



Pennsylvania Department of Environmental Protection

2 East Main Street  
Norristown, PA 19401  
January 28, 2005

Southeast Regional Office

Phone: 484-250-5960  
Fax: 484-250-5961

██████████  
97 Village Way  
Malvern, PA 19355

Re: Indoor Air Sampling Results

Dear ██████████

The Pennsylvania Department of Environmental Protection (Department) has received results from our January 20 air sampling at your home. The Department collected one sample from inside the basement and another from outside, near a basement window. I have enclosed copies of the laboratory results for your reference. Each lab report is accompanied by a page explaining the qualifiers, shown in parentheses with the results. I have also prepared two tables to highlight the detections of volatile organic compounds. Both tables show only the compounds, which were detected by the laboratory in two units of measure (parts per billion volume (ppbv) and milligrams per cubic meter ( $\text{mg}/\text{m}^3$ )). Compounds detected in groundwater at the Bishop Tube site are shown in bold text. The table for the indoor sampling includes the Department's standards for indoor air quality. These standards are published in  $\text{mg}/\text{m}^3$ , hence the need for the unit conversion in my table.

The Department has reviewed the indoor air sampling results, and determined that none of the detected compounds are present at levels exceeding our standards for indoor air quality, established under our regulations. A comparison of the data with draft U.S. Environmental Protection Agency (EPA) guidance for indoor air quality also revealed no contaminant levels exceeding the EPA standards.

Thank you for providing us with an opportunity to evaluate this important pathway of concern in your home. If you have any questions or concerns regarding these results, please feel free to contact me at 484-250-5723.

Sincerely,

Dustin A. Armstrong  
Project Officer  
Environmental Cleanup

Enclosures

cc: Mr. Sheehan  
Mr. Horvat  
Mr. Sinding  
Mr. Feola  
Mr. Buterbaugh  
Re 30 (GJE05)028-12





## Bishop Tube IAQ Sampling

1/20/05

Indoor Air

	SAMPLE RESULTS		DEP STANDARD
	(ppbv)	(mg/m <sup>3</sup> )	(mg/m <sup>3</sup> )
n-Heptane	0.43	0.001763	none
Cyclohexane	0.12	0.000413	none
Toluene	2.9	0.010929	0.56
m/p-Xylene	0.96	0.004168	0.14
<b>Tetrachloroethene</b>	<b>0.087</b>	<b>0.00059</b>	<b>0.036</b>
Propene	4.2	0.007228	none
1-Ethyl-4-methylbenzene	0.21	0.001015	none
Carbon Disulfide	0.82	0.002554	0.97
Methylene Chloride	0.15	0.000521	0.044
Chloromethane	0.42	0.000867	none
o-Xylene	0.34	0.001476	0.14
<b>Methyl Tert-Butyl Ether</b>	<b>3.5</b>	<b>0.012619</b>	<b>0.081</b>
Benzene	0.51	0.001629	0.0027
1,1,2-Trichlorotrifluoroethane	0.065	0.000498	42
<b>Carbon Tetrachloride</b>	<b>0.087</b>	<b>0.000547</b>	<b>0.0014</b>
<b>1,1,1-Trichloroethane</b>	<b>0.06</b>	<b>0.000327</b>	<b>2.9</b>
Ethylbenzene	0.28	0.001216	0.019
<b>1,2-Dichloroethane</b>	<b>0.047</b>	<b>0.00019</b>	<b>0.00081</b>
MEK	1.4	0.004129	1.4
1,3,5-Trimethylbenzene	0.22	0.001081	0.28
1,2,4-Trimethylbenzene	0.65	0.003196	0.02
Dichlorodifluoromethane	0.46	0.002275	0.24
Acetone	8.9	0.021142	43
n-Hexane	1.1	0.003877	0.28
<b>Trichloroethene</b>	<b>0.099</b>	<b>0.000532</b>	<b>0.012</b>
Trichlorofluoromethane	0.31	0.001742	none

