provide the generally accepted standard of care.
- No organization is coordinating the overall H&S activities, strategy and information for this site. As such, information that may be useful for one group is not being shared.

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The summary of our recommendations is as follows:

- 1. Develop a site-specific H&S plan or program that covers the many changing operations and duties of the NYPD personnel on this project. This plan must address the following:**
 - Task Hazards and Controls**
 - Decontamination and Clean-up**
 - Site Control**
 - Emergency and Contingency Procedures**
 - Air monitoring and Exposure Assessments**
 - Respirator and Personal Protective Equipment Usage**
 - Hazard Communication**
- 2. Designate an individual or group who is responsible for implementing the Site Specific H&S plan for the NYPD personnel onsite. This person(s) must be competent to run the safety and industrial hygiene aspects of the project while being the liaison between other H&S personnel representing the EPA, FBI and others.**
- 3. Commence an air sampling program to document that support areas are safe and that NYPD personnel are being adequately protected while performing the many tasks in this project. Results of the asbestos air sampling should be made available within 24 hours of collecting the samples. Other contaminants should be included to ensure that there are no other exposure concerns not currently being addressed.**
- 4. Implement a quality respirator protection program. At minimum bring medical personnel onsite to certify that NYPD personnel can wear the respirators, adequately train everyone on respirator use, provide onsite fit-testing as required and require everyone to be clean shaven before each shift.**
- 5. Develop a strategy and means to communicate to all NYPD personnel what hazards exist at this site and how NYPD is taking measures to control these hazards.**
- 6. Develop a strategy to coordinate site H&S activities and information so that information gathered by other agencies and contractors is shared with the NYPD.**
- 7. Continue to improve the area where the NYPD can decontaminate, wash their hands and face, stage and put-on their respirators and PPE.**



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We appreciate the opportunity to enhance the health and safety of the NYPD officers involved in this monumental project. Please contact us at 973-765-0991 with any questions or concerns.

Sincerely,
Emilecote Associates, Inc.



Bruce D. Groves, CIH
President



H. Dale Wilson, CIH
Senior Project Manager



Emilcott Associates, Inc.



ENVIRONMENTAL SAFETY & INDUSTRIAL HYGIENE

Preliminary Report on the H&S Evaluation of the Fresh Kills Landfill Project Supporting the WTC Disaster Recover

Prepared for:

**New York City Detectives Endowment Association, Inc.
26 Thomas Street
New York, NY 10007**

Prepared by:

**Emilcott Associates, Inc.
466 Southern Blvd.
Chatham, NJ 07928**

28 September, 2001

Preliminary Report on the H&S Evaluation of the Fresh Kills Landfill Project Supporting the WTC Disaster Recovery

INTRODUCTION:

On 27 September, 2001, representatives of Emilcott Associates, Inc. (Dale Wilson, CIH, Doug Ogden and Bruce Groves, CIH) conducted a walkthrough survey of the Fresh Kill Landfill operation supporting the WTC disaster. Emilcott was asked by the NYPD Detectives Endowment Association (DEA) to conduct a 3rd party evaluation of the operation to identify areas that may impact the health and safety of the NYPD detectives working at the landfill.

Emilcott recognizes that this is an emergency operation responding to a horrific disaster where many lives have been lost. Overall, we were highly impressed and humbled by the energy and willingness of all personnel involved in this operation to get the job done and to do the right thing. Everyone also showed their commitment to make continual improvements in the health and safety procedures of the operation to: improve the quality of life for the people onsite; follow good health and safety practices; and meet basic compliance to health and safety regulations and requirements. The cooperation displayed by all members of the NYPD and other agencies we spoke with was extraordinary.

The comments and recommendations presented below focus on items that need immediate attention and are designed to make the greatest improvements to the health and safety program of NYPD personnel working at this operation.

FINDINGS:

1. Personal air sampling of FBI agents performing similar tasks to NYPD personnel (raking debris) showed asbestos levels greater than the OSHA Permissible Exposure Level -PEL (0.1 fibers/cc - for an 8-hour period or 0.067 fibers/cc for a 12-hour period). Twenty-one (21) personnel air samples for asbestos were taken by Public Health Service (PHS) industrial hygienists. Twelve (57%) of these samples had results greater than the OSHA 12-hour PEL (permissible exposure limit) for asbestos. The samples were taken on 18 and 19 September and the results were reported to the FBI on 25 September, but not given to the NYPD until Emilcott's review on 27 September 2001. *

This data underscores the fact that this debris has the potential to produce significant asbestos exposures. ***

2. There has been no exposure assessment (air sampling) data that can determine the expected exposures to asbestos, dust, and other contaminants to the NYPD detectives performing the various tasks in this operation. Emilcott conducted six four-hour air samples (NYPD personnel and area samples) for asbestos on 27 September. The results ranged from non-detected to 33% of the 12-hour OSHA PEL.



