

**M e m o r a n d u m**

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**To:** Clark Eldredge, Fl. Dept. of Health  
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**From:** Robert P. DeMott, Ph.D., DABT, James L. Poole, Ph.D., CIH

**Date:** 22 December 2008

**Re:** Indoor Air Results Relating to Chinese Drywall

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As you know, Lennar Corporation and its affiliates (collectively, “Lennar”) retained ENVIRON International (“ENVIRON”) in connection with Lennar’s investigation into unusually high rates of air conditioning system (“HVAC”) evaporator coil failures in Southwest Florida. Through the course of this investigation, ENVIRON discovered that certain gypsum wallboard manufactured in China (the “Chinese drywall”) was emitting reduced sulfur (sulfide) gases capable of affecting copper HVAC coils. ENVIRON then conducted air sampling in affected homes identified by Lennar (the “affected homes”) in order to determine whether the levels of sulfide gases in indoor, room air were high enough to present potential health concerns.

Trained ENVIRON personnel collected these air samples from the affected homes in 1 L tedlar bags using a personal air sampling pump. ENVIRON collected these samples from conditioned indoor rooms - typically two per affected home, along with a coincident outdoor air sample and shipped the samples to an independent accredited laboratory, Air Toxics, Ltd., under chain of custody procedures. In order to achieve low part-per-billion detection limits, the laboratory analyzed these air samples using ASTM Method D-5504, which measures 18 reduced sulfur gases (e.g., sulfides, mercaptans, and thiophenes).

As you know, on 2 October 2008, ENVIRON briefed the Department of Health (the “Department”) and U.S. EPA on, among other things, the conditions in the affected homes. During this briefing, ENVIRON summarized the air sampling results obtained from the affected homes as of that date and presented its conclusion that there is no indication that the conditions identified in the affected homes would result in any adverse health outcomes. Attached for the Department’s review, please find a table summarizing the indoor air sampling results from 79 affected homes, along with the associated laboratory analytical reports.

Among the 79 affected homes sampled, three sulfide gases were detected – carbon disulfide, carbonyl sulfide, and dimethyl sulfide. Hydrogen sulfide, notable because it can be a product of the breakdown of other sulfide gases, was not detected in samples of room air from

any of the affected homes. Our previous studies indicate, however, that carbon disulfide, carbonyl sulfide and hydrogen sulfide are gases that can be associated with emissions from the Chinese drywall. The laboratory achieved reporting limits of 5.0 part per billion by volume (ppbv) for carbon disulfide, 4.0 ppbv for carbonyl sulfide, 4.0 ppbv for dimethyl sulfide, and 4.0 ppbv for hydrogen sulfide.

Carbon disulfide was reported to be detected in room air from 20 of the 79 residences. The average of the 20 reported indoor carbon disulfide levels (i.e., the mean of detected values, including duplicates) was 7.1 ppbv. The maximum indoor carbon disulfide level found was 13 ppbv. By way of comparison, the U.S. Dept. of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR) has established a level they deem to be safe for daily, chronic inhalation exposures to carbon disulfide at 300 ppbv (chronic MRL), and the U.S. EPA has derived a chronic value specifically considering potentially sensitive individuals (inhalation reference concentration) at 200 ppbv for carbon disulfide. Because carbon disulfide was not reported to be detected in the indoor air in most homes and the maximum reported level was well below the ATSDR and U.S. EPA guidelines, there is no indication that the levels of carbon disulfide identified in the affected homes would result in any adverse health outcomes.

Carbonyl sulfide was reported to be detected in room air from 7 of 79 residences. The average of the reported indoor carbonyl sulfide levels (i.e., the mean of detected values, including duplicates) was 8.6 ppbv. The maximum indoor carbonyl sulfide level found was 23 ppbv. According to the U.S. EPA, naturally occurring outdoor levels of carbonyl sulfide in marshy areas can range from 24-73 ppbv and levels near the ocean can range from 5.7-7.7 ppbv. While Carbonyl sulfide is not common for either occupational or environmental exposures and there are no ATSDR or EPA guidelines, review of the toxicological literature indicates that reported effects on humans in occupational incidents involved levels in the high part per million (ppm) range or above. While these studies do not establish the lower limit of potential effects from carbonyl sulfide, animal testing to find the lower limit has been conducted and the occurrence of the most sensitive effects required chronic inhalation exposures of 50 ppm (or 50,000 ppb). Because the highest reported indoor air level (23 ppbv) is more than two thousand-times less than the lowest levels shown to cause health effects and is well below the exposures that can occur from routine outdoor air, there is no indication that the levels of carbonyl sulfide identified in the affected homes would result in any adverse health outcomes.

