

~~per Jeffery...~~
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WTC sampling results
(EPA)

U.S. Environmental Protection Agency (www.epa.gov)
Sampling Situation Report
Thursday, December 27, 2001

Fixed Ambient Air Sampling Locations (Asbestos)

- NYC / ER (Dec 12, 1200 - 2359)
 - Errata: Resubmittal corrects volume for sample no. RST-01842.
 - All results, other than minor adjustments for RST-01842, remain the same.

Landfill Ambient Air Sampling Locations

- Fresh Kills (Dec 17-18) - Particulate Monitoring (Dataram)
 - No particulate measurements taken during this period due to weather conditions.
- Fresh Kills (Dec 19) - Particulate Monitoring (Dataram)
 - Nothing of significance reported at four stations (P-1, P-2, P-3, P-8) based on daily average concentrations.
- Fresh Kills (Dec 21) - Particulate Monitoring (Dataram)
 - No particulate measurements taken during this period.
- Fresh Kills (Dec 22) - Particulate Monitoring (Dataram)
 - Nothing of significance reported at four stations (P-1, P-2, P-3, P-8) based on daily average concentrations.
- Fresh Kills (Dec 23 -25) - Particulate Monitoring (Dataram)
 - No particulate measurements taken during this three-day period.
- Fresh Kills (Dec 26) - Particulate Monitoring (Dataram)
 - Nothing of significance reported at two stations (P-1, P-2) based on daily average concentrations.
 - Pumps for P-3 and P-8 malfunctioned.

Ambient Air Sampling Locations

- NYC / ER (Dec 17) - Particulate Monitoring (TEOM PM_{2.5})

- Park Row (Site 1) - 24-hr average concentration for this period was **11.28 ug/m³**.
- Chambers St./West St. (Site 2) - 24-hour average concentration for this period was **12.07 ug/m³**.
- Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was **10.92 ug/m³**.
- Wall Street - 24-hour average concentrations for this period was **11.62 ug/m³**.
- All readings below the National Ambient Air Quality Standard for PM_{2.5} (65 ug/m³).
- NYC / ER (Dec 17) - Particulate Monitoring (TEOM PM₁₀)
 - Wall Street - 24-hour average concentrations for this period was **22.03 ug/m³**.
 - All readings below the National Ambient Air Quality Standard for PM₁₀ (150 ug/m³).
- NYC / ER (Dec 18) - Particulate Monitoring (TEOM PM_{2.5})
 - Park Row (Site 1) - 24-hr average concentration for this period was **8.79 ug/m³**.
 - Chambers St./West St. (Site 2) - 24-hour average concentration for this period was **8.66 ug/m³**.
 - Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was **7.56 ug/m³**.
 - Wall Street - 24-hour average concentrations for this period was **9.40 ug/m³**.
 - All readings below the National Ambient Air Quality Standard for PM_{2.5} (65 ug/m³).
- NYC / ER (Dec 18) - Particulate Monitoring (TEOM PM₁₀)
 - Wall Street - 24-hour average concentrations for this period was **16.68 ug/m³**.
 - All readings below the National Ambient Air Quality Standard for PM₁₀ (150 ug/m³).
- NYC / ER (Dec 19) - Particulate Monitoring (TEOM PM_{2.5})
 - Park Row (Site 1) - 24-hr average concentration for this period was **17.10 ug/m³**.
 - Chambers St./West St. (Site 2) - 24-hour average concentration for this period was **13.31 ug/m³**.
 - Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was **9.65 ug/m³**.
 - Wall Street - 24-hour average concentrations for this period was **13.39 ug/m³**.
 - All readings below the National Ambient Air Quality Standard for PM_{2.5} (65 ug/m³).
- NYC / ER (Dec 19) - Particulate Monitoring (TEOM PM₁₀)
 - Wall Street - 24-hour average concentrations for this period was **25.81 ug/m³**.
 - All readings below the National Ambient Air Quality Standard for PM₁₀ (150 ug/m³).

