# Summary Report – Comparison of Plaintiff and CDM Shadow Sampling VOC Results

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

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Prepared by:

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The information contained in this document 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 Report – Comparison of Plaintiff and CDM Shadow Sampling VOC Results

### Introduction

Camp Dresser & McKee, Inc. (CDM) has prepared this summary report concerning the soil gas and indoor and ambient air sampling conducted in September 2004 at the Beverly Hills High School (referred to hereafter as the High School) located at 241 South Moreno Drive, Beverly Hills, California. The purpose of this summary report is to compare the results of soil gas and air sampling conducted by CDM on behalf of the City of Beverly Hills, and 3TM International, Inc of Houston, Texas (3TM), which is the consultant for the law firm of Masry and Vititoe (herein referred to as the Plaintiffs).

### **Executive Summary**

The September 2004 field investigation at the High School included collection of three types of samples, as summarized below

- Soil gas: 3TM selected 172 locations throughout the High School for sampling. Soil gas samples were collected from depths ranging from 1 foot to 20 feet with multiple samples being collected at some locations. These samples were analyzed for volatile organic compounds (VOCs) (See Figure 1).
- Indoor air: samples were collected from 116 locations throughout the High School by both firms and analyzed for VOCs and fixed gases (See Figures 2 through 4).
- Ambient (outdoor) air: CDM collected a limited number (four) of ambient air samples and analyzed them for VOCs and fixed gases. 3TM did not collect any ambient air samples. The four samples collected by CDM were taken from locations used in previous rounds of ambient air testing to allow a comparison with past results (See Figure 5).

The results of analysis of all of the above samples are summarized briefly below. Additional detail is provided in subsequent sections of the report.

### **Indoor Air Sampling**

In general, results reported by CDM for chemicals detected in indoor air are reasonably consistent with 3TM's indoor air sampling results. Neither firm reported high amounts of a chemical not reported by the other. Further, the highest amounts of chemicals were generally reported from the same or nearby locations by both firms. Overall assessment of indoor air quality using either data set would yield generally the same conclusions regardless of which data set was considered. Some differences in the two data sets were, however, observed.

 3TM obtained sample results from all 116 sample locations while CDM obtained results from 115 sample locations.



 While the chemicals detected by both firms were similar, the samples collected by CDM resulted in a greater number of different chemicals being detected than the results of samples collected by 3TM.

Overall, the sampling results suggest that indoor air quality at the High School is consistent with that expected for a facility using many products that contain common volatile chemicals such as inks, markers, cleaning products, and art supplies. The low scattered and/or sporadic detections of several compounds including PCE and benzene seems to be more consistent with independent indoor sources as mentioned above than with migration from the subsurface. In addition, the low concentrations reported and/or the sporadic occurrence of chemical vapors indicates that students and staff are unlikely to be currently exposed to unhealthy amounts of chemicals in air.

### Soil Gas Sampling

In general, results reported by CDM for soil gas sampling are consistent with 3TM's sampling results. The data are also consistent with previous soil gas sampling performed by CDM in 2003. As was the case for indoor air sampling, some differences in the two data sets were observed.

- 3TM completed 209 analyses from 172 sample locations and CDM completed 163 analyses. The greater numbers of analyses in the 3TM data set is due to duplicate samples analyzed by the mobile laboratory and split samples sent to an off-site laboratory for analysis.
- CDM sampling resulted in a greater number of detections than did 3TM's sampling 3TM used an on-site mobile laboratory for VOC analysis using EPA method 8260 while CDM samples were collected in Summa canisters and were analyzed by an off-site laboratory using EPA Method TO-15. Method TO-15 is about 10 times more sensitive than EPA Method 8260, which allowed CDM to detect a greater range of chemicals than 3TM.

In both cases, the data show that little or no correlation exists between the pattern of chemicals found in soil gas and that found in indoor air. Results of soil gas sampling provide no evidence that significant migration to indoor air is occurring or that the chemicals found beneath the High School are likely to represent a future health threat to students and staff.

### **Ambient Air Sampling**

The results of ambient air samples collected by CDM were generally consistent with those reported in the previous five rounds of ambient air testing performed at the High School by CDM. Overall, the results are consistent with the previous conclusion that current air quality at the High School is not measurably different from that at other locations in the LA Basin.



### Discussion of Indoor Air Quality Sampling Data Collection

Indoor air sampling was conducted between September 17 and 19, 2004. 3TM collected air samples in stainless steel Summa canisters at 116 indoor locations with most locations predetermined by their sampling plan (Figures 2 through 4). CDM collected co-located indoor ambient air samples in stainless steel Summa canisters at all 116 indoor locations samples, with 115 samples analyzed for volatile organic compounds (VOCs) by EPA Method T0-15 and fixed gases (methane, carbon dioxide, carbon monoxide, nitrogen, oxygen) by ASTM D1946. CDM was provided with summary tables of the laboratory data collected by 3TM. No actual laboratory reports were provided to backup the summary tables.

Table 1 below summarizes the total number of samples collected from each building by CDM and 3TM and the number of samples where VOCs were detected.

