WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary
Gloria L. McCutcheon, Regional Director

Waukesha Service Center
407 Pilot Court, Suite 100
Waukesha, Wisconsin 53188
Telephone 262-574-2166
FAX 262-574-2117

November 2, 2004

Mr. Robert Miller
Spic and Span, Inc.
4301 N. Richards Street
Milwaukee, WI 53212

Subject: Case Closure, Spin & Span, Inc., DBA Dryclean USA
15740 West Capitol Drive, Brookfield, Wisconsin
FID# 268188470, BRRTS# 02-68-223678

Dear Mr. Miller:

On March 4, 2004, the Wisconsin Department of Natural Resources (Department) received the February 16, 2004 report that was prepared by Graef, Anhalt, Schloemer requesting closure for the above referenced property (the Property). The Department reviews environmental remediation cases for compliance with state statutes and rules to maintain consistency in the closure of these cases.

The Department received additional documentation on May 3, 2004 (site monitoring well construction and sampling) and on July 12, 2004 (site specific residual contaminant level or SSRCL). Based on the documentation submitted to the Department, the "hotspot" of contaminated soil has been removed from the Property and properly disposed. Also, the residual contaminated soil at the Property contains tetrachloroethene (PCE) in concentrations below the calculated SSRCL. After careful review of your closure request, it has been decided that the PCE release at the Property appears to have been investigated and remediated to the extent practicable under site conditions. Your case has been remediated to Department standards in accordance with s. NR 726.05, Wis. Adm. Code. The Department considers this case closed and no further investigation, remediation or other action is required at this time.

Please be aware that the case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code, if additional information regarding site conditions indicates that contamination on or from the Property poses a threat to public health, safety, or welfare or to the environment. In the future, if soil is excavated from an area on the Property that had residual soil contamination at the time of case closure, the soil must be sampled, analyzed, handled and disposed of as a solid waste in compliance with applicable state and federal laws in effect at that time.

The Department appreciates your efforts to restore the environment at the Property. If you have any questions regarding this letter, please contact me at the letterhead address or (262) 574-2166.

Sincerely,

David G. Volkert, P.G.
Hydrogeologist
Bureau for Remediation & Redevelopment

cc: Brian Schneider, GAS & Associates
SER File

Length	10
Width	10
Area	**100**
Thickness	3
Volume (cy)	**11**
Volume (ft^3)	**300**
Volume (cm^3)	**8.50E+06**
Density (g/cm^3)	1.7
Soil Mass (kg)	**14441.59**
Contaminant Level (ppm)	6.204
Contaminant Mass (kg)	**0.089596**

Information provided by Geof Parish at GAS showing what data was input to calculate PCE load in SESOIL model.

Dave Volkert
11/1/04

GRAEF
ANHALT
SCHLOEMER
and Associates Inc.

Graef, Anhalt, Schloemer & Associates, Inc.
Engineers & Scientists

Milwaukee Chicago Green Bay Madison

One Honey Creek Corporate Center
125 South 84th Street, Suite 401
Milwaukee, WI 53214-1470
Telephone (414) 259-1500 • FAX (414) 259-0037
www.gasai.com

June 28, 2004

David G. Volkert, P.G.
Wisconsin Department of Natural Resources
141 NW Barstow Street, Room 180
Waukesha, WI 53188

SUBJECT: Former Dryclean USA Facility, 15740 West Capitol Drive, Brookfield, WI
FID# 268188470, BRRTS# 02-68-223678

Dave:

I am writing to provide a Residual Contaminant Level (RCL) that is protective of groundwater at the subject property. Based on the SESOIL analysis that is included in the request for closure dated February 16, 2004, the minimum RCL is 4,950 parts per billion (ppb). The RCL is based on averaging the concentrations from the most highly contaminated soils on site that were used in the SESOIL analysis and were subsequently removed. The RCL assumes no PCE in the water. If the Preventive Action Level (PAL) were used as the maximum concentration on site, the RCL would be much higher.

The RCL of 4,950 ppb for protection of groundwater is significantly higher than the maximum concentration remaining on site of 1,800 ppb. Accordingly, Spic and Span requests that closure be granted without requiring GIS registration.

If you have any questions, please contact me at 414-266-9284.

Sincerely,

GRAEF, ANHALT, SCHLOEMER
& Associates, Inc.

Brian Schneider, P.E.
Project Engineer

Cc: Bob Miller – Spic and Span, Inc.
BWS F:\ \Closure Request 2-17-04.doc

65600.00

FAX TRANSMITTAL FORM

TO: Dave Volbert
FIRM: WDNR
FAX #: 262-574-~~2566~~2117
FROM: _____

DATE: 5/3/04
PAGE 1 OF 9
RE: WELL INFORMATION

ACTION REQUIRED:

- ☐ Per your request, no response required
- ☐ Call to confirm receipt
- ☐ Please reply
- ☐ _____

IMPORTANCE:

- ☐ Urgent - Rush
- ☐ ASAP
- ☐ No rush
- ☐ _____

IN ADDITION:

- ☐ Original will follow by U.S. Mail

☐ Copies send to:

_____
_____
_____

MESSAGE:

Dave,

Please call me at 414-266-9284, if you need anything else.

Thanks
Brian

One Honey Creek Corporate Center
125 South 84th Street, Suite 401
Milwaukee, Wisconsin 53214-1470
Telephone: (414) 259-1500
FAX: (414) 259-0037
www.gasai.com

GRAEF ANHALT SCHLOEMER and Associates Inc.

QUALITY ISSUE

FIELD WATER QUALITY SAMPLING AND ANALYSIS LOG

GRAEF ANHALT SCHLOEMER and Associates Inc.
ENGINEERS & SCIENTISTS

PROJECT: Spic + Span Capitol
PROJECT NO.: 2001 0079
LOCATION: 15740 W. Capitol Drive
LABORATORY: NA
DATE SENT: NA

INSTRUMENT IDENTIFICATION:
TEMPERATURE: NA
CONDUCTIVITY:
pH:
PUMP:

SAMPLE LOCATION	MW-1	MW-1			
TYPE	4-27-01 12:00	5-24-01 9:00			
DATE/TIME					
WELL DEPTH (FT.)	29.54	29.54			
DEPTH TO GW (FT.)	28.89	28.47			
WATER COLUMN (FT.)	0.65 0.00	1.07 0.00	0.00	0.00	0.00
WELL VOLUME. (GAL)		0.18			
CALC. PURGE VOL.(GAL)		0.72			
ACT. VOL. PURGED(GAL)	NA	.25			
MP ELEV. (FT. MSL)					
GW ELEV. (FT. MSL)	0.00	0.00	0.00	0.00	0.00
SAMPLING DEVICE					
TEMPERATURE (°C)		13.9			
CONDUCTIVITY (uS/cm)		624			
(mS/cm)					
pH		7.07			
DISSOLVED OXYGEN (ppm)	—	—	—	—	—
REDOX (mV)		-29.0			
COLOR	LT Brown	LT Brown			
ODOR	None	None			
CLARITY	Cloudy	Slightly cloudy			
SAMPLING PARAMETERS:	NO. OF CONTAINERS & CONTAINER TYPE: VOA PLASTIC AMB BTL PRESERVATIVE TYPE, FILTERED OR UNFILTERED				
VOCs		X			
SAMPLED BY:	ECD	ECD			
REMARKS:	Poor Bails Dry	Grab Sample			

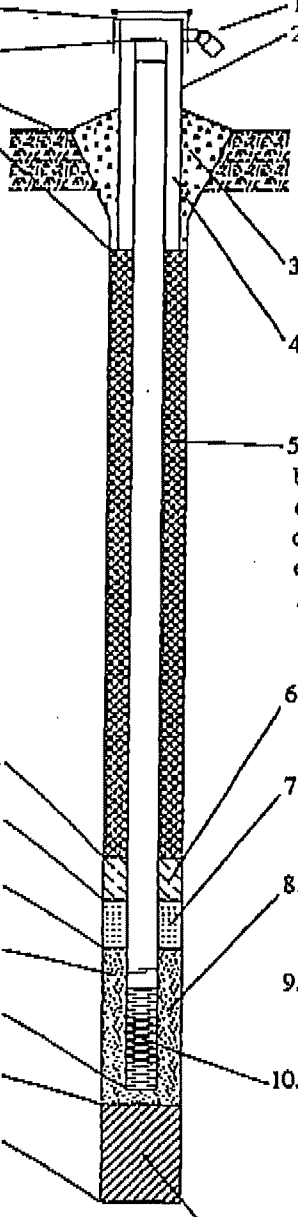
QUALITY ISSUE

Wisconsin Dept of Natural Resources Route To: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☐ Other ☐ *

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 6-97

Facility/Project Name: Spic + Span	Local Grid Location of Well: * ft. ☐N ☐S * ft. ☐E ☐W	Well Name: * MW-1
Facility License, Permit or Monitoring No.: *	Grid Origin Location (Check if estimated: ☐) Lat. *° *' *" Long. *° *' *" or	Wis. Unique Well No.: SZ * 112 DNR Well Number: *
Facility ID: *	St. Plane * ft. N. * ft. E. ☐SCO☐N	Date Well Installed: 3-22-01 *
Type of Well: *	Section Location of Waste/Source: * 1/4 of * 1/4 of Sec. * T. * N. R. * ☐E ☐W	Well Installed By: (Person's Name and Firm) ON SITE * ENVIRONMENTAL
Distance Well Is From Waste/Source Boundary: * ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	TONY *