Bishop Tube Site  
IAQ Sampling  
1/20/05

Outdoor (Ambient) Sample

Chemical	SAMPLE RESULTS	
	(ppbv)	(mg/m <sup>3</sup> )
n-Heptane	0.087	0.000357
Toluene	0.51	0.001922
m/p-Xylene	0.14	0.000608
Propene	3.5	0.006024
Methylene Chloride	0.12	0.000417
Chloromethane	0.54	0.001115
MTBE	1.6	0.005769
Benzene	0.37	0.001182
1,1,2-Trichlorotrifluoroethane	0.072	0.000552
Carbon Tetrachloride	0.073	0.000459
Ethylbenzene	0.05	0.000217
MEK	0.36	0.001062
Dichlorodifluoromethane	0.49	0.002423
Acetone	2.2	0.005226
n-Hexane	0.44	0.001551
Trichlorofluoromethane	0.24	0.001348

Sample ID: 2128 001 01/20/2005 Status: COMPLETED

Collector: Dustin Armstrong  
Collected: 01/20/2005 09:34:00 AMCounty: Chester State: PA  
Municipality: East WhitelandLocation: 97 Village Way - Basement  
Reason: Routine SamplingLaboratory Sample ID: O2005000230 COMPLETED  
Suite: VOA-6

Legal Seal: C023318 Intact: YES

Test/CAS# - Description	Reported Results	Completed
142825 n-Heptane	0.43 PPBV	01/21/2005
110827 Cyclohexane	0.12 PPBV (J)	01/21/2005
108883 Toluene	2.9 PPBV	01/21/2005
100425 Styrene	0.53 PPBV (U)	01/21/2005
108907 Chlorobenzene	0.20 PPBV (U)	01/21/2005
108383 m/p-Xylene	0.96 PPBV	01/21/2005
127184 Tetrachloroethene	0.087 PPBV (J)	01/21/2005
156605 trans-1,2-Dichloroethene	0.20 PPBV (U)	01/21/2005
106934 1,2-Dibromoethane	0.20 PPBV (U)	01/21/2005
109999 Tetrahydrofuran	0.19 PPBV (U)	01/21/2005
75014 Chloroethene	0.20 PPBV (U)	01/21/2005
75274 Bromodichloromethane	0.20 PPBV (U)	01/21/2005
115071 Propene	4.2 PPBV	01/21/2005
622968 1-Ethyl-4-methylbenzene	0.21 PPBV (J)	01/21/2005
120821 1,2,4-Trichlorobenzene	0.50 PPBV (U)	01/21/2005
75150 Carbon Disulfide	0.82 PPBV	01/21/2005
108101 MIBK	0.12 PPBV (J)	01/21/2005
75092 Methylene Chloride	0.15 PPBV (J)	01/21/2005
75343 1,1-Dichloroethane	0.20 PPBV (U)	01/21/2005
74873 Chloromethane	0.42 PPBV	01/21/2005
74839 Bromomethane	0.20 PPBV (U)	01/21/2005
95476 o-Xylene	0.34 PPBV	01/21/2005
1634044 Methyl Tert-Butyl Ether	3.5 PPBV	01/21/2005
71432 Benzene	0.51 PPBV	01/21/2005
591786 2-Hexanone	1.0 PPBV (U)	01/21/2005
156592 cis-1,2-Dichloroethene	0.20 PPBV (U)	01/21/2005
10061015 cis-1,3-Dichloropropene	0.19 PPBV (U)	01/21/2005
76131 1,1,2-Trichlorotrifluoroethane	0.065 PPBV (J)	01/21/2005
67663 Chloroform	0.20 PPBV (U)	01/21/2005
56235 Carbon Tetrachloride	0.087 PPBV (J)	01/21/2005

