NYC 9/11 Public Portal Document

debris. See information below for polynuclear aromatics, Freon R-22, phosgene and dioxin.

Oxides of Nitrogen/ Sulfur: Sampling on grappler operators on the rubble pile, and on employees manning 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.

Metals: As of 12/9/01 OSHA has taken **565** air samples to monitor worker exposures to dusts, fumes, oxides, and other compounds of metals such as antimony, beryllium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, vanadium, zinc, cadmium, magnesium, arsenic, and mercury. 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 (7); iron oxide (10); lead (11); and cadmium (2). Accordingly, OSHA is recommending that workers engaged in these operations wear appropriate respiratory protection.

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. Preliminary results show no elevated levels.

Dioxins: OSHA has taken samples for dioxin and these samples were analyzed by EPA. One initial sample, representing exposure directly on the pile, showed elevated levels of dioxins when compared to ambient background levels. This value was comparable to the levels found by EPA sampling. The dioxins at this location are being emitted from the on-going rubble fire. Additional sampling was conducted around the perimeter of the pile and revealed levels that were considerably lower than those on the rubble pile. Dioxins are considered collectively as suspect human carcinogens. OSHA does not have a worker standard for dioxins. OSHA is coordinating with EPA, and the Salt Lake City Analytical Laboratory to fully assess the risk posed by the elevated levels of dioxins.

Polynuclear Aromatic Hydrocarbons: OSHA has taken **96** samples. Sample results to date have identified several elevated samples, four of 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 strongly recommend the use of respiratory protection when working on the rubble pile.

Freon R-22, Hydrogen Fluoride & Phosgene: OSHA has taken **79** samples for Freon R-22 (chlorodiflouromethane). Sample results received to December 5th reveal non-detectable airborne levels. During operations involving Freon removal from the auxiliary chiller that started on 12/5/01, direct reading instrument revealed readings ranging from 100 ppm to one peak near a leaky valve of 500 ppm. SCBA tanks were and are being worn by workers, and masks are to be worn only when direct reading instruments reveal 850 ppm Freon and/or less than 20.4% Oxygen. OSHA does not have an exposure limit for Freon R-22. (The NIOSH REL for Freon is 1000ppm..) In response to information about exposure to the decomposition by-products of Freon R-22 used in the air conditioning systems of WTC towers, sampling for hydrofluoric acid (HF) had been conducted. Results for HF revealed non-detectable levels. Sample results for phosgene to date show non-detectable levels.

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