Table 1
CDM and 3TM Sample and Detections Summary
Indoor Air Sampling - September 2004
Beverly Hills High School

|                   |                                   | CDM                            | этм                            |                                |  |  |
|-------------------|-----------------------------------|--------------------------------|--------------------------------|--------------------------------|--|--|
| Building  -<br>ID | Number of<br>Samples<br>Collected | Number of Detections<br>(VOCs) | Number of Samples<br>Collected | Number of Detections<br>(VOCs) |  |  |
| Α                 | 32                                | 32                             | 33                             | 26                             |  |  |
| В                 | 32                                | 32                             | 32                             | 28                             |  |  |
| С                 | 14                                | 14                             | 14                             | 14                             |  |  |
| D                 | 10                                | 10                             | 11                             | 1                              |  |  |
| E                 | 15                                | 13                             | 15                             | 11                             |  |  |
| F                 | 3                                 | 3                              | 3                              | . 3                            |  |  |
| H                 | 9                                 | 9                              | 8                              | 8                              |  |  |
| TOTAL             | 115                               | 113                            | 116                            | 91                             |  |  |

Values detected at an estimated concentration between method detection and laboratory reporting limits are included as detections

### Indoor Air Sampling Results

A statistical summary and comparison between analytical results for indoor air sample results generated by CDM and 3TM is presented in Table 2. A discussion of the key compounds of concern is presented in the following paragraphs:

■ PCE was found in three of 115 CDM indoor air samples. These three locations were the only locations where any PCE was detected. These were detected at B-217 on the second level of Building B (3.3 ppbv), at A-196 on the first level of Building A (33 ppbv), and at C-522 in Building C (2ppbv).



- PCE concentrations were detected in seven 3TM samples; Building H-Room 102 (2.1ppbv), Building B-Room 217 (1.1ppbv), Building B-Room 124 (2.1 ppbv), Building B-Room 223 (0.2 ppbv), Building A-Room 193 (0.7 ppbv), Building A-Room 196 (35.4 ppbv), and Building A-Room 252 (1.3 ppbv).
  - It should be noted PCE was the only compound in indoor air samples that exceeded the health limits established by the State of California (OEHHA RELs Office of Environmental Health Hazard Assessment, Reference Exposure Levels). The only room where this exceedance occurred was in Room A-196, which is a supply closet which contains solvents among other materials.
- Benzene was detected in five 3TM samples and ranged from 0.51 to 4.38 ppbv, with the highest concentration detected in Building A-Room 003. CDM samples contained two benzene detections, the highest (3.7 ppbv) of which was at the same location as the 3TM sample from Building A-Room 003. Room 003 is an equipment storage and maintenance room with gardening tools and air compressor. Six paint cans were observed to be stored on the floor during the sampling.
- Toluene was detected in 67 3TM samples and ranged from 0.44 to 28.4 ppbv. CDM samples contained 53 toluene detections ranging from 0.72 to 17 ppbv. Twenty three of the CDM detections were observed in Building A, including the highest detection of 17 ppbv (Room 196). Although the highest 3TM toluene concentration of 28.4 ppbv was detected in the sample collected in the pool bleachers area (Building F), the majority of the 3TM toluene detections were observed in the samples collected in Building A.
- Xylene concentrations were detected in 15 and 17 indoor samples collected by CDM and 3TM, respectively The highest CDM xylene concentrations were detected in Building A (Rooms 003 and 196). The highest 3TM xylene concentration of 6.9 ppbv was also detected in Building A-Room 196.
- Ethyl benzene was detected in two CDM samples collected in Building A (Rooms 003 and 196). Three out of the five 3TM ethyl benzene detections were observed in samples collected in Building A (Room 003, Room 192, and Room 196). Ethyl benzene was also detected in samples collected in Building B Room 217 and the pool area (Building F). Room A-192 is a theater where the Summa Canisters were placed on the Stage.
- Acetone, which is a common laboratory contaminant, was detected in almost all of the CDM indoor samples and ranged from 3.3 to 29 ppbv, with the highest concentration detected at A-191on the first level of Building A. 3TM analytical results did not include this compound.



- 3TM data tables report separate set of data for dichloromethane and methylene chloride. Dichloromethane is a synonym for methylene chloride. Methylene chloride was detected in 42 3TM samples at the highest concentration of all compounds (51.84 ppbv) detected. The two highest concentrations of 51.48 ppbv and 9.2 ppbv were detected in Building A-Rooms 279 and 196. By contrast, methylene chloride was detected in 9 CDM samples only at concentrations ranging from 0.75 ppbv to 7.1 pbbv, with the highest concentration detected in Building A-Room 196. Room A-279 is an English classroom located next to Room A-278
- Chloroform was detected in five samples collected both by CDM and 3TM at similar concentrations ranging from 1.7 to 26.62 ppbv.
- 1,2,4-trimethylebenzene was detected in four CDM samples (0.99 to 3.1 ppbv) collected in Building A (Rooms 003, 252, 290, and 388). 3TM had three detections (0.54 to 2.85 ppbv), two of which were observed in samples collected in Building B.
- Tetrahydrofuran was detected in 38 samples collected by CDM at concentrations ranging from 0.76 to 3.2 ppbv. The highest concentrations were observed in eight out of nine samples collected in Building H. 3TM analytical results did not include this compound.
- 1,2,4-tricholorobenzene, vinyl acetate and chloromethane concentrations were only detected in samples collected by 3TM at concentrations ranging from 0.43 ppbv to 2.2 ppbv.
- Other chemicals such as carbon disulfide, chlorobenzene, 1,2-dicholorethane and 1,2-dicholorpropane, 1,3,5-trimethylebenzene, methyl-tert butyl ether (MTBE) were only detected in samples collected by CDM.