A. Protective pipe, top elevation: * ft. MSL

B. Well casing, top elevation: * ft. MSL

C. Land surface elevation: * ft. MSL

D. Surface seal, bottom: 1.0 * ft. MSL or * ft.

12. USC classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☒ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
* Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe * N/A

17. Source of water (attach analysis):
*

E. Bentonite seal, top: 1.0 * ft. MSL or * ft.

F. Fine sand, top: 7.6 * ft. MSL or * ft.

G. Filter pack, top: 8.6 * ft. MSL or * ft.

H. Screen joint, top: 9.6 * ft. MSL or * ft.

I. Well bottom: 29.6 * ft. MSL or * ft.

J. Filter pack, bottom: 29.6 * ft. MSL or * ft.

K. Borehole, bottom: 29.6 * ft. MSL or * ft.

L. Borehole, diameter: 8.25 * in.

M. O.D. well casing: 2.37 * in.

N. I.D. well casing: 2.03 * in.

1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 8.0" in.
b. Length: 1.0' ft.
c. Material: * Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: *

3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01
* Other ☐

4. Material between well casing and protective pipe:
Bentonite ☒ 30
* Other ☐

5. Annular space seal: a. Granular Bentonite ☐ 33
b. * Lbs/gal mud weight Bentonite-sand slurry ☐ 35
c. * Lbs/gal mud weight ... Bentonite slurry ☐ 31
d. * % Bentonite ... Bentonite-cement grout ☐ 50
e. * Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01
Tremie pumped ☐ 02
Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite pellets ☐ 32
c. 3 bags * Other ☐

7. Fine sand material: Manufacturer, product name and mesh size
a. Red Flint #5 * - 55
b. Volume added 1/2 1* bag ft³

8. Filter pack material: Manufacturer, product name and mesh size
a. Red Flint # * 30
b. Volume added 12 3/4 bags ft³

9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
* Other ☐

10. Screen material: PVC *
a. Screen Type: Factory cut ☒ 11
Continuous slot ☐ 01
* Other ☐
b. Manufacturer Mono Flex
c. Slot size: .010 * in.
d. Slotted length: 2.0 * ft.

11. Backfill material (below filter pack): None ☒ 14
* Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature . . Firm * ** Tel: * Fax: *

Please complete both Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these f may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable informa these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Department of Natural Resources

QUALITY ISSUE

☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other

Form 4400-122 Rev. 5-92

Page 1 of 2

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
S.L. + Span 15740 W Capitol		MW-1

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
OnSite Environmental Tony	3/22/01 (MM DD YY)	3/22/01 (MM DD YY)	Geoprobe / HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		MW-1	____ Feet MSL	____ Feet MSL	8.25 inches

Boring Location
State Plane ____ N, ____ E
____ 1/4 of ____ 1/4 of Section ____, T ____ N, R ____
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "

Local Grid Location (If applicable)
____ Feet ☐ N ☐ S ____ Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village

Sample: Number and Type	Sample: Length Att. & Recovered (in)	Sample: Blow Counts	Depth in Feet	Soil/Rock Description And Geological Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
MW-1 3:30 SS1	22"	N/A	0–2.0	Asphalt, fill. Silty Clay few gravel F-C mod plastic, brown 10yr 4/3 mod stiff frozen	CL									
3:34 SS2	22"		2.0–4.0	Same, trace gravel F-C, mottled gray 10yr 5/1	CL					M				
3:37 SS3	23		4.0–6.0	Silty Clay trace gravel F-C trace sand F, trace roots mod plastic [illegible]	CL					M				
3:41 SS4	23		6.0–8.0	Silty clay trace gravel F-C mod plastic brown 10yr [illegible]						M				
3:44 SS5	21"		8.0–10.0	Silty Clay few gravel F trace sand F-C mod plastic brown 10yr 4/3 stiff	CL					M				
3:47 SS6	21"		10.0–12.0	Same only trace										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm Graef, Anhalt, Schloemer, and Associates, Inc. 11540 W. Theo Trecker Way, West Allis, WI 53214

This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

QUALITY ISSUE

State of Wisconsin
Department of Natural Resources
Boring Number _____

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A Rev. 5-92
Use only as an attachment to Form 4400-122.
Page 2 of 2

Sample: Number and Type	Sample: Length Att. & Recovered (in.)	Blow Counts	Depth in Feet	Soil/Rock Description And Geological Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
8:50 SS7	14"		13.0	Same										
			14.0											
8:53 SS8	19"		15.0	Silty clay TRACE Gravel F-C TRACE Sand Fine med plast Pale Brown 10yr 6-3 Dense										
			16.0											
9:05 SS9	23"		17.0		CL									
			18.0	1/2" sand seam F-C Poorly Sized non plastic										
9:10 SS10	20"		19.0	Same as										
			20.0											
9:40 SS11	22"		21.0	Silty clay TRACE gravel F-C med plast light grayish Brown 10yr 5-2 STIFF										
			22.0											
9:45 SS12	22"		23.0	Same STIFF	CL									
			24.0											
9:55 SS13	23"		25.0	Same TRACE Fine gravel med STIFF										
			26.0											
10:06 SS14	23"		27.0	Same TRACE MOISTURE										
			28.0											
10:10 SS15	22"		29.0	Same No gravel TRACE MOISTURE	CL									
			30.0											
10:15 SS16	22"		31.0	Silty clay TRACE Gravel Fine med plast grayish Brown 10yr 5-2 mottled gray 10yr 6-1 Very Moist STIFF										
			32.0											

State of Wisconsin
Department of Natural Resources

QUALITY ISSUE

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Superfund ☐ Other ______________

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 5-92

Page 1 of 2

Facility/Project Name	License/Permit/Monitoring Number	Boring Number

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
	__/__/__ MM DD YY	__/__/__ MM DD YY	

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			______ Feet MSL	______ Feet MSL	______ inches

Boring Location
State Plane ______________ N, ______________ E
____ 1/4 of ____ 1/4 of Section ____, T ____ N, R ____

Lat ___° ___' ___"
Long ___° ___' ___"

Local Grid Location (If applicable)
______ Feet ☐ N ☐ S ______ Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village

Sample: Number and Type	Sample: Length Att. & Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geological Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
MW-1 10:25 SS17	30'	NA	32 – 34	Same						m				
10:30 SS16	30'	NA	34 – 36	Silty clay trace gravel fine med plast gray 10yr5/1 med soft wet	CL	3.6'				W				
				EOB 36 Ft										

Depth scale: 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 12.0

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm **Graef, Anhalt, Schloemer, and Associates, Inc.**
11540 W. Theo Trecker Way, West Allis, WI 53214

This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

GREAT LAKES ANALYTICAL

140 East Ryan Road
Oak Creek, Wisconsin 53154

Email: info@glalabs.com
(414) 570-9460 FAX (414) 570-9461

June 4, 2001

Brian Schneider
Graef, Anhalt, Schloemer - Milwaukee
One Honey Creek Corporate Center 125 S. 84th Street Ste. 401
Milwaukee, WI 53214-1470

RE: Spic and Span

Dear Brian Schneider

Enclosed are the results of analyses for sample(s) received by the laboratory on May 24, 2001. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Andrea Stathas
Project Manager

GREAT LAKES ANALYTICAL

140 East Ryan Road
Oak Creek, Wisconsin 53154

Email: info@glalabs.com
(414) 570-9460 FAX (414) 570-9461

Graef, Anhalt, Schloemer - Milwaukee	Project:	Spic and Span	Sampled: 5/24/01
One Honey Creek Corporate Center 125 S. 84th [illegible]	Project Number:	2001 0104	Received: 5/24/01
Milwaukee, WI 53214-1470	Project Manager:	Brian Schneider	Reported: 6/4/01 15:27

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1	W105152-01	Water	5/24/01
T.B.	W105152-02	Water	5/24/01

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Andrea Stathas, Project Manager

GREAT LAKES ANALYTICAL
140 East Ryan Road
Oak Creek, Wisconsin 53154
Email: info@glalabs.com
(414) 570-9460 FAX (414) 570-9461

Graef, Anhalt, Schloemer - Milwaukee	Project:	Spic and Span	Sampled: 5/24/01
One Honey Creek Corporate Center 125 S. 84th Street, Suite 40	Project Number:	2001 0104	Received: 5/24/01
Milwaukee, WI 53214-1470	Project Manager:	Brian Schneider	Reported: 6/4/01 15:27

WDNR Volatile Organic Compounds by Method 8260B
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-1			**W105152-01**				**Water**	1
1,1-Dichloroethane	1050575	5/25/01	5/25/01		5.00	ND	ug/l	
1,2-Dichloroethane	"	"	"		0.500	ND	"	
1,1-Dichloroethene	"	"	"		0.500	ND	"	
cis-1,2-Dichloroethene	"	"	"		5.00	ND	"	
trans-1,2-Dichloroethene	"	"	"		5.00	ND	"	
Tetrachloroethene					0.500	ND	"	
1,1,1-Trichloroethane					5.00	ND	"	
1,1,2-Trichloroethane					0.153	ND	"	
Trichloroethene					0.500	ND	"	
Vinyl chloride					0.214	ND	"	
Surrogate: Dibromofluoromethane	"	"	"	*92.9-121*		*104*	%	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	*74.5-127*		*103*	"	
Surrogate: Toluene-d8	"	"	"	*98.6-113*		*101*	"	
Surrogate: 4-Bromofluorobenzene	"	"	"	*78.4-118*		*93.6*	"	

Great Lakes Analytical--Oak Creek

**Refer to end of report for text of notes and definitions.*

Andrea Stathas, Project Manager

GRAEF
ANHALT
SCHLOEMER
and Associates Inc.

