



Industrial Hygiene Air Sample Results

Contractor:

Dates Covered:

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.

The OSHA Hazard Communications Standard and other OSHA standards require that you 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.

Michael D. Ramsey, CSP, CIH
Senior Industrial Hygienist
Liberty Mutual Insurance Group

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CC: Bovis - Ray Masters
DDC - Bob Adams
LMIG - John Rabovsky
LMIG - IH File
ATC - Mike Donovan



Industrial Hygiene Air Sample Results

Key to Air Sample Terminology

The following explanations should help in reading the data chart.

1. **Sample ID** - Is a unique sample identification.
2. **Sample Zone** - Refers to the construction sector on the site, designated by the contractor's name.
3. **Job Description** - The job description of the person on whom the sample was collected.
4. **Begin Date and End Date** - The date(s) on which the sample was collected.
5. **Begin Time and End Time** - The time the sample was collected.
6. **Worker** - The name of the person on whom the sample was collected. If the sample was a stationary sample not worn by a worker, the word "Area" is used.
7. **Analyte** - This is the suspected contaminant substance that was sampled. The sampling and analysis methods are specific to this substance.
8. **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 occupational exposure limit (OEL). The units can be in milligrams per cubic meter (mg/cu m), parts per million (ppm), or fibers per cubic centimeter (f/cc).
9. **OEL** - Occupational Exposure Limit is the lower of the OSHA Permissible Exposure Limit (PEL) or ACGIH Threshold Limit Value (TLV). PELs are established by an OSHA rule-making process and are the legal occupational exposure limits. TLVs are voluntary guidelines for occupational exposure which are established by the American Conference of Governmental Industrial Hygienists (ACGIH), a private professional organization.
10. **Shift Adjusted OEL** - The OEL reduced to compensate for the reduced recovery time and longer exposure time posed by a 7 day per week , 12 hour shift work schedule.
11. **% OEL** - This is the percentage of the OEL that the result represents.
12. **% Shift Adjusted OEL** - This is the percentage of the shift adjusted OEL that the result represents.