



Industrial Hygiene Air Sample Results

Contractor: Safeway

Dates Covered: 2/22/02 - 3/08/02

Enclosed are the results from industrial hygiene air samples recently collected in your area of the WTC recovery operation. These samples were collected by ATC Associates, Inc.

Samples marked as "personal" samples were collected by having the worker wear the sampling device. Results from personal samples are representative of the time-weighted average exposure experienced by the worker. Samples marked as "area" samples were collected in a fixed location. These samples give an idea of average contaminant concentration at the fixed location but do not necessarily represent worker exposure levels.

You should notify each worker who has participated in the industrial hygiene air sampling that the results are available and educate them about their work exposures.

If you have questions concerning the enclosed sample results or any questions concerning occupational disease exposures or controls, feel free to contact the Liberty Mutual Industrial Hygienist on duty @ 917-566-2576.

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Senior Industrial Hygienist
Liberty Mutual Insurance Group

03-10-02

CC: Bovis - Ray Masters

→ DDC - Bob Adams

LMIG - John Rabovsky

LMIG - IH File

ATC - Mike Donovan



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Key to Air Sample Terminology

The following explanations should help in reading the data chart.

1. **Station Type** - Refers to the general type of sample location (personal, area, source, bulk, etc.)
2. **Sample ID** - Is a unique sample identification.
3. **Sample Zone** - Refers to the construction sector on the site, designated by the Prime Contractor name.
3. **Comments** - Typically this will refer to the job description of the person on whom the sample was collected.
4. **Sample Type** - This designates whether the sample was collected for time weighted average or short term interpretation.
5. **Sample Volume (and units)** - Is the amount of air that was drawn through the sampling device while the sample was collected.
6. **Begin Date and End Date** - The date(s) on which the sample was collected.
7. **Begin Time and End Time** - The time the sample was collected. We use the 24 hour clock.
8. **Sample Media** - This is the type of device the sample was collected on.
9. **Sample Method** - This is the sampling and analytical method used for collection and analysis of the sample. NIOSH and OSHA methods are typically used.
10. **Sample Comment** - This usually contains the name of the person on whom the sample was collected.
11. **Analyte** - This is the suspected contaminant substance that was sampled. The sampling and analysis methods are specific to this substance.
12. **Results (and units)** - This is the airborne concentration of the analyte found on the sample, usually as an estimated full shift time weighted average exposure. This is the number that should be compared to the OSHA or ACGIH limit.
13. **Results Comment** - Not always used. May contain comments from the industrial hygienist about results.
14. **OSHA PEL or ACGIH TLV** - This refers to the Occupational exposure limit to which the result should be compared. OSHA establishes Permissible Exposure Limits (PELs) that have the force of law, through a rule-making process. The American Conference of Governmental Industrial Hygienists, a volunteer professional organization, establishes Threshold Limit Values (TLVs) that serve as guidelines for assessing occupational exposure to health hazards. Most



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PELs and TLVs are time-weighted average (TWA) levels, which means that they apply to the average exposure to the worker over the entire work shift.

15. **Action Level** - OSHA establishes Action Levels for exposures to serve as triggers for administrative actions such as implementation of medical surveillance or other administrative controls.
16. **Ceiling Level** - A concentration which should never be exceeded, even for short periods of time.