Dimethyl sulfide was reported to be detected in only one home at an average level of 18.7 ppbv, in conjunction with obvious cooking odors during the sampling. Dimethyl sulfide is well recognized as a food-related compound, released from a variety of foods during cooking. Subsequent re-sampling at this home when no cooking odors were present resulted in dimethyl sulfide not being detected. Based on the results of the re-sampling, the obvious alternative

source, and the lack of any other sulfide gases in the samples from this home, we have concluded that this reported result for dimethyl sulfide was not related to emissions from Chinese drywall.

Hydrogen sulfide was not reported to be detected in any samples submitted for analysis. Based on an evaluation looking specifically at hydrogen sulfide levels in Florida, ATSDR set an acceptable long-term, chronic residential exposure level of 20 ppbv in 2007. Because the reporting limit achieved by the laboratory (4.0 ppbv) is well below this guideline, the result of no reported detections of hydrogen sulfide is an appropriate basis to conclude that there is no indication that the level of hydrogen sulfide in the affected homes would result in any adverse health outcomes.

If you have any questions about this study or the results, please call us at 813-628-4325.

Attachments: Table 1 – Summary of Results of Residential Sampling; Appendix A – Laboratory Reports

**Table 1- Summary of Results of Residential Sampling**

<b>Residence ID</b>	<b>Sample Number</b>	<b>Description</b>	<b>Carbon Disulfide (ppbv)<sup>1,2</sup></b>	<b>Carbonyl Sulfide (ppbv)<sup>1,3</sup></b>	<b>Dimethyl Sulfide (ppbv)<sup>1,4</sup></b>	<b>Hydrogen Sulfide (ppbv)<sup>1,5</sup></b>
001	061608-JLP-1	Master Bedroom	5.2	7.3	ND	ND
	061608-JLP-2	Kitchen	ND	5.3	ND	ND
	061608-JLP-5	Outdoor	ND	5.1	ND	ND
	061608-JLP-5a	Outdoor (Lab Duplicate)	ND	6.0	ND	ND
002	061608-JLP-3	Kitchen	ND	6.0	ND	ND
	061608-JLP-4	Master Bedroom	ND	4.9	ND	ND
003	052208-JLP-1	Second Floor Loft	5.3	ND	ND	ND
	052208-JLP-2	First Floor	ND	ND	ND	ND
	052208-JLP-3	Outdoor	ND	ND	ND	ND
004	052208-JLP-4	Kitchen/Family Room Area	ND	ND	ND	ND
	052208-JLP-5	Guest Bedroom	ND	ND	ND	ND
	052208-JLP-6	Outdoor	ND	ND	ND	ND
005	062608-JLP-C1	Kitchen/ Family Room	13.0	23.0	ND	ND
	062608-JLP-C1a	Kitchen/ Family Room (Lab Duplicate)	ND	7.4	ND	ND
	062608-JLP-C2	Second Floor Loft	11.0	15.0	ND	ND
	062608-JLP-C2a	Second Floor Loft (Lab Duplicate)	ND	6.1	ND	ND
	062608-JLP C3	Outdoor	11.0	13.0	ND	ND
	062608-JLP C3a	Outdoor (Lab Duplicate)	ND	5.8	ND	ND
006	080408-JLP-D1	Second Floor Game Room	5.0	ND	ND	ND
	080408-JLP-D2	Kitchen	ND	ND	ND	ND
	080408-JLP-D3	Outdoor	ND	ND	ND	ND
007	080708-JLP-G1	Living Room	ND	ND	ND	ND
	080708-JLP-G2	Master Bedroom	ND	ND	ND	ND
	080708-JLP-G3	Outdoor	ND	ND	ND	ND
008	080408-JLP-K1	Kitchen	ND	ND	ND	ND
	080408-JLP-K2	Second Floor Bonus Room	ND	ND	ND	ND

