

Investigation of Indoor Air Sources of VOC Contamination

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Study Purpose and Background

Over the past several years, studies of indoor air quality in buildings overlying groundwater contaminated with volatile organic compounds (VOCs) have indicated that the indoor air may contain significant levels of these contaminants. The accumulating evidence indicates that parts-per-billion levels of contaminants in groundwater may result in indoor air concentrations in the $\mu\text{g}/\text{m}^3$ range, and these indoor air concentrations may exceed recommended chronic exposure levels. The NJDEP Site Remediation Program has experienced a dramatic increase in the number of cases requiring evaluation of this exposure pathway as awareness of its existence has increased. When initial investigations of cases indicate that there are potential indoor air concerns due to underlying contaminated groundwater, indoor air samples are frequently taken to determine if VOC concentrations are detectable and/or unacceptable. A complicating factor in this evaluation is the fact that several contaminants that are common groundwater contaminants also may have indoor sources from consumer products, building materials, or home furnishings. Therefore, when indoor concentrations are measured, separating indoor sources from groundwater contributions may be problematic.

Most studies of indoor air have been conducted in urban setting and not all volatile compounds typically contaminating ground water are measured. A study was therefore undertaken to collect indoor air samples in 100 homes in suburban and rural areas of NJ to fill this data gap. The compounds being measured are listed in Table 1.

Study Objectives

Select residences in rural and suburban communities above clean ground soil and water.

Measure the indoor air concentrations of VOCs regulated in groundwater for homes during seasons when indoor sources are likely to have the maximum impact on the indoor air. Develop a database of indoor air concentration of the targeted VOCs.

House Selection Criteria and Sampling Protocols

The two house selection criteria for the study were: 1) single family or semi-attached homes in areas with population density of less than 4000 people/square mile, thereby focusing on suburban and rural areas; and 2) the house was not over known or reported ground water contaminated plumes. Homes were selected from throughout the state of NJ. Samples were collected for 24 hours using a canister sampler placed on the ground floor of the home in an actively used living space other than a kitchen because of emissions that occur during cooking. A questionnaire was administered to the participant before sampling to identify potential indoor sources of the target chemicals. A convenience sampling scheme was used for selection of subjects, though various regions of the state of NJ were sampled

The following instructions were given to the subjects during the sampling:

- Keep the windows and doors closed (except when entering and leaving the house) during the sampling (NOT 48 hours before)
- Don't use fireplaces or kerosene or propane heaters (unless those are the sole heating source) during sampling
- Don't use whole house fans and have a/c operate in recirculation mode during sampling
- Confirm that there was no painting a week before sampling

-Don't store gasoline containers in building proper

-Don't operate a gasoline power devices in building

GIS Evaluation

As part of the home selection criteria, it was desired to avoid homes that were at, or very near, known areas of soil or groundwater contamination. An evaluation of potential ground water and soil contamination near candidate homes was conducted using existing NJDEP GIS databases. These databases contain the most comprehensive information readily available pertaining to the locations of contaminated sites in New Jersey. Contaminated sites that have not yet been discovered undoubtedly still exist; nonetheless, by cross-checking candidate home locations against the NJDEP GIS databases, a reasonably confident assessment was made as to whether candidate homes had the potential to be affected by local sources of contamination.

Two GIS coverages included specific maps of areas of groundwater contamination. These are coverages of the Classification Exception Areas (CEAs) and the Currently Known Extents of ground water contamination (CKEs). CEAs are likely to more accurate than CKEs because the extent of groundwater contamination is reasonably well known, but the mapped area may be larger than the actual current extent of contamination. The CKEs include large known areas of groundwater contamination. Some of the CKEs are not accurate in terms of the extent of current contamination, due to a lack of adequate data. Therefore, the contaminated area in some cases may be larger, or occasionally smaller, than the mapped area. Nonetheless, these two coverages were useful for checking against candidate home locations.

Another coverage, the Known Contaminated Site List (KCSL), was also used when checking the location of candidate homes. This coverage contains a list of all sites where NJDEP has investigated potential contamination of soil or groundwater, or both. This database

includes sites where groundwater has been contaminated, but not mapped, or where groundwater has not yet been investigated. It also includes areas of soil contamination without groundwater contamination.

Two other coverages were also examined: EQUIS_LOC, which contains sample locations for many recently investigated sites, and DER locations, areas of restricted use due to past contamination. Most of these latter locations are areas of historic fill, which never occurred at the location of homes in this study.

Homes were generally eliminated if they were closer than ½ mile from known areas of contamination. For petroleum hydrocarbon contamination originating from local gasoline stations or homeowner fuel tanks, this distance was lowered to 1000 feet since contamination from these cases has seldom been found to extend further than this distance, and generally is less than 500 feet.

Observations made during visits to candidate homes were also when considering whether they were eligible for sampling.

Subject Recruitment

Initial recruitment of subjects was accomplished using an internal e-mail sent to members and staff at the Environmental and Occupational Health Sciences Institute asking for volunteers who would be willing to have samples collected in their homes. Thirty two individuals agreed to participate.

Subsequently, participants were located through contacts within the various Agricultural Cooperative Extension Agents associated with Rutgers University. Different agents were contacted and if they agreed to publicize the study, flyers were sent to their bureaus for posting

and distribution at meetings. The flyers contained telephone and e-mail contact information for the study. A small stipend of \$25 was offered to the head of each participating household as compensation for their time. In all cases informed consent was obtained from each subject and all protocols were approved and reviewed annually by the UMDNJ/RWJMS Institutional Review Board for Human Subjects.

Analyses Methodology

Indoor air samples were collected and analyzed using EPA Method TO-15 for indoor air, and a questionnaire was administered to ascertain the sources of the indoor air VOCs. STL Burlington, a certified contract laboratory with whom NJDEP has prepared a laboratory contract and who met the QA/QC requirements of the state, conducted the analyses.

The TO-15 method is a canister based method. A 6-Liter Summa[®] type canister, with a flow controller, was provided by STL Burlington. The air sample was collected from the ground floor (living space) at each property. The inlet of the sampler was placed at breathing zone height (3-5'). The sampler was started and a nominal 24hour sample collected, with the exact duration of the sample recorded. The canister was shipped to the laboratory for analysis following procedures outlined in "Compendium Method TO-15 Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially Prepared Canisters and Analyzing by Gas Chromatography/Mass Spectrometry (GC/MS)." Method is found in the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air (January 1999). The USEPA website is <http://www.epa.gov/ttn/amtic/airtox.html>.