TRANSMITTAL FORM

One Honey Creek Corporate Center
125 South 84th Street, Suite 401
Milwaukee, Wisconsin 53214-1470
Phone (414) 259-1500
FAX (414) 259-0037
www.gasai.com

Date: February 23, 2004

To: David G. Volkert, P.G.
Wisconsin Department of Natural Res.
~~407 Pilot Court, Suite 100~~ 141 NW BARSTOW ST. SUITE 180
Waukesha, Wisconsin 53188-3789

Re: Former Dryclean USA Facility
15740 West Capitol Drive
Brookfield, WI
FID# 268188470, BRRTS # 02-68-223678

Attn: _____ GAS Job #: _____

We are sending you: ☐ Herewith ☐ Under Separate Cover

COPIES	NO.	DESCRIPTION
1		Site Closure Request

☐ Per your request ☒ For your use ☐ Copies for distribution
☐ For your approval ☐ Review & return ☐ Corrected prints

REMARKS: Dave,
Please call me at 414-266-9284, if you have any questions.

Sincerely,

GRAEF, ANHALT, SCHLOEMER & ASSOCIATES, INC.

Brian Schneider, P.E.

Copy to: Robert MIller - Spic and Span, Inc.

DEPARTMENT OF NATURAL RESOURCES
WAUKESHA SERVICE CENTER
2004 MAR -4 PM 12: 39

GRAEF
ANHALT
SCHLOEMER
and Associates Inc.

Graef, Anhalt, Schloemer
& Associates, Inc.
Engineers & Scientists

Milwaukee Chicago Green Bay Madison
One Honey Creek Corporate Center
125 South 84th Street, Suite 401
Milwaukee, WI 53214-1470
Telephone (414) 259-1500 • FAX (414) 259-0037
www.gasai.com

February 16, 2004

David G. Volkert, P.G.
Wisconsin Department of Natural Resources
407 Pilot Court, Suite 100
Waukesha, Wisconsin 53188

SUBJECT: Former Dryclean USA Facility, 15740 West Capitol Drive, Brookfield, WI
FID# 268188470, BRRTS# 02-68-223678

Dave:

On November 6, 2003, approximately 91.7 tons of Perchloroethylene (PCE) affected soil was excavated from the area beneath the former Dryclean USA Facility in preparation for construction activities in the area of the site. The work was completed to assure that PCE affected soils would not be improperly handled or disposed during construction. The depth of the excavation was approximately eight feet below ground surface (bgs) at the source and less than a foot bgs east of the source. The excavation was backfilled with clean structural fill and the area will be paved over for a parking lot. The soils were taken to the Superior Emerald Park Landfill, LLC for disposal. The monitoring well on site was also abandoned. The area of the excavation and the monitoring well location are included in Attachment A. The well abandonment form is included in Attachment B.

Prior to excavation, the PCE affected soils did not present a risk to human health and the environment. Based on the direct contact risk calculations and your concurrence letter dated August 22, 2002, excavation of the soils was not necessary to eliminate the direct contact risk. A SESOIL analysis was also completed to estimate the potential for the PCE in the soils to migrate to groundwater. Although this analysis was completed under the conservative assumption that contaminated soils would not be excavated, the results indicated that PCE would not reach the water table. Additionally, PCE and its breakdown products were not detected in the groundwater sample from the monitoring well on site. The SESOIL analysis is included as Attachment C.

Accordingly, Spic and Span requests that closure be granted without requiring a deed restriction.

65600.00

GRAEF
ANHALT
SCHLOEMER
and Associates Inc.

If you have any questions, please contact me at 414-266-9284.

Sincerely,

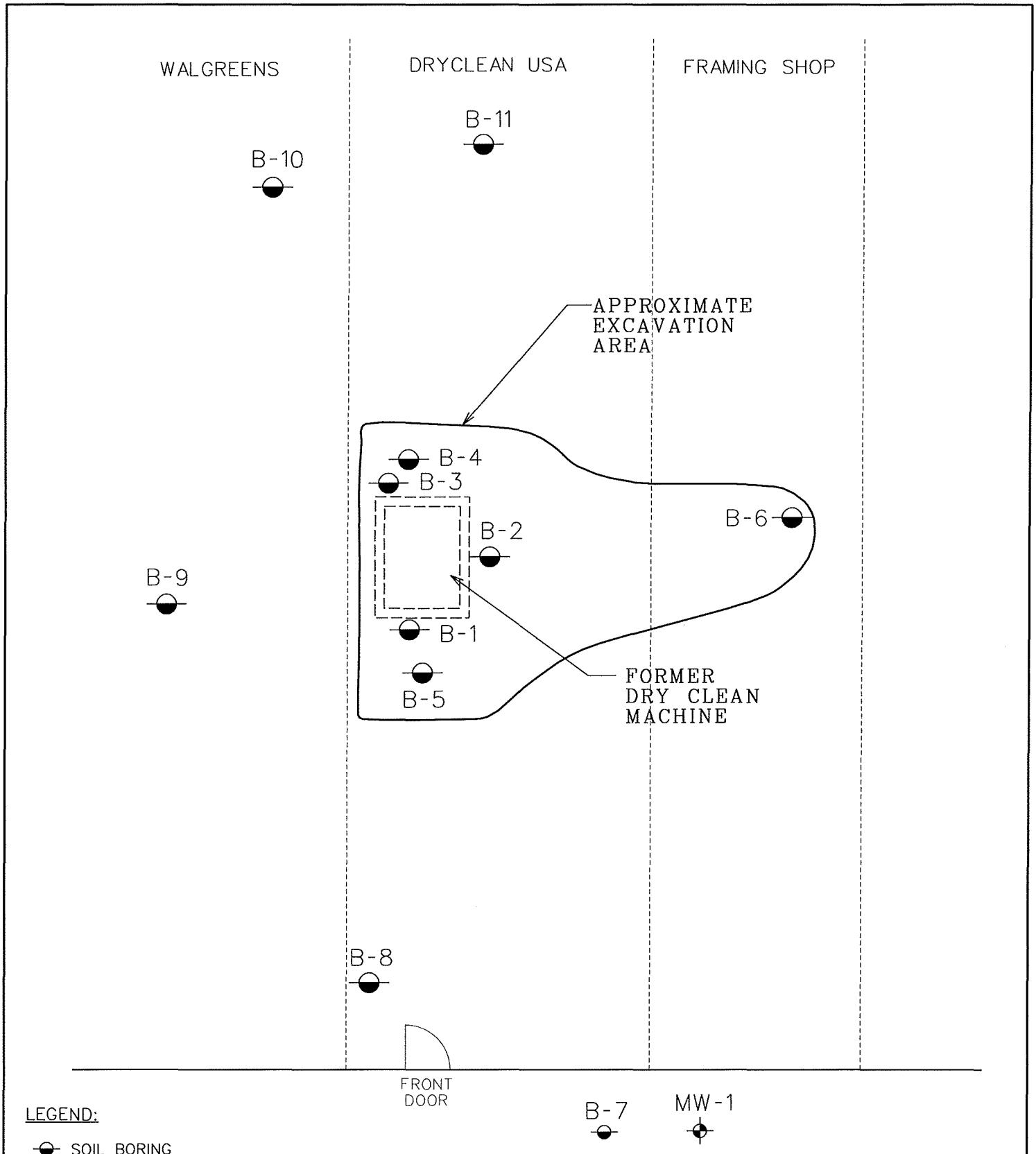
GRAEF, ANHALT, SCHLOEMER
& Associates, Inc.

Brian Schneider, P.E.
Project Engineer

Attachments: A Excavation Area
B Monitoring Well Abandonment Form
C SESOIL Model Results

Cc: Bob Miller – Spic and Span, Inc.
BWS F:\ \Closure Request 2-17-04.doc

ATTACHMENT A
EXCAVATION AREA



EXCAVATION AREA

DRYCLEAN USA (STORE #83)
15740 WEST CAPITOL DRIVE
MILWAUKEE, WISCONSIN

PROJECT NUMBER:	2002 0274
DATE:	02-16-04
PROJECT MGR:	BWS
DRAWN BY:	JZ
FILE NAME:	site274.dgn
SCALE:	Approx. 1" = 10'
REVISED:	

GRAEF ANHALT SCHLOEMER and Associates Inc.

FILE: I:\Jobs2002\20020274\CAD\Site\dgn\00\N_00_site274_v7.dgn
DATE: 16-Feb-04 10:37

FIGURE 1

ATTACHMENT B
MONITORING WELL ABANDONMENT FORM

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 7-89

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location: MW-1

County: WAUKESHA

SE 1/4 of SE 1/4 of Sec. 3 ; T. 7 N; R. 20 ☒ E ☐ W

(If applicable) Gov't Lot _____ Grid Number _____

Grid Location _____ ft. ☐ N. ☐ S., _____ ft. ☐ E. ☐ W.

