



August 11, 2004

Ms. Kristin DuFresne
Wisconsin Department of Natural Resources
1125 North Military Avenue
Green Bay, Wisconsin 54307-0448



Vapor Intrusion Sampling Results – Jennifer Willems Residence
Former Holiday Cleaners **WDNR BRRTS # 02-05-286542**
701 13th Avenue
Green Bay, Wisconsin
Endeavor Project Number: P01113.85

Dear Ms. DuFresne:

The purpose of this letter is to summarize the results of the vapor intrusion sampling at the Jennifer Willems home (705 13th Avenue) and to request review of the results by the Wisconsin Department of Health, Public Health Division.

Endeavor Environmental Services, Inc. (Endeavor) personnel were on site at the Jennifer Willems home on July 13, 2004, to perform vapor intrusion sampling. The sampling location and sampling method were performed as outlined in Endeavor's "Supplemental Recosting Information" letter dated December 16, 2003.

Sampling Method

Endeavor drilled a hole in the basement slab in the northeast corner of the basement. Figure 1 illustrates the sample location. The soil gas below the basement slab was sampled utilizing a Supelco Orbo 100 charcoal sorbent tube fitted with a stopper to seal the drill hole. Soil gas from beneath the slab was drawn through the sorbent tube at the rate of 100 mL per minute with a personal sampling pump. Great care was taken to ensure that the required 0.4 ppbv sensitivity was obtained. A total of 5.006 L of sub-slab soil gas was drawn through the sorbent tube. After sampling, the sorbent tube was sealed, placed on ice and delivered En Chem, Inc., for analysis.

Laboratory Analytical Results

The soil gas was analyzed for volatile organic compounds (VOCs). Laboratory analytical results reported detections of tetrachloroethylene at 21 parts per trillion (ppt) and toluene at 13 ppt. All other analyzed compounds reported no detections above laboratory reporting limits. The soil gas sample laboratory analytical report is attached.

Conclusion

Vapor intrusion of chlorinated compounds is not occurring above the Environmental Protection Agency's "Prioritized Dose-Response Value" for non-cancer chronic



inhalation of 0.27 mg/m^3 (0.021 mg/m^3). The table is attached in Appendix B. Endeavor requests evaluation of the results from the Wisconsin Department of Health, Public Health Division, as recommended by Ms. Kristin DuFresne of the Wisconsin Department of Natural Resources.

The opinions rendered in this letter are based upon the information collected during the above outlined sampling activities and represents Endeavor's professional judgment regarding the status of the above-referenced site and, as such, are not a guarantee.

Endeavor's professional judgment is based upon generally accepted environmental practices and procedures designed to assess environmental liability with respect to current and customary standards of due care in the consulting industry at this time.

The services provided by Endeavor personnel during this project have been conducted in a manner consistent with the degree, care, and technical skill exercised by environmental consulting professionals currently practiced in this area under similar budget and time constraints. Beyond this, no warranty is implied or expressed. This letter does not constitute legal advice, nor does Endeavor purport to provide legal advice.

If you have any questions regarding this letter please contact Endeavor at your convenience at (920) 437-2997.

Sincerely,

A handwritten signature in black ink, appearing to read "Chad M. Fradette", with a long horizontal flourish extending to the right.

Chad M. Fradette
Staff Environmental Scientist

I, Chad M. Fradette, hereby certify that I am a scientist as that term is defined in s. NR 712.03 (3), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Cc: Ms. Sue Van Schyndle
Ms. Jennifer Willems
File

Enclosures: Fig 1, Appendix A – Laboratory Analytical Report
Appendix B – EPA Prioritized Dose-Response Value Table