Results

The individual sample results and summary statistics from the fifty five homes were analyzed and are presented in Table 2 along with counties where the homes are located (Table 3). An additional forty five homes are currently being sampled in the second phase of this project. Concentrations of many of the compounds were below the detection limit of the analyses being provided for by STL Burlington as specified with contract to the state of New Jersey. While many of these compounds are probably present in the indoor air at lower concentrations than the current detection limit and could be quantified by more sensitive methods, the current detection limit is probably sufficient to assess whether the compounds are at concentration high enough to be important. Compounds routinely above the detection limit (typically 1 to 5 $\mu\text{g}/\text{m}^3$) in at least half of the homes were: acetone, benzene, 2-butanone, chloromethane, dichlorofluoromethane, n heptane, n hexane, methylene chloride, methyl tert butyl ether (MTBE), toluene, trichlorofluoromethane (Freon 11), and m/p xylenes. Compounds above the detection limit in at least 10% of the homes were: chloroform, cyclohexane, 1,4 dirchlorobenzene, ethyl benzene, p ethyltoluene, 4 methyl 1,2 pentanone (MIBK), tetrachloroethylene (PERC), 111 trichloroethane, 135 trimethylbenzene, 234 trimethylpentane and o xylene. Many of these compounds have known indoor sources or are commonly measured outdoors. Sources include emissions from automobiles, gasoline, tobacco products, cleaning agents, dry cleaned clothing and furniture, and chlorinated water.

Table 1 - VOCs regulated in groundwater and of potential interest in indoor air

Acetone (2-propanone)	67-64-1
Acrolein	107-02-8
Benzene	71-43-2
Bromodichloromethane (Dichlorobromomethane)	75-27-4
Bromoform	75-25-2
Bromomethane (Methyl bromide)	74-83-9
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3
Carbon disulfide	75-15-0
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
Chloroethane	75-00-3
Chloroform	67-66-3
Chloromethane (Methyl chloride)	74-87-3
Dibromochloromethane (Chlorodibromomethane)	124-48-1
1,2-Dibromoethane	106-93-4
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7
Dichlorodifluoromethane	75-71-8
1,1-Dichloroethane	75-34-3
1,2-Dichloroethane	107-06-2
1,1-Dichloroethene (1,1-Dichloroethylene)	75-35-4
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5
1,2-Dichloropropane	78-87-5
1,3-Dichloropropene (cis and trans) (summed)	542-75-6
Ethylbenzene	100-41-4
Methylene chloride (Dichloromethane)	75-09-2
4-Methyl-2-pentanone (MIBK)	108-10-1
MTBE (tert-butyl methyl ether)	1634-04-4
Styrene	100-42-5
Tertiary butyl alcohol (TBA)	75-65-0
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4
Toluene	108-88-3
1,1,1-Trichloroethane	71-55-6
1,1,2-Trichloroethane	79-00-5
Trichloroethene (TCE) (Trichloroethylene)	79-01-6
Trichlorofluoromethane	75-69-4
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
Vinyl chloride	75-01-4
Xylenes (total)	1330-20-7

Table 2 - Sample Results

Sample ID	Molecular W.	58.078	78.108	163.83	106.96	252.75	94.94	54.09	72.11	76.14	153.81	112.55	64.52	119.38
	Canister #	Acetone (2-propanone)	Benzene	Bromo-dichloromethane	Bromo-ethene	Bromoform	Bromo-methane (Methyl bromide)	1,3-Butadiene	2-Butanone (Methyl ethyl ketone)	Carbon disulfide	Carbon tetra-chloride	Chloro-benzene	Chloro-ethane	Chloroform
EOHSI-001	6445	31	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	1.5 U	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-002	6315	12	2.1	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	3.5	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-003	6211	36	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	4.4	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-004	6478	12 U	3	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	1.7	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-005	6278A	31	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	2.9	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-006	6227	76	2.6	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	6.2	2.8	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-007	6202	15	1.9	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	2.7	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-008	6445	14	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	3.5	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-009	6534	430 D	5.1	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	4.1	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-010	6449	24	4.8	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	3.8	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-011	6540	26	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	15	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-012	6575	20	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	3.2	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-013	6622	45	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	4.7	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-014	6322	19	2	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	2.9	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-015	6539	18	4.8	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	2.4	1.6 U	3.1 U	2.3 U	1.3 U	4
EOHSI-016	6225	45	2	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	4.4	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

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	Canister #	Acetone (2-propanone)	Benzene	Bromo-dichloromethane	Bromo-ethene	Bromoform	Bromo-methane (Methyl bromide)	1,3-Butadiene	2-Butanone (Methyl ethyl ketone)	Carbon disulfide	Carbon tetra-chloride	Chloro-benzene	Chloro-ethane	Chloroform
EOHSI-017	6290	62	13	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	4.7	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-018	6230	62	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	10	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-019	6322	88	14	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	21	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-020	6539	38	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	1.5 U	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-021	6528	14	1.7 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	1.5 U	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-023	6269	33	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	1.8	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-024	7000	52	1.6	3.4	2.2	5.2	1.9	1.1	8.3	1.6	3.1	2.3	1.3	2.4
			U	U	U	U	U	U		U	U	U	U	U
EOHSI-025	6504	43	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	5	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-026	6528	38	2.5	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	1.5 U	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-027	6292	69	12	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	1.5 U	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-028	6593	83	11	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	8	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-029	6680	74	2.1	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	2.6	1.6 U	3.1 U	2.3 U	1.3 U	3.4
EOHSI-030	6676	570 D	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	32	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-031	6266	150 D	2.7	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	18	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-032	6779	90	1.6	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	17	1.6 U	3.1 U	2.3 U	1.3 U	2.6
EOHSI-033	6772	2900 D	1.8	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	32	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

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EOHSI-034	6677	100 D	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	4.1	1.6 U	3.1 U	2.3 U	1.3 U	4.9
EOHSI-035	6765	100 D	24	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	11	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-036	6726	45	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	8.3	1.6 U	3.1 U	2.3 U	1.3 U	3.6
EOHSI-037	6579	26	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	4.7	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-038	6708	88	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	6.5	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-039	6764	55	2	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	4.1	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-040	6766	29	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	1.5 U	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-041	6830	190 D	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	1.5 U	1.6 U	3.1 U	2.3 U	1.3 U	2.5
EOHSI-042	6557	36	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	6.2	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-043	6834	48	8.3	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	5.9	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-044	6345	38	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	7.7	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-045	6320	33	3.5	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	5.3	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-046	6668	17	1.8	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	3.8	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-047	6630	36	2.3	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	2.9	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-048	6564	74	7	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	4.1	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-049	6797	22	9.6	3.4 U	2.2 U	5.2 U	1.9 U	1.3	32	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U