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3. We were told by many that personnel working in the raking and sieving operations were required to wear respirators for dust. We could not determine who made this directive, nor could we find a plan or report that detailed these requirements. Regardless of who made the call or the rationale behind it, the NYPD has accepted it and mandated for NYPD personnel that respirators and personal protective equipment (PPE - disposable coveralls, gloves, hardhats) are required for those jobs associated with raking, sorting and handling debris.
4. Respirators are being handed out by Federal OSHA personnel to whoever walks in the tent and requests one. It appears that many different manufacture types and sizes of respirators are available reflecting probable donations or supply actualities. The OSHA personnel provide basic instruction on how to assemble and put-on (don) the respirator and instruct individuals on performing a positive and negative fit check. They did however, give respirators to individuals who were obviously unqualified to wear respirators and who would not pass even the most rudimentary respirator fit check. Many of these individuals had full or partial beards that would make the respirator useless for asbestos or respirable dust. Upon further evaluation, it was determined that few individuals were fit-tested, had been given adequate training, had medical clearance to wear a respirator, nor met many of the basic good practice or requirements for using respiratory protection.
5. Handwritten results from an EPA logbook taken on 22 and 23 September showed LEL (lower explosive limit) readings in supply tents ranging up to 14%. These results were made available to the NYPD during the evaluation on 27 September. This indicates that there may be a potential for the collection of landfill gas in confined areas causing a potential for a flash fire if the concentration is sufficient and there is a source of ignition. was smoking?
6. Direct reading instrument results, taken by Emilcott on 27 September for vapors and gases associated with the landfill did not show that these gases were a health exposure concern to the workers onsite at the time of our visit. Further qualitative testing would substantiate this finding. There is no current qualitative sampling being conducted by the EPA or PHS for vapors and gases associated with the landfill.
7. The EPA has developed a Fresh Kill Landfill Site Safety Plan dated 20 Sept, 01 which covers *ESF-101, EPA and USCG Personnel only*. The EPA did tell Emilcott that they had a written air-sampling program that addresses our questions on exposure assessment. They did not have a copy of this plan on site and told us they would email it to us ASAP. We have not received this plan to date. Neither of these plans cover NYPD personnel.



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8. The FBI has an Incident Safety Plan dated 25 September 2001 that covers *ERTU* personnel. When asked if this covered NYPD personnel, the answer by the FBI safety representative was "No". The plan covers only FBI and personnel working for the FBI on this project.
9. There was no other site-specific health and safety plan that we found that would cover the health and safety issues and procedures for the NYPD personnel working at this operation. XXXX
10. NYPD field personnel have been receiving inconsistent information on the health and safety hazards associated with this project. No one, from our evaluation, has taken any ownership of the decision to have mandatory respirator use in some areas, while not requiring respirator usage in others. There is no consistent, quality information being provided to the workers in the field that explains to them what the health and safety hazards might be and what controls are being implemented to reduce these hazards.
11. NYPD personnel, as well as many other personnel on site, are wearing their normal work clothes underneath the disposable coveralls (Tyvek). These Tyvek or similar type disposable coveralls are not generally effective in protecting street clothes from getting contaminated. This is especially true if the coveralls are torn and/or improperly worn. Personnel decontamination and cleanup was inconsistent and totally voluntary.
12. It was noted by Emilcott that many work practices performed by contractors and other non-NYPD personnel were in direct violation to basic safety good practices, such as the site respirator and PPE requirements and/or OSHA rules and regulations. The inconsistent and poor safety practice of these personnel directly impacts the health and safety environment of NYPD personnel and does little to aid in improving the overall health and safety conditions of the whole operation.

RECOMMENDATIONS -

These recommendations are made based on our assessment on what is reasonable in a long-term disaster recovery operation such as this, what is considered to be best safety and health management practice (BMP) and what OSHA regulations would require for similar operations.

- 1) Develop a site specific Health and Safety Plan (HASP) to address how the NYPD is managing health and safety issues at this location. Preparation of a written NYPD HASP would be a BMP that is in line with what other agencies (i.e. FBI, EPA) have done on this site. A written HASP would assist in managing and communicating to



frequently changing personnel the current site conditions and the work and hygiene procedures that are necessary to protect their health and safety.

