

Summary of Findings Ambient Air Investigation

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

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Prepared by:

CDM

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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.

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Summary of Findings

Conclusion

Ambient air data from sampling conducted in June 2004 are consistent with previous CDM and SCAQMD studies, which have shown that airborne chemicals at the High School are well below the 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 22, 2004 at Beverly Hills High School (the High School) located at 241 South Moreno Drive, Beverly Hills, California. The purpose of this sampling was to gather additional data to monitor ambient air quality. At the time of the June 22, 2004 sampling, Venoco wells were in operation and produced 294 barrels of oil and liquids and 182 thousand cubic feet (mcf) of natural gas. This report summarizes the findings of ambient air sampling conducted in June 2004 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 2004 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 (about 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 or at the ground surface was observed.

Results of the ambient air sampling performed in June 2004 are comparable to ambient air data collected in previous investigations by SCAQMD and CDM through the end of 2003. While several additional chemicals were detected, these chemicals and the air concentrations at which they were detected are not out of the ordinary for the Los Angeles area. As shown in Table 1, chemicals detected in air at the High School are well below the health limits established by the State of California. During this round of sampling a maximum concentration of toluene of 21 parts per billion by volume (ppbv) was detected. This result is consistent with the higher than normal concentration detected by AQMD in February 2004. This is CDM's highest concentration of toluene detected to date, however, this value is well below the

California EPA Office of Environmental Health Hazard Assessment (OEHHA) chronic and acute Reference Exposure Levels (REL) for toluene.

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 that are consistent with those commonly reported by SCAQMD for all routine monitoring stations 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.

Based on available data, we conclude that ambient air on the campus is not adversely affected by oil well operations or Central Plants and that air at the campus is not notably different from air throughout the Los Angeles basin.

Next Steps

- Additional ambient air sampling will be scheduled to monitor ambient air quality.

References:

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

Table 1
 Summary Statistics for June 2004
 Ambient Air Sampling
 Beverly Hills High School
 Beverly Hills, California

Volatile Organic Compounds	CDM June 2004 Sampling Event				Maximum Detected in Previous SCAQMD and CDM Investigations (through 2/27/04)	OEHHA Acute REL	OEHHA Chronic REL	Units
	Number of Detections	Number of Samples Collected	Minimum Concentration Detected	Maximum Concentration Detected				
Acetone	17	17	1.3	13	200	NA	NA	ppbv
Benzene	16	17	ND	0.5	1.4	401	19	ppbv
n-Butane	ND	17	ND	ND	56.6	NA	NA	ppbv
iso-Butane	ND	8	ND	ND	22.4	NA	NA	ppbv
1,3-Butadiene	6	17	0.1	0.17	0.41	NA	9.0	ppbv
2-Butanone (MEK)	16	17	0.66	4.2	46	4437	NA	ppbv
Carbon disulfide	8	17	0.14	2	1.1	1984	256	ppbv
Carbon tetrachloride	16	17	0.09	0.11	0.1	297	6	ppbv
Chloroethane	2	17	0.17	0.17	ND	NA	NA	ppbv
Chloroform	1	17	ND	0.74	ND	NA	60	ppbv
Chloromethane	16	17	0.54	1.5	1.2	NA	NA	ppbv
n-Decane	NA	NA	NA	NA	0.2	NA	NA	ppbv
1,1-Dichloroethane	1	17	ND	0.37	ND	NA	NA	ppbv
1,1-Dichloroethene	1	17	ND	0.4	ND	NA	202	ppbv
1,2-Dichlorobenzene	2	17	0.12	0.14	ND	NA	NA	ppbv
1,4-Dichlorobenzene	2	17	0.062	0.07	0.79	NA	133	ppbv
Dichlorodifluoromethane	16	17	0.52	0.73	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	ND	8	ND	ND	12.8	NA	NA	ppbv
Ethylbenzene	16	17	0.079	0.45	0.95	NA	460	ppbv
n-Heptane	NA	NA	NA	NA	3.7	NA	NA	ppbv
n-Hexane	16	17	0.15	0.79	6.6	NA	1989	ppbv
2-Hexanone (MiBK)	ND	17	ND	ND	7.5	NA	NA	ppbv
Methane	8	8	2.1	2.4	3.9	NA	NA	ppbv
Methylene chloride	16	17	0.25	3.4	0.5	3966	113	ppbv
Methyl tert-Butyl Ether	ND	17	ND	ND	0.5	NA	2216	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	17	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	17	NA	NA	1.9	NA	NA	ppbv
Propylene	16	17	ND	12	5.4	NA	1734	ppbv
Styrene	2	17	0.066	0.079	ND	NA	NA	ppbv
Tetrachloroethene (PCE)	6	17	0.096	1.2	1	2950	5	ppbv
Trichloroethene	1	17	2.4	2.4	ND	NA	NA	ppbv
Toluene	16	17	0.86	21	16.4	9867	80	ppbv
Trichlorofluoromethane	16	17	0.27	0.34	0.3	NA	NA	ppbv
1,1,1-Trichloroethane	1	17	ND	0.13	ND	NA	NA	ppbv
1,1,2-Trichloro-1,2,2 Trifluoromethane	11	17	0.072	2	0.09	NA	NA	ppbv
1,2,4-Trimethylbenzene	15	17	0.081	0.22	1	NA	NA	ppbv
1,3,5-Trimethylbenzene	ND	17	ND	ND	0.32	NA	NA	ppbv
n-Undecane	NA	NA	NA	NA	0.1	NA	NA	ppbv
m,p-Xylenes	16	17	0.24	1.7	2	5069	161	ppbv
o-Xylene	16	17	0.089	0.49	1.2	5069	161	ppbv