□

Sample ID: 2128 001 01/20/2005

Status: COMPLETED

Test/CAS# - Description	Reported Results	Completed
71556 1,1,1-Trichloroethane	0.060 PPBV (J)	01/21/2005
100414 Ethylbenzene	0.28 PPBV	01/21/2005
79005 1,1,2-Trichloroethane	0.20 PPBV (U)	01/21/2005
87683 Hexachlorobutadiene	0.20 PPBV (U)	01/21/2005
78875 1,2-Dichloropropane	0.20 PPBV (U)	01/21/2005
107062 1,2-Dichloroethane	0.047 PPBV (J)	01/21/2005
78933 MEK	1.4 PPBV	01/21/2005
124481 Dibromochloromethane	0.20 PPBV (U)	01/21/2005
108678 1,3,5-Trimethylbenzene	0.22 PPBV	01/21/2005
10061026 trans-1,3-Dichloropropene	0.19 PPBV (U)	01/21/2005
95636 1,2,4-Trimethylbenzene	0.65 PPBV	01/21/2005
75718 Dichlorodifluoromethane	0.46 PPBV	01/21/2005
67641 Acetone	8.9 PPBV	01/21/2005
110543 n-Hexane	1.1 PPBV	01/21/2005
76142 1,2-Dichlorotetrafluoroethane	0.20 PPBV (U)	01/21/2005
79016 Trichloroethene	0.099 PPBV (J)	01/21/2005
75354 1,1-Dichloroethene	0.20 PPBV (U)	01/21/2005
75003 Chloroethane	0.20 PPBV (U)	01/21/2005
106990 1,3-Butadiene	0.20 PPBV (U)	01/21/2005
79345 1,1,2,2-Tetrachloroethane	0.20 PPBV (U)	01/21/2005
75252 Bromoform	0.50 PPBV (U)	01/21/2005
95501 1,2-Dichlorobenzene	0.20 PPBV (U)	01/21/2005
75694 Trichlorofluoromethane	0.31 PPBV	01/21/2005
106467 1,4-Dichlorobenzene	0.20 PPBV (U)	01/21/2005
541731 1,3-Dichlorobenzene	0.20 PPBV (U)	01/21/2005

Sample ID: 2128 002 01/20/2005

Status: COMPLETED

Collector: Dustin Armstrong  
Collected: 01/20/2005 09:57:00 AMCounty: Chester  
Municipality: East Whiteland

State: PA

Location: 97 Village Way - Outdoor (Ambient)  
Reason: Routine SamplingLaboratory Sample ID: O2005000231  
Suite: VOA-6

COMPLETED

Legal Seal: C023319 Intact: YES

Test/CAS# - Description	Reported Results	Completed
142825 n-Heptane	0.087 PPBV (J)	01/21/2005
110827 Cyclohexane	0.20 PPBV (U)	01/21/2005
108883 Toluene	0.51 PPBV	01/21/2005
100425 Styrene	0.53 PPBV (U)	01/21/2005
108907 Chlorobenzene	0.20 PPBV (U)	01/21/2005
108383 m/p-Xylene	0.14 PPBV (J)	01/21/2005
127184 Tetrachloroethene	0.20 PPBV (U)	01/21/2005
156605 trans-1,2-Dichloroethene	0.20 PPBV (U)	01/21/2005
106934 1,2-Dibromoethane	0.20 PPBV (U)	01/21/2005
109999 Tetrahydrofuran	0.19 PPBV (U)	01/21/2005
75014 Chloroethene	0.20 PPBV (U)	01/21/2005
75274 Bromodichloromethane	0.20 PPBV (U)	01/21/2005
115071 Propene	3.5 PPBV	01/21/2005
622968 1-Ethyl-4-methylbenzene	0.51 PPBV (U)	01/21/2005
120821 1,2,4-Trichlorobenzene	0.50 PPBV (U)	01/21/2005
75150 Carbon Disulfide	0.20 PPBV (U)	01/21/2005
108101 MIBK	0.21 PPBV (U)	01/21/2005
75092 Methylene Chloride	0.12 PPBV (J)	01/21/2005
75343 1,1-Dichloroethane	0.20 PPBV (U)	01/21/2005
74873 Chloromethane	0.54 PPBV	01/21/2005
74839 Bromomethane	0.20 PPBV (U)	01/21/2005
95476 o-Xylene	0.20 PPBV (U)	01/21/2005
1634044 Methyl Tert-Butyl Ether	1.6 PPBV	01/21/2005
71432 Benzene	0.37 PPBV	01/21/2005
591786 2-Hexanone	1.0 PPBV (U)	01/21/2005
156592 cis-1,2-Dichloroethene	0.20 PPBV (U)	01/21/2005
10061015 cis-1,3-Dichloropropene	0.19 PPBV (U)	01/21/2005
76131 1,1,2-Trichlorotrifluoroethane	0.072 PPBV (J)	01/21/2005
67663 Chloroform	0.20 PPBV (U)	01/21/2005
56235 Carbon Tetrachloride	0.073 PPBV (J)	01/21/2005