# Discussion of Shallow Soil Gas Quality Sampling Data Collection

Soil gas sampling was conducted between September 16 and 19, 2004. 3TM collected a total of 209 samples from 172 locations, including field duplicates and duplicates for the off-site laboratory (Figure 1). The majority of the 3TM samples were collected in glass syringes and analyzed by an on-site laboratory for VOCs by EPA Method 8260B and for methane using a flame ionizing detector (FID) connected to the mobile laboratory. Eighteen out of 209 samples were collected in Summa canisters and were sent to off-site laboratories for VOC analysis by EPA Method TO-15. CDM was provided with summary tables of the laboratory data collected by 3TM. No actual laboratory reports were provided to backup the summary tables. In addition the 3TM soil gas tables did not indicate the sample depths of the sample locations.



CDM collected co-located soil gas samples from 163 of the 172 locations sampled by 3TM from depths of 1, 5, 10, 15, 20 feet below ground surface (bgs). A total of 162 samples were collected in stainless steel Summa canisters and analyzed in off-site fixed laboratories for VOCs by EPA Method T0-15 and fixed gases (methane, carbon dioxide, carbon monoxide, nitrogen, oxygen) by ASTM D1946. CDM was unable to collect samples from the remaining nine 3TM locations due to the presence of high vacuum at these locations resulting in insufficient sample volume for analysis. In addition, one of the 163 samples was not able to be analyzed by the laboratory due to insufficient sample volume.

Table 3 below summarizes the total number of samples collected from each location by CDM and 3TM and the number of samples where VOCs were detected.

Table 3
CDM and 3TM Sample and Detections Summary
Shallow Soil Gas Sampling - September 2004

|                      | CDM  | 3TM |                                   |                         |
|----------------------|--|-----|-----------------------------------|-------------------------|
| Locations            | Number of Samples Number of Collected Detections |     | Number of<br>Samples<br>Collected | Number of<br>Detections |
| Upper Field          | 23   | 23  | 25                                | 15                      |
| Lower Field          | 23   | 22  | 27                                | 19                      |
| Near Bldg H          | 23   | 21  | 30                                | 14                      |
| Near Bldg A          | 13   | 13  | 26                                | 10                      |
| Moreno Drive         | 41   | 38  | 53                                | 17                      |
| North Parking Lot    | 30   | 30  | 36                                | 19                      |
| Swim gym Parking Lot | 9  | 9   | 12                                | 44                      |
| TOTAL                | 162  | 156 | 209                               | 94                      |

Values detected at an estimated concentration between method detection and laboratory reporting limits are included as detections

### Soil Gas Sampling Results

A statistical summary and comparison between analytical results for shallow soil gas sample results generated by CDM and 3TM is presented in Tables 4 and 5. A discussion of the key compounds of concern is presented in the following paragraphs

- Benzene was detected (104/162) in samples collected by CDM, with the highest concentration (410 ppbv) detected at Location 78 (upper field) at 10 feet bgs. Benzene concentration ranged from 28.2 to 814 ppbv in 95/209 samples collected by 3TM with the highest concentration also detected at Location 78 (sample depth unknown).
- Toluene was the most frequently detected compound in CDM samples (125/162). Toluene concentrations ranged from 0.31 to 250 ppbv with the highest toluene concentration detected at Location 1 (lower field entrance by Moreno Drive) at



5 feet bgs. Toluene was detected in 20 samples collected by 3TM with the highest toluene concentration of 639.8 ppbv detected in Location 8 (lower field) (sample depth unknown).

- Xylenes were detected in CDM soil gas samples (99/162), with the highest concentrations of m,p-xylene and o-xylene (2,400 ppbv and 970 ppbv, respectively) detected in the sample from Location 8 (western edge of lower field next to Olympic Blvd) at 5 feet bgs. The highest xylene concentrations (3,315 ppbv of m,p-xylene and 1,165 ppbv of o-xylene) in 3TM samples were also detected in the same location (sample depth unknown).
- Ethyl benzene was detected in CDM soil gas samples (83/162), with the highest concentration (1,400 ppbv) detected in the 10-foot bgs sample from Location 78 (Upper field), with the second highest concentration detected at the same location where the highest 3TM concentration of 1126 ppbv was detected (Location 8 western edge of lower field next to Olympic Blvd). The second highest 3TM concentration was detected at the same location where the highest CDM concentration was detected (Location 78).
- PCE concentrations were detected in 45 samples collected by CDM, with the highest PCE concentration (64 ppbv) detected in the 1-foot sample at Location 106 (parking lot north of Building A). Five 3TM samples analyzed by the off-site laboratory had PCE concentrations exceeding the reporting limits with the highest concentration of 2.1 ppbv detected at Location 130 also in the north parking lot, near the west corner of Building A.
- TCE was detected in six CDM samples with the highest TCE concentration of 35 ppbv detected at the 1-foot samples from Location 106 (north parking Lot). 3TM results indicated non-detectable levels of TCE.
- Acetone was the second most frequently detected compound (123/162) in CDM soil gas samples at concentrations ranging from 9 to 1,700 ppbv, with the highest concentration detected at Location 167 (south of Building H near Heath Avenue) at 1 foot bgs. Acetone concentrations in over 20 samples were reported to be the result of laboratory method blank contamination. 3TM analytical results did not include this compound.
- MEK was detected in CDM samples (108/162) with the highest concentration of 160 ppbv detected at Location 137 (southern boundary between Buildings A and D) at 1 foot bgs. By contrast, MEK was detected only in 13 3TM samples with the highest concentration of 81.4 ppbv detected at Location 167 (south of Building H near Heath Avenue). The second highest concentration of 41 ppbv was detected at Location 138, south of Building D, near Location 137.