Residence ID	Sample Number	Description	Carbon Disulfide (ppbv) <sup>1,2</sup>	Carbonyl Sulfide (ppbv) <sup>1,3</sup>	Dimethyl Sulfide (ppbv) <sup>1,4</sup>	Hydrogen Sulfide (ppbv) <sup>1,5</sup>
	080408-JLP-K3	Outdoor	ND	ND	ND	ND
009	070808-JLP-P1	Kitchen	ND	ND	ND	ND
	070808-JLP-P1a	Kitchen (Lab Duplicate)	ND	ND	ND	ND
	070808-JLP-P1b	Kitchen	ND	ND	ND	ND
	070808-JLP-P2	Master Bathroom	ND	ND	ND	ND
	070808-JLP-P2a	Master Bathroom (Lab Duplicate)	ND	ND	ND	ND
	070808-JLP-P2b	Master Bathroom (Lab Duplicate)	ND	ND	ND	ND
	070808-JLP-P3	Outdoor	ND	ND	ND	ND
	070808-JLP-P3a	Outdoor	ND	ND	ND	ND
010	061208-JLP-1	Kitchen	ND	15.0	ND	ND
	061208-JLP-2	Second Floor Loft	ND	8.5	ND	ND
011	062608-JLP-R1	Kitchen/Family Room Area	9.0	10.0	ND	ND
	062608-JLP-R1a	Kitchen/Family Room Area (Lab Duplicate)	ND	5.2	ND	ND
	062608-JLP-R2	Second Floor Loft	7.7	12.0	ND	ND
	062608-JLP-R2a	Second Floor Loft (Lab Duplicate)	ND	4.7	ND	ND
	062608-JLP-R3	Outdoor	11.0	13.0	ND	ND
	062608-JLP-R3a	Outdoor	ND	4.3	ND	ND
012	080608-JLP-R1	Second Floor Bonus Room	5.4	ND	ND	ND
	080608-JLP-R2	Family Room/ Kitchen	ND	ND	ND	ND
	080608-JLP-R3	Outdoor	ND	ND	ND	ND
013	081208-JLP-W1	Second Floor Loft	ND	ND	ND	ND
	081208-JLP-W2	Master Bedroom	ND	ND	ND	ND
	081208-JLP-W3	Outdoor	ND	ND	ND	ND
014	080708-JLP-T1	Second Floor Loft	ND	ND	ND	ND
	080708-JLP-T1a	Second Floor Loft (Lab Duplicate)	ND	ND	ND	ND
	080708-JLP-T2	Kitchen/Living Room	ND	ND	ND	ND
	080708-JLP-T3	Outdoor	ND	ND	ND	ND
015	061108-JLP-1	Kitchen/Living Room	7.1	6.1	ND	ND
	061108-JLP-2	Master Bathroom	5.1	ND	ND	ND

Residence ID	Sample Number	Description	Carbon Disulfide (ppbv) <sup>1,2</sup>	Carbonyl Sulfide (ppbv) <sup>1,3</sup>	Dimethyl Sulfide (ppbv) <sup>1,4</sup>	Hydrogen Sulfide (ppbv) <sup>1,5</sup>
	061108-JLP-2a	Master Bedroom (Lab Duplicate)	6.3	4.7	ND	ND
	061108-JLP-5	Outdoor	ND	ND	ND	ND
016	061108-JLP-4	Kitchen/ Living Room	6.6	4.3	ND	ND
	061108-JLP-5	Outdoor	ND	ND	ND	ND
017	070808-JLP-D1	Kitchen/ Living Room	ND	ND	ND	ND
	070808-JLP-D1a	Kitchen/Living Room (Lab Duplicate)	ND	ND	ND	ND
	070808-JLP-D1b	Kitchen/Living Room (Lab Duplicate)	ND	ND	ND	ND
	070808-JLP-D2	Second Floor Loft	ND	ND	ND	ND
	070808-JLP-D2a	Second Floor Loft (Lab Duplicate)	ND	ND	ND	ND
	070808-JLP-D3	Outdoor	ND	ND	ND	ND
	070808-JLP-D3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND
018	081308-JLP-R1	Kitchen	6.2	ND	ND	ND
	081308-JLP-R2	Master Bedroom	6.9	ND	ND	ND
	081308-JLP-R3	Outdoor	ND	ND	ND	ND
019	081408-JLP-G1	Kitchen	ND	ND	ND	ND
	081408-JLP-G2	Second Floor Loft	ND	ND	ND	ND
	081408-JLP-G3	Outdoor	ND	ND	ND	ND
020	081808-JLP-C1	Kitchen	5.9	ND	ND	ND
	081808-JLP-C2	Master Bedroom	5.5	ND	ND	ND
	081808-JLP-C3	Outdoor	ND	ND	ND	ND
021	082008-JLP-S1	Second Floor Loft	ND	ND	ND	ND
	082008-JLP-S2	Kitchen/Family Room Area	5.7	ND	ND	ND
	082008-JLP-S3	Outdoor	ND	ND	ND	ND
022	082108-JLP-L1	Kitchen	ND	ND	ND	ND
	082108-JLP-L2	Second Floor Loft	ND	ND	ND	ND
	082108-JLP-L3	Outdoor	ND	ND	ND	ND
	082108-JLP-L3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND
023	082108-JLP-G1	Kitchen	ND	ND	ND	ND
	082108-JLP-G2	Second Floor Master Bedroom	ND	ND	ND	ND