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EOHSI-050	6692	12 U	1.6 U	3.4 U	2.2 U	5.2 U	1.9 U	1.1 U	1.5 U	1.6 U	3.1 U	2.3 U	1.3 U	2.4 U
EOHSI-051	6679	26	0.8	1.3 U	0.87 U	2.1 U	0.78 U	0.44 U	1.5 U	1.6 U	1.3 U	0.92 U	0.53 U	0.98 U
EOHSI-052	6650	12 U	1.5	1.3 U	0.87 U	2.1 U	0.78 U	0.44 U	2.4	1.6 U	1.3 U	0.92 U	0.53 U	0.98 U
EOHSI-053	6608	55	5.4	1.3 U	0.87 U	2.1 U	0.78 U	0.44 U	8	1.6 U	1.3 U	0.92 U	0.53 U	0.98 U
EOHSI-054	6824	110 D	2.7	1.3 U	0.87 U	2.1 U	0.78 U	0.44 U	2.8	1.6 U	1.3 U	0.92 U	0.53 U	0.98 U
EOHSI-055	6315	40	6.1	1.3 U	0.87 U	2.1 U	0.78 U	1.3	2.8	1.6 U	1.3 U	0.92 U	0.53 U	2.4
EOHSI-056	6596	26	0.83	1.3 U	0.87 U	2.1 U	0.78 U	0.44 U	1.9	1.6 U	1.3 U	0.92 U	0.53 U	1.1

TOTAL SAMPLES: 55

Detection Limit:	12	1.6/?	3.4/1.3	2.2/0.87	5.2/2.1	1.9/0.78	1.1/0.44	1.5	1.6	3.1/1.3	2.3/0.92	1.3/0.53	2.4/0.98
Number of Detects:	52	33	0	0	0	0	2	46	1	0	0	0	8
10th percentile:	14.4	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
Median:	38	1.8	<DL	<DL	<DL	<DL	<DL	4.1	<DL	<DL	<DL	<DL	<DL
90th percentile:	106	9.08	<DL	<DL	<DL	<DL	<DL	16.2	<DL	<DL	<DL	<DL	2.46
95th percentile:	262	12.3	<DL	<DL	<DL	<DL	<DL	24.3	<DL	<DL	<DL	<DL	3.46
Maximum:	2900	24	<DL	<DL	<DL	<DL	1.3	32	2.8	<DL	<DL	<DL	4.9

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 2 - Sample Results

Sample ID	50.49	76.53	126.59	84.16	208.29	187.87	147.0	147.0	147.0	120.91	98.96	98.96	96.94	96.94	96.94
	Chloro- methane (Methyl chloride)	3-Chloro- propene (allyl chloride)	2-Chloro- toluene (o- Chloro-toluene)	Cyclo- hexane	Dibromo- chloro- methane	1,2- Dibromoeth- ane	1,2- Dichlorobe- nzene	1,3- Dichlorobe- nzene	1,4- Dichlorobe- nzene	Dichlorodif- luorometha- ne	1,1- Dichloroeth- ane	1,2- Dichloroeth- ane	1,1- Dichloroeth- ene	1,2- Dichloroeth- ene (cis)	1,2- Dichloroeth- ene (trans)
EOHSI-001	1.4	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	3.6	2 U	2 U	2 U	2 U	2 U
EOHSI-002	1 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	4.5	2 U	2 U	2 U	2 U	2 U
EOHSI-003	1 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	2.5 U	2 U	2 U	2 U	2 U	2 U
EOHSI-004	1.2	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	2.7	2 U	2 U	2 U	2 U	2 U
EOHSI-005	1 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	4.7	2 U	2 U	2 U	2 U	2 U
EOHSI-006	2.1	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	4	2 U	2 U	2 U	2 U	2 U
EOHSI-007	1 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	3.1	2 U	2 U	2 U	2 U	2 U
EOHSI-008	1.1	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	3	2 U	2 U	2 U	2 U	2 U
EOHSI-009	1.6	1.6 U	2.6 U	52	4.3 U	3.8 U	3 U	3 U	3 U	2.7	2 U	2 U	2 U	2 U	2 U
EOHSI-010	1.7	1.6 U	2.6 U	2.6	4.3 U	3.8 U	3 U	3 U	3 U	3.2	2 U	2 U	2 U	2 U	2 U
EOHSI-011	1.8	1.6 U	2.6 U	2.6	4.3 U	3.8 U	3 U	3 U	3 U	4	2 U	2 U	2 U	2 U	2 U
EOHSI-012	1.6	1.6 U	2.6 U	1.9	4.3 U	3.8 U	3 U	3 U	3 U	3	2 U	2 U	2 U	2 U	2 U
EOHSI-013	1.5	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	160	2 U	2 U	2 U	2 U	2 U
EOHSI-014	1.5	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	3.5	2 U	2 U	2 U	2 U	2 U
EOHSI-015	1.1	1.6 U	2.6 U	6.9	4.3 U	3.8 U	16	3 U	3 U	89	2 U	2 U	2 U	2 U	2 U
EOHSI-016	2	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	4.3	2 U	2 U	2 U	2 U	2 U