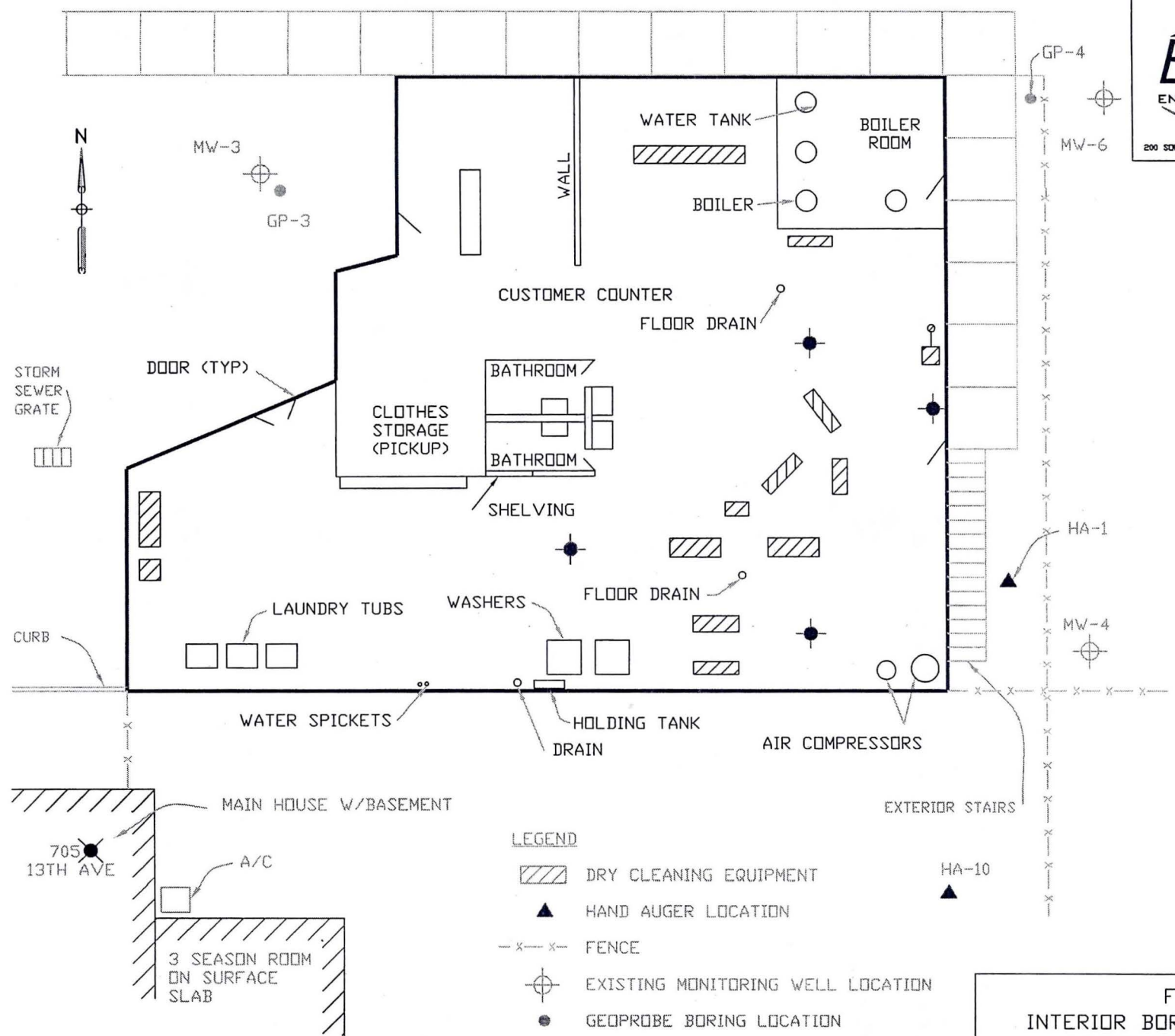


FIGURE 1
 INTERIOR BORING CONFIGURATION
 FORMER HOLIDAY CLEANERS
 GREEN BAY, WISCONSIN

SCALE	SHEET NO.	DWG NO.	DATE	SIZE	DRWN BY	REV	CHK'D	APP'D
1" = 10'	1 OF 1	PD1113.85	07/13/04	A	JMR			



APPENDIX A

Soil Gas Sample Laboratory Analytical Report



Corporate Office & Laboratory
1241 Bellevue Street, Suite 9, Green Bay, WI 54302
920-469-2436, Fax: 920-469-8827
www.enchem.com

Analytical Report Number: 848720

Client: ENDEAVOR ENVIRONMENTAL SERVICES, INC.

Lab Contact: Laurie Woelfel

Project Name: HOLIDAY CLEANERS

Project Number: PO1113.85

RECEIVED
BY *LMC* | DATE *08/13/04*

Lab Sample Number	Field ID	Matrix	Collection Date
848720-001	WILLEMS HOME FRONT	CHAR	07/13/04
848720-002	WILLEMS HOME BACK	CHAR	07/13/04

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample comments. Release of this final report is authorized by Laboratory management, as is verified by the following signature. Reported results shall not be reproduced, except in full, without the written approval of the lab. The sample results relate only to the analytes of interest tested.