Civil Town Name: BROOKFIELD

Street Address of Well: 15700 WEST CAPITOL DRIVE

City, Village: BROOKFIELD

(2) FACILITY NAME

Original Well Owner (If Known): DRY CLEAN USA FACILITY # 3

Present Well Owner: SAME

Street or Route: 15740 WEST CAPITOL DRIVE

City, State, Zip Code: BROOKFIELD, WISCONSIN

Facility Well No. and/or Name (If Applicable): MW-1

WI Unique Well No.: JZ112

Reason For Abandonment: SITE CLOSURE

Date of Abandonment: 11/6/03

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On

(Date) 3/22/01

☒ Monitoring Well
☐ Water Well
☐ Drillhole
☐ Borehole

Construction Report Available? ☒ Yes ☐ No

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) _____

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Borehole Depth (ft.) 30 Casing Diameter (ins.) 2.0
(From ground surface)

Casing Depth (ft.) 30.00

Was Well Annular Space Grouted? ☐ Yes ☐ No ☐ Unknown
If Yes, To What Depth? _____ Feet

(4) Depth to Water (Feet) NA

Pump & Piping Removed?	☐ Yes	☐ No	☒ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	☒ Not Applicable
Screen Removed?	☐ Yes	☐ No	☒ Not Applicable
Casing Left in Place?	☒ Yes	☐ No	

If No, Explain _____

Was Casing Cut Off Below Surface?	☒ Yes	☐ No	☐ NA
Did Sealing Material Rise to Surface?	☒ Yes	☐ No	☐ NA
Did Material Settle After 24 Hours?	☐ Yes	☒ No	☐ NA
If Yes, Was Hole Retopped?	☐ Yes	☐ No	

(5) Required Method of Sealing Material
☒ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials
☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☒ Chipped Bentonite

For monitoring wells and monitoring well boreholes only
☐ Bentonite Pellets
☐ Granular Bentonite

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards Sacks Sealant or Volume	Mix Ratio or Mud Weight
MEDIUM CHIPS (3/8 ") BENTONITE	Surface	30.00	50 LBS	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
GRAEF ANHALT SCHLOEMER & ASSOCIATES, INC.

Signature of Person Doing Work: Edward C. Druck Date Signed: 11-7-03

Street or Route: 125 SOUTH 84TH STREET, SUITE 401 Telephone Number: (414)259-1500

City, State, Zip Code: MILWAUKEE, WISCONSIN 53214-1470

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected | District/County

Reviewer/Inspector

Follow-up Necessary

DNR/COUNTY

FILE NAME

ATTACHMENT C
SESOIL MODEL RESULTS

GROUNDWATER IMPACT MODELING

The American Petroleum Institute's (API) Exposure and Risk Assessment Decision Support System software (APIDSS V1.02, 1994) was used to model potential groundwater impacts from the contaminated unsaturated soil (vadose zone) identified beneath the Dryclean USA facility at 15740 West Capitol Drive, Brookfield, Wisconsin. APIDSS software includes screening level, one-dimensional models. The models selected to evaluate potential future groundwater impacts resulting from residual soil contamination were SESOIL and AT123D. The contaminant of concern was tetrachloroethylene (PCE).

The US EPA's unsaturated soil zone vertical transport model SESOIL (SEasonal SOIL compartment model) was used to approximate site conditions. The model simulates transport of a contaminant through the unsaturated zone. Site-specific data can be input to assess various management scenarios. The purpose of the modeling was to determine what groundwater impacts would be expected when various levels of contaminants were allowed to remain in place. The SESOIL model was chosen rather than other vadose zone fate and transport models because of its familiarity and use by the WDNR to establish generic soil cleanup standards for the soils of Wisconsin.

The version of SESOIL included in APIDSS software allows SESOIL to be coupled to the analytical groundwater fate and transport model, AT123D (Analytical Transport: One Two and Three Dimensional Model). As a result, the potential of residual soil impacts for affecting the area groundwater could then be assessed. The AT123D model allows for site specific information to be input in order to determine what groundwater impacts could be expected at various distances and times.

Data used as input for SESOIL and AT123D were obtained from this investigation and the US EPA's User's Manual for their BIOCLOR screening model (USEPA, 2000). Monitoring well MW-1 was tested for saturated hydraulic conductivity using a bail-down testing method. Data requirements for these models are presented in Appendix A.

The version of SESOIL included in APIDSS is limited to only four sublayers per layer (other versions allow up to ten sublayers). However, when sublayers are used, the contaminant mass

is distributed within only the upper sublayer. In soil columns where the contaminant mass is distributed throughout the entire vadose zone the use of sublayers would underestimate the mass of contaminants within the soil column. Since this is the case beneath the dry cleaners building, no sublayers were used in the simulated layers impacted by PCE (Layers 1, 2, and 3).

A soil profile was developed to reflect conditions below the dry cleaning building. The soil profile was conceptualized as a four layer vadose zone 28.5 feet deep. The four layers were modeled as clay that had consistent characteristics throughout the soil column. The model layer extending from ground surface to 3 feet below ground surface (bgs) (Layer 1) had an average PCE level of 6,204 ppb. Layer 2 extended from 3 to 6 feet bgs and had a PCE level of 3,688 ppb. Layer 3 extended from 6 to 10 feet bgs and had a PCE level of 5.6 ppb. Layer 4, which extended from 10 to 28.5 feet bgs, had no PCE.

In terms of precipitation, the soil profile was configured to reflect conditions as though there was no building on top of the soil profile. In other words, it was assumed that precipitation was 100 percent of the average value. The lateral extent of the significant soil contaminant plume modeled as described above was estimated at 10 feet wide (3.048 m) by 10 feet long (3.048 m). The significance of these dimensions is the total mass of contaminant added to the flow model per unit time step. The area of highest groundwater impacts is expected immediately below the area of contaminated soil and just down flow from that area.

Soil permeability was based on the slug test data collected by GAS. The hydraulic conductivity measured in the well resulted in a model that did not converge. The measured conductivity was increased by a factor of five, which resulted in model that ran (using the stand alone version of SESOIL). The percent organic carbon was assumed to be the generic value used by the WDNR (0.1 percent). The bulk density and effective porosity were assumed based on literature values.

The only compound of significance in the vadose zone was tetrachloroethene. The chemical input parameters were obtained from various literature sources except for diffusivity, which was calculated using a method specified in the New SESOIL User's Guide (1993). Volatilization and biodegradation were not simulated in the model.

The vadose zone profile configuration was based on observations of soil borings. The number

of model layers was set at four (the model maximum) to provide for sufficient model detail and flexibility. The input parameters used to approximate site conditions are presented in the following table.

PROFILE FOR SUBSURFACE SOILS

LAYER	ONE THRU FOUR
Material	Clay
Permeability (cm^2)	3.2×10^{-11}
Density (g/cm^3)	1.7
Effective Porosity	0.15
Fraction Organic Carbon	0.001

Climate data was obtained for the city of Milwaukee and used to approximate the environs of the site. The required input climate data includes surface temperature, evapotranspiration, total precipitation, average storm duration, number of storms per year and the length of the rainy season. The "stand alone" version of SESOIL was used to calculate the value of evapotranspiration input for the APIDSS model. The evapotranspiration was determined by simulating a soil column equivalent to the column used for the site.

The stand-alone version of AT123D was developed to model one, two or three-dimensional transient transport of contaminants in groundwater (Yeh, 1981). However, the version of AT123D included in APIDSS allows only for transport in a vertical cross section of uniform thickness. The model requires input of the aquifer hydraulic conductivity; horizontal gradient; longitudinal, transverse and vertical dispersivity; aquifer bulk density; fraction organic carbon in the aquifer and aquifer thickness. The location and geometry of the receptor well can be specified.

The hydraulic conductivity measured in well MW-1 was 0.20 m/year. The horizontal gradient was assumed 0.02 m/m, based on sites with similar characteristics. The effective porosity was assumed 0.15 based on literature values for similar sediments. The dispersivities were based

on literature values and were set at 0.1 m for longitudinal, 0.01 m for transverse and 0.001 m for vertical. The aquifer bulk density was assumed 1.7 g/cm^3. The aquifer was assumed 10 meters thick. Biodegradation was not included in the model.

The simulation was run for a period of 100 years (software maximum). The simulation resulted in no PCE reaching the water table. The results of the simulation are considered a conservative estimate for the following reasons:

- Soil permeability was increased over that measured in the field by a factor of 5, which results in more rapid transport than would occur under natural conditions;
- Volatilization was not simulated, which results in higher concentrations in the soil for transport to the water table than would occur under natural conditions;
- Biological and chemical degradation were not simulated, which results in higher concentrations in the soil for transport to the water table; and
- Precipitation was simulated at 100 percent of average levels, and as a result simulated recharge is likely greater than actual recharge.

Based on the results of the SESOIL site simulation, the remaining PCE in the soils does not appear to pose a threat to site groundwater. Accordingly, it is proposed that no further action be taken regarding the site soils.

