

## MEMORANDUM

**DATE:** March 6, 2003  
**TO:** Interested Parties  
**FROM:** Barry Wallerstein, D. Env., Executive Officer  
**SUBJECT:** Update on Air Sample Analysis- Beverly Hills

On Friday, February 28, 2003, the South Coast Air Quality Management District (AQMD) took additional outdoor air samples at four locations: 1) two locations within Beverly Hills High School (BHHS); 2) the property of Venoco; and 3) nearby Roxbury Park.

A total of four 8-hour samples were taken at four locations. Specifically the AQMD staff collected one 8-hour sample (from 8:00 a.m. to 4:00 p.m.) in the middle bleacher section of the stadium at BHHS, the second 8-hour sample (from 8:00 a.m. to 4:00 p.m.) in the middle of the upper softball field at BHHS. A third 8-hour sampling (from 8:00 a.m. to 4:00 p.m.) was conducted on the Venoco property near the oil well on the side of the facility adjacent to Olympic Boulevard, and a fourth 8-hour sampling (8:00 a.m. to 4:00 p.m.) was conducted at the eastern end of the lawn bowling facility in Roxbury Park. The Venoco facility was processing natural gas but not producing oil at the time of the sampling, and represents conditions during gas production only.

Table 1 (attached) summarizes AQMD's laboratory analysis of the 8-hour samples collected on February 28<sup>th</sup>. The table contains two sets of analyses. The concentrations in the top section of the table were analyzed using a gas chromatograph/mass spectrometer (GC/MS). This type of analysis provides information about specific chemical compounds found in samples. The bottom set of concentrations were analyzed using a gas chromatograph with flame ionization detection (FID) and total combustion analysis (TCA) methods. These latter two methods provide concentrations based on the number of carbon atoms in the chemical species (e.g. C6 would represent any chemical

compound with six carbons such as n-hexane, methyl pentane, hexanone, cyclopentane, benzene etc.). The use of FID and TCA provides an overall picture of the concentration levels in the sample. The GC/MS results represent a subset of the FID and TCA data since GC/MS analysis is specific to certain chemicals of concern. The above analytical methods are the same ones used in previously reported analyses.

The results of Friday's sampling are consistent with grab samples and 8-hour samples taken earlier in February 2003. Concentrations shown in Table 1 indicate somewhat higher levels on Venoco's property for ethane and propane, and are very similar to the results obtained February 15, 2003. This is expected since the sampling was conducted closest to the oil well. For comparison, Table 2 (attached) provides minimum, maximum, and average concentrations of compounds measured at the seven stations that are part of a U.S. Environmental Protection Agency (EPA) national ambient air quality monitoring program (PAMS). These stations are specifically sited to represent ambient air that is uninfluenced by any particular source. Comparing sampled concentrations provided in Table 1 with the PAMS data from 2002, we see that except for a slightly higher level of n-hexane in the Venoco parking lot, concentrations are within the observed ambient range. **To date, monitoring at the high school area has not shown readings of benzene, hexane, and other air toxic levels that are considered abnormal.**

To provide some perspective on the potential health affects of the various chemicals, Table 3 lists the chronic and acute Reference Exposure Levels (REL) as developed by the California EPA Office of Environmental Health Hazard Assessment (OEHHA). The chronic and acute RELs are defined as the concentration at which no adverse non-cancer health effects are anticipated. The acute REL refers to effects from short-term exposure of about an hour. The chronic REL refers to effects that might occur over a long period of exposure, such as several years. Comparing the sampled chemical concentration levels shown in Table 1 with the RELs in Table 3, we see that the levels are well below the RELs.

The AQMD staff will conduct another series of sampling when the Venoco facility is in full oil production, which will probably be during the first week of March. The additional sampling results will be provided to the public shortly thereafter.

Attachments