

Summary of Findings Ambient Air Investigation

Beverly Hills High School
241 South Moreno Drive,
Beverly Hills, California 90212

November 21, 2005

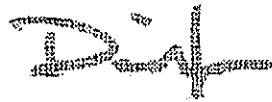
Prepared by:

CDM

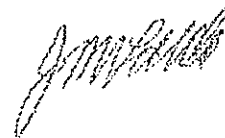
18581 Teller, Suite 200
Irvine, California 92612

The information contained in this Summary of Findings has received appropriate technical review and approval. The approach and methodology are based upon professional judgments founded upon review and interpretation of available data and upon our professional experience and background.

Prepared by:



David Jensen, P.E., REA
Project Director



James M. LaVelle, Ph.D.
Associate

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Summary of Findings

Conclusion

Ambient air data from sampling conducted in June 2005 are consistent with previous CDM and SCAQMD studies, which have shown that airborne chemicals at the High School are consistently below any health limits established by the State of California. As with earlier studies, the data provide no basis for believing that ambient air at the High School is adversely impacted by oil well operations or Central Plants or that air at the High School is substantively different than air elsewhere in the Los Angeles area.

Discussion

CDM collected ambient air samples on June 14, 2005 at Beverly Hills High School (the High School) located at 241 South Moreno Drive, Beverly Hills, California. The purpose of this sampling was to continue to gather additional data to monitor ambient air quality. At the time of the June 14, 2005 sampling, Venoco wells were in operation and produced 425 barrels of oil and liquids and 275,000 cubic feet (mcf) of natural gas. This report summarizes the findings of ambient air sampling conducted in June 2005 and evaluates and compares the results to previous investigations of ambient air at the High School.

The sampling program followed standard US EPA methods of collection and analysis for volatile organic chemicals in ambient air. Samples were collected over an 8-hour period during representative school and after-school activity hours (generally from about 7 a.m. in the morning until about 5 p.m. in the afternoon). Samples were collected at the same 11 locations used in CDM's previous ambient air investigations, as shown in Figure 1. Table 1 summarizes results of ambient air sampling and analysis from June 2005 and compares these data to previous sampling results and health limits established by the State of California.

Ambient air samples were collected from a height equivalent to the breathing zone (approximately 5 feet above the ground). In addition, samples were collected from the ground surface at three locations. No noticeable difference in chemicals or their concentrations between ambient air samples collected at the breathing height and at the ground surface was observed.

Results of the ambient air sampling performed in June 2005 are comparable to ambient air data collected in previous investigations by SCAQMD and CDM through February 2005, except as noted below. Toluene was detected at a concentration of 30 ppbv in one location (No. 2 in the upper ball field) which is the highest concentration detected to date in ambient air samples. This sample also registered the maximum concentrations of benzene at 1.6 ppbv (which was same as the February 2005 event and barely above the highest concentration of 1.5 ppbv observed in previous sampling events) and other compounds including ethyl benzene, xylenes, and n-hexane. However, as shown in Table 1, benzene, toluene, and other chemicals

detected in air at the High School continue to be measured at concentrations well below any limits established by the State of California to protect human health.

Monitoring of air quality in the Los Angeles basin routinely reports a variety of chemicals, including those detected in the current sampling at the High School. Vehicle emissions and emissions from refueling are responsible for a large percentage of the chemicals detected in Los Angeles Basin air (SCAQMD, 1999)

Benzene has been a focus of previous investigations due to concerns that it may be released from oil well operations. This chemical was found in the ambient air at levels consistent with those commonly reported by SCAQMD from routine monitoring of air quality throughout the basin. Therefore, the investigations conducted by SCAQMD and CDM continue to indicate that no unusual source of benzene exists at or near the High School.

Toluene was observed at an anomalously high concentration in one ambient air location in the upper ballfield; however the average toluene concentration across the site was less than 0.15 ppbv. Toluene is a ubiquitous compound in the environment and is used in making paints, paint thinners, fingernail polish, lacquers, adhesives, and rubber, in addition to being produced in the process of making gasoline and other fuels from crude oil (ATSDR, 2001). Additionally, with the exception of the current sampling and the June 2004 sampling (when a toluene concentration of 21 ppbv was measured at Location No. 8 in the upper field), the highest toluene concentration detected in the High School ambient air samples since CDM and SCAQMD started ambient air monitoring in early 2003 is less than 2.5 ppbv. CDM will continue to monitor the toluene concentrations in the ambient air closely.

Based on available data, we conclude that the overall ambient air on the campus is not measurably affected by oil well operations or Central Plants, and that air quality at the campus is not notably different from air quality reported by SCAQMD for monitoring stations elsewhere in the Los Angeles basin

Next Steps

- Additional ambient air sampling will be scheduled to continue monitoring ambient air quality.