APPENDIX A
SESOIL MODEL DATA REQUIREMENTS

The following chemicals were selected:
Tetrachloroethylene

Data for Fate and Transport Models

Sesoil Model - Deterministic

Model Control Parameters

Simulation Time (max=100) [years]	100
Number of soil layers	4
Sublayers in layer 1	1
Sublayers in layer 2	1
Sublayers in layer 3	1
Sublayers in layer 4	4
Volatile emissions:	No

Climate Parameters

Surface Temperature [C]	8.4
Evapotranspiration [cm/day]	0.00943737
Precipitation [cm/yr]	95.2754
Storm duration [days]	0.4
Number of storms [yr^-1]	58
Length of Rainy Season [months]	12

Soil Column Data

Effective porosity [-]	0.15
Dry Wt. Soil Bulk Density [g/cm^3]	1.7
X-dimension of the source [m]	3.0480
Y-dimension of the source [m]	3.0480
Layer 1	
Thickness of Layer [m]	0.9144
Intrinsic Permeability [cm^2]	0.0000000000128
Fraction Organic Carbon [-]	0.001
Tetrachloroethylene Load [kg]	0.0896
Layer 2	
Thickness of Layer [m]	0.9144
Intrinsic Permeability [cm^2]	0.0000000000128
Fraction Organic Carbon [-]	0.001
Tetrachloroethylene Load [kg]	0.0533
Layer 3	
Thickness of Layer [m]	1.2192
Intrinsic Permeability [cm^2]	0.0000000000128
Fraction Organic Carbon [-]	0.001
Tetrachloroethylene Load [kg]	0.0000809
Layer 4	
Thickness of Layer [m]	5.6388
Intrinsic Permeability [cm^2]	0.0000000000128
Fraction Organic Carbon [-]	0.001
Tetrachloroethylene Load [kg]	0

calculated from concentration, thickness of material, area of cont.

Sesoil Chemical Specific Parameters

Tetrachloroethylene

Solubility [mg/l]	150
Diffusion Coeff. in Air [cm^2/s]	0.083
Henrys Constant [Atm/m^3/mol]	6.01E-01
Koc [ug/gOC/ug/ml]	426
Degradation Rate Constant in Unsaturated Zo	0ə [1/days]
Vapor Pressure [mmHg]	17.8
Diffusion Coeff. in Water [cm^2/s]	6.56E-05

AT123D Model - Deterministic

Model Control Parameters

Infinite aquifer (y)	Yes

Infinite in depth	No
Type of source	—
Simulation Time (years)	100

Media Specific Parameters

Effective Porosity [-]	0.15
Hydraulic Conductivity [m/yr]	0.20
Hydraulic Gradient [-]	0.03
Longitudinal Dispersivity [m]	0.1
Transverse Dispersivity [m]	0.01
Vertical Dispersivity [m]	0.001
Dry Wt. Soil Bulk Density [g/cm**3]	1.7
Fraction Organic Carbon [-]	0.001
Thickness of the aquifer [m]	10

Receptor Well Geometry

X Coord - of Well [m]	9.1440
Y Coord - of Well [m]	0
Z Coord - Top of Screen [m]	0
Z Coord - Bottom of Screen [m]	2

Source Geometry

Length of source in X-dir [m]	—
Length of source in Y-dir [m]	—
Thickness of source in Z-dir [m]	—
Tetrachloroethylene	—

Chemical Specific Parameters for each chemical

Tetrachloroethylene

KOC [ug/gOC/ug/ml]	426
Degradation Rate Constant in Saturated Zone [1/days]	0
Molecular Diff Coeff [cm^2/s]	6.56E-05

Data for Risk Assessment

Body Weight and Lifetime - Deterministic

Average Weight (kg)	—
Lifetime (yrs)	—

Drinking Water

Exposure Frequency [days/yr]	—
Exposure Duration [years]	—
Ingestion Rate [liters/day]	—

Drinking Water Chemical Specific Parameters

Tetrachloroethylene

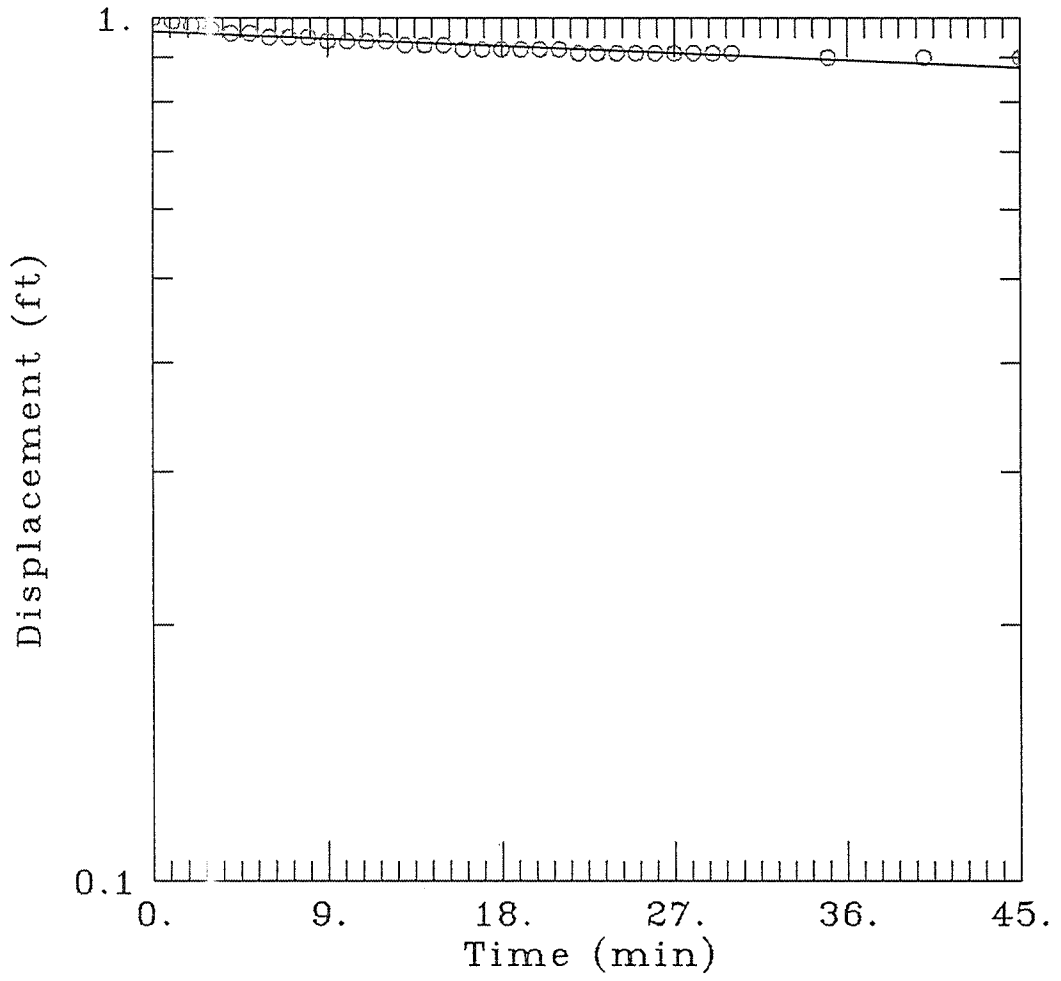
Bioavailability [fraction]	—

Oral Dose

Tetrachloroethylene

Slope Factor [1/(mg/kg-day)]	—
Reference Dose [mg/kg-day]	—

Spic & Span Capitol Drive Bail-Down Test



DATA SET:
sascap.dat
08/26/02

AQUIFER TYPE:
Unconfined
SOLUTION METHOD:
Bouwer-Rice

ESTIMATED PARAMETERS:
K = 1.2442E-06 ft/min
y0 = 0.9648 ft

TEST DATA:
H0 = 1. ft
rc = 0.099 ft
rw = 0.22 ft
L = 10. ft
b = 20. ft
H = 1. ft

APPENDIX B
MODEL INPUT AND OUTPUT FILES

SESOIL Summarized Output File
==========

Analysis for ...
Chemicals in the analysis
Tetrachloroethylene

Number of years simulated: 100

RUN NO. 1

GENERAL INPUT PARAMETERS
==========

-- CLIMATIC AND HYDROLGIC INPUT PARAMETERS --

TEMPERATURE (DEG C):	8.40
EVAPOTRANSPIRATION (CM/DAY):	.944E-02
ANNUAL PRECIPITATION (CM):	95.3
MEAN TIME OF RAIN (DAYS):	.400
MEAN NUMBER OF STORM EVENTS (-):	58.0
MEAN LENGTH OF RAINY SEASON (MONTHS):	12.0

-- SOIL INPUT PARAMETERS --

SOIL DENSITY (G/CM**3):	1.70
DISCONNECTEDNESS INDEX (-):	7.00
POROSITY (-):	.150
ORGANIC CARBON CONTENT (%):	.100

-- APPLICATION INPUT PARAMETERS --

NUMBER OF SOIL LAYERS:	4			
YEARS TO BE SIMULATED:	100			
AREA (CM**2):	.930E+05			
DEPTHS (CM):	91.	91.	.12E+03	.56E+03
NUMBER OF SUBLAYERS/LAYER	1	1	1	4
INTRINSIC PERMEABILITIES (CM**2):	.13E-10	.13E-10	.13E-10	.13E-10