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 2 - Sample Results

Sample ID	50.49	76.53	126.59	84.16	208.29	187.87	147.0	147.0	147.0	120.91	98.96	98.96	96.94	96.94	96.94
	Chloro- methane (Methyl chloride)	3-Chloro- propene (allyl chloride)	2-Chloro- toluene (o- Chloro-toluene)	Cyclo- hexane	Dibromo- chloro- methane	1,2- Dibromoeth- ane	1,2- Dichlorobe- nzene	1,3- Dichlorobe- nzene	1,4- Dichlorobe- nzene	Dichlorodif- luorometha- ne	1,1- Dichloroeth- ane	1,2- Dichloroeth- ane	1,1- Dichloroeth- ene	1,2- Dichloroeth- ene (cis)	1,2- Dichloroeth- ene (trans)
EOHSI-017	2.1	1.6 U	2.6 U	4.5	4.3 U	3.8 U	3 U	3 U	3 U	3.3	2 U	2 U	2 U	2 U	2 U
EOHSI-018	1.8	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	3	2 U	2 U	2 U	2 U	2 U
EOHSI-019	3.3	1.6 U	2.6 U	3.8	4.3 U	3.8 U	3 U	3 U	3 U	2.9	2 U	2 U	2 U	2 U	2 U
EOHSI-020	1 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	3.4	2 U	2 U	2 U	2 U	2 U
EOHSI-021	1 U	1.6 U	2.6 U	2.1	4.3 U	3.8 U	3 U	3 U	3 U	21	2 U	2 U	2 U	2 U	2 U
EOHSI-023	0.99 J	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	2.8	2 U	2 U	2 U	2 U	2 U
EOHSI-024	1.5	1.6	2.6	1.7	4.3	3.8	3	3	17	4.2	2	2	2	2	2
		U	U	U	U	U	U	U			U	U	U	U	U
EOHSI-025	1.3	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	3.3	2 U	2 U	2 U	2 U	2 U
EOHSI-026	1 U	1.6 U	2.6 U	2.5	4.3 U	3.8 U	3 U	3 U	4.4	4.2	2 U	2 U	2 U	2 U	2 U
EOHSI-027	1 U	1.6 U	2.6 U	4.5	4.3 U	3.8 U	3 U	3 U	3 U	27	2 U	2 U	2 U	2 U	2 U
EOHSI-028	1.4	1.6 U	2.6 U	6.2	4.3 U	3.8 U	3 U	3 U	3 U	2.5 U	2 U	2 U	2 U	2 U	2 U
EOHSI-029	1.5	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	2.6	2 U	2 U	2 U	2 U	2 U
EOHSI-030	1.5	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	2.6	2 U	2 U	2 U	2 U	2 U
EOHSI-031	1.7	1.6 U	6.2	1.7 U	4.3 U	3.8 U	3 U	3 U	6	2.7	2 U	2 U	2 U	2 U	2 U
EOHSI-032	1.5	1.6 U	2.6 U	2.1	4.3 U	3.8 U	3 U	3 U	3 U	2.5 U	2 U	2 U	2 U	2 U	2 U
EOHSI-033	1.7	1.6 U	2.6 U	1.8	4.3 U	3.8 U	3 U	3 U	3 U	3.2	2 U	2 U	2 U	2.9	2 U

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 2 - Sample Results

Sample ID	50.49	76.53	126.59	84.16	208.29	187.87	147.0	147.0	147.0	120.91	98.96	98.96	96.94	96.94	96.94
	Chloro- methane (Methyl chloride)	3-Chloro- propene (allyl chloride)	2-Chloro- toluene (o- Chloro-toluene)	Cyclo- hexane	Dibromo- chloro- methane	1,2- Dibromoeth- ane	1,2- Dichlorobe- nzene	1,3- Dichlorobe- nzene	1,4- Dichlorobe- nzene	Dichlorodif- luorometha- ne	1,1- Dichloroeth- ane	1,2- Dichloroeth- ane	1,1- Dichloroeth- ene	1,2- Dichloroeth- ene (cis)	1,2- Dichloroeth- ene (trans)
EOHSI-034	1.7 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	36	2 U	2 U	2 U	2 U	2 U
EOHSI-035	1.1 U	1.6 U	2.6 U	12	4.3 U	3.8 U	3 U	3 U	3 U	8.9	2 U	2 U	2 U	2 U	2 U
EOHSI-036	1.2 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	2.7	2 U	2 U	2 U	2 U	2 U
EOHSI-037	1 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	3.6	2 U	2 U	2 U	2 U	2 U
EOHSI-038	1.8 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	11	2 U	2 U	2 U	2 U	2 U
EOHSI-039	1.7 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	9.6	3.6	2 U	2 U	2 U	2 U	2 U
EOHSI-040	1 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	210	3.2	2 U	2 U	2 U	2 U	2 U
EOHSI-041	1 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	4.9	2 U	2 U	2 U	2 U	2 U
EOHSI-042	1.4 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	3	2 U	2 U	2 U	2 U	2 U
EOHSI-043	1.1 U	1.6 U	2.6 U	3.8	4.3 U	3.8 U	3 U	3 U	3 U	4.1	2 U	2 U	2 U	2 U	2 U
EOHSI-044	1.2 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	3.2	2 U	2 U	2 U	2 U	2 U
EOHSI-045	1.2 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	4	2 U	2 U	2 U	2 U	2 U
EOHSI-046	1 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	3	2 U	2 U	2 U	2 U	2 U
EOHSI-047	1 U	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	9.4	2 U	3.5	2 U	2 U	2 U
EOHSI-048	1.7 U	1.6 U	3.6	3.8	4.3 U	3.8 U	3 U	3 U	3 U	4	2 U	2 U	2 U	2 U	2 U
EOHSI-049	1 U	1.6 U	2.6 U	1.8	4.3 U	3.8 U	3 U	3 U	23	3.5	2 U	2 U	2 U	2 U	2 U

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 2 - Sample Results

Sample ID	50.49	76.53	126.59	84.16	208.29	187.87	147.0	147.0	147.0	120.91	98.96	98.96	96.94	96.94	96.94
	Chloro- methane (Methyl chloride)	3-Chloro- propene (allyl chloride)	2-Chloro- toluene (o- Chloro-toluene)	Cyclo- hexane	Dibromo- chloro- methane	1,2- Dibromoeth- ane	1,2- Dichlorobe- nzene	1,3- Dichlorobe- nzene	1,4- Dichlorobe- nzene	Dichlorodif- luorometha- ne	1,1- Dichloroeth- ane	1,2- Dichloroeth- ane	1,1- Dichloroeth- ene	1,2- Dichloroeth- ene (cis)	1,2- Dichloroeth- ene (trans)
EOHSI-050	1.4	1.6 U	2.6 U	1.7 U	4.3 U	3.8 U	3 U	3 U	3 U	3.6	2 U	2 U	2 U	2 U	2 U
EOHSI-051	1.2	0.63 U	1 U	0.69 U	1.7 U	1.5 U	1.2 U	1.2 U	1.2 U	2.8	0.81 U	0.81 U	0.79 U	0.79 U	0.79 U
EOHSI-052	1.1	0.63 U	1 U	0.69 U	1.7 U	1.5 U	1.2 U	1.2 U	1.2 U	2.9	0.81 U	0.81 U	0.79 U	0.79 U	0.79 U
EOHSI-053	1.3	0.63 U	1 U	1.6 U	1.7 U	1.5 U	1.2 U	1.2 U	1.4 U	3.9	0.81 U	0.81 U	0.79 U	0.79 U	0.79 U
EOHSI-054	1.4	0.63 U	1 U	1.3 U	1.7 U	1.5 U	1.2 U	1.2 U	1.2 U	3.1	0.81 U	0.81 U	0.79 U	0.79 U	0.79 U
EOHSI-055	1.3	0.63 U	1 U	0.69 U	1.7 U	1.5 U	1.2 U	1.2 U	1.2 U	2.9	0.81 U	0.81 U	0.79 U	0.79 U	0.79 U
EOHSI-056	1.4	0.63 U	1 U	0.72 U	1.7 U	1.5 U	1.2 U	1.2 U	1.2 U	2.7	0.81 U	0.81 U	0.79 U	0.79 U	0.79 U

