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.)
AIR MONITORING TABLE ONE

CHEMICAL SAMPLING AND ANALYTICAL METHODS

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

Samples were sent to an American Industrial Hygiene Association (AIHA) accredited laboratory for analysis.
**AIR MONITORING TABLE TWO**

**AIR SAMPLING RESULTS**

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

*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.

**Abbreviations:**

- 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.