- Carbon tetrachloride was detected in four CDM samples, with the highest concentration of 37 ppbv detected at Location 165 (south of Building H near Heath Avenue) at 1-foot bgs. Incidentally, carbon tetrachloride was detected at 150 ppbv in the same general vicinity during the 2003 CDM soil gas investigation (SG-14 at 5 feet bgs). 3TM results indicated non-detectable levels of carbon tetrachloride.
- 1,1,1-trichloroethane was detected in seven CDM samples and three 3TM samples, with the highest CDM and 3TM concentrations of 350 and 306 ppbv, respectively, detected at Location 166 (south of Building H near Heath Avenue) at 5 feet bgs.
- Chloroform was detected in only six CDM and two 3TM samples. The highest chloroform concentration of 50 ppbv was detected in the 5-foot bgs CDM sample collected from Location 31 (upper field). 3TM chloroform concentrations were detected in the lower field (Location 76 at 0.7 ppv) and along the side walk on Moreno Drive (location 61 at 3.1 ppbv).
- N-hexane was detected in 36 CDM samples with the highest concentration of 130 ppbv detected in Location 23 (upper field immediately west of Venoco facility) at 5 feet bgs. 3TM analytical results did not include this compound.
- Styrene was detected in only 11 CDM and two 3TM samples. However, an anomalously high concentration of 2,700 ppbv was detected in the 1-foot bgs CDM sample collected from Location 92 (north parking lot). 3TM concentrations were less than 1 ppbv.
- Methane results (Table 3) for the samples analyzed indicated similar results between CDM and 3TM samples. The highest CDM concentrations (4,000 to 310,000 ppmv) were detected at depths of 5 and 10 feet bgs at locations 82 and 78 (both in the upper ballfield), 5 feet bgs at 77 (lower ballfield), and 5 feet bgs at 68 (along the sidewalk on Moreno Drive). The highest 3TM concentrations of 1,931 ppmv and 12,195 ppmv were detected at depths of 5 and 10 feet bgs, respectively, at locations 82 and 78 in the upper ballfield). Methane concentrations in the rest of CDM and 3TM samples were less than 50 ppmv

### Limitations

Work for this project was performed, and this report prepared, in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or similar localities, at the time the work was performed. It is intended for the exclusive use for specific application to the referenced project site. This report is not meant to represent a legal opinion. No other warranty is expressed or implied.

All conclusions and recommendations are based on these analyses, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred.