Sample ID: 2128 002 01/20/2005

Status: COMPLETED

Test/CAS# - Description	Reported Results	Completed
71556 1,1,1-Trichloroethane	0.20 PPBV (U)	01/21/2005
100414 Ethylbenzene	0.050 PPBV (J)	01/21/2005
79005 1,1,2-Trichloroethane	0.20 PPBV (U)	01/21/2005
87683 Hexachlorobutadiene	0.20 PPBV (U)	01/21/2005
78875 1,2-Dichloropropane	0.20 PPBV (U)	01/21/2005
107062 1,2-Dichloroethane	0.20 PPBV (U)	01/21/2005
78933 MEK	0.36 PPBV	01/21/2005
124481 Dibromochloromethane	0.20 PPBV (U)	01/21/2005
108678 1,3,5-Trimethylbenzene	0.20 PPBV (U)	01/21/2005
10061026 trans-1,3-Dichloropropene	0.19 PPBV (U)	01/21/2005
95636 1,2,4-Trimethylbenzene	0.50 PPBV (U)	01/21/2005
75718 Dichlorodifluoromethane	0.49 PPBV	01/21/2005
67641 Acetone	2.2 PPBV (B)	01/21/2005
110543 n-Hexane	0.44 PPBV	01/21/2005
76142 1,2-Dichlorotetrafluoroethane	0.20 PPBV (U)	01/21/2005
79016 Trichloroethene	0.20 PPBV (U)	01/21/2005
75354 1,1-Dichloroethene	0.20 PPBV (U)	01/21/2005
75003 Chloroethane	0.20 PPBV (U)	01/21/2005
106990 1,3-Butadiene	0.20 PPBV (U)	01/21/2005
79345 1,1,2,2-Tetrachloroethane	0.20 PPBV (U)	01/21/2005
75252 Bromoform	0.50 PPBV (U)	01/21/2005
95501 1,2-Dichlorobenzene	0.20 PPBV (U)	01/21/2005
75694 Trichlorofluoromethane	0.24 PPBV	01/21/2005
106467 1,4-Dichlorobenzene	0.20 PPBV (U)	01/21/2005
541731 1,3-Dichlorobenzene	0.20 PPBV (U)	01/21/2005



ORGANICS LABORATORY QUALIFIERS

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- U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.
- J - Indicates an estimated value, below the quantification limit, but above the method detection limit.
- N - Indicates presumptive evidence of a compound.
- B - This flag is used when the analyte is found in the associated blank as well as in the sample.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- P - This flag is used with a target analyte when there is greater than a 25% difference between the results obtained from the primary and confirmation columns for dual column analysis methods. (ie, pesticides, triazines, PCB's, etc). The reported value is the average of the two results.
- Q - This flag identifies the average of multiple results from multiple analysis, or the average of the averages of dual column analysis methods.
- (Underline) - The compound is present at the amount reported. No flag.
- X - Non-target analytes co-elute with compound. Identification unable to be confirmed.