Approval Signature *Laurie Woelfel*

Date *7/30/04*

Client : ENDEAVOR ENVIRONMENTAL SERVICES, INC.

Matrix Type : CHARCOAL

Project Name : HOLIDAY CLEANERS

Collection Date : 07/13/04

Project Number : PO1113.85

Report Date : 07/30/04

Field ID : WILLEMS HOME FRONT

Lab Sample Number : 848720-001

VOLATILES

Prep Date: 07/28/04

Analyte	Result	LOD	LOQ	EQL	Dil.	Units	Code	Anl Date	Prep Method	Anl Method
1,1,1,2-Tetrachloroethane	< 0.0096	0.0096	0.032		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,1,1-Trichloroethane	< 0.011	0.011	0.038		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,1,2,2-Tetrachloroethane	< 0.013	0.013	0.042		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,1,2-Trichloroethane	< 0.014	0.014	0.048		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,1-Dichloroethane	< 0.011	0.011	0.038		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,1-Dichloroethene	< 0.013	0.013	0.044		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,1-Dichloropropene	< 0.011	0.011	0.038		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2,3-Trichlorobenzene	< 0.010	0.010	0.034		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2,3-Trichloropropane	< 0.013	0.013	0.042		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2,4-Trichlorobenzene	< 0.0099	0.0099	0.033		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2,4-Trimethylbenzene	< 0.0066	0.0066	0.022		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2-Dibromo-3-chloropropane	< 0.0072	0.0072	0.024		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2-Dibromoethane	< 0.011	0.011	0.036		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2-Dichlorobenzene	< 0.0075	0.0075	0.025		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2-Dichloroethane	< 0.013	0.013	0.042		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2-Dichloropropane	< 0.013	0.013	0.043		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,3,5-Trimethylbenzene	< 0.0072	0.0072	0.024		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,3-Dichlorobenzene	< 0.0099	0.0099	0.033		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,3-Dichloropropane	< 0.0072	0.0072	0.024		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,4-Dichlorobenzene	< 0.010	0.010	0.035		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
2,2-Dichloropropane	< 0.0099	0.0099	0.033		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
2-Chlorotoluene	< 0.011	0.011	0.036		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
4-Chlorotoluene	< 0.014	0.014	0.046		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Benzene	< 0.0087	0.0087	0.029		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Bromobenzene	< 0.0087	0.0087	0.029		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Bromochloromethane	< 0.0096	0.0096	0.032		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Bromodichloromethane	< 0.011	0.011	0.038		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Bromoform	< 0.012	0.012	0.040		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Bromomethane	< 0.015	0.015	0.049		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Carbon Tetrachloride	< 0.0099	0.0099	0.033		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Chlorobenzene	< 0.0057	0.0057	0.019		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Chlorodibromomethane	< 0.012	0.012	0.039		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Chloroethane	< 0.015	0.015	0.050		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Chloroform	< 0.011	0.011	0.037		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Chloromethane	< 0.012	0.012	0.041		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
cis-1,2-Dichloroethene	< 0.012	0.012	0.040		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
cis-1,3-Dichloropropene	< 0.0087	0.0087	0.029		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Dibromomethane	< 0.011	0.011	0.036		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Dichlorodifluoromethane	< 0.013	0.013	0.042		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Diisopropyl Ether	< 0.0057	0.0057	0.019		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Ethylbenzene	< 0.0090	0.0090	0.030		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Fluorotrichloromethane	< 0.011	0.011	0.038		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Hexachlorobutadiene	< 0.014	0.014	0.046		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Isopropylbenzene	< 0.0066	0.0066	0.022		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Methylene Chloride	< 0.0087	0.0087	0.029		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Methyl-tert-butyl-ether	< 0.0090	0.0090	0.030		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Naphthalene	< 0.0090	0.0090	0.030		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
N-Butylbenzene	< 0.0072	0.0072	0.024		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
n-Propylbenzene	< 0.0033	0.0033	0.011		50	ug/L		07/28/04	SW846 5030B	SW846 8260B

En Chem Inc.

Analytical Report Number: 848720

1241 Bellevue Street
Green Bay, WI 54302
920-469-2436

Client : ENDEAVOR ENVIRONMENTAL SERVICES, INC.