TABLE 2

# STATISTCAL SUMMARY OF CDM and 3TM ANALYTICAL RESULTS FOR INDOOR AIR SAMPLES - SEPTEMBER 2004 BEVERLY HILLS HIGH SCHOOL

|                                |         | CDIV      | CDM SAMPLES   |                      |         | 3TM SAMPLES    | MPLES     |          | OEHHA F     | OEHHA RELs - ppb |
|--------------------------------|---------|-----------|---------------|----------------------|---------|----------------|-----------|----------|-------------|------------------|
| VOLATILE ORGANIC COMPOUNDS     | No. of  | No. of    |               | ( <i>\\</i> /\\) qdd | No. of  | No. of         | (v/v) dqq | (v/v)    | A cuta DEI  | Chronic          |
| (EPA Method 10-15)             | Samples | Detects * | Minimum       | Maximum              | Samples | Detects *      | Minimum   | Махітит  | שרתוב ואדים | REL              |
| 1,2,4-THIMETHYLBENZENE         | 115     | 4         | 66'0          | 3.1                  | 116     | Э              | 0.54      | 2.85     | 핃           | 빌                |
| 1,2,4-TRICHLOROBENZENE         | 115     | 0         | ΩN            | ND                   | 116     | 2              | 0.43      | 0.57     | 밀           | Ä                |
| 1,2-DICHLOROETHANE             | 115     | -         | 6.1           | 6.1                  | 116     | 0              | Q         | 9        | 띨           | IJ,              |
| 1,2-DICHLOROPROPANE            | 115     | -         | 2.1           | 2.1                  | 116     | 0              | S         | 2        | 띨           | 밀                |
| 1,3,5-THIMETHYLBENZENE         | 115     | +         | 6.0           | 0.9                  | 116     | 0              | Q         | g        | 밀           | 빌                |
| 2-BUTANONE                     | 115     | 52        | 0.74          | 8.5                  | 116     | ហ              | 1.76      | 14.24    | 4,437       | N.E.             |
| 2-PROPANONE (ACETONE)          | 115     | 113       | 3.3           | 29                   | 116     | 1              |           | :        | NE.         | 밀                |
| 4-ETHYLTOLUENE                 | 115     | 2         | 1.4           | 2.6                  | 116     |                | }         | 1        | 빌           | N<br>E           |
| 4-METHYL-2-PENTANONE (MIBK)    | 115     | 2         | 0.89          | 1.8                  | 116     | 1              |           | ;;       | N<br>W      | W<br>Z           |
| BENZENE                        | 115     | 2         | 0.91          | 3.7                  | 116     | ಬ              | 0.51      | 4.38     | 401         | 19               |
| CARBON DISULFIDE               | 115     | 9         | 0.86          | 1.5                  | 116     | 0              | 2         | ON       | 1,984       | 256              |
| CHLOROBENZENE                  | 115     | 23        | -             | 1.1                  | 116     | 0              | QN        | 2        | 띨           | w<br>Z           |
| CHLOROFORM                     | 115     | ស         | 1,7           | 21                   | 116     | 5              | 1.7       | 26.62    | NE          | 09               |
| CHLOROMETHANE                  | 115     | 0         | 2             | 2                    | 116     | 64             | 0.73      | 2.2      | NE          | ШZ               |
| DICHLOROMETHANE                | 115     | SYNONYM   | FOR METHLYENE | NE CHLORIDE          | 116     | 59             | 0.49      | 1.64     | 3,966       | 113              |
| ETHANOL                        | 115     | 26        | 3.4           | 50                   | 116     | 1              |           | -        | NE          | N<br>E           |
| ETHYLBENZENE                   | 115     | 2         | 1.3           | 1.5                  | 116     | ស              | 0.47      | 1.75     | 뜅           | 460              |
| HEPTANE                        | 115     | 9         | 7.70          | 3.2                  | 116     |                | -         |          | NE          | N                |
| HEXANE (N-HEXANE)              | 115     | S         | 0.98          | 22                   | 116     |                | -         | -        | NE.         | 1,989            |
| M.P.XYLENE                     | 115     | 15        | 0.84          | 6.2                  | 116     | 17             | 0.38      | 6.91     | 5,069       | 161              |
| METHYL TERT-BUTYL ETHER (MTBE) | 115     | <b>*</b>  | 4.1           | 1,4                  | 116     | 0              | ND        | ON<br>ON | RE          | 2,216            |
| METHYLENE CHLORIDE             | 115     | 6         | 0.75          | 7.1                  | 116     | 42             | 0,49      | 51.84    | 3,966       | 113              |
| O-XYLENE                       | 115     | 2         | z. L          | 1.8                  | 116     | 9              | 0.49      | 2.09     | 5,069       | 191              |
| TETRACHLOROETHENE (PCE)        | 115     | ო         | 2.0           | 33                   | 116     | 7              | 0.3       | 35.39    | 2,950       | 5                |
| TETHAHYDROFURAN                | 115     | 38        | 0.76          | 3.2                  | 116     | -              |           | **       | NE          | SE               |
| TOLUENE                        | 115     | 53        | 0.72          | 41                   | 116     | 29             | 0.44      | 28.44    | 6,867       | 80               |
| TRICHLOROETHENE                | 1.5     | <b></b>   | 4.3           | 6,4                  | 116     | 0              | ON        | S        | NE          | ШZ               |
| TRICHLOROFLUOROMETHANE         | 115     | 14        | 1.6           | 22                   | 116     | 18             | 0.73      | 32.03    | Щ           | Ä<br>N           |
| TRIMETHYL PENTANE              | 115     | 60        | 0.86          | 4.4                  | 116     | **             |           | ;        | IJ.         | Ш                |
| VINYL ACETATE                  | 115     | 0         | ND            | ND                   | 116     | <del>, -</del> | 1.96      | 1.96     | 밀           | N<br>E           |

 <sup>=</sup> Detected above laboratory reporting limits
 Minimum and maximum are calculated from detected results only.
 ND = Not detected above laboratory reporting limits

<sup>--- =</sup> Not reported NE - Not established OEHHA RELs = Office of Environmental Health Hazard Assessment, Reference Exposure Levels