Tetrachloroethylene

-- CHEMICAL INPUT PARAMETERS FOR --Tetrachloroethylene

SOLUBILITY (UG/ML):	150.
DIFFUSION COEFFICIENT IN AIR (CM**2/SEC):	.830E-01
HENRYS LAW CONSTANT [(mg/L)/(mg/L)]:	.601
ADSORPTION COEFFICIENT ON ORGANIC CARBON(KOC):	426.
OVERALL DEGRADATION RATE (/DAY):	.000

**** WARNING - PROBLEM IN HYDRO CYCLE: W EQUALS OR EXCEEDS EP
W SET TO EP

YEAR - 1 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- TOTAL INPUTS (UG) --

UPPER SOIL ZONE	8.958E+07
SOIL ZONE 2	5.321E+07
SOIL ZONE 3	0.000E+00
LOWER SOIL ZONE	0.000E+00

-- HYDROLOGIC CYCLE COMPONENTS --

AVERAGE SOIL MOISTURE ZONE 1 (%)	13.036
AVERAGE SOIL MOISTURE BELOW ZONE 1 (%)	13.036
TOTAL PRECIPITATION (CM)	91.278
TOTAL INFILTRATION (CM)	8.325
TOTAL EVAPOTRANSPIRATION (CM)	3.455
TOTAL SURFACE RUNOFF (CM)	82.953
TOTAL GRW RUNOFF (CM)	4.870

TOTAL MOISTURE RETENTION (CM)	.000
TOTAL YIELD (CM)	87.823

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.152E+01
ADSORBED SOIL (UG/G)	4.909E+00
SOIL AIR (UG/ML)	6.926E+00

SUBLAYER	1
SOIL MOISTURE (UG/ML)	7.861E+00
ADSORBED SOIL (UG/G)	3.349E+00
SOIL AIR (UG/ML)	4.724E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 1 is = .000

YEAR - 2 ANNUAL SUMMARY REPORT
Tetrachloroethylene

-- HYDROLOGIC CYCLE COMPONENTS --

AVERAGE SOIL MOISTURE ZONE 1 (%)	13.036
AVERAGE SOIL MOISTURE BELOW ZONE 1 (%)	13.036
TOTAL PRECIPITATION (CM)	91.278
TOTAL INFILTRATION (CM)	8.325
TOTAL EVAPOTRANSPIRATION (CM)	3.455
TOTAL SURFACE RUNOFF (CM)	82.953
TOTAL GRW RUNOFF (CM)	4.870
TOTAL MOISTURE RETENTION (CM)	.000
TOTAL YIELD (CM)	87.823

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.043E+01
ADSORBED SOIL (UG/G)	4.441E+00
SOIL AIR (UG/ML)	6.265E+00

SUBLAYER	1
SOIL MOISTURE (UG/ML)	8.959E+00
ADSORBED SOIL (UG/G)	3.816E+00
SOIL AIR (UG/ML)	5.384E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 2 is = .000

YEAR - 3 ANNUAL SUMMARY REPORT
Tetrachloroethylene

-- HYDROLOGIC CYCLE COMPONENTS --

AVERAGE SOIL MOISTURE ZONE 1 (%)	13.036
AVERAGE SOIL MOISTURE BELOW ZONE 1 (%)	13.036
TOTAL PRECIPITATION (CM)	91.278

TOTAL INFILTRATION (CM)	8.325
TOTAL EVAPOTRANSPIRATION (CM)	3.455
TOTAL SURFACE RUNOFF (CM)	82.953
TOTAL GRW RUNOFF (CM)	4.870
TOTAL MOISTURE RETENTION (CM)	.000
TOTAL YIELD (CM)	87.823

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	9.432E+00
ADSORBED SOIL (UG/G)	4.018E+00
SOIL AIR (UG/ML)	5.668E+00

SUBLAYER	1
SOIL MOISTURE (UG/ML)	9.952E+00
ADSORBED SOIL (UG/G)	4.239E+00
SOIL AIR (UG/ML)	5.981E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 3 is = .000

YEAR - 4 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	8.533E+00
ADSORBED SOIL (UG/G)	3.635E+00
SOIL AIR (UG/ML)	5.128E+00

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.085E+01
ADSORBED SOIL (UG/G)	4.622E+00
SOIL AIR (UG/ML)	6.521E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 4 is = .000

YEAR - 5 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	7.720E+00
ADSORBED SOIL (UG/G)	3.289E+00
SOIL AIR (UG/ML)	4.640E+00

SUBLAYER 1

SOIL MOISTURE (UG/ML)	1.166E+01
ADSORBED SOIL (UG/G)	4.968E+00
SOIL AIR (UG/ML)	7.009E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 5 is = .000

YEAR - 10 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER 1

SOIL MOISTURE (UG/ML)	4.679E+00
ADSORBED SOIL (UG/G)	1.993E+00
SOIL AIR (UG/ML)	2.812E+00

SUBLAYER 1

SOIL MOISTURE (UG/ML)	9.982E+00
ADSORBED SOIL (UG/G)	4.253E+00
SOIL AIR (UG/ML)	5.999E+00

SUBLAYER 1

SOIL MOISTURE (UG/ML)	3.534E+00
ADSORBED SOIL (UG/G)	1.505E+00
SOIL AIR (UG/ML)	2.124E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 10 is = .000

YEAR - 15 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER 1

SOIL MOISTURE (UG/ML)	2.836E+00
ADSORBED SOIL (UG/G)	1.208E+00
SOIL AIR (UG/ML)	1.704E+00

SUBLAYER 1

SOIL MOISTURE (UG/ML)	7.620E+00
ADSORBED SOIL (UG/G)	3.246E+00
SOIL AIR (UG/ML)	4.580E+00

SUBLAYER 1

SOIL MOISTURE (UG/ML)	6.683E+00
ADSORBED SOIL (UG/G)	2.847E+00
SOIL AIR (UG/ML)	4.017E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 15 is = .000

YEAR - 20 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

UBLAYER 1

SOIL MOISTURE (UG/ML)	1.719E+00
ADSORBED SOIL (UG/G)	7.322E-01
SOIL AIR (UG/ML)	1.033E+00

SUBLAYER 1

SOIL MOISTURE (UG/ML)	5.592E+00
ADSORBED SOIL (UG/G)	2.382E+00
SOIL AIR (UG/ML)	3.361E+00

UBLAYER 1

SOIL MOISTURE (UG/ML)	8.922E+00
ADSORBED SOIL (UG/G)	3.801E+00
SOIL AIR (UG/ML)	5.362E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 20 is = .000

YEAR - 25 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER 1

SOIL MOISTURE (UG/ML)	1.042E+00
ADSORBED SOIL (UG/G)	4.437E-01
SOIL AIR (UG/ML)	6.260E-01

UBLAYER 1

SOIL MOISTURE (UG/ML)	3.993E+00
ADSORBED SOIL (UG/G)	1.701E+00
SOIL AIR (UG/ML)	2.400E+00

SUBLAYER 1

SOIL MOISTURE (UG/ML)	7.840E+00
ADSORBED SOIL (UG/G)	3.340E+00
SOIL AIR (UG/ML)	4.712E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 25 is = .000

YEAR - 30 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER 1

SOIL MOISTURE (UG/ML)	6.313E-01
ADSORBED SOIL (UG/G)	2.689E-01
SOIL AIR (UG/ML)	3.794E-01

SUBLAYER 1

SOIL MOISTURE (UG/ML)	2.794E+00
ADSORBED SOIL (UG/G)	1.190E+00
SOIL AIR (UG/ML)	1.679E+00

SUBLAYER 1

SOIL MOISTURE (UG/ML)	6.615E+00
ADSORBED SOIL (UG/G)	2.818E+00
SOIL AIR (UG/ML)	3.976E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 30 is = .000

YEAR - 35 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER 1

SOIL MOISTURE (UG/ML)	3.826E-01
ADSORBED SOIL (UG/G)	1.630E-01
SOIL AIR (UG/ML)	2.300E-01

SUBLAYER 1

SOIL MOISTURE (UG/ML)	1.925E+00
ADSORBED SOIL (UG/G)	8.202E-01
SOIL AIR (UG/ML)	1.157E+00

SUBLAYER 1

SOIL MOISTURE (UG/ML)	5.431E+00
ADSORBED SOIL (UG/G)	2.314E+00
SOIL AIR (UG/ML)	3.264E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 35 is = .000

YEAR - 40 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER 1

SOIL MOISTURE (UG/ML)	2.319E-01

ADSORBED SOIL (UG/G) 9.879E-02
SOIL AIR (UG/ML) 1.394E-01

SUBLAYER 1

SOIL MOISTURE (UG/ML) 1.311E+00
ADSORBED SOIL (UG/G) 5.583E-01
SOIL AIR (UG/ML) 7.877E-01

SUBLAYER 1

SOIL MOISTURE (UG/ML) 4.363E+00
ADSORBED SOIL (UG/G) 1.859E+00
SOIL AIR (UG/ML) 2.622E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 40 is = .000

YEAR - 45 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER 1

SOIL MOISTURE (UG/ML) 1.405E-01
ADSORBED SOIL (UG/G) 5.987E-02
SOIL AIR (UG/ML) 8.446E-02

SUBLAYER 1

SOIL MOISTURE (UG/ML) 8.834E-01
ADSORBED SOIL (UG/G) 3.763E-01
SOIL AIR (UG/ML) 5.309E-01

SUBLAYER 1

SOIL MOISTURE (UG/ML) 3.444E+00
ADSORBED SOIL (UG/G) 1.467E+00
SOIL AIR (UG/ML) 2.070E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 45 is = .000