- NYC / ER (Dec 20) - Particulate Monitoring (TEOM PM_{2.5})
 - Park Row (Site 1) - 24-hr average concentration for this period was **14.08 ug/m³**.
 - Chambers St./West St. (Site 2) - 24-hour average concentration for this period was **10.88 ug/m³**.
 - Coast Guard Building - Battery Park (Site 3) - 24-hour average concentrations for this period was **9.55 ug/m³**.
 - Wall Street - 24-hour average concentrations for this period was **9.46 ug/m³**.
 - All readings below the National Ambient Air Quality Standard for PM_{2.5} (65 ug/m³).
- NYC / ER (Dec 20) - Particulate Monitoring (TEOM PM₁₀)
 - Wall Street - 24-hour average concentrations for this period was **18.65 ug/m³**.
 - All readings below the National Ambient Air Quality Standard for PM₁₀ (150 ug/m³).
- NYC / ER (Dec 19) - Particulate Monitoring (Dataram)
 - Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
 - Instruments operated approximately 6 to 6½ hours.
 - Station L values ranged from 0.1 to 305.8 ug/m³ with an average of 33.6 ug/m³.
 - Station N values ranged from 3.9 to 140.6 ug/m³ with an average of 22.3 ug/m³.
 - Station R values ranged from 0.7 to 204.0 ug/m³ with an average of 25.7 ug/m³.
- NYC / ER (Dec 20) - Particulate Monitoring (Dataram)
 - Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
 - Instruments operated approximately 6 to 6½ hours.
 - Station L values ranged from 0.0 to 153.8 ug/m³ with an average of 11.4 ug/m³.
 - Station N values ranged from 0.7 to 116.3 ug/m³ with an average of 8.0 ug/m³.
 - Station R values ranged from 1.6 to 118.5 ug/m³ with an average of 10.7 ug/m³.
- NYC / ER (Dec 21) - Particulate Monitoring (Dataram)
 - Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
 - Instruments operated approximately 6 hours.
 - Station L values ranged from 1.9 to 117.0 ug/m³ with an average of 5.7 ug/m³.
 - Station N values ranged from 0.8 to 208.9 ug/m³ with an average of 4.0 ug/m³.
 - Station R values ranged from 2.4 to 57.4 ug/m³ with an average of 5.4 ug/m³.

- NYC / ER (Dec 22) - Particulate Monitoring (Dataram)
 - Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
 - Instruments operated approximately 5½ to 6 hours.
 - Station L values ranged from 0.0 to 163.9 ug/m³ with an average of 4.5 ug/m³.
 - Station N values ranged from 0.5 to 27.0 ug/m³ with an average of 4.6 ug/m³.
 - Station R values ranged from 0.0 to 151.4 ug/m³ with an average of 8.1 ug/m³.
- NYC / ER (Dec 23) - Particulate Monitoring (Dataram)
 - Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
 - Instruments operated approximately 5 to 6 hours.
 - Station L values ranged from 0.0 to 88.8 ug/m³ with an average of 27.4 ug/m³.
 - Station N values ranged from 3.4 to 440.8 ug/m³ with an average of 24.7 ug/m³.
 - Station R values ranged from 0.1 to 337.7 ug/m³ with an average of 25.1 ug/m³.
- NYC / ER (Dec 24) - Particulate Monitoring (Dataram)
 - No measurements were taken at the three particulate monitoring locations (Stations L, N, R) due to weather conditions.
- NYC / ER (Dec 25) - Particulate Monitoring (Dataram)
 - No monitoring conducted.
- NYC / ER (Dec 26) - Particulate Monitoring (Dataram)
 - Particulate levels noted at three locations (Stations L, N, R) were below the OSHA TWA.
 - Instruments operated approximately 6½ to 7 hours.
 - Station L values ranged from 3.2 to 268.5 ug/m³ with an average of 17.7 ug/m³.
 - Station N values ranged from 62.9 to 870.8 ug/m³ with an average of 75.2 ug/m³.
 - Station R values ranged from 4.0 to 1316.2 ug/m³ with an average of 21.0 ug/m³.
- NYC / ER (Dec 19) - Volatile Organics (Mobile Laboratory)
 - Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
 - Benzene was not detected above the detection limit (20 ppbv) in 2 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza), including in the debris area at ground level.