TABLE 4

## STATISTICAL SUMMARY OF CDM and 3TM ANALYTICAL RESULTS SOIL GAS SAMPLES - SEPTEMBER 2004 BEVERLY HILLS HIGH SCHOOL

|                                       |         | . С       | DM      |         |         | 3         | TM                                      |         |
|---------------------------------------|---------|-----------|---------|---------|---------|-----------|---|---------|
| VOLATILE ORGANIC COMPOUNDS            | No. of  | No. of    | dqq     | (v/v)   | No. of  | No. of    | ppb                                     | (v/v)   |
| (EPA Method TO-15)                    | Samples | Detects * |         |         | Samples | Detects*  |   |         |
|                                       | Campica | Detection | Minimum | Maximum | Campics | Delection | Minimum                                 | Maximum |
| 1,1,1-TRICHLOROETHANE                 | 162     | 7         | 0.46    | 350     | 209     | 3         | 36.70                                   | 306     |
| 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE | 162     | 2         | 0.63    | 8.7     | 209     | 1         | 0.20 .                                  | 0.2     |
| 1,2,4-TRIMETHYLBENZENE                | 162     | 59        | 0.62    | 55      | 209     | 11        | 0.40                                    | 81.4    |
| 1,2-DICHLOROETHANE                    | 162     | 2         | 0.20    | 2.1     | 209     | 0         | ND                                      | ND      |
| 1,3,5-TRIMETHYLBENZENE                | 162     | 26        | 0.41    | 17      | 209     | 5         | 1.30                                    | 34.6    |
| 1,3-BUTADIENE                         | 162     | 41        | 0.41    | 21      | 209     | 0         | ND                                      | ND      |
| 2-BUTANONE                            | 162     | 108       | 1.2     | 160     | 209     | 13        | 3.7                                     | 81.4    |
| 2-HEXANONE                            | 162     | 25        | 0.69    | 21      | 209     | 3         | 4.40                                    | 9.0     |
| 2-PROPANONE (ACETONE)                 | 162     | 123       | 9.0     | 1700    | 209     |           |   |         |
| 4-ETHYLTOLUENE                        | 162     | 54        | 0.40    | 86      | 209     | 8         | 1.50                                    | 24.4    |
| 4-METHYL-2-PENTANONE (MIBK)           | 162     | 20        | 0.49    | 16      | 209     | 0         | ND                                      | ND      |
| BENZENE                               | 162     | 104       | 0.44    | 410     | 209     | 95        | 1.60                                    | 814.0   |
| BROMODICHLOROMETHANE                  | 162     | 2         | 0.65    | 9.2     | 209     | 0         | ND                                      | ND      |
| BROMOMETHANE                          | 162     | 1         | 0.28    | 0.28    | 209     | 0         | ND                                      | ND      |
| BUTANE                                | 162     | 9         | 2.1     | 27      | 209     |           |   |         |
| CARBON DISULFIDE                      | 162     | 35        | 1.0     | 16      | 209     | 7         | 1.5                                     | 32.1    |
| CARBON TETRACHLORIDE                  | 162     | 4         | 0.20    | 37      | 209     | 0         | ND                                      | ND      |
| CHLOROFORM                            | 162     | 6         | 0.39    | 50      | 209     | 2         | 0.70                                    | 3.1     |
| CHLOROETHANE                          | 162     | 0         | ND      | ND      | 209     | 1         | 0.6                                     | 0.6     |
| CHLOROMETHANE                         | 162     | 23        | 0.49    | 3.2     | 209     | 0         | ND                                      | ND      |
| CIS-1,2-DICHLOROETHENE                | 162     | 2         | 6.9     | 8.1     | 209     | 0         | ND                                      | ND      |
| DICHLORODIFLUOROMETHANE               | 162     | 36        | 0.46    | 0.63    | 209     | 1         | 0.40                                    | 0.4     |
| ETHANOL                               | 162     | 10        | 4.4     | 40      | 209     |           |   | ***     |
| ETHYLBENZENE                          | 162     | 83        | 0.20    | 1400    | 209     | 21        | 1.20                                    | 1125.8  |
| HEPTANE                               | 162     | 10        | 1.2     | 20      | 209     |           |   |         |
| HEXANE (N-HEXANE)                     | 162     | 36        | 1.0     | 130     | 209     | ***       |   |         |
| M.P-XYLENE                            | 162     | 99        | 0.53    | 2400    | 209     | 20        | 2.40                                    | 3315.3  |
| METHYL TERT-BUTYL ETHER (MTBE)        | 162     | 1         | 4.3     | 4.3     | 209     |           |   |         |
| METHYLENE CHLORIDE                    | 162     | 6         | 0.21    | 0.46    | 209     | 0         | ND                                      | ND      |
| O-XYLENE                              | 162     | 85        | 0.24    | 970     | 209     | 19        | 1.60                                    | 1164.9  |
| PROPYLENE                             | 162     | 46        | 2.2     | 640     | 209     |           |   |         |
| STYRENE                               | 162     | 11        | 0.41    | 2700    | 209     | 2         | 0.60                                    | 0.8     |
| TETRACHLOROETHENE (PCE)               | 162     | 45        | 0.20    | 64      | 209     | 5         | 0.30                                    | 2.1     |
| TETRAHYDROFURAN                       | 162     | 10        | 1.2     | 3.9     | 209     |           | *************************************** |         |
| TOLUENE                               | 162     | 125       | 0.31    | 250     | 209     | 20        | 1.50                                    | 639.8   |
| TRICHLOROETHENE                       | 162     | 6         | 1.1     | 35      | 209     | 0         | ND                                      | ND      |
| TRICHLOROFLUOROMETHANE                | 162     | 7         | 0.40    | 4.8     | 209     | 0         | ND                                      | ND      |
| TRIMETHYL PENTANE                     | 162     | 2         | 1.4     | 7.2     | 209     |           |   |         |
| VINYL ACETATE                         | 162     | 0         | ND      | ND ND   | 209     | 1         | 8.0                                     | 8.0     |
| VINYL CHLORIDE                        | 162     | 1         | 0.56    | 0.56    | 209     | 0         | ND                                      | ND      |