Project Name : HOLIDAY CLEANERS

Project Number : PO1113.85

Field ID : WILLEMS HOME FRONT

Matrix Type : CHARCOAL

Collection Date : 07/13/04

Report Date : 07/30/04

Lab Sample Number : 848720-001

VOLATILES

Prep Date: 07/28/04

Analyte	Result	LOD	LOQ	EQL	Dil.	Units	Code	Anl Date	Prep Method	Anl Method
p-Isopropyltoluene	< 0.0075	0.0075	0.025		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
sec-Butylbenzene	< 0.0048	0.0048	0.016		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Styrene	< 0.0072	0.0072	0.024		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
tert-Butylbenzene	< 0.0069	0.0069	0.023		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Tetrachloroethene	< 0.0099	0.0099	0.033		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Toluene	< 0.0051	0.0051	0.017		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
trans-1,2-Dichloroethene	< 0.0087	0.0087	0.029		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
trans-1,3-Dichloropropene	< 0.0090	0.0090	0.030		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Trichloroethene	< 0.012	0.012	0.040		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Vinyl Chloride	< 0.0087	0.0087	0.029		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Xylene, o	< 0.0090	0.0090	0.030		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Xylenes, m + p	< 0.013	0.013	0.043		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
4-Bromofluorobenzene	81				1	%Recov		07/28/04	SW846 5030B	SW846 8260B
Toluene-d8	98				1	%Recov		07/28/04	SW846 5030B	SW846 8260B
Dibromofluoromethane	106				1	%Recov		07/28/04	SW846 5030B	SW846 8260B

Analytical Report Number: 848720

Client : ENDEAVOR ENVIRONMENTAL SERVICES, INC.

Matrix Type : CHARCOAL

Project Name : HOLIDAY CLEANERS

Collection Date : 07/13/04

Project Number : PO1113.85

Report Date : 07/30/04

Field ID : WILLEMS HOME BACK

Lab Sample Number : 848720-002

VOLATILES

Prep Date: 07/28/04

Analyte	Result	LOD	LOQ	EQL	Dil.	Units	Code	Anl Date	Prep Method	Anl Method
1,1,1,2-Tetrachloroethane	< 0.0096	0.0096	0.032		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,1,1-Trichloroethane	< 0.011	0.011	0.038		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,1,2,2-Tetrachloroethane	< 0.013	0.013	0.042		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,1,2-Trichloroethane	< 0.014	0.014	0.048		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,1-Dichloroethane	< 0.011	0.011	0.038		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,1-Dichloroethene	< 0.013	0.013	0.044		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,1-Dichloropropene	< 0.011	0.011	0.038		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2,3-Trichlorobenzene	< 0.010	0.010	0.034		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2,3-Trichloropropane	< 0.013	0.013	0.042		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2,4-Trichlorobenzene	< 0.0099	0.0099	0.033		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2,4-Trimethylbenzene	< 0.0066	0.0066	0.022		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2-Dibromo-3-chloropropane	< 0.0072	0.0072	0.024		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2-Dibromoethane	< 0.011	0.011	0.036		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2-Dichlorobenzene	< 0.0075	0.0075	0.025		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2-Dichloroethane	< 0.013	0.013	0.042		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,2-Dichloropropane	< 0.013	0.013	0.043		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,3,5-Trimethylbenzene	< 0.0072	0.0072	0.024		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,3-Dichlorobenzene	< 0.0099	0.0099	0.033		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,3-Dichloropropane	< 0.0072	0.0072	0.024		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
1,4-Dichlorobenzene	< 0.010	0.010	0.035		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
2,2-Dichloropropane	< 0.0099	0.0099	0.033		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
2-Chlorotoluene	< 0.011	0.011	0.036		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
4-Chlorotoluene	< 0.014	0.014	0.046		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Benzene	< 0.0087	0.0087	0.029		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Bromobenzene	< 0.0087	0.0087	0.029		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Bromochloromethane	< 0.0096	0.0096	0.032		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Bromodichloromethane	< 0.011	0.011	0.038		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Bromoform	< 0.012	0.012	0.040		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Bromomethane	< 0.015	0.015	0.049		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Carbon Tetrachloride	< 0.0099	0.0099	0.033		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Chlorobenzene	< 0.0057	0.0057	0.019		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Chlorodibromomethane	< 0.012	0.012	0.039		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Chloroethane	< 0.015	0.015	0.050		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Chloroform	< 0.011	0.011	0.037		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Chloromethane	< 0.012	0.012	0.041		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
cis-1,2-Dichloroethene	< 0.012	0.012	0.040		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
cis-1,3-Dichloropropene	< 0.0087	0.0087	0.029		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Dibromomethane	< 0.011	0.011	0.036		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Dichlorodifluoromethane	< 0.013	0.013	0.042		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Diisopropyl Ether	< 0.0057	0.0057	0.019		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Ethylbenzene	< 0.0090	0.0090	0.030		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Fluorotrichloromethane	< 0.011	0.011	0.038		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Hexachlorobutadiene	< 0.014	0.014	0.046		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Isopropylbenzene	< 0.0066	0.0066	0.022		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Methylene Chloride	< 0.0087	0.0087	0.029		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Methyl-tert-butyl-ether	< 0.0090	0.0090	0.030		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Naphthalene	< 0.0090	0.0090	0.030		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
N-Butylbenzene	< 0.0072	0.0072	0.024		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
n-Propylbenzene	< 0.0033	0.0033	0.011		50	ug/L		07/28/04	SW846 5030B	SW846 8260B