Residence ID	Sample Number	Description	Carbon Disulfide (ppbv) <sup>1,2</sup>	Carbonyl Sulfide (ppbv) <sup>1,3</sup>	Dimethyl Sulfide (ppbv) <sup>1,4</sup>	Hydrogen Sulfide (ppbv) <sup>1,5</sup>
	082108-JLP-G3	Outdoor	ND	ND	ND	ND
024	082508-JLP-M1	Kitchen	7.5	ND	ND	ND
	082508-JLP-M2	Second Floor Loft	7.3	ND	ND	ND
	082508-JLP-M3	Outdoor	ND	ND	ND	ND
025	082508-JLP-1	Kitchen	6.9	ND	ND	ND
	082508-JLP-1a	Kitchen (Lab Duplicate)	6.3	ND	ND	ND
	082508-JLP-2	Second Floor Loft	6.3	ND	ND	ND
	082508-JLP-3	Outdoor	ND	ND	ND	ND
026	082708-JLP-S1	Kitchen	ND	ND	19.0	ND
	082708-JLP-S1a	Kitchen (Lab Duplicate)	ND	ND	19.0	ND
	082708-JLP-S2	Master Bedroom	ND	ND	18.0	ND
	082808-JLP-S3	Outdoor	ND	ND	ND	ND
	110408-S1	Kitchen/Dining Area	ND	ND	ND	ND
	110408-S2	Master Bedroom	ND	ND	ND	ND
	110408-S3	Outdoor	ND	ND	ND	ND
	110408-S3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND
027	082708-JLP-H1	Kitchen	5.0	ND	ND	ND
	082708-JLP-H2	Master Bedroom	ND	ND	ND	ND
	082708-JLP-H3	Outdoor	ND	ND	ND	ND
028	090308-JLP-B1	Kitchen	13.0	ND	ND	ND
	090308-JLP-B2	Master Bathroom	12.0	ND	ND	ND
	090308-JLP-B3	Outdoor	ND	ND	ND	ND
029	090408-JLP-S1	Kitchen/Family Room	ND	ND	ND	ND
	090408-JLP-S2	Master Bathroom	ND	ND	ND	ND
	090408-JLP-S3	Outdoor	ND	ND	ND	ND
030	090408-JLP-A1	Kitchen/Family Room	5.6	ND	ND	ND
	090408-JLP-A2	Second Floor Bonus Room	ND	ND	ND	ND
	090408-JLP-A3	Outdoor	ND	ND	ND	ND
	090408-JLP-A3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND

Residence ID	Sample Number	Description	Carbon Disulfide (ppbv) <sup>1,2</sup>	Carbonyl Sulfide (ppbv) <sup>1,3</sup>	Dimethyl Sulfide (ppbv) <sup>1,4</sup>	Hydrogen Sulfide (ppbv) <sup>1,5</sup>
031	090808-JLP-W1	Family Room Area	9.9	ND	ND	ND
	090808-JLP-W2	Second Floor Loft	9.9	ND	ND	ND
	090808-JLP-W3	Outdoor	ND	ND	ND	ND
	090808-JLP-W3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND
032	090808-JLP-I3	Kitchen/Family Room	5.7	ND	ND	ND
	090808-JLP-I2	Second Floor Master Bedroom	7.1	ND	ND	ND
	090808-JLP-I3	Outdoor	ND	ND	ND	ND
033	090908-JLP-K1	Family Room	ND	ND	ND	ND
	090908-JLP-K2	Master Bedroom	ND	ND	ND	ND
	090908-JLP-K3	Outdoor	ND	ND	ND	ND
034	091008-JLP-C1	Family Room	5.3	ND	ND	ND
	091008-JLP-C2	Master Bedroom	5.0	ND	ND	ND
	091008-JLP-C3	Outdoor	ND	ND	ND	ND
035	091008-JLP-S1	Kitchen	ND	ND	ND	ND
	091008-JLP-S2	Master Bedroom	ND	ND	ND	ND
	091008-JLP-S3	Outdoor	ND	ND	ND	ND
036	091608-JLP-P1	Dining Room	ND	ND	ND	ND
	091608-JLP-P2	Master Bedroom	ND	ND	ND	ND
	091608-JLP-P3	Outdoor	ND	ND	ND	ND
037	091608-JLP-E1	Dining Room/Kitchen	ND	ND	ND	ND
	091608-JLP-E1a	Dining Room/Kitchen (Lab Duplicate)	ND	ND	ND	ND
	091608-JLP-E2	Master Bedroom	ND	ND	ND	ND
	091608-JLP-E3	Outdoor	ND	ND	ND	ND
038	091708-JLP-N1	Kitchen/Dining Room	5.0	ND	ND	ND
	091708-JLP-N2	Second Floor Loft	ND	ND	ND	ND
	091708-JLP-N3	Outdoor	ND	ND	ND	ND
039	091708-JLP-C1	Kitchen/Dining Room	ND	ND	ND	ND
	091708-JLP-C2	Second Floor Loft	ND	ND	ND	ND
	091708-JLP-C3	Outdoor	ND	ND	ND	ND

Residence ID	Sample Number	Description	Carbon Disulfide (ppbv) <sup>1,2</sup>	Carbonyl Sulfide (ppbv) <sup>1,3</sup>	Dimethyl Sulfide (ppbv) <sup>1,4</sup>	Hydrogen Sulfide (ppbv) <sup>1,5</sup>
040	100208-AL-W1	Kitchen/Dining Area	ND	ND	ND	ND
	100208-AL-W2	Master Bedroom	ND	ND	ND	ND
	100208-AL-W3	Outdoor	ND	ND	ND	ND
041	092508-AL-W1	Kitchen /Den Area	ND	ND	ND	ND
	092508-AL-W2	Second Floor Master Bedroom	ND	ND	ND	ND
	092508-AL-W3	Outdoor	ND	ND	ND	ND
	092508-AL-W3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND
042	092908-AL-M1	Kitchen Area	ND	ND	ND	ND
	092908-AL-M2	Master Bedroom	ND	ND	ND	ND
	092908-AL-M3	Outdoor	ND	ND	ND	ND
043	093008-AL-C1	Kitchen/Dining Area	ND	ND	ND	ND
	093008-AL-C2	Second Floor Master Bedroom	ND	ND	ND	ND
	093008-AL-C3	Outdoor	ND	ND	ND	ND
	093008-AL-C3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND
044	093008-AL-V1	Kitchen/Dining Area	ND	ND	ND	ND
	093008-AL-V2	Second Floor Master Bedroom	ND	ND	ND	ND
	093008-AL-V3	Outdoor	ND	ND	ND	ND
045	1000108-AL-D1	Kitchen/Den Area	ND	ND	ND	ND
	1000108-AL-D2	Second Floor Loft	ND	ND	ND	ND
	1000108-AL-D3	Outdoor	ND	ND	ND	ND
046	100108-AL-G1	Kitchen/Den Area	ND	ND	ND	ND
	100108-AL-G2	Second Floor Master Bedroom	ND	ND	ND	ND
	100108-AL-G3	Outdoor	ND	ND	ND	ND
047	100208-AL-S1	Living/Dining Area	ND	ND	ND	ND
	100208-AL-S2	Second Floor Master Bedroom	ND	ND	ND	ND
	100208-AL-S3	Outdoor	ND	ND	ND	ND
048	100608-AL-V1	Kitchen/Dining Area	ND	ND	ND	ND
	100608-AL-V2	Second Floor Master Bedroom	ND	ND	ND	ND
	100608-AL-V3	Outdoor	ND	ND	ND	ND

