NYC 9/11 Public Portal Document

TO: All BOVIS STAFF
SUBCONTRACTORS

10.19.2001

FROM: RAY MASTER BVL SAFETY

OSHA SAMPLING RESULTS SUMMARY AS OF 10/16/01

Asbestos: A total of 478 air monitoring samples for asbestos have been taken. From 9/13 -9/22, 177 samples were taken in the financial district. They were taken on OSHA personnel as they walked within certain predetermined zones. Results revealed asbestos concentrations ranging from ND to .037 f/cc., well below OSHA's permissible exposure limit (PEL) of .1 f/cc.

After 9/22, sampling focused on the rubble pile (the keystone area of the map) where 32 of 210 samples exceeded OSHA's limit via PCM analysis. However, upon further analysis using discriminating counting methods and/or TEM analysis, the number of asbestos fibers found dropped dramatically to below detectable levels or well below .1 f/cc.

Sampling at Pier 25 where trucks carrying debris are being off loaded by crane to barge revealed no detectable asbestos

Carbon Monoxide: Thirty one personal samples for workers on the rubble pile showed results ranging from 1 ppm to 34 ppm well below the OSHA 50 ppm permissible exposure limit

Noise: OSHA has been conducting noise monitoring in the rubble pile (the keystone area of the map). Three personal samples have been conducted on employees performing (or working near) various operations such as jack hammering. Employee's exposure to noise ranged from 88 dBA to 89 dBA. OSHA's permissible noise exposure limit for construction is 90 dBA.

Silica: As of October 16th, the overwhelming majority of the 159 silica samples show no detectable levels of airborne silica. The highest sample result was approximately twice the OSHA limit, whereas the next highest level was less than half of this limit. Both of these levels were found on personnel working in the rubble pile, an area where OSHA continues to encourage the use of respiratory protection.

Volatile Organic Compounds: As of October 16th, OSHA has taken 120 samples for volatile organic compounds (VOCs) such as acetaldehyde, acrylonitrile, acrolein, benzene, 2-butanone, chlorodiphenyl (PCB), dioxin, ethyl benzene, formaldehyde, hexone, isocyanates, perchloroethylene, styrene, toluene, trichloroethylene, vinyl chloride and xylene. Screening samples initially showed elevated levels of some organic chemicals resulting from the fires burning in the rubble pile. Subsequent personal samples at breathing zone level and area samples show worker exposure levels to be below OSHA limits. However, one personal sample result for benzene was found at the 8hr OSHA allowable limit concentration of 1ppm. This exposure was found on a backhoe operator moving debris on the pile.

Metals: OSHA has taken 218 air samples to monitor worker exposures to dusts, fumes, oxides, and other compounds of metals such as antimony, beryllium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, vanadium, zinc, cadmium, magnesium, arsenic, and mercury. Results from these samples are generally well below the applicable OSHA limits. However, torch cutting and burning structural steel at the pile have resulted in instances of over-exposure as follows: copper (6); iron oxide (6); lead (1); and cadmium (3). Accordingly, OSHA is recommending that workers engaged in these operations continue to wear appropriate respiratory protection.

Other Analysis: OSHA has sampled for dioxin, isocyanates, polynucleated aromatics and oxides of nitrogen. Analysis is pending.