TOTAL SAM

Detection Lim	1	1.6/0.63	2.6/1	1.7/0.69	4.3/1.7	3.8/1.5	3/1.2	3/1.2	3/1.2		2/0.81	2/0.81	2/0.79	2/0.79	2/0.79
Number of Det	41	0	2	20	0	0	1	0	7	52	0	1	0	1	0
10th percentile	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	2.7	<DL	<DL	<DL	<DL	<DL
Median:	1.3	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	3.3	<DL	<DL	<DL	<DL	<DL
90th percentile	1.8	<DL	<DL	4.22	<DL	<DL	<DL	<DL	3.84	10.36	<DL	<DL	<DL	<DL	<DL
95th percentile	2.03	<DL	<DL	6.41	<DL	<DL	<DL	<DL	11.82	29.7	<DL	<DL	<DL	<DL	<DL
Maximum:	3.3	<DL	6.2	52	<DL	<DL	16	<DL	210	160	<DL	3.5	<DL	2.9	<DL

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 2 - Sample Results

Sample ID	112.99	110.97	110.97	170.92	106.17	120.20	100.21	260.76	86.172	84.93	100.16	88.15	104.15	74.12	167.85
	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	1,2-Dichlorotetrafluoroethane (Freon114)	Ethylbenzene	4-Ethyltoluene (p-Ethyltoluene)	n-Heptane	Hexachlorobutadiene	n-Hexane	Methylene chloride	4-Methyl-2-pentanone (MIBK)	MTBE (Methyl tert-butyl ether)	Styrene	Tertiary butyl alcohol (TBA)	1,1,2,2-Tetrachloroethane
EOHSI-001	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	1.9	1.7 U	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-002	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	2.8	1.7 U	2 U	5 U	2.1 U	15 U	3.4 U
EOHSI-003	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	1.8	1.7 U	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-004	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	4.1 U	2 U	5.3 U	2.6	1.7 U	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-005	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	1.8	1.7 U	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-006	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	3.9	1.7 U	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-007	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2.3	5.3 U	7	1.7 U	2 U	30	2.1 U	15 U	3.4 U
EOHSI-008	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	2.3	1.7 U	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-009	2.3 U	2.3 U	2.3 U	3.5 U	4.3	5.4	7.8	5.3 U	16	1.7 U	2 U	36	2.1 U	15 U	3.4 U
EOHSI-010	2.3 U	2.3 U	2.3 U	3.5 U	2.9	2.5	15	5.3 U	3.2	1.7 U	2 U	6.5	2.1 U	15 U	3.4 U
EOHSI-011	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	3.2	5.3 U	1.8 U	4.9	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-012	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	4.1	5.3 U	3.2	1.7 U	2 U	1.8	2.1 U	15 U	3.4 U
EOHSI-013	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	2	1.7 U	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-014	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	4.2	2.3	2 U	4.7	2.1 U	15 U	3.4 U
EOHSI-015	2.3 U	2.3 U	2.3 U	3.5 U	3.2	3.1	4	5.3 U	14	3.3	2 U	12	2.1 U	15 U	3.4 U
EOHSI-016	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2.7	5.3 U	3.5	4.2	2 U	3.5	2.1 U	15 U	3.4 U

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 2 - Sample Results

Sample ID	112.99	110.97	110.97	170.92	106.17	120.20	100.21	260.76	86.172	84.93	100.16	88.15	104.15	74.12	167.85
	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	1,2-Dichlorotetrafluoroethane (Freon114)	Ethylbenzene	4-Ethyltoluene (p-Ethyltoluene)	n-Heptane	Hexachlorobutadiene	n-Hexane	Methylene chloride	4-Methyl-2-pentanone (MIBK)	MTBE (Methyl tert-butyl ether)	Styrene	Tertiary butyl alcohol (TBA)	1,1,2,2-Tetrachloroethane
EOHSI-017	2.3 U	2.3 U	2.3 U	3.5 U	9.6	2.7	9.8	5.3 U	19	17	2 U	61	2.1 U	15 U	3.4 U
EOHSI-018	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	5.7	5.3 U	1.8 U	3.2	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-019	2.3 U	2.3 U	2.3 U	3.5 U	25	29	12	5.3 U	13	45	2 U	170 D	2.1 U	15 U	3.4 U
EOHSI-020	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	3.1	1.7 U	2 U	3	2.1 U	15 U	3.4 U
EOHSI-021	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	1.7	1.7 U	2 U	6.5	2.1 U	15 U	3.4 U
EOHSI-023	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2.2	5.3 U	1.8 U	1.7 U	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-024	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	3.9	3.2	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-025	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	1.8 U	3.4	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-026	2.3 U	2.3 U	2.3 U	3.5 U	2.5	2.5 U	2.7	5.3 U	6.7	3.1	2 U	16	2.1 U	15 U	3.4 U
EOHSI-027	2.3 U	2.3 U	2.3 U	3.5 U	12	21	9	5.3 U	16	94	2 U	54	2.1 U	15 U	3.4 U
EOHSI-028	2.3 U	2.3 U	2.3 U	3.5 U	10	9.8	14	5.3 U	24	1.7 U	3.1	72	2.1 U	15 U	3.4 U
EOHSI-029	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	2.8	1.7 U	2 U	5	2.1 U	15 U	3.4 U
EOHSI-030	2.3 U	2.3 U	2.3 U	3.5 U	2.3	2.5 U	2 U	5.3 U	4.6	1.7 U	3.4	2.5	5.1	15 U	3.4 U
EOHSI-031	2.3 U	2.3 U	2.3 U	3.5 U	3	2.5 U	6.6	5.3 U	2.9	4.9	2.4	8.7	3	15 U	3.4 U
EOHSI-032	2.3 U	2.3 U	2.3 U	3.5 U	2.3	2.5 U	5.7	5.3 U	11	6.6	2 U	10	2.9	15 U	3.4 U
EOHSI-033	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	1.8 U	1.7 U	2 U	1.8 U	2.1 U	15 U	3.4 U