Residence ID	Sample Number	Description	Carbon Disulfide (ppbv) <sup>1,2</sup>	Carbonyl Sulfide (ppbv) <sup>1,3</sup>	Dimethyl Sulfide (ppbv) <sup>1,4</sup>	Hydrogen Sulfide (ppbv) <sup>1,5</sup>
049	100608-AL-T1	Kitchen/Dining Area	ND	ND	ND	ND
	100608-AL-T2	Second Floor Master Bedroom	ND	ND	ND	ND
	100608-AL-T3	Outdoor	ND	ND	ND	ND
050	100708-A1	Kitchen/Dining Area	ND	ND	ND	ND
	100708-A2	Second Floor Master Bedroom	ND	ND	ND	ND
	100708-A3	Outdoor	ND	ND	ND	ND
051	100708-H1	Kitchen/Dining Area	ND	ND	ND	ND
	100708-H2	Second Floor Loft	ND	ND	ND	ND
	100708-H3	Outdoor	ND	ND	ND	ND
052	100808-H1	Kitchen/Dining Area	ND	ND	ND	ND
	100808-H2	Master Bedroom	ND	ND	ND	ND
	100808-H3	Outdoor	ND	ND	ND	ND
	120808-H1	Kitchen/Dining Area	ND	ND	ND	ND
	120808-H2	Master Bedroom	ND	ND	ND	ND
	120808-H3	Outdoor	ND	ND	ND	ND
	120808-H3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND
053	100808-Z1	Kitchen Area	ND	ND	ND	ND
	100808-Z2	Master Bedroom	ND	ND	ND	ND
	100808-Z3	Outdoor	ND	ND	ND	ND
054	101608-B1	Kitchen/Dining Area	ND	ND	ND	ND
	101608-B2	Second Floor Loft	ND	ND	ND	ND
	101608-B3	Outdoor	ND	ND	ND	ND
055	101608-H1	Kitchen/Dining Area	ND	ND	ND	ND
	101608-H2	Second Floor Loft	ND	ND	ND	ND
	101608-H3	Outdoor	ND	ND	ND	ND
056	102108-A1	Kitchen/ Dining Area	ND	ND	ND	ND
	102108-A2	Second Floor Master Bedroom	ND	ND	ND	ND
	102108-A3	Outdoor	ND	ND	ND	ND
057	102108-H1	Kitchen/Dining Area	ND	ND	ND	ND

Residence ID	Sample Number	Description	Carbon Disulfide (ppbv) <sup>1,2</sup>	Carbonyl Sulfide (ppbv) <sup>1,3</sup>	Dimethyl Sulfide (ppbv) <sup>1,4</sup>	Hydrogen Sulfide (ppbv) <sup>1,5</sup>
	102108-H2	Second Floor Master Bedroom	ND	ND	ND	ND
	102108-H3	Outdoor	ND	ND	ND	ND
	102108-H3a	Lab Dup	ND	ND	ND	ND
058	102208-Z1	Kitchen/Dining Area	ND	ND	ND	ND
	102208-Z2	Second Floor Master Bedroom	ND	ND	ND	ND
	102208-Z3	Outdoor	ND	ND	ND	ND
059	102208-M1	Kitchen/Dining Area	ND	ND	ND	ND
	102208-M2	Second Floor Loft	ND	ND	ND	ND
	102208-M3	Outdoor	ND	ND	ND	ND
060	102308-K1	Living/Dining Area	ND	ND	ND	ND
	102308-K2	Master Bedroom	ND	ND	ND	ND
	102308-K3	Outdoor	ND	ND	ND	ND
061	102708-J1	Kitchen/Dining Area	ND	ND	ND	ND
	102708-J2	Second Floor Master Bedroom	ND	ND	ND	ND
	102708-J3	Outdoor	ND	ND	ND	ND
062	102708-B1	Kitchen/Dining Area	ND	ND	ND	ND
	102708-B2	Second Floor Loft	ND	ND	ND	ND
	102708-B3	Outdoor	ND	ND	ND	ND
063	10/28/08-S1	Kitchen/Dining Area	ND	ND	ND	ND
	10/28/08-S2	Master Bedroom	ND	ND	ND	ND
	10/28/08-S3	Outdoor	ND	ND	ND	ND
064	102808-A1	Kitchen Area	ND	ND	ND	ND
	102808-A2	Second Floor Loft	ND	ND	ND	ND
	102808-A3	Outdoor	ND	ND	ND	ND
	102808-A3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND
065	103008-B1	Kitchen/Dining Area	ND	ND	ND	ND
	103008-B2	Second Floor Loft	ND	ND	ND	ND
	103008-B3	Outdoor	ND	ND	ND	ND
066	103008-W1	Kitchen/Dining Area	ND	ND	ND	ND

