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OSHA SAMPLING RESULTS SUMMARY AS OF 3/11/02

Asbestos: A total of **1136** samples (excluding bulk and blank samples) for asbestos have been taken. From 9/13 -9/21, 177 samples were taken in the financial district. Since 9/21, sampling focused on the debris field and those workers working in or immediately next to it. **144** 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 **103** 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 **131** samples collected indicate that employee noise exposures range from 73.7 dBA to 110.7 dBA. Twenty sample have exceeded the applicable permissible exposure limit of 90 dBA, mostly for concrete drilling, cutting, and jack-hammering operations. Accordingly, OSHA continues to recommend the use of appropriate hearing protection in noisy operations, and specifically, for concrete drilling, cutting, and jack-hammering operations OSHA recommends dual hearing protection i.e. plugs and ear muff protection.

Total Dust (PNOR) A total of **150** samples (excluding bulk and blank samples) for total dust in and around the debris field were taken. **5** 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.

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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^3. These personal samples were taken on the pile on iron workers and grappler operators. OSHA continues to recommend the use of respiratory protection when working in the debris field.

Freon R-22, Hydrogen Fluoride & Phosgene:

OSHA has taken a total of **208** samples for Freon R-22 (chlorodiflouromethane), 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 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 **151** samples for inorganic acids such as hydrochloric, phosphoric, and sulfuric acids. Three samples for sulfuric acid were found to exceed OSHA's permissible exposure limit (PEL) of 1 mg/m^3. Workers were sorting debris.

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. SO_2 personal and area results were found to be below OSHA limits.

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