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 2 - Sample Results

Sample ID	112.99	110.97	110.97	170.92	106.17	120.20	100.21	260.76	86.172	84.93	100.16	88.15	104.15	74.12	167.85
	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	1,2-Dichlorotetrafluoroethane (Freon114)	Ethylbenzene	4-Ethyltoluene (p-Ethyltoluene)	n-Heptane	Hexachlorobutadiene	n-Hexane	Methylene chloride	4-Methyl-2-pentanone (MIBK)	MTBE (Methyl tert-butyl ether)	Styrene	Tertiary butyl alcohol (TBA)	1,1,2,2-Tetrachloroethane
EOHSI-034	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	1.8 U	1.7 U	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-035	2.3 U	2.3 U	2.3 U	3.5 U	39	29	23	5.3 U	35	3.3	8.2	230 D	2.1 U	15 U	3.4 U
EOHSI-036	2.3 U	2.3 U	2.3 U	3.5 U	4.3	2.5 U	2 U	5.3 U	1.8 U	1.7 U	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-037	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	1.8 U	6.3	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-038	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2.4	5.3 U	1.9	9.7	2 U	2.8	2.1 U	15 U	3.4 U
EOHSI-039	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	1.8 U	2.5	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-040	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	1.8 U	2.3	2 U	3	2.1 U	15 U	3.4 U
EOHSI-041	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	1.8 U	1.7 U	2 U	1.9	2.1 U	15 U	3.4 U
EOHSI-042	2.3 U	2.3 U	2.3 U	3.5 U	2.7	2.5 U	3.2	5.3 U	4.2	4.9	2 U	3.6	2.1 U	15 U	3.4 U
EOHSI-043	2.3 U	2.3 U	2.3 U	3.5 U	8.7	6.9	7.4	5.3 U	20	3.8	2 U	27	2.1 U	15 U	3.4 U
EOHSI-044	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	4.9	2 U	5.3 U	4.2	1.7 U	2 U	2.6	2.1 U	15 U	3.4 U
EOHSI-045	2.3 U	2.3 U	2.3 U	3.5 U	4.1	3.2	3.4	5.3 U	4.9	8	2 U	24	2.1 U	15 U	3.4 U
EOHSI-046	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	2.8	2.2	2 U	4	2.1 U	15 U	3.4 U
EOHSI-047	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	9.4	5.3 U	2.7	11	9.8	4.3	2.1 U	15 U	3.4 U
EOHSI-048	2.3 U	2.3 U	2.3 U	3.5 U	4.3	4.1	6.6	5.3 U	13	1.7 U	2 U	28	2.1 U	15 U	3.4 U
EOHSI-049	2.3 U	2.3 U	2.3 U	3.5 U	11	9.3	4.9	5.3 U	6	1.7 U	2	40	2.1 U	15 U	3.4 U

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 2 - Sample Results

Sample ID	112.99	110.97	110.97	170.92	106.17	120.20	100.21	260.76	86.172	84.93	100.16	88.15	104.15	74.12	167.85
	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	1,2-Dichlorotetra-fluoroethane (Freon114)	Ethylbenzene	4-Ethyltoluene (p-Ethyltoluene)	n-Heptane	Hexa-chlorobutadiene	n-Hexane	Methylene chloride	4-Methyl-2-penta-none (MIBK)	MTBE (Methyl tert-butyl ether)	Styrene	Tertiary butyl alcohol (TBA)	1,1,2,2-Tetrachloroethane
EOHSI-050	2.3 U	2.3 U	2.3 U	3.5 U	2.2 U	2.5 U	2 U	5.3 U	1.8 U	2.2	2 U	1.8 U	2.1 U	15 U	3.4 U
EOHSI-051	0.92 U	0.91 U	0.91 U	1.4 U	0.87 U	0.98 U	0.82 U	2.1 U	0.7 U	3.4	2 U	1.8 U	0.85 U	15 U	1.4 U
EOHSI-052	0.92 U	0.91 U	0.91 U	1.4 U	1.1	1.3	1.1	2.1 U	1.8	1.7 U	2 U	5.4	0.85 U	15 U	1.4 U
EOHSI-053	0.92 U	0.91 U	0.91 U	1.4 U	6.9	6.9	3.7	2.1 U	6.7	17	2 U	47	0.85 U	15 U	1.4 U
EOHSI-054	0.92 U	0.91 U	0.91 U	1.4 U	3.2	2.2	4.5	2.1 U	3.9	1.7 U	4.9	14	0.85 U	15 U	1.4 U
EOHSI-055	0.92 U	0.91 U	0.91 U	1.4 U	0.91	0.98 U	1.3	2.1 U	1.3	1.7 U	2 U	1.8 U	0.85 U	15 U	1.4 U
EOHSI-056	0.92 U	0.91 U	0.91 U	1.4 U	0.87 U	0.98 U	0.82 U	2.1 U	1.2	1.7 U	2 U	1.8 U	1.6	15 U	1.4 U

TOTAL SAM

Detection Lim	2.3/0.92	2.3/0.91	2.3/0.91	3.5/1.4	2.2/0.87	2.5/0.98	2/0.82	5.3/2.1	1.8/?	1.7	2	1.8	2.1/0.85	15	3.4/1.4
Number of Det	0	0	0	0	22	17	28	0	40	26	7	34	4	0	0
10th percentile	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
Median:	<DL	<DL	<DL	<DL	<DL	<DL	2	<DL	2.8	<DL	<DL	3	<DL	<DL	<DL
90th percentile	<DL	<DL	<DL	<DL	9.24	6.9	9.24	<DL	15.2	9.02	2.24	44.2	<DL	<DL	<DL
95th percentile	<DL	<DL	<DL	<DL	11.3	13.16	12.6	<DL	19.3	17	3.85	64.3	2.34	<DL	<DL
Maximum:	<DL	<DL	<DL	<DL	39	29	23	<DL	35	94	9.8	230	5.1	<DL	<DL