NYC 9/11 Public Portal Document

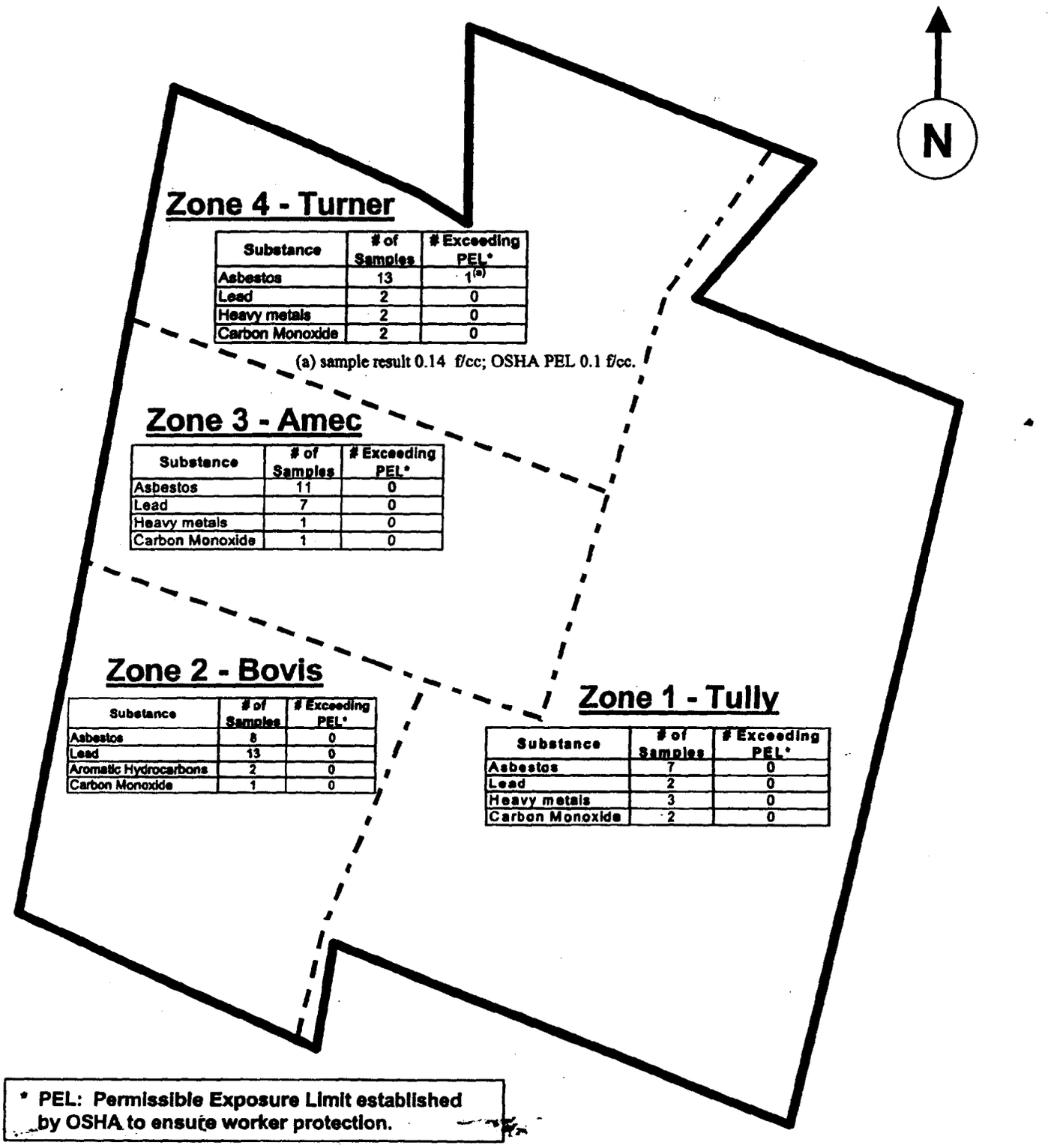
TO: ALL BOVIS STAFF
SUBCONTRACTORS
FROM: RAY MASTEN, BLC SAFETY

10.19.2001

WTC EMERGENCY PROJECT

Bechtel/ATC Personal (worker) Exposure Monitoring Results

Period Covered: 10/3/01 - 10/13/01



Zone 4 - Turner

Substance	# of Samples	# Exceeding PEL*
Asbestos	13	1[a]
Lead	2	0
Heavy metals	2	0
Carbon Monoxide	2	0

(a) sample result 0.14 f/cc; OSHA PEL 0.1 f/cc.

Zone 3 - Amec

Substance	# of Samples	# Exceeding PEL*
Asbestos	11	0
Lead	7	0
Heavy metals	1	0
Carbon Monoxide	1	0

Zone 2 - Bovis

Substance	# of Samples	# Exceeding PEL*
Asbestos	8	0
Lead	13	0
Aromatic Hydrocarbons	2	0
Carbon Monoxide	1	0

Zone 1 - Tully

Substance	# of Samples	# Exceeding PEL*
Asbestos	7	0
Lead	2	0
Heavy metals	3	0
Carbon Monoxide	2	0

*** PEL: Permissible Exposure Limit established by OSHA to ensure worker protection.**

CITY_21MC100_007096345

NYC-WTC_000290790