<sup>\* =</sup> Detected above laboratory reporting limits

Minimum and maximum are calculated from detected results only

ND = Not detected above laboratory reporting limits

<sup>--- =</sup> Not reported

TABLE 5

# SUMMARY OF CDM AND 3TM ANALYTICAL RESULTS FOR METHANE IN SOIL GAS SAMPLES SEPTEMBER 2004 BEVERLY HILLS HIGH SCHOOL

| Location               | CDM Sample Depth | Methane Concentrations (ppmv) |          |  |  |  |
|------------------------|------------------|-------------------------------|----------|--|--|--|
| has be with a court of | (ft bgs)         | CDM Data                      | 3TM Data |  |  |  |
| SG-1-16                | 5                | 13                            |          |  |  |  |
| SG-1-25                | · 5              | 5.2                           |          |  |  |  |
| SG-1-68                | 5                | 15,000                        |          |  |  |  |
| SG-1-77                | 5                | 8,000                         | ****     |  |  |  |
| SG-1-78                | 10               | . 310,000                     | 1,931    |  |  |  |
| SG-1-82                | 5                | 4,100                         | 12,195   |  |  |  |
| SG-1-83                | 10               | 5.4                           | 22.4     |  |  |  |
| SG-1-85                | 5                | 10                            | 40.7     |  |  |  |
| SG-1-87                | 10               | 3.5J                          | 12.2     |  |  |  |
| SG-1-89                | 10               | 3.7J                          | 22.4     |  |  |  |
| SG-1-91                |                  | ***                           | 23.4     |  |  |  |
| SG-1-93                | 10               | ND                            | 13.2     |  |  |  |
| SG-1-97                | 10               | 4.6                           | 23.4     |  |  |  |
| SG-1-99                |                  |                               | 36.6     |  |  |  |
| SG-1-101               | 10               | 9.1                           | NA       |  |  |  |
| SG-1-103               | 10               | 12                            | 34.6     |  |  |  |
| SG-1-109               | 10               | 3.3J                          | 18.3     |  |  |  |
| SG-1-112               | 1                | ND                            | 21.3     |  |  |  |
| SG-1-113               | 10               | 32                            | 49.8     |  |  |  |
| SG-1-121               | 10               | 4.2                           | ND       |  |  |  |
| SG-1-125               |                  | <u> </u>                      | 37.6     |  |  |  |
| SG-1-129               | 1                | 2.1                           | ND       |  |  |  |
| SG-1-132               | 1                | 2.1                           | ND       |  |  |  |
| SG-1-137               | 1                | 2.7                           | ND       |  |  |  |
| SG-1-150               | 5                | ND                            | 20.3     |  |  |  |
| SG-1-177               | . 1              | 4.4                           | ND       |  |  |  |
| SG-1-182               | 15               | 1.6J                          | 46.8     |  |  |  |