En Chem Inc.

Analytical Report Number: 848720

1241 Bellevue Street
Green Bay, WI 54302
920-469-2436

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Matrix Type : CHARCOAL

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VOLATILES

Prep Date: 07/28/04

Analyte	Result	LOD	LOQ	EQL	Dil.	Units	Code	Anl Date	Prep Method	Anl Method
p-Isopropyltoluene	< 0.0075	0.0075	0.025		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
sec-Butylbenzene	< 0.0048	0.0048	0.016		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Styrene	< 0.0072	0.0072	0.024		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
tert-Butylbenzene	< 0.0069	0.0069	0.023		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Tetrachloroethene	0.021	0.0099	0.033		50	ug/L	Q	07/28/04	SW846 5030B	SW846 8260B
Toluene	0.013	0.0051	0.017		50	ug/L	Q	07/28/04	SW846 5030B	SW846 8260B
trans-1,2-Dichloroethene	< 0.0087	0.0087	0.029		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
trans-1,3-Dichloropropene	< 0.0090	0.0090	0.030		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Trichloroethene	< 0.012	0.012	0.040		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Vinyl Chloride	< 0.0087	0.0087	0.029		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Xylene, o	< 0.0090	0.0090	0.030		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
Xylenes, m + p	< 0.013	0.013	0.043		50	ug/L		07/28/04	SW846 5030B	SW846 8260B
4-Bromofluorobenzene	71				1	%Recov		07/28/04	SW846 5030B	SW846 8260B
Toluene-d8	96				1	%Recov		07/28/04	SW846 5030B	SW846 8260B
Dibromofluoromethane	107				1	%Recov		07/28/04	SW846 5030B	SW846 8260B

