

**Ohio Bureau of Workers' Compensation**

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August 7, 2007

Michael R. Andrews, R.S.O.  
Department Head  
Support Services Section  
Ohio Department of Transportation  
1600 W. Broad St.  
Columbus, OH 43223

This report documents an air monitoring survey performed in your concrete lab on July 27, 2007. This facility is located at 1600 W. Broad St. in Columbus, Ohio. I would like to thank each person who assisted with the survey.

**CURRENT SITUATION**

The objective of the survey was to determine exposure to respirable silica and respirable particulate. Your results are listed in Air Monitoring Table Two. The results that are reported in this table assume that there was the same exposure for any unmonitored work period.

**RESULTS AND CONCERNS**

When interpreting results, take into account that the data from a one-day industrial hygiene survey are not definite. Individual exposures can vary for many reasons. Sampling conducted over a short time interval may not represent the daily work environment throughout the year.

- Occupational exposure limits established for respirable silica and respirable particulate were not exceeded by any associate or area monitored. Your results are included in Air Monitoring Table Two.

- Mr. Dowell and Mr. Thompson characterized their exposure as light to moderate on the day of the survey.

**NEXT STEPS**

- Please call if you would like me to re-sample during a work shift period in which you anticipate higher exposure to silica.

Please call me at 614-562-5573 with any questions concerning this report or if you need additional service.

Sincerely,

Jim Scholl, CIH  
Industrial Hygienist

## **DISCUSSION**

### A. Employee Access to Exposure Records

OSHA standard 29 CFR 1910.1020 requires that air sampling and other employee exposure information is made available to employees or employee representatives on request. We recommend those employees in the areas sampled and others in the same work area are provided with a copy of the information in this report, including the result tables.

### B. OSHA Permissible Exposure Limits (PEL)

The OSHA PELs listed are the currently enforceable standards. The OSHA PELs are the only legally enforceable exposure limits, but prudent industrial hygiene practice dictates all available exposure values are considered.

### C. Threshold Limit Values (TLVs)

Threshold Limit Values refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects. Because of wide variation in individual susceptibility, a small percentage of workers may experience discomfort from some substances at concentrations at or below the threshold limit; a smaller percentage may be affected more seriously by aggravation of a pre-existing condition or by development of an occupational illness. (Threshold Limit Values and Biological Exposure Indices, 2007, ACGIH.)

Date Of Determination: July 27, 2007

**AIR MONITORING TABLE ONE**

**CHEMICAL SAMPLING AND ANALYTICAL METHODS**

ANALYTE	SAMPLE NUMBER	COLLECTION MEDIA	PRE-CALIBRATION FLOW RATE	POST-CALIBRATION FLOW RATE	TOTAL LITERS	LABORATORY METHOD
Respirable Silica	27014858 - Adam Dowell	Polyvinyl chloride	1.71 liters/min.	1.71 liters/min.	734	Modified NIOSH 7500 Modified NIOSH 0600
Respirable Silica	27017989 - Bob Thompson	Polyvinyl chloride	1.70 liters/min.	1.62 liters/min.	659	Modified NIOSH 7500 Modified NIOSH 0600
Respirable Silica	27014846 - Area Pre-thaw	Polyvinyl chloride	1.69 liters/min.	1.68 liters/min.	696	Modified NIOSH 7500 Modified NIOSH 0600

Samples were sent to an American Industrial Hygiene Association (AIHA) accredited laboratory for analysis.

Date Of Determination: July 27, 2007

**AIR MONITORING TABLE TWO  
AIR SAMPLING RESULTS**

NAME	OPERATION	CONTAMINANT	TIME SAMPLED (MINUTES)	CONCENTRATION DETERMINED	OSHA PEL TWA	ACGIH TLV TWA
Area	Concrete Lab Pre-thaw	Respirable Silica	412	*Below Detection Limit	NAS	0.025 mg/M3, A2
Area	Concrete Lab Pre-thaw	Respirable Particulate	412	0.11 mg/M3	5 mg/M3	NAS
Adam Dowell	Concrete Lab	Respirable Silica	429	*Below Detection Limit	NAS	0.025 mg/M3, A2
Adam Dowell	Concrete Lab	Respirable Particulate	429	0.23 mg/M3	5 mg/M3	NAS
Bob Thompson	Concrete Lab	Respirable Silica	397	*Below Detection Limit	NAS	0.025 mg/M3, A2
Bob Thompson	Concrete Lab	Respirable Particulate	397	0.3 mg/M3	5 mg/M3	NAS

**\*Below Detection Limit – The detection limit for silica is 10 micrograms. The statement, “Below Detection Limit” means that there was less than 10 micrograms of silica in the sample.**

- NAS** - No Applicable Standard
- A2** - Suspected Human Carcinogen
- TWA** - Time-Weighted Average
- OSHA PEL** - Occupational Safety and Health Administration Permissible Exposure Limit
- ACGIH TLV** - American Conference of Governmental Industrial Hygienists Threshold Limit Value
- mg/M3** - Milligrams per Cubic Meter of Air

Note: OSHA standard 29 CFR 1910.1020 requires that air sampling and other employee exposure information be made available to employees on request.