References:

South Coast Air Quality Management District (SCAQMD). 1999. Multiple Air Toxics Exposure Study (MATES-II).

Agency for Toxic Substances and Disease Registry (ATSDR). 2001. ToxFAQs™ for Toluene. January

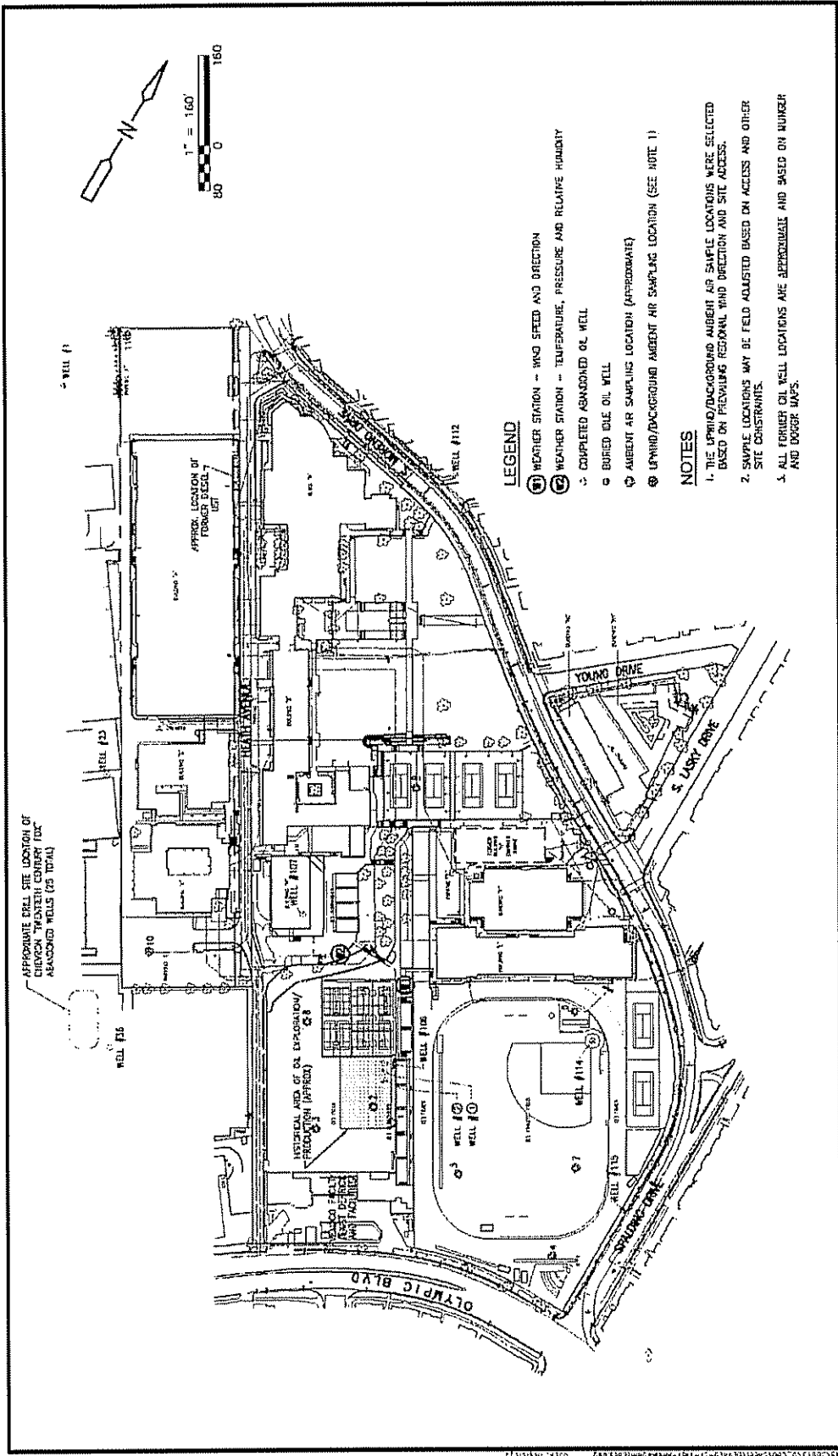
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Table 1
 Summary Statistics for June 2005
 Ambient Air Sampling
 Beverly Hills High School
 Beverly Hills, California