Qualifier Codes

Flag	Applies To	Explanation
A	Inorganic	Analyte is detected in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
B	Inorganic	The analyte has been detected between the method detection limit and the reporting limit.
B	Organic	Analyte is present in the method blank. Method blank criteria is evaluated to the laboratory method detection limit. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
C	All	Elevated detection limit.
D	All	Analyte value from diluted analysis or surrogate result not applicable due to sample dilution.
E	Inorganic	Estimated concentration due to matrix interferences. During the metals analysis the serial dilution failed to meet the established control limits of 0-10%. The sample concentration is greater than 50 times the IDL for analysis done on the ICP or 100 times the IDL for analysis done on the ICP-MS. The result was flagged with the E qualifier to indicate that a physical interference was observed.
E	Organic	Analyte concentration exceeds calibration range.
F	Inorganic	Due to potential interferences for this analysis by Inductively Coupled Plasma techniques (SW-846 Method 6010), this analyte has been confirmed by and reported from an alternate method.
F	Organic	Surrogate results outside control criteria.
H	All	Preservation, extraction or analysis performed past holding time.
HF	Inorganic	This test is considered a field parameter, and the recommended holding time is 15 minutes from collection. The analysis was performed in the laboratory beyond the recommended holding time.
J	Inorganic	The analyte has been detected between the method detection limit and the reporting limit.
J	Organic	Concentration detected is greater than the method detection limit but less than the reporting limit.
K	Inorganic	Sample received unpreserved. Sample was either preserved at the time of receipt or at the time of sample preparation.
K	Organic	Detection limit may be elevated due to the presence of an unrequested analyte.
L	All	Elevated detection limit due to low sample volume.
M	Organic	Sample pH was greater than 2
N	All	Spiked sample recovery not within control limits.
O	Organic	Sample received overweight.
P	Organic	The relative percent difference between the two columns for detected concentrations was greater than 40%.
Q	All	The analyte has been detected between the limit of detection (LOD) and limit of quantitation (LOQ). The results are qualified due to the uncertainty of analyte concentrations within this range.
S	Organic	The relative percent difference between quantitation and confirmation columns exceeds internal quality control criteria. Because the result is unconfirmed, it has been reported as a non-detect with an elevated detection limit.
U	All	The analyte was not detected at or above the reporting limit.
V	All	Sample received with headspace.
W	All	A second aliquot of sample was analyzed from a container with headspace.
X	All	See Sample Narrative.
&	All	Laboratory Control Spike recovery not within control limits.
*	All	Precision not within control limits.
<	All	The analyte was not detected at or above the reporting limit.
1	Inorganic	Dissolved analyte or filtered analyte greater than total analyte; analyses passed QC based on precision criteria.
2	Inorganic	Dissolved analyte or filtered analyte greater than total analyte; analyses failed QC based on precision criteria.
3	Inorganic	BOD result is estimated due to the BOD blank exceeding the allowable oxygen depletion.
4	Inorganic	BOD duplicate precision not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
5	Inorganic	BOD result is estimated due to insufficient oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
6	Inorganic	BOD laboratory control sample not within control limits. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.
7	Inorganic	BOD result is estimated due to complete oxygen depletion. Due to the 48 hour holding time for this test, it is not practical to reanalyze and try to correct the deficiency.

En Chem Inc.

Analysis Summary by Laboratory

1241 Bellevue Street
Green Bay, WI 54302

1090 Kennedy Avenue
Kimberly, WI 54136

848720-001
848720-002

Test Group Name

VOLATILES

G G

Wisconsin Certification

G = En Chem Green Bay 405132750 / DATCP: 105 000444

K = En Chem Kimberly 445134030

S = En Chem Superior Not Applicable

C = Subcontracted Analysis

En Chem, Inc. Cooler Receipt Log

Batch No. 848720

Project Name or ID Holiday Cleaners No. of Coolers: 1 Temps: ROT

A. Receipt Phase: Date cooler was opened: 7-14-04 By: RJ

- 1: Were samples received on ice? (Must be ≤ 6 C)..... YES NO² NA
- 2: Was there a Temperature Blank?..... YES NO¹
- 3: Were custody seals present and intact on cooler? (Record on COC)..... YES NO¹
- 4: Are COC documents present?..... YES NO²
- 5: Does this Project require quick turn around analysis?..... YES NO¹
- 6: Is there any sub-work?..... YES NO¹
- 7: Are there any short hold time tests?..... YES NO¹
- 8: Are any samples nearing expiration of hold-time? (Within 2 days)..... YES¹ NO Contacted by/Who _____
- 9: Do any samples need to be Filtered or Preserved in the lab?..... YES¹ NO Contacted by/Who _____

B. Check-in Phase: Date samples were Checked-in: 7-14-04 By: RJ

- 1: Were all sample containers listed on the COC received and intact?..... YES NO² NA
- 2: Sign the COC as received by En Chem. Completed..... YES NO
- 3: Do sample labels match the COC? YES NO²
- 4: Completed pH check on preserved samples..... YES NO NA
(This statement does not apply to water: VOC, O&G, TOC, DRO, Total Rec. Phenolics)
- 5: Do samples have correct chemical preservation?..... YES NO² NA
(This statement does not apply to water: VOC, O&G, TOC, DRO, Total Rec. Phenolics)
- 6: Are dissolved parameters field filtered?..... YES NO² NA
- 7: Are sample volumes adequate for tests requested? YES NO²
- 8: Are VOC samples free of bubbles >6mm YES NO² NA
- 9: Enter samples into logbook. Completed..... YES NO
- 10: Place laboratory sample number on all containers and COC. Completed..... YES NO
- 11: Complete Laboratory Tracking Sheet (LTS). Completed..... YES NO NA
- 12: Start Nonconformance form. YES NO NA
- 13: Initiate Subcontracting procedure. Completed..... YES NO NA
- 14: Check laboratory sample number on all containers and COC. YES NO NA

Short Hold-time tests:

