



Industrial Hygiene Air Sample Results

Contractor: AMEC
Dates Covered: 12/6/01 to 12/13/01

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

Some of these samples were collected in early November and were delayed for several reasons. We apologize for the delay in reporting these results to you. We have instituted a change in our data handling procedures to eliminate delays. We still have several results to report under the old procedures and we will get them to you as quickly as possible. All of these older results have been reviewed and they do not contain any exposures above OSHA PELs.

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.

All personal samples were below occupational exposure limits. One of eight area samples for hydrogen sulfide collected on 12/8 & 12/9 in the southwest sector of the site indicated a time-weighted average hydrogen sulfide concentration of 16 ppm. This is above the 8 hour time-weighted average Threshold Limit Value of 10 ppm, but below the OSHA ceiling level PEL of 20 ppm. Since this was an area sample taken near suspected sources of hydrogen sulfide odors, it does not necessarily represent worker exposure. We have initiated personal sampling for hydrogen sulfide (and also for sulfur dioxide) on workers in the southwest sector in response to this elevated area sample result. The seven other hydrogen sulfide samples collected in the area indicated negligible hydrogen sulfide concentrations.

It is our judgment that most exposures will continue to remain low with the following qualifications:

Hydrogen Sulfide Odors

As indicated above, one of eight air samples area sample indicated elevated levels of hydrogen sulfide in the southwest sector. This result is consistent with the odor complaints that have occurred in this sector in the past.

It appears that the hydrogen sulfide may be coming from storm sewer openings in the area. Another possible cause of the odor is sulfur dioxide, which has an odor similar to hydrogen sulfide. We will continue taking area samples in this area and will initiate personal sampling of workers in this area. Samples will be collected for both hydrogen sulfide and sulfur dioxide.

Please keep in mind that this sewer system is obviously a permit-required confined space. **No entry should be made below grade through manholes, gratings, or other means with following the site confined space entry procedure.** Be certain that all workers know that these sewers are confined spaces and should not be entered at any time.