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 2 - Sample Results

Sample ID	165.83	92.14	181.45	133.41	133.41	187.38	131.39	137.37	120.20	120.20	114.23	62.50	106.17	106.17
	Tetra-chloro-ethene (PCE)	Toluene	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	Trichloroethene (TCE)	Trichloro-fluoro-methane (Freon11)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2,2,4-Trimethylpentane	Vinyl chloride	Xylenes (m&p)	Xylenes (o)
EOHSI-001	3.4 U	3.7	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	2.2 U	2.2 U
EOHSI-002	3.4 U	17	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	4.6	2.5 U	2.5 U	2.3 U	1.3 U	4.8	2.2 U
EOHSI-003	3.4 U	2.9	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	6.7	2.5 U	2.5 U	2.3 U	1.3 U	2.2 U	2.2 U
EOHSI-004	3.4 U	4.9	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	3.8	2.5 U	2.3 U	1.3 U	2.9	2.2 U
EOHSI-005	3.4 U	2.9	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	2.2 U	2.2 U
EOHSI-006	3.4 U	9.8	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	27	2.5 U	2.5 U	2.3 U	1.3 U	3.5	2.2 U
EOHSI-007	3.4 U	11	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	5.6	2.2 U
EOHSI-008	3.4 U	6	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	3.1	2.5 U	2.5 U	2.3 U	1.3 U	2.3	2.2 U
EOHSI-009	3.4 U	53	3.7 U	2.7 U	2.7 U	3.8 U	13	3	7.9	2.5 U	2.3 U	1.3 U	20	6.1
EOHSI-010	3.4 U	14	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	3.6	2.5 U	2.3 U	1.3 U	7.8	2.8
EOHSI-011	3.4 U	4.9	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	2.2 U	2.2 U
EOHSI-012	3.4 U	7.5	3.7 U	2.8	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	5.6	2.2 U
EOHSI-013	3.4 U	8.7	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	62	2.5 U	2.5 U	2.3 U	1.3 U	2.2 U	2.2 U
EOHSI-014	3.4 U	8.7	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	3.9	2.2 U
EOHSI-015	3.4 U	21	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	4.3	2.5 U	2.3 U	1.3 U	10	3.5
EOHSI-016	3.4 U	8.3	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	5.6	2.5 U	2.5 U	2.3 U	1.3 U	3.1	2.2 U

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 2 - Sample Results

Sample ID	165.83	92.14	181.45	133.41	133.41	187.38	131.39	137.37	120.20	120.20	114.23	62.50	106.17	106.17
	Tetra-chloro-ethene (PCE)	Toluene	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	Trichloroethene (TCE)	Trichloro-fluoro-methane (Freon11)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	2,2,4-Trimethylpentane	Vinyl chloride	Xylenes (m&p)	Xylenes (o)
EOHSI-017	9.5	75	3.7 U	2.9	2.7 U	3.8 U	12	2.8 U	2.5 U	2.5 U	7	1.3 U	26	6.9
EOHSI-018	3.4 U	33	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	9.6	2.5 U	2.5 U	2.3 U	1.3 U	2.7	2.2 U
EOHSI-019	3.4 U	150	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	13	35	9.3	23	1.3 U	91	33
EOHSI-020	3.4 U	7.5	3.7 U	8.2	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	2.6	2.2 U
EOHSI-021	3.4 U	9.4	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	3.2	2.5 U	2.5 U	2.3 U	1.3 U	4	2.2 U
EOHSI-023	3.4 U	4.1	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	4.4	2.5 U	2.5 U	2.3 U	1.3 U	2.2 U	2.2 U
EOHSI-024	1.9	9	3.7	2.7	2.7	3.8	2.7	13	2.5	2.5	2.3	1.3	2.2	2.2
	J		U	U	U	U	U		U	U	U	U	U	U
EOHSI-025	3.4 U	15	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	5.4	2.5 U	2.5 U	2.3 U	1.3 U	3.6	2.2 U
EOHSI-026	9.5	16	3.7 U	6	2.7 U	3.8 U	2.7 U	3.1	2.5 U	2.5 U	2.3 U	1.3 U	7.8	2.8
EOHSI-027	3.4 U	60	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	24	6.4	3.7	1.3 U	42	15
EOHSI-028	3.4 U	68	3.7 U	2.7	2.7 U	3.8 U	2.7 U	2.8 U	11	2.6	7	1.3 U	32	12
EOHSI-029	3.4 U	16	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	3.6	2.2 U
EOHSI-030	3.4 U	53	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	3	6.4	2.5 U	2.3 U	1.3 U	6.1	2.6
EOHSI-031	3.4 U	41	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	30	3	2.5	2.3 U	1.3 U	6.9	2.5
EOHSI-032	49	22	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	7.9	3	2.5 U	2.3 U	1.3 U	6.5	2.3
EOHSI-033	16	25	3.7 U	2.7 U	2.7 U	3.8 U	3.5	2.8 U	3.1	2.6	2.3 U	1.3 U	4.3	2.2 U

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 2 - Sample Results

Sample ID	165.83 Tetra- chloro- ethene (PCE)	92.14 Toluene	181.45 1,2,4- Trichlorobenzene	133.41 1,1,1- Trichloroethane	133.41 1,1,2- Trichloroethane	187.38 1,1,2- Trichloro- 1,2,2- trifluoroethane (Freon TF)	131.39 Trichloroethene (TCE)	137.37 Trichloro- fluoro- methane (Freon11)	120.20 1,2,4- Trimethylbenzene	120.20 1,3,5- Trimethylbenzene	114.23 2,2,4- Trimethylpentane	62.50 Vinyl chloride	106.17 Xylenes (m&p)	106.17 Xylenes (o)
EOHSI-034	3.4 U	13	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	3.5	2.5 U	2.5 U	2.3 U	1.3 U	3.5	2.2 U
EOHSI-035	8.8	150	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	29	11	65	1.3 U	91	38
EOHSI-036	4.2	30	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	14	3.3
EOHSI-037	3.4 U	12	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	4.1	2.2 U
EOHSI-038	10	41	3.7 U	2.8	2.7 U	3.8 U	2.7 U	3.2	3.2	2.5 U	2.3 U	1.3 U	4.8	2.2 U
EOHSI-039	3.4 U	13	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	2.7	2.2 U
EOHSI-040	3.4 U	5.3	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	2.2 U	2.2 U
EOHSI-041	3.4 U	4.9	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	4.6	2.5 U	2.5 U	2.3 U	1.3 U	2.2 U	2.2 U
EOHSI-042	8.8	20	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	4.2	2.5 U	2.5 U	2.3 U	1.3 U	8.3	2.2 U
EOHSI-043	3.4 U	72	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	5.5	7.9	2.5 U	6.5	1.3 U	30	11
EOHSI-044	3.4 U	13	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	3.4	10	2.5 U	2.3 U	1.3 U	2.7	2.2 U
EOHSI-045	3.4 U	26	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.9	4.2	2.5 U	2.9	1.3 U	14	4.8
EOHSI-046	3.4 U	18	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	3.1	2.5 U	2.3 U	1.3 U	3.3	2.2 U
EOHSI-047	3.4 U	28	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	4.8	2.5 U	2.5 U	2.3 U	1.3 U	2.2 U	2.2 U
EOHSI-048	28	57	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	5.4	2.5 U	3.2	1.3 U	14	4.8
EOHSI-049	3.4 U	94	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	5.2	11	3	11	1.3 U	38	13