Residence ID	Sample Number	Description	Carbon Disulfide (ppbv) <sup>1,2</sup>	Carbonyl Sulfide (ppbv) <sup>1,3</sup>	Dimethyl Sulfide (ppbv) <sup>1,4</sup>	Hydrogen Sulfide (ppbv) <sup>1,5</sup>
	103008-W1a	Kitchen/Dining area (Lab Duplicate)	ND	ND	ND	ND
	103008-W2	Second Floor Loft	ND	ND	ND	ND
	103008-W3	Outdoor	ND	ND	ND	ND
067	110308-K1	Second Floor Loft	ND	ND	ND	ND
	110308-K2	Kitchen/Dining Area	ND	ND	ND	ND
	110308-K3	Outdoor	ND	ND	ND	ND
	110308-K3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND
068	110408-D1	Kitchen/Dining Area	ND	ND	ND	ND
	110408-D2	Master Bedroom	ND	ND	ND	ND
	110408-D3	Outdoor	ND	ND	ND	ND
069	110508-F1	Kitchen/Dining Area	ND	ND	ND	ND
	110508-F2	Master Bedroom	ND	ND	ND	ND
	110508-F3	Outdoor	ND	ND	ND	ND
070	110608-S1	Kitchen	ND	ND	ND	ND
	110608-S2	Second Floor Loft	ND	ND	ND	ND
	110608-S3	Outdoor	ND	ND	ND	ND
	110608-S3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND
071	111008-M1	Kitchen/Dining Area	ND	ND	ND	ND
	111008-M2	Second Floor Loft	ND	ND	ND	ND
	111008-M3	Outdoor	ND	ND	ND	ND
072	111808-K1	Kitchen/Dining Area	ND	ND	ND	ND
	111808-K2	Second Floor Loft	ND	ND	ND	ND
	111808-K3	Outdoor	ND	ND	ND	ND
073	111908-K1	Kitchen/Dining Area	ND	ND	ND	ND
	111908-K2	Second Floor Loft Area	ND	ND	ND	ND
	111908-K3	Outdoor	ND	ND	ND	ND
074	111908-R1	Kitchen/Dining Area	ND	ND	ND	ND
	111908-R2	Second Floor Loft	ND	ND	ND	ND
	111908-R3	Outdoor	ND	ND	ND	ND

Residence ID	Sample Number	Description	Carbon Disulfide (ppbv) <sup>1,2</sup>	Carbonyl Sulfide (ppbv) <sup>1,3</sup>	Dimethyl Sulfide (ppbv) <sup>1,4</sup>	Hydrogen Sulfide (ppbv) <sup>1,5</sup>
	111908-R3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND
075	112008-B1	Kitchen/Dining Area	ND	ND	ND	ND
	112008-B2	Master Bedroom	ND	ND	ND	ND
	112008-B3	Outdoor	ND	ND	ND	ND
076	112508-H1	Kitchen/Dining Area	ND	ND	ND	ND
	112508-H2	Second Floor Loft	ND	ND	ND	ND
	112508-H3	Outdoor	ND	ND	ND	ND
077	120908-C1	Kitchen/Dining Area	ND	ND	ND	ND
	120908-C2	Second Floor Loft Area	ND	ND	ND	ND
	120908-C3	Outdoor	ND	ND	ND	ND
	120908-C3a	Outdoor (Lab Duplicate)	ND	ND	ND	ND
078	121008-W1	Kitchen Area	ND	ND	ND	ND
	121008-W2	Master Bedroom	ND	ND	ND	ND
	121008-W3	Outdoor	ND	ND	ND	ND
079	121108-W1	Kitchen/Dining Area	ND	ND	ND	ND
	121108-W2	Master Bedroom	ND	ND	ND	ND
	121108-W3	Outdoor	ND	ND	ND	ND

<sup>1</sup> Samples analyzed by Air Toxics, Ltd. using ASTM method D-5504

<sup>2</sup> Reporting limit= 5.0 ppbv

<sup>3</sup> Reporting limit= 4.0 ppbv

<sup>4</sup> Reporting limit= 4.0 ppbv

<sup>5</sup> Reporting limit= 4.0 ppbv

ppbv= part per billion by volume

ND= Not Detected