YEAR - 50 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER 1

SOIL MOISTURE (UG/ML) 8.517E-02
ADSORBED SOIL (UG/G) 3.628E-02
SOIL AIR (UG/ML) 5.119E-02

SUBLAYER 1

SOIL MOISTURE (UG/ML) 5.907E-01
ADSORBED SOIL (UG/G) 2.517E-01
SOIL AIR (UG/ML) 3.550E-01

SUBLAYER 1

SOIL MOISTURE (UG/ML)	2.681E+00
ADSORBED SOIL (UG/G)	1.142E+00
SOIL AIR (UG/ML)	1.611E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 50 is = .000

YEAR - 55 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER 1

SOIL MOISTURE (UG/ML)	5.162E-02
ADSORBED SOIL (UG/G)	2.199E-02
SOIL AIR (UG/ML)	3.102E-02

SUBLAYER 1

SOIL MOISTURE (UG/ML)	3.923E-01
ADSORBED SOIL (UG/G)	1.671E-01
SOIL AIR (UG/ML)	2.358E-01

SUBLAYER 1

SOIL MOISTURE (UG/ML)	2.062E+00
ADSORBED SOIL (UG/G)	8.783E-01
SOIL AIR (UG/ML)	1.239E+00

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 55 is = .000

YEAR - 60 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER 1

SOIL MOISTURE (UG/ML)	3.129E-02
ADSORBED SOIL (UG/G)	1.333E-02
SOIL AIR (UG/ML)	1.880E-02

SUBLAYER 1

SOIL MOISTURE (UG/ML)	2.590E-01
ADSORBED SOIL (UG/G)	1.103E-01
SOIL AIR (UG/ML)	1.557E-01

SUBLAYER 1

SOIL MOISTURE (UG/ML)	1.570E+00
ADSORBED SOIL (UG/G)	6.689E-01
SOIL AIR (UG/ML)	9.437E-01

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 60 is = .000

YEAR - 65 ANNUAL SUMMARY REPORT
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.896E-02
ADSORBED SOIL (UG/G)	8.078E-03
SOIL AIR (UG/ML)	1.140E-02

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.702E-01
ADSORBED SOIL (UG/G)	7.249E-02
SOIL AIR (UG/ML)	1.023E-01

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.186E+00
ADSORBED SOIL (UG/G)	5.051E-01
SOIL AIR (UG/ML)	7.126E-01

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 65 is = .000

YEAR - 70 ANNUAL SUMMARY REPORT
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.149E-02
ADSORBED SOIL (UG/G)	4.896E-03
SOIL AIR (UG/ML)	6.907E-03

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.113E-01
ADSORBED SOIL (UG/G)	4.741E-02
SOIL AIR (UG/ML)	6.689E-02

SUBLAYER	1
SOIL MOISTURE (UG/ML)	8.892E-01
ADSORBED SOIL (UG/G)	3.788E-01
SOIL AIR (UG/ML)	5.344E-01

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 70 is = .000

YEAR - 75 ANNUAL SUMMARY REPORT
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	6.965E-03
ADSORBED SOIL (UG/G)	2.967E-03
SOIL AIR (UG/ML)	4.186E-03

SUBLAYER	1
SOIL MOISTURE (UG/ML)	7.252E-02
ADSORBED SOIL (UG/G)	3.089E-02
SOIL AIR (UG/ML)	4.358E-02

SUBLAYER	1
SOIL MOISTURE (UG/ML)	6.628E-01
ADSORBED SOIL (UG/G)	2.824E-01
SOIL AIR (UG/ML)	3.984E-01

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 75 is = .000

YEAR - 80 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	4.222E-03
ADSORBED SOIL (UG/G)	1.798E-03
SOIL AIR (UG/ML)	2.537E-03

SUBLAYER	1
SOIL MOISTURE (UG/ML)	4.710E-02
ADSORBED SOIL (UG/G)	2.006E-02
SOIL AIR (UG/ML)	2.830E-02

SUBLAYER	1
SOIL MOISTURE (UG/ML)	4.915E-01
ADSORBED SOIL (UG/G)	2.094E-01
SOIL AIR (UG/ML)	2.954E-01

LOWER SOIL ZONE:

Mass loading to gw (kg) in year 80 is = .000

YEAR - 85 ANNUAL SUMMARY REPORT
==========
Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	2.559E-03

ADSORBED SOIL (UG/G)	1.090E-03
SOIL AIR (UG/ML)	1.538E-03

SUBLAYER	1
SOIL MOISTURE (UG/ML)	3.049E-02
ADSORBED SOIL (UG/G)	1.299E-02
SOIL AIR (UG/ML)	1.833E-02

SUBLAYER	1
SOIL MOISTURE (UG/ML)	3.628E-01
ADSORBED SOIL (UG/G)	1.546E-01
SOIL AIR (UG/ML)	2.181E-01

LOWER SOIL ZONE:

SUBLAYER	1	2	3	4
SOIL MOISTURE (UG/ML)	1.748E+00	4.046E+00	5.447E+00	9.719E-01
ADSORBED SOIL (UG/G)	7.446E-01	1.724E+00	2.320E+00	4.140E-01
SOIL AIR (UG/ML)	1.051E+00	2.432E+00	3.273E+00	5.841E-01

Mass loading to gw (kg) in year 85 is = .000

YEAR - 90 ANNUAL SUMMARY REPORT

Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.551E-03
ADSORBED SOIL (UG/G)	6.606E-04
SOIL AIR (UG/ML)	9.320E-04

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.969E-02
ADSORBED SOIL (UG/G)	8.387E-03
SOIL AIR (UG/ML)	1.183E-02

SUBLAYER	1
SOIL MOISTURE (UG/ML)	2.668E-01
ADSORBED SOIL (UG/G)	1.136E-01
SOIL AIR (UG/ML)	1.603E-01

LOWER SOIL ZONE:

SUBLAYER	1	2	3	4
SOIL MOISTURE (UG/ML)	1.416E+00	3.540E+00	5.192E+00	2.155E+00
ADSORBED SOIL (UG/G)	6.033E-01	1.508E+00	2.212E+00	9.180E-01
SOIL AIR (UG/ML)	8.511E-01	2.127E+00	3.120E+00	1.295E+00

Mass loading to gw (kg) in year 90 is = .000

YEAR - 95 ANNUAL SUMMARY REPORT

Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	9.398E-04
ADSORBED SOIL (UG/G)	4.003E-04
SOIL AIR (UG/ML)	5.648E-04

UBLAYER	1
SOIL MOISTURE (UG/ML)	1.268E-02
ADSORBED SOIL (UG/G)	5.402E-03
SOIL AIR (UG/ML)	7.621E-03

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.955E-01
ADSORBED SOIL (UG/G)	8.328E-02
SOIL AIR (UG/ML)	1.175E-01

LOWER SOIL ZONE:

SUBLAYER	1	2	3	4
SOIL MOISTURE (UG/ML)	1.141E+00	3.072E+00	4.880E+00	3.274E+00
ADSORBED SOIL (UG/G)	4.862E-01	1.309E+00	2.079E+00	1.395E+00
SOIL AIR (UG/ML)	6.859E-01	1.846E+00	2.933E+00	1.968E+00

Mass loading to gw (kg) in year 95 is = .000

YEAR - 100 ANNUAL SUMMARY REPORT

Tetrachloroethylene

-- AVERAGE POLLUTANT CONCENTRATIONS --
-- NOTE: ONLY NON-ZERO VALUES ARE PRINTED --

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	5.696E-04
ADSORBED SOIL (UG/G)	2.427E-04
SOIL AIR (UG/ML)	3.423E-04

UBLAYER	1
SOIL MOISTURE (UG/ML)	8.149E-03
ADSORBED SOIL (UG/G)	3.471E-03
SOIL AIR (UG/ML)	4.897E-03

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.428E-01
ADSORBED SOIL (UG/G)	6.083E-02
SOIL AIR (UG/ML)	8.582E-02

LOWER SOIL ZONE:

SUBLAYER	1	2	3	4
SOIL MOISTURE (UG/ML)	9.156E-01	2.646E+00	4.533E+00	4.320E+00
ADSORBED SOIL (UG/G)	3.900E-01	1.127E+00	1.931E+00	1.840E+00
SOIL AIR (UG/ML)	5.503E-01	1.590E+00	2.725E+00	2.596E+00