### Notes:

CDM Samples analyzed using ASTM Method D1946

3TM samples analyzed using a FID connected to the field laboratory

It is assumed that 3TM samples report methane in  $\mu g/l$ 

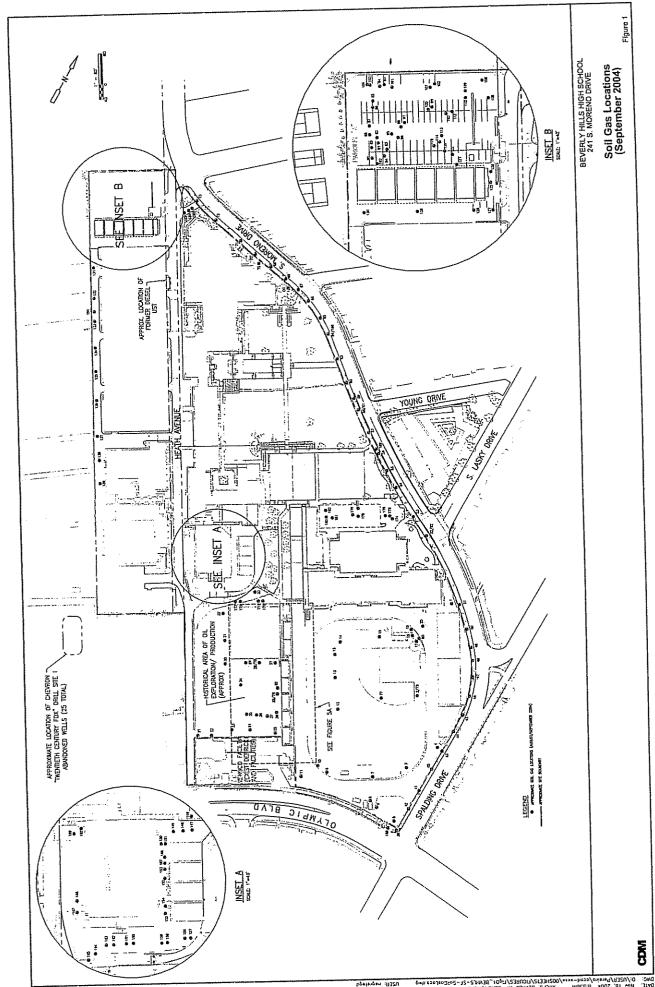
ppmv - parts per million by volume

U = Not detected at a concentration above the laboratory reporting limit shown

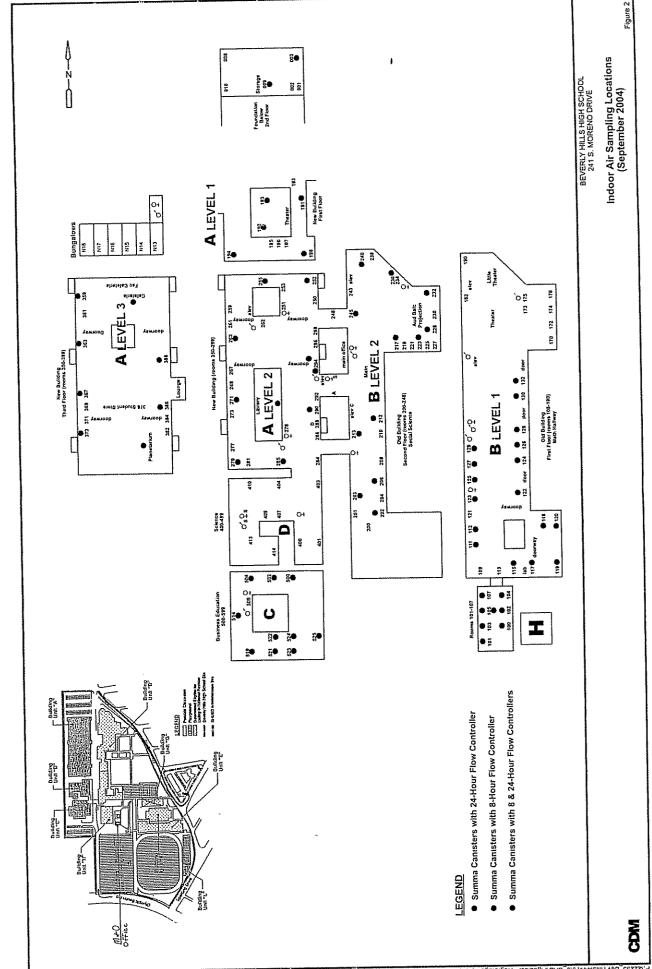
J= Detected at an estimated concentration between method detection and laboratory n ft bgs = Feet below ground surface

--- = Not analyzed or No sample collected from this location

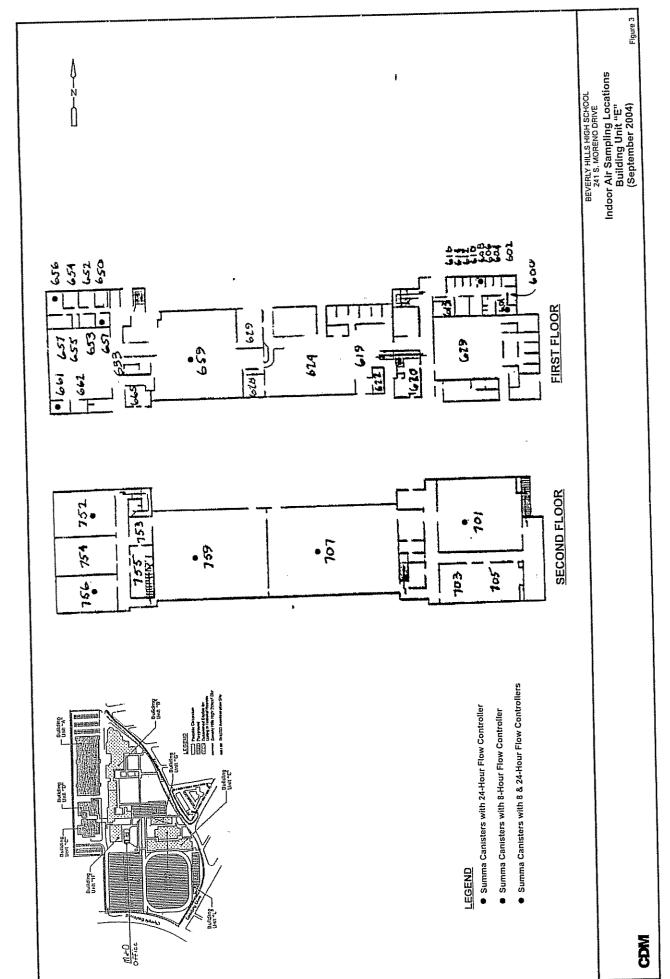
ND = Not detected



DMC: 0://DZEM/Prested/code=sees/002/#EZS/NCONES/NcD1\_BEVMS-51-50-Codesdoced-open-codesdoced-op



P.\22293\_Bay Hills\44479\0\_CAD\Fig02\_cdr - Negrolegd - 04(06)2005



PASSS93 Boy Hills/MAA7910 CADVF1g03, cdr - Negrolegd - 04/09/2005