Volatile Organic Compounds	CDM June 2005 Sampling Event				Maximum Detected in Previous SCAQMD and CDM Investigations (through February 2005)	OEHHHA Acute REL	OEHHHA Chronic REL	Units
	Number of Detections	Number of Samples Collected ¹	Minimum Concentration Detected	Maximum Concentration Detected				
Acetone	14	16	5.6	18	200	NA	NA	ppbv
Benzene	15	16	0.51	1.6	1.6	401	19	ppbv
n-Butane	ND	16	ND	ND	56.6	NA	NA	ppbv
iso-Butane	ND	8	ND	ND	22.4	NA	NA	ppbv
1,3-Butadiene	ND	16	ND	ND	0.41	NA	9.0	ppbv
2-Butanone (MEK)	9	16	0.83	3.2	46	4437	NA	ppbv
Carbon disulfide	5	16	0.15	1.1	2.4	1984	256	ppbv
Carbon tetrachloride	ND	16	ND	ND	0.11	297	6	ppbv
Chlorobenzene	1	16	0.4	0.4	ND	NA	217	ppbv
Chloroethane	ND	16	ND	ND	0.17	NA	NA	ppbv
Chloroform	ND	16	ND	ND	0.74	NA	60	ppbv
Chloromethane	15	16	0.51	0.69	1.5	NA	NA	ppbv
n-Decane	NA	NA	NA	NA	0.2	NA	NA	ppbv
1,1-Dichloroethane	ND	16	ND	ND	0.37	NA	NA	ppbv
1,1-Dichloroethene	ND	16	ND	ND	0.4	NA	202	ppbv
1,2-Dichlorobenzene	ND	16	ND	ND	0.14	NA	NA	ppbv
1,4-Dichlorobenzene	ND	16	ND	ND	0.79	NA	133	ppbv
Dichlorodifluoromethane (Freon 12)	15	16	0.49	0.57	1	NA	NA	ppbv
n-Dodecane	NA	NA	NA	NA	0.1	NA	NA	ppbv
Ethane	ND	8	ND	ND	599.7	NA	NA	ppbv
Ethene	NA	NA	NA	NA	12.8	NA	NA	ppbv
Ethylbenzene	7	16	0.17	1.9	0.95	NA	460	ppbv
4-Ethyltoluene	ND	16	ND	ND	0.71	NA	NA	ppbv
n-Heptane	NA	NA	NA	NA	3.7	NA	NA	ppbv
n-Hexane	1	16	1.1	1.1	6.6	NA	1989	ppbv
2-Hexanone	ND	16	ND	ND	7.5	NA	NA	ppbv
Methane	8	8	2.1	2.3	3.9	NA	NA	ppbv
Methylene chloride	14	16	0.37	1.2	3.4	3966	113	ppbv
Methyl tert-Butyl Ether	ND	16	ND	ND	0.5	NA	2216	ppbv
4-Methyl-2-Pentanone (MIBK)	ND	16	ND	ND	39	NA	NA	ppbv
n-Octane	NA	NA	NA	NA	1.8	NA	NA	ppbv
n-Nonane	NA	NA	NA	NA	0.5	NA	NA	ppbv
n-Pentane	ND	8	ND	ND	16.3	NA	NA	ppbv
iso-Pentane	NA	NA	NA	NA	16.9	NA	NA	ppbv
Propane	ND	8	ND	ND	298.4	NA	NA	ppbv
Propene	NA	NA	NA	NA	1.9	NA	NA	ppbv
Propylene	NA	NA	NA	NA	12	NA	1734	ppbv
Styrene	2	16	0.23	2.2	0.18	NA	NA	ppbv
Tetrachloroethene (PCE)	1	16	0.15	0.15	1.2	2950	5	ppbv
Trichloroethene	ND	16	ND	ND	2.4	NA	NA	ppbv
Toluene	15	16	0.93	30	21	9867	80	ppbv
Trichlorofluoromethane (Freon 11)	15	16	0.24	2.6	0.34	NA	NA	ppbv
1,1,1-Trichloroethane	ND	16	ND	ND	0.13	NA	NA	ppbv
1,1,2-Trichloro-1,2,2-Trifluoromethane	1	16	0.24	0.24	2	NA	NA	ppbv
1,2,4-Trimethylbenzene	5	16	0.18	0.21	2.9	NA	NA	ppbv
1,3,5-Trimethylbenzene	ND	16	ND	ND	0.64	NA	NA	ppbv
n-Undecane	NA	NA	NA	NA	0.1	NA	NA	ppbv
m,p-Xylenes	15	16	0.44	2.5	3.2	5069	161	ppbv
o-Xylene	13	16	0.18	0.79	1.4	5069	161	ppbv

OEHHHA: Office of Environmental Health Hazard Assessment
 REL: Reference Exposure Level
 NA: not analyzed
 ND: not detected at a concentration above the laboratory limit
 ppbv = parts per billion by volume

¹ Previous summary tables included Trip Blank Sample results. Starting February 2005, trip blanks will be eliminated for consideration in the number of samples collected.



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