NYC 9/11 Public Portal Document

Liberty Mutual

# Industrial Hygiene Air Sample Results

Summary for Week of 11/25 to 12/1

Attached is a summary of the results of the samples collected by ATC associates at the World Trade Center site for the specified week.

The vast majority of the samples collected by ATC are "personal samples", meaning that the worker wore the sampling device. The vast majority of results have shown exposure levels to be below occupational exposure limits. The exceptions were:

A **lead** concentration of **2.3 times the PEL** on a grappler operator on 10/17
A **quartz** concentration of **5 times the PEL** on a laborer during concrete demolition on 11/16
A **quartz** concentration of **1.5 times the PEL** on concrete mixer operator on 11/19

Some of the columns in the attached summary may require explanation:

**Agent Class** - This column includes general category of the agents (substances) which were sampled.

**# of Samples** - This indicates how many individual samples were collected for the agent class listed.

**# of Analytes** - This is the number of individual analysis performed. If only one analyze is determined on each sample, then the number of analytes will equal the number of samples. However, most samples are analyzed for more than one agent as follows:

**Metals:** Aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, selenium, silver, thallium, tin, titanium, vanadium, and zinc. Metal samples are sometimes also analyzed for total particulate.

**PAHs:** Acenaphthene, acenaphthylene, anthracene, benz(a)anthracene, benz(b)fluoranthene, benzo(a)pyrene, benzo(ghi)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene and pyrene.

**Aromatics:** Benzene, ethyl benzene, toluene, and xylene.

**Silica:** Respirable dust, quartz, and cristobalite.

**Aldehydes:** Acetaldehyde, acrolein, benzaldehyde, formaldehyde, n-butyraldehyde, propionaldehyde, and valeraldehyde.

**Acids:** Hydrobromic acid, hydrochloric acid, hydrofluoric acid, nitric acid, phosphoric acid and sulfuric acid

**Highest Analyte** - The analyte found in the highest concentration with respect to its occupational exposure limit.

**Highest Result** - The concentration of the highest analyte.



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