- 2) The written HASP should include how the following issues are being managed. These items are based on required elements of the OSHA Asbestos and Respiratory Protection Standards.
- a) **Exposure Monitoring** - Currently only area monitoring around the perimeter of the NYPD work area is conducted by EPA. FBI is conducting personal monitoring weekly. Procedures for personal exposure monitoring of NYPD personnel should be implemented as part of an Exposure Assessment Plan to document actual NYPD exposures and verify that appropriate work procedures are being employed. It is anticipated that individual exposures will vary according to factors which include the job being performed, weather conditions (wind and rain), the source of the debris (lower floors of the WTC are noted to contain more asbestos than the higher floors), etc. In addition to asbestos, provision for monitoring of other potential site contaminants should be evaluated during HASP preparation. XXXX
 - b) **Task Hazard Assessment** - Comprehensive evaluation of all the tasks being conducted by the NYPD and a detailed listing of potential hazards and means and methods to control those hazards.
 - c) **Site Control** - Access to the debris fields where raking is taking place should be limited to personnel wearing the proper protective equipment and respirators. Warning signs should be posted at entrances to each area.
 - d) **Use of Respiratory Protection** - The following elements are necessary in order to ensure the effectiveness of the respirators that are being used:
 - i) **Selection** - Respirators used in the debris fields should be limited to tight-fitting half-face or full-face respirators. The use of filtering-facepieces (dust masks) of any type should be prohibited unless it is shown that asbestos levels to that person in that job are consistently below the OSHA PEL. XXX
 - ii) **Training** - The training which was observed included instructions on how to put on the respirator and how to perform a positive and negative pressure "fit-check". Typical respirator training also includes why a respirator is necessary; how improper fit, use, or maintenance can compromise the protective effect; capabilities and limitations; maintenance and storage procedures; and how to inspect the respirator. Additional training is necessary.
 - iii) **Fit-Testing** - Instruction was provided on how to perform a positive/negative pressure "Fit-Check". Fit-testing, procedures which evaluate if a person has an effective seal between the respirator and their face, was not conducted. Qualitative fit-testing tests an individual's ability to smell, taste, or otherwise



respond to a challenge agent such as saccharin, Bitrex, isoamyl acetate (banana oil), or irritant smoke. Quantitative fit-testing uses an analytical instrument to evaluate the respirator seal. A fit-test is specific to each individual brand, make, model and size respirator. Wearing more than one brand respirator would require more than one fit-test. Qualitative or quantitative fit-testing is necessary.

- iv) **Facial Hair** - Any facial hair which comes between the sealing surface of the respirator and a persons face prohibits the effect seal of a respirator. A personnel assigned to this area must be clean shaven before every shift.
 - v) **Medical Evaluation** - OSHA states, "Using a respirator may place a physiological burden on individuals that varies with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee". Accordingly a medical evaluation by a physician or other licensed health care professional is required before wearing a respirator for the first time. Medical evaluations are also required for anyone with potential exposure to asbestos at levels greater than the OSHA PEL.
 - vi) **Maintenance and Care** - To ensure continued effectiveness of a respirator's ability to function, maintenance and inspection procedures should be developed and communicated to each individual.
- e) **Personal Protective Equipment** - Tyveks, gloves, over-boots are being provided. The consistent use of the over-boots should be enforced to ensure individuals do not track debris into their cars. The wearing of personal clothing under Tyveks should be evaluated. Standard practice in projects with asbestos exposure potential is to not permit personal clothing to be worn under Tyveks
- f) **Engineering Controls and Work Practices** - Light misting of the debris with water should be considered if the evidence value of the material will not be compromised. Misting and other wet methods are recognized as ways to reduce airborne asbestos levels.
- g) **Decontamination / Hygiene Facilities and Practices** - Showers and change areas are expected to be installed by October 5th. Showers should be mandatory for all personnel before leaving the site.
- h) **Hazard Communication** - Effective communication of site conditions, air monitoring results, and other information through safety briefings, signs and other postings may alleviate concerns expressed by some individuals working in the debris field.
- i) **Emergency/Contingency Planning** - Addressing common emergencies such as weather (eg: lightning, excessive wind and rain), accidents and injuries, fire, and other emergencies anticipated on this project.



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- 3) Designate one individual as the NYPD's site Health and Safety Officer (HSO). Having a HSO would be a BMP that is in line with what other agencies (i.e. FBI, EPA) have done on this site. The duties of the HSO would be to ensure implementation of all aspects of the site specific HASP and to provide consistent level of information to personnel working at the site.