- NYC / ER (Dec 20) - Volatile Organics (Mobile Laboratory)
 - Benzene exceeded OSHA TWA PEL (1 ppm) at one location (South Tower) in the debris area at ground level.
 - 2 of the 3 other samples (Wash Tent, Austin Tobin Plaza) did not note any benzene above the detection limit (20 ppbv).
- NYC / ER (Dec 21) - Volatile Organics (Mobile Laboratory)
 - Benzene did not exceed OSHA TWA PEL (1 ppm) at any of the four locations monitored, including in the debris area at ground level.
 - Benzene was not detected above the detection limit (ranging from 20 ppbv to 250 ppbv) in 3 of the 4 locations monitored (Washing Tent, Austin Tobin Plaza, South Tower), including in the debris area at ground level.
- NYC / ER (Dec 22) - Volatile Organics (Mobile Laboratory)
 - Benzene exceeded OSHA TWA PEL (1 ppm) at one location (South Tower) in the debris area at ground level.
 - 2 of the 3 other samples (Wash Tent, Austin Tobin Plaza) did not note any benzene above the detection limit (20 ppbv).
- NYC / ER (Dec 23) - Volatile Organics (Mobile Laboratory)
 - Benzene exceeded OSHA TWA PEL (1 ppm) at one location (North Tower) in the debris area at ground level.
 - 2 of the 3 other samples (Wash Tent, Austin Tobin Plaza) did not note any benzene above the detection limit (20 ppbv).
- NYC / ER (Dec 24) - Volatile Organics (Mobile Laboratory)
 - No samples collected during this period due to weather conditions.
- NYC / ER (Dec 25) - Volatile Organics (Mobile Laboratory)
 - No samples collected during this period.
- NYC / ER (Dec 26) - Volatile Organics (Mobile Laboratory)
 - Benzene exceeded OSHA TWA PEL (1 ppm) at one location (North Tower) in the debris area at ground level.
 - All 3 of the other samples (Wash Tent, Austin Tobin Plaza) did not note any benzene

above the detection limit (ranging from 20 ppbv to 50 ppbv).

Direct Reading Instruments

- NYC / ER (Dec 19)
 - Nothing of significance reported with routine daily monitoring parameters.
 - Monitoring conducted for hexamethylene diisocyanate (HDI), methylene bis(4-phenyl isocyanate) (MDI), and toluene-2,4-diisocyanate (TDI).
 - Locations monitored for the cyanide compounds included: North Tower, South Tower, Vista Hotel, Building No. 4, and Locations A, B, C, D, E, P, R, S, 3B from the fixed ambient air sampling stations.
 - Measurements for the cyanide compounds consisted of one to three 3-minute run(s) taken once that day at each of the locations.
 - Low levels of HDI, MDI, and/or TDI identified at the North Tower, South Tower, Vista Hotel, and Location B (Note: not all compounds were identified at each of the locations).
 - The MDI and TDI hits were all measured at or below the detection limit (2 ppb).
 - As a point of comparison, all levels detected were below the respective OSHA PELs and NIOSH RELs for these compounds. The NIOSH REL for HDI and MDI is 0.005 ppm. The OSHA PEL for TDI is 0.02 ppm.
 - Note: The cassettes used to monitor for these cyanide compounds also respond positively to elevated levels of chlorine, nitrogen dioxide, nitric oxide, and ozone.
 - Note: Air samples (15-minute grabs) were collected for fixed laboratory analysis at two of the work-zone locations and at each of the fixed ambient air sampling stations. Results are pending.
- NYC / ER (Dec 20)
 - Nothing of significance reported.
- NYC / ER (Dec 21)
 - Nothing of significance reported.
- NYC / ER (Dec 22)
 - Nothing of significance reported.
- NYC / ER (Dec 23)
 - Nothing of significance reported.

- NYC / ER (Dec 24)
 - Nothing of significance reported during the afternoon hours.
 - No measurements taken during the morning hours due to weather conditions.
- NYC / ER (Dec 25)
 - No monitoring conducted during this period.