Conclusions

The annual average concentrations of 84 volatile organic compounds (VOCs), 16 polycyclic aromatic hydrocarbons (PAHs), 14 metals measured in particulate matter with an aerodynamic diameter of 2.5 microns or less (PM$_{2.5}$) and two metals measured in total suspended particulate matter (TSP) were either not detected or were well below their long-term appropriate comparison values and therefore would not be expected to cause chronic adverse health or vegetative effects.

Background

Ambient air sampling conducted at monitoring network sites in Region 15-Harlingen during 2008 was evaluated by the Toxicology Division (TD). Table 1 indicates the location and monitored compounds at five Community Air Toxics Monitoring Network (CATMN) sites in Region 15-Harlingen. Figures 1-5 are street level maps indicating the specific locations of each of the five monitoring sites. The TD reviewed air monitoring summary results for VOCs, PAHs, and speciated metals data from 24-hour TSP and PM$_{2.5}$ samples collected every sixth day. For a complete list of all examined chemicals, please see Table 2.

<table>
<thead>
<tr>
<th>County</th>
<th>City and Site Location</th>
<th>EPA Site ID</th>
<th>Monitored Compounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cameron</td>
<td>Brownsville, 344 Porter Drive</td>
<td>48-061-0006</td>
<td>VOCs, PAHs, and Metals (TSP)</td>
</tr>
<tr>
<td></td>
<td>Isla Blanca Park, Lot B 69 1/2</td>
<td>48-061-2004</td>
<td>Metals (PM$_{2.5}$)</td>
</tr>
<tr>
<td></td>
<td>Edinburg, 1902 West Schunior</td>
<td>48-215-0042</td>
<td>VOCs and PAHs</td>
</tr>
<tr>
<td></td>
<td>Mercedes, 325 Golf Course Road</td>
<td>48-215-1048</td>
<td>VOCs and PAHs</td>
</tr>
</tbody>
</table>

(Sampling began October 29, 2008)
The TCEQ Monitoring Operations Division reported the data for all chemicals evaluated in this memorandum. The target analyte list of 95 VOCs was changed in the third quarter of 2008. Eleven oxygenated compounds were dropped from the list due to water issues in the laboratory analysis. Therefore, those compounds did not meet the data completeness objective of 75 percent data return, or 45 valid samples per year. Those eleven compounds are identified by an asterisk on the target analyte table (Table 2). All other data collected (84 VOCs, 16 PAHs, 14 metals (PM$_{2.5}$), 2 metals (TSP)) for the Brownsville, Edinburg, Isla Blanca Park, and Mission monitoring sites met the data completeness objective of 75 percent data return. The Mercedes monitor began operating in October 2008, so none of the monitored chemicals met data completeness objectives for the year. Air samples collected over a 24-hour period every sixth day are designed to provide representative long-term average concentrations. Therefore, the TD evaluated the reported annual average concentrations for each target analyte for potential chronic health and vegetative concerns by comparing the measured chemical concentrations to appropriate comparison values. Information on the screening values can be obtained by contacting the TD at 512-239-1795.

**Evaluation**

**VOCs**
Of the 84 target VOCs that met data completeness objectives, 33 were detected at the Brownsville site, 21 were detected at the Edinburg site, and 38 were detected at the Mission site. The remaining target analytes were not measured above minimum detection limits. Concentrations of the compounds that were detected were well below their respective appropriate comparison values, and therefore would not be expected to cause chronic adverse health or vegetative effects.

**PAHs**
Of the 16 reported PAHs at the Brownsville, Edinburg, and Mission monitoring sites for 2008, all were either not detected or were well below their respective appropriate comparison values and would not be expected to cause chronic adverse health effects.

**TSP Metals**
The two TSP metals, antimony and arsenic, were not detected in any 24-hour TSP metals sample collected at the Brownsville monitor during the year 2008.

**PM$_{2.5}$ Metals**
The 14 PM$_{2.5}$ metals at the Isla Blanca Park monitoring site were either not detected or were below their respective appropriate comparison values and would not be expected to cause chronic adverse health effects.

If you have any questions regarding this evaluation, please contact me at 512-239-1822.

cc (via email):

Casso, Ruben- EPA Region 6, Dallas
Prosperie, Susan- Department of State Health Services
Table 2: Target Analyte List

| VOCs (CATMN) | Cyclopentane | Ethane | Ethyl Acetate* | Ethyl Benzene | Ethylene | Isobutane | Isopentane | Isoprene | Isopropylbenzene | Methyl Butyl Ketone (MBK)* | Methyl t-Butyl Ether (MTBE)* | Methylcyclohexane | Methylcyclopentane | Methylene Chloride | Methylisobutylketone* | Propyne | Propylene | Styrene | Tetrachloroethylene | Toluene | Trichloroethylene | Trichlorofluoromethane | Vinyl Chloride | c-2-Butene | c-2-Hexene | c-2-Pentene | Dichlorodifluoromethane | Isobutyraldehyde* | m-Diethylbenzene | m-Ethyltoluene | Methyl Chloride | n-Butane | n-Decane | n-Heptane | n-Hexane | n-Nonane | n-Octane | n-Pentane | n-Propyl Acetate* | n-Propylbenzene | n-Undecane | o-Ethyltoluene | o-Xylene | p-Diethylbenzene | p-Ethyltoluene | p-Xylene + m-Xylene | t-2-Butene | t-2-Hexene | t-2-Pentene | trans-1-3-Dichloropropylene | PAHs | Acenaphthene | Acenaphthylene | Anthracene | Benzo (a) anthracene | Benzo (a) pyrene | Benzo (b) fluoroanthene | Benzo (ghi) perylene | Benzo (k) fluoranthene | Chrysene | Dibenz(a,h)anthracene | Fluoranthene | Fluorene | Indeno (1,2,3-cd) pyrene | Naphthalene | Phenanthrene | Pyrene | TSP Metals | Antimony | Arsenic | PM 2.5 Metals | Aluminum | Antimony | Arsenic | Barium | Cadmium | Chromium | Cobalt | Copper | Manganese | Molybdenum | Nickel | Selenium | Tin | Zinc |

* Chemicals did not meet data completeness objective of 45 valid samples for 2008.
Figure 1. Brownsville Monitoring Site, Cameron County
Figure 2. Edinburg Monitoring Site, Hidalgo County
Figure 3. Mission Monitoring Site, Hidalgo County
Figure 4. Isla Blanca Park Monitoring Site, Cameron County
Figure 5. Mercedes Monitoring Site, Hidalgo County