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1. Respirator tent where NYPD personnel pick up respirators. cursory training is given on assembly, when to change filters (2 days) and positive and negative fit checks. OSHA personnel provide respirators to whomever wants one, even if fully bearded. No documentation kept.



2. NYPD person who is going to wear a sampling pump. The individual was issued a respirator but has a substantial beard. The result of sampling was below OSHA PEL.

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3. Metal Recycling Screening machine. WTC debris is dumped into the hopper and the large materials go up the conveyor belt to awaiting NYPD personnel on platform. Contractor standing on side, unprotected (10 feet vertical); Army COE person on platform without respirator or PPE. Dust is visible during shaking and noise levels are significant.

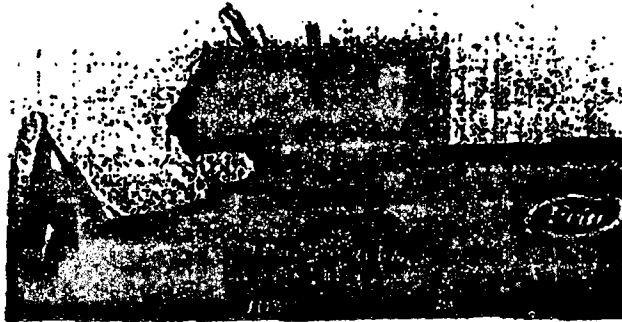


4. Metal Recycling Screening machine. Two individuals "balancing" on conveyor housing (Emilcote asked owner to consider building a platform for these individuals - he said he would). NYPD personnel trailer support area begins 50 yards from this machine. NYPD personnel also located to the right of picture.

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5. WTC debris being dumped in metal screener. Contractor operating equipment not wearing PPE or respirator.



6. NYPD and others raking the WTC debris. Picture taken from the adjacent vehicle roadway. No obvious site control or barriers prohibiting personnel from access to the area.



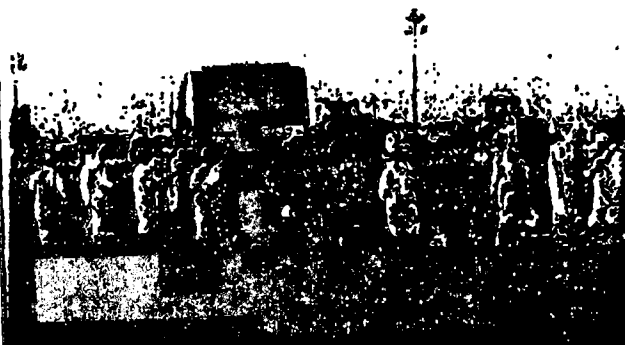
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7. Trailers being used for storage of various materials. Generators stored onsite. Reported that some fuel (gasoline) and other flammable and combustible materials are being stored in these trailers and other unapproved locations.



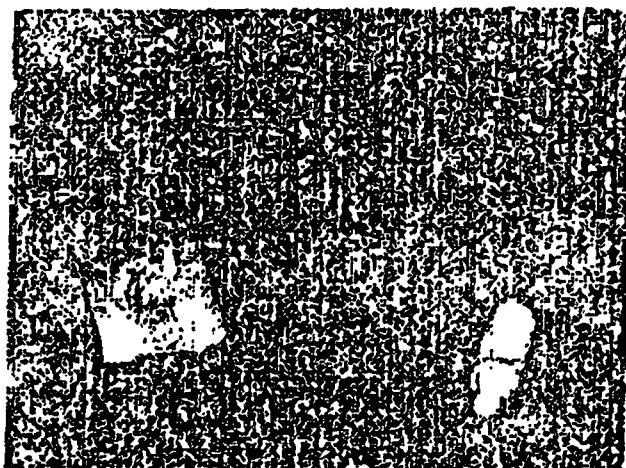
8. NYPD personnel standing by waiting for another load to be dumped for raking. Dust levels are significant (visible dust) when the load is dumped.

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11. Another metal recycling screening operation with significant dust and noise levels.



12. Bubbles being formed in standing water on top of the landfill. These bubbles are created by escaping landfill interstitial gas. The analysis of the landfill gas as provided by GSF, the landfill gas utility onsite, is >49% methane, >49% Carbon dioxide.

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9. Staging areas of PPE and respirators to be reused after personnel go into the mess and rest area.



10. National Guard water tanks being used in the staging area for hand washing.

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