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 2 - Sample Results

Sample ID	165.83	92.14	181.45	133.41	133.41	187.38	131.39	137.37	120.20	120.20	114.23	62.50	106.17	106.17
	Tetra- chloro- ethene (PCE)	Toluene	1,2,4- Trichlorobenzene	1,1,1- Trichloroethane	1,1,2- Trichloroethane	1,1,2- Trichloro- 1,2,2- trifluoroethane (Freon TF)	Trichloroethene (TCE)	Trichloro- fluoro- methane (Freon11)	1,2,4- Trimethylbenzene	1,3,5- Trimethylbenzene	2,2,4- Trimethylpentane	Vinyl chloride	Xylenes (m&p)	Xylenes (o)
EOHSI-050	3.4 U	17	3.7 U	2.7 U	2.7 U	3.8 U	2.7 U	2.8 U	2.5 U	2.5 U	2.3 U	1.3 U	2.2 U	2.2 U
EOHSI-051	1.4 U	7.2	3.7 U	1.1 U	1.1 U	1.5 U	1.1 U	1.9	0.98 U	0.98 U	0.93 U	0.51 U	1	0.87 U
EOHSI-052	1.4 U	8.3	3.7 U	1.1 U	1.1 U	1.5 U	1.1 U	2.5	1.7	0.98 U	0.93 U	0.51 U	4.3	1.5
EOHSI-053	1.4 U	30	3.7 U	7.1	1.1 U	1.6	1.1 U	6.2	5.4	1.9	12	0.51 U	23	6.9
EOHSI-054	1.7	24	3.7 U	2.6	1.1 U	1.5 U	1.1 U	3.4	3.7	0.98 U	140	0.51 U	10	3.3
EOHSI-055	1.4 U	19	3.7 U	1.1 U	1.1 U	1.5 U	1.1 U	3.2	0.98 U	0.98 U	0.93 U	0.51 U	2.3	0.91
EOHSI-056	1.4 U	3.8	3.7 U	1.1 U	1.1 U	1.5 U	1.1 U	2.2	1.2	0.98 U	0.93 U	0.51 U	1.9	0.87 U

TOTAL SAM

Detection Lim	3.4/1.4		3.7	2.7/1.1	2.7/1.1	3.8/1.5	2.7/1.1	2.8/?	2.5/0.98	2.5/0.98	2.3/0.93	1.3/0.51	2.2/?	2.2/0.87
Number of Det	11	55	0	8	0	1	3	32	23	8	11	0	44	21
10th percentile	<DL	4.9	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL	<DL
Median:	<DL	16	<DL	<DL	<DL	<DL	<DL	3	<DL	<DL	<DL	<DL	4	<DL
90th percentile	9.22	64.8	<DL	2.76	<DL	<DL	<DL	8.92	9.16	2.56	7	<DL	28.4	9.36
95th percentile	11.8	80.7	<DL	3.83	<DL	<DL	2.94	17.2	14.9	4.02	15.3	<DL	39.2	13.6
Maximum:	49	150	<DL	8.2	<DL	3.8	13	62	35	11	140	<DL	91	38

Concentrations in $\mu\text{g}/\text{m}^3$, U means compound was not detected, D means solution was diluted before analysis

Table 3 - Locations of Homes Sampled

ID#	CITY	STATE	ZIP	DATE
001	Piscataway	NJ	08854	12/9/2003
002	Hillsborough	NJ	08844	1/6/2004
003	Milltown	NJ	08850	1/6/2004
004	Bridgewater Twp	NJ	07920	1/23/2004
005	East Brunswick	NJ	08816	1/25/2004
006	Hamilton	NJ	08619	1/29/2004
007	East Windsor	NJ	08520	1/30/2004
008	Colts Neck	NJ	07722	2/5/2004
009	Somerset	NJ	08873	2/10/2004
010	Bridgewater	NJ	08807	2/10/2004
011	Princeton	NJ	08540	1/19/2004
012	Bridgewater	NJ	08807	2/25/2004
013	Somerset	NJ	08873	3/1/2004
014	Somerset	NJ	08873	3/18/2004
015	Berkeley Heights	NJ	07922	3/18/2004
016	Flemington	NJ	08822	4/17/2004
017	Stockton	NJ	08559	4/17/2004
018	Stockton	NJ	08559	4/17/2004
019	Stockton	NJ	08559	4/17/2004
020	Stockton	NJ	08559	4/17/2004
021	Whitehouse Station	NJ	08889	4/28/2004
022	<i>home did not meet criteria</i>	NJ		4/28/2004
023	Flemington	NJ	08822	4/28/2004
024	Moorestown	NJ	08054	6/10/2004
025	Moorestown	NJ	08057	6/10/2004
026	Moorestown	NJ	08057	6/21/2004
027	Old Bridge	NJ	08854	6/21/2004
028	Hillsborough	NJ	08844	7/14/2004
029	Millville	NJ	08332	7/20/2004
030	Mullica Hill	NJ	08062	7/20/2004
031	Sewell	NJ	08080	7/20/2004
032	Somerset	NJ	08873	7/22/2004
033	Somerset	NJ	08873	7/22/2004
034	East Brunswick	NJ	08816	7/22/2004
035	Hillsborough	NJ	08844	8/3/2004
036	Moorestown	NJ	08057	8/10/2004
037	Moorestown	NJ	08057	8/10/2004
038	Wrightstown	NJ	08562	4/9/1902
039	Wrightstown	NJ	08562	8/30/2004
040	Princeton Junction	NJ	08550	9/12/2004
041	North Brunswick	NJ	08902	9/12/2004
042	Middlesex	NJ	08846	10/6/2004
043	Waren	NJ	07059	10/14/2004
044	Frenchtown	NJ	08825	11/10/2004
045	Frenchtown	NJ	08825	11/10/2004
046	Toms River	NJ	08755	11/17/2004
047	Toms River	NJ	08755	11/17/2004
048	Toms River	NJ	08755	11/17/2004
049	Ringoes	NJ	08551	12/1/2004
050	Ringoes	NJ	08551	12/1/2004
051	Pennington	NJ	08534	12/28/2004
052	Toms River	NJ	08753	1/5/2005
053	Robbinsville	NJ	08691	1/13/2005
054	Pennington	NJ	08534	1/13/2005
055	Pennington	NJ	08534	1/13/2005
056	Pennington	NJ	08534	1/13/2005