24 Hours or less	48 Hours	7 days	Footnotes 1 Notify proper lab group immediately. 2 Complete nonconformance memo.
Coliform	BOD	Ash	
Corrosivity = pH	Color	Aqueous Extractable Organics- ALL	
Dissolved Oxygen	Nitrite or Nitrate	Flashpoint	
Hexavalent Chromium	Ortho Phosphorus	Free Liquids	
HPC	Surfactants	Sulfide	
Ferrous Iron	Turbidity	TDS	
Eh	En Core Preservation	TSS	
Odor	Power stop preservation	Total Solids	
Residual Chlorine		TVS	
Sulfite		TVSS	
		Unpreserved VOC's	

Rev. 2/05/04, Attachment to 1-REC-5.
Subject to QA Audit.

Reviewed by/date WJ 7/16/04



APPENDIX B

EPA – Prioritized Dose-Response Values

Table 1. Prioritized Dose-Response Values (10/28/03)				WOE ³ for Cancer		CHRONIC INHALATION				CHRONIC ORAL			
CHEMICAL NAME	CAS NO. ¹	HAP NO. ²	WOE ³ for Cancer		NONCANCER		CANCER		NONCANCER		CANCER		
			EPA	IARC	mg/m3	SOURCE	1/(ug/m3)	SOURCE	mg/kg/d	SOURCE	1/(mg/kg/d)	SOURCE	
Quinoline	91-22-5	144	B2										
Selenium compounds	7782-49-2	189	D		0.02	CAL							
Hydrogen selenide	7783-07-5	189			0.00008	CAL							
Selenious acid	7783-00-8	189	D										
Selenourea	630-10-4	189											
Styrene	100-42-5	146		2B	1	IRIS							
Styrene oxide	96-09-3	147		2A	0.006	P-CAL							
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	148	B2		4E-08	CAL	3.3E+01	EPA ORD	1E-09	ATSDR	1.5E+05	EPA ORD	
1,1,2,2-Tetrachloroethane	79-34-5	149	C	3			5.8E-05	IRIS					
Tetrachloroethene	127-18-4	150	B2-C	2A	0.27	ATSDR	5.9E-06	CAL					
Titanium tetrachloride	7550-45-0	151			0.0001	ATSDR							
Toluene	108-88-3	152	D	3	0.4	IRIS							
2,4-Toluene diamine	95-80-7	153	B2				1.1E-03	CAL					
2,4/2,6-Toluene diisocyanate mixture (TDI)	26471-62-5	154		2B	0.00007	IRIS	1.1E-05	CAL					
o-Toluidine	95-53-4	155	B2	2B			5.1E-05	CAL					
Toxaphene	8001-35-2	156	B2	2B			3.2E-04	IRIS			1.1E+00	IRIS	
1,2,4-Trichlorobenzene	120-82-1	157	D		0.2	HEAST							
1,1,2-Trichloroethane	79-00-5	158	C	3	0.4	P-CAL	1.6E-05	IRIS					
1,1,1-Trichloroethane	71-55-6	107	D		1	CAL							
Trichloroethylene	79-01-6	159	B2-C	2A	0.6	CAL	2.0E-06	CAL					
2,4,5-Trichlorophenol	95-95-4	160											
2,4,6-Trichlorophenol	88-06-2	161	B2				3.1E-06	IRIS					
Triethylamine	121-44-8	162			0.007	IRIS							
Trifluralin	1582-09-8	163	C	3			2.2E-06	Conv. Oral	0.0075	IRIS	7.7E-03	IRIS	
Uranium compounds	7440-61-1	188			0.0003	ATSDR							
Uranium, soluble salts	URANSOLS	188											
Vinyl acetate	108-05-4	165		2B	0.2	IRIS							
Vinyl bromide	593-60-2	166	B2	2A	0.003	IRIS	3.2E-05	HEAST					
Vinyl chloride	75-01-4	167	A	1	0.1	IRIS	8.8E-06	IRIS					
Vinylidene chloride	75-35-4	168	C		0.2	IRIS							
m-Xylene	108-38-3	171											
o-Xylene	95-47-6	170											
Xylenes (mixed)	1330-20-7	169			0.1	IRIS							

¹Chemical Abstracts Services number for the compound.

²Position of the compound on the HAP list in the Clean Air Act (112[b][2])

³Weight-of-evidence. See <http://www.epa/iris/carcino.htm>, <http://193.51.164.11/monoeval/grlist.html>.