OEHHA: Office of Environmental Health Hazard Assessment

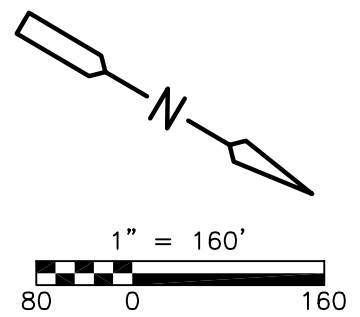
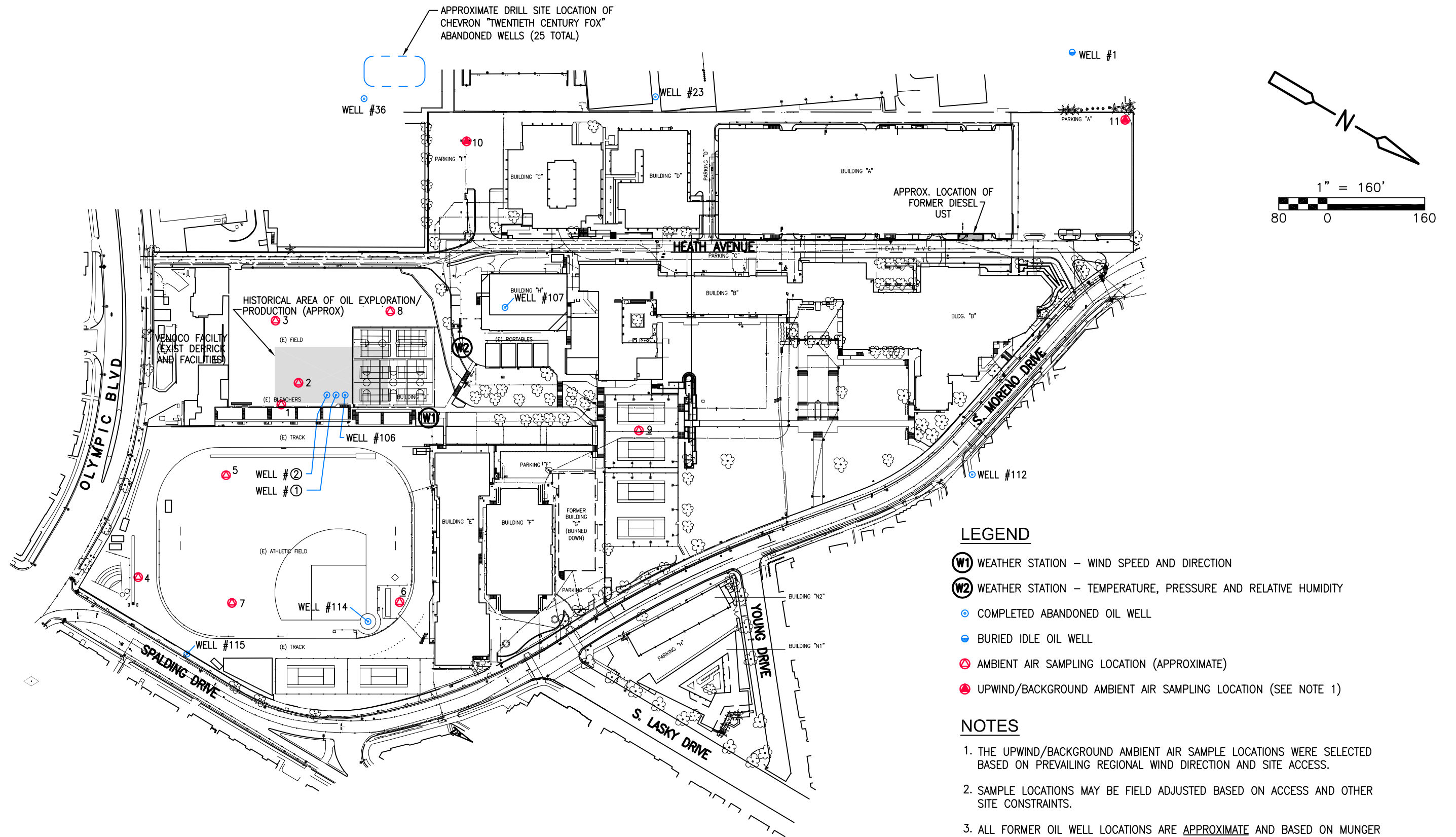
REL: Reference Exposure Level

NA: not analyzed

ND: not detected at a concentration above the laboratory limit

ppbv = parts per billion by volume

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LEGEND

- (W1) WEATHER STATION – WIND SPEED AND DIRECTION
- (W2) WEATHER STATION – TEMPERATURE, PRESSURE AND RELATIVE HUMIDITY
- COMPLETED ABANDONED OIL WELL
- BURIED IDLE OIL WELL
- ⊕ AMBIENT AIR SAMPLING LOCATION (APPROXIMATE)
- ⊙ UPWIND/BACKGROUND AMBIENT AIR SAMPLING LOCATION (SEE NOTE 1)

NOTES

1. THE UPWIND/BACKGROUND AMBIENT AIR SAMPLE LOCATIONS WERE SELECTED BASED ON PREVAILING REGIONAL WIND DIRECTION AND SITE ACCESS.
2. SAMPLE LOCATIONS MAY BE FIELD ADJUSTED BASED ON ACCESS AND OTHER SITE CONSTRAINTS.
3. ALL FORMER OIL WELL LOCATIONS ARE APPROXIMATE AND BASED ON MUNGER AND DOGGR MAPS.

BEVERLY HILLS HIGH SCHOOL
 241 S. MORENO DRIVE

Ambient Air Sample Locations

Figure 1

