Conclusions

The annual average concentrations of all 96 volatile organic compounds (VOC), 16 polycyclic aromatic hydrocarbons (PAH), and 2 speciated metals from total suspended particulate matter (TSP) were well below their respective long-term, health-based effects screening levels and would not be expected to cause adverse health effects.

Background

Ambient air sampling conducted at monitoring network sites in Region 15-Harlingen during the year 2005 was evaluated by the Toxicology Section (TS). Table 1 indicates the location and monitored compounds at three Community Air Toxics Monitoring Network (CATMN) sites in Region 15-Harlingen. Figures 1-3 are street level maps indicating the specific locations of each of the three monitoring sites. The TS reviewed air monitoring summary results for VOCs and PAHs from 24-hour canister samples collected every sixth day and speciated metals data from 24-hour total suspended particulate matter (TSP) 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, Metals (TSP)</td>
</tr>
<tr>
<td>Hidalgo</td>
<td>Edinburg, 1902 West Schunior</td>
<td>48-215-0042</td>
<td>VOCs and PAHs</td>
</tr>
<tr>
<td></td>
<td>Mission, 2300 North Glasscock</td>
<td>48-215-0043</td>
<td>VOCs and PAHs</td>
</tr>
</tbody>
</table>

The TCEQ Monitoring Operations Division reported the data for all chemicals evaluated. All data collected for VOCs, PAHs, and TSP metals in Region 15 met TCEQ’s data completeness objective of 75 percent data return, or 45 valid samples per year. Air samples collected over a 24-hour period are designed to provide representative long-term average concentrations. Therefore, the TS evaluated the reported annual average concentrations for each constituent for potential chronic health concerns by comparing measured chemical concentrations to TCEQ long-term, health-based Effects Screening Levels (ESLs). Information on the ESLs can be obtained by contacting the TS (512) 239-1795 or visiting the following website: [http://www.tceq.state.tx.us/implementation/tox/esl/ESLMain.html](http://www.tceq.state.tx.us/implementation/tox/esl/ESLMain.html).
**Evaluation**

**VOCs**
Of 96 reported VOCs at each of the three monitoring sites in the Region for the year 2005, 71 were not detected. Those that were detected were well below annual (long-term) health-based ESLs, and therefore do not present chronic human health concerns.

**PAHs**
Of 16 reported PAHs at each of the three monitoring sites in the Region for the year 2005, 5 were not detected. Those that were detected were well below annual (long-term) health-based ESLs, and therefore do not present chronic human health concerns.

**TSP Metals**
The annual average concentrations for antimony and arsenic reported from the 24-hour TSP metal samples collected at 344 Porter Drive in Brownsville during the year 2005 were less than their respective annual (long-term) health-based ESLs. Therefore no adverse health effects would be expected.

If you have any questions regarding this evaluation, please contact me at 512-239-1336.
### Table 2: VOCs, PAHs, and TSP Metals

| VOCs | Chlorobenzene | Chloroform | Chloroprene | Cyclohexane | Cyclopentane | Cyclopentene | Ethane | Ethyl Acetate | Ethyl Benzene | Ethylene | Isobutane | Isopentane | Isoprene | Isopropylbenzene | Methyl Butyl Ketone (MBK) | Methyl t-Butyl ether (MTBE) | Methylcyclohexane | Methylcyclopentane | Methylenicisobutylketone | Propane | Propylene | Styrene | Tetrachloroethylene - Perchloroethylene | 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) fluoranthene | Benzo (ghi) perylene | Benzo (k) fluoranthene | Chrysene | Dibenzo (a,h) anthracene | Fluoranthene | Fluorene | Indeno (1,2,3-cd) pyrene | Naphthalene | Phenanthrene | Pyrene | TSP Metals | Antimony | Arsenic |
|------|----------------|------------|-------------|-------------|-------------|-------------|--------|---------------|--------------|----------|-----------|-----------|-----------|----------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| 1,1,1-Trichloroethane | 1,1,2,2-Tetrachloroethane | 1,1,2-Trichloroethane | 1,1-Dichloroethane | 1,1-Dichloroethylene | 1,2,3-Trimethylbenzene | 1,2,4-Trimethylbenzene | 1,2-Dibromoethane | 1,2-Dichloroethane | 1,2-Dichloropropane | 1,3,5-Trimethylbenzene | 1,3-Butadiene | 1-Butene | 1-Hexene+2-methyl-1-pentene | 1-Pentene | 2,2,4-Trimethylpentane | 2,2-Dimethylbutane - Neohexane | 2,3,4-Trimethylpentane | 2,3-Dimethylbutane | 2,3-Dimethylpentane | 2,4-Dimethylpentane | 2-Butanone | 2-Chloropentane | 2-Methyl-2-Butene | 2-Methylheptane | 2-Methylhexane | 2-Methylpentane - Isohexane | 2-Methyl-3-Hexanone | 3-Methyl-1-Butene | 3-Methylheptane | 3-Methylhexane | 3-Methylpentane | 3-Hexanone | 3-Pentanone | 4-Methyl-1-Pentene | Acetylene | Benzene | Bromomethane | Butyl Acetate | cis 1,3-Dichloropropylene | Carbon Tetrachloride | Chlorobenzene | Chloroform | Chloroprene | Cyclohexane | Cyclopentane | Cyclopentene | Ethane | Ethyl Acetate | Ethyl Benzene | Ethylene | Isobutane | Isopentane | Isoprene | Isopropylbenzene | Methyl Butyl Ketone (MBK) | Methyl t-Butyl ether (MTBE) | Methylcyclohexane | Methylcyclopentane | Methylenicisobutylketone | Propane | Propylene | Styrene | Tetrachloroethylene - Perchloroethylene | 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 | Acenaphthene | Acenaphthylene | Anthracene | Benzo (a) anthracene | Benzo (a) pyrene | Benzo (b) fluoranthene | Benzo (ghi) perylene | Benzo (k) fluoranthene | Chrysene | Dibenzo (a,h) anthracene | Fluoranthene | Fluorene | Indeno (1,2,3-cd) pyrene | Naphthalene | Phenanthrene | Pyrene | Antimony | Arsenic |
Figure 1. Brownsville Monitoring Site, Cameron County

Figure 2. Hidalgo Monitoring Site, Edinburg County
Figure 3. Mission Monitoring Site, Hidalgo County
cc (via email):
  Casso, Ruben
  Prosperie, Susan