Mass loading to gw (kg) in year 100 is = .000

***EXECUTION COMPLETED FOR RUN NO. 1 - Tetrachloroethylene ***

```
AT123D Output File
Analysis for ...

Chemicals in the analysis
Tetrachloroethylene

Number of years simulated:        100


GENERAL INPUT DATA
******************

    NO. OF POINTS IN X-DIRECTION .....................     1
    NO. OF POINTS IN Y-DIRECTION .....................     1
    NO. OF POINTS IN Z-DIRECTION .....................    10
    NO. OF ROOTS: NO. OF SERIES TERMS ................  1000
    NO. OF BEGINNING TIME STEPS ......................     1
    NO. OF ENDING TIME STEP ..........................   100
    NO. OF TIME INTERVALS FOR PRINTED OUT SOLUTION ....     1
    INSTANTANEOUS SOURCE CONTROL = 0 FOR INSTANT SOURCE    1
    SOURCE CONDITION CONTROL = 0 FOR STEADY SOURCE ....   100
    INTERMITTENT OUTPUT CONTROL = 0 NO SUCH OUTPUT ....     1
    CASE CONTROL =1 THERMAL, = 2 FOR CHEMICAL, = 3 RAD     2

    X-COORDINATE OF RECEPTOR WELL (METERS) ...........   .9140E+01
    Y-COORDINATE OF RECEPTOR WELL (METERS) ...........   .0000E+00
    AQUIFER DEPTH, = 0.0 FOR INFINITE DEEP (METERS) ...   .1000E+02
    AQUIFER WIDTH, = 0.0 FOR INFINITE WIDE (METERS) ...   .0000E+00
    BEGIN POINT OF X-SOURCE LOCATION (METERS) .........   .0000E+00
    END POINT OF X-SOURCE LOCATION (METERS) ...........   .3050E+01
    BEGIN POINT OF Y-SOURCE LOCATION (METERS) .........   .0000E+00
    END POINT OF Y-SOURCE LOCATION (METERS) ...........   .3050E+01
    BEGIN POINT OF Z-SOURCE LOCATION (METERS) .........   .0000E+00
    END POINT OF Z-SOURCE LOCATION (METERS) ...........   .0000E+00

    POROSITY ..........................................   .1500E+00
    HYDRAULIC CONDUCTIVITY (METER/YEAR) ...............   .2000E+00
    HYDRAULIC GRADIENT ................................   .3000E-01
    LONGITUDINAL DISPERSIVITY (METER) .................   .1000E+00
    LATERAL DISPERSIVITY (METER) ......................   .1000E-01
    VERTICAL DISPERSIVITY (METER) .....................   .1000E-02

    BULK DENSITY OF THE SOIL (KG/M**3) ................   .1700E+04
    TIME INTERVAL SIZE FOR THE DESIRED SOLUTION (YR) ..   .1000E+01
    DISCHARGE TIME (YR) ...............................   .1000E+03

INPUT DATA/RESULTS FOR CHEMICAL:  Tetrachloroethylene

    INST. WASTE RELEASE (KG) VALID FOR INST CASE ONLY..   .1000E+01
    DISTRIBUTION COEFFICIENT, KD (M**3/KG) ............   .4260E-03
    MOLECULAR DIFFUSION COEFFICIENT          (M**2/YR)    .2069E+00
    DECAY CONSTANT ( 1/YR )............................   .0000E+00
    LIST OF TRANSIENT SOURCE RELEASE RATE
        .000E+00    .000E+00    .000E+00    .000E+00    .000E+00
        .000E+00    .000E+00    .000E+00    .000E+00    .000E+00
        .000E+00    .000E+00    .000E+00    .000E+00    .000E+00
        .000E+00    .000E+00    .000E+00    .000E+00    .000E+00
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        .000E+00    .000E+00    .000E+00    .000E+00    .000E+00
        .000E+00    .000E+00    .000E+00    .000E+00
    RETARDATION FACTOR ................................   .5828E+01
    RETARDED SEEPAGE VELOCITY (M/YR) ..................   .6863E-02
    RETARDED LONGITUDINAL DISPERSION COEF. (M**2/YR) ..   .2373E+00
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RETARDED LATERAL DISPERSION COEFFICIENT (M**2/YR) . .2367E+00
RETARDED VERTICAL DISPERSION COEFFICIENT (M**2/YR). .2367E+00

time [yr] = 1.00

z [m] =	.00E+00	conc [mg/l] =	.000E+00
z [m] =	.22E+00	conc [mg/l] =	.000E+00
z [m] =	.44E+00	conc [mg/l] =	.000E+00
z [m] =	.67E+00	conc [mg/l] =	.000E+00
z [m] =	.89E+00	conc [mg/l] =	.000E+00
z [m] =	.11E+01	conc [mg/l] =	.000E+00
z [m] =	.13E+01	conc [mg/l] =	.000E+00
z [m] =	.16E+01	conc [mg/l] =	.000E+00
z [m] =	.18E+01	conc [mg/l] =	.000E+00
z [m] =	.20E+01	conc [mg/l] =	.000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 5.00

z [m] =	.00E+00	conc [mg/l] =	.000E+00
z [m] =	.22E+00	conc [mg/l] =	.000E+00
z [m] =	.44E+00	conc [mg/l] =	.000E+00
z [m] =	.67E+00	conc [mg/l] =	.000E+00
z [m] =	.89E+00	conc [mg/l] =	.000E+00
z [m] =	.11E+01	conc [mg/l] =	.000E+00
z [m] =	.13E+01	conc [mg/l] =	.000E+00
z [m] =	.16E+01	conc [mg/l] =	.000E+00
z [m] =	.18E+01	conc [mg/l] =	.000E+00
z [m] =	.20E+01	conc [mg/l] =	.000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 10.0

z [m] =	.00E+00	conc [mg/l] =	.000E+00
z [m] =	.22E+00	conc [mg/l] =	.000E+00
z [m] =	.44E+00	conc [mg/l] =	.000E+00
z [m] =	.67E+00	conc [mg/l] =	.000E+00
z [m] =	.89E+00	conc [mg/l] =	.000E+00
z [m] =	.11E+01	conc [mg/l] =	.000E+00
z [m] =	.13E+01	conc [mg/l] =	.000E+00
z [m] =	.16E+01	conc [mg/l] =	.000E+00
z [m] =	.18E+01	conc [mg/l] =	.000E+00
z [m] =	.20E+01	conc [mg/l] =	.000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 15.0

z [m] =	.00E+00	conc [mg/l] =	.000E+00
z [m] =	.22E+00	conc [mg/l] =	.000E+00
z [m] =	.44E+00	conc [mg/l] =	.000E+00
z [m] =	.67E+00	conc [mg/l] =	.000E+00
z [m] =	.89E+00	conc [mg/l] =	.000E+00
z [m] =	.11E+01	conc [mg/l] =	.000E+00
z [m] =	.13E+01	conc [mg/l] =	.000E+00
z [m] =	.16E+01	conc [mg/l] =	.000E+00
z [m] =	.18E+01	conc [mg/l] =	.000E+00
z [m] =	.20E+01	conc [mg/l] =	.000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 20.0

z [m] =	.00E+00	conc [mg/l] =	.000E+00
z [m] =	.22E+00	conc [mg/l] =	.000E+00
z [m] =	.44E+00	conc [mg/l] =	.000E+00
z [m] =	.67E+00	conc [mg/l] =	.000E+00
z [m] =	.89E+00	conc [mg/l] =	.000E+00
z [m] =	.11E+01	conc [mg/l] =	.000E+00
z [m] =	.13E+01	conc [mg/l] =	.000E+00

z [m] = .16E+01 conc [mg/l] = .000E+00
z [m] = .18E+01 conc [mg/l] = .000E+00
z [m] = .20E+01 conc [mg/l] = .000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 25.0

z [m] = .00E+00 conc [mg/l] = .000E+00
z [m] = .22E+00 conc [mg/l] = .000E+00
z [m] = .44E+00 conc [mg/l] = .000E+00
z [m] = .67E+00 conc [mg/l] = .000E+00
z [m] = .89E+00 conc [mg/l] = .000E+00
z [m] = .11E+01 conc [mg/l] = .000E+00
z [m] = .13E+01 conc [mg/l] = .000E+00
z [m] = .16E+01 conc [mg/l] = .000E+00
z [m] = .18E+01 conc [mg/l] = .000E+00
z [m] = .20E+01 conc [mg/l] = .000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 30.0

z [m] = .00E+00 conc [mg/l] = .000E+00
z [m] = .22E+00 conc [mg/l] = .000E+00
z [m] = .44E+00 conc [mg/l] = .000E+00
z [m] = .67E+00 conc [mg/l] = .000E+00
z [m] = .89E+00 conc [mg/l] = .000E+00
z [m] = .11E+01 conc [mg/l] = .000E+00
z [m] = .13E+01 conc [mg/l] = .000E+00
z [m] = .16E+01 conc [mg/l] = .000E+00
z [m] = .18E+01 conc [mg/l] = .000E+00
z [m] = .20E+01 conc [mg/l] = .000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 35.0

z [m] = .00E+00 conc [mg/l] = .000E+00
z [m] = .22E+00 conc [mg/l] = .000E+00
z [m] = .44E+00 conc [mg/l] = .000E+00
z [m] = .67E+00 conc [mg/l] = .000E+00
z [m] = .89E+00 conc [mg/l] = .000E+00
z [m] = .11E+01 conc [mg/l] = .000E+00
z [m] = .13E+01 conc [mg/l] = .000E+00
z [m] = .16E+01 conc [mg/l] = .000E+00
z [m] = .18E+01 conc [mg/l] = .000E+00
z [m] = .20E+01 conc [mg/l] = .000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 40.0

z [m] = .00E+00 conc [mg/l] = .000E+00
z [m] = .22E+00 conc [mg/l] = .000E+00
z [m] = .44E+00 conc [mg/l] = .000E+00
z [m] = .67E+00 conc [mg/l] = .000E+00
z [m] = .89E+00 conc [mg/l] = .000E+00
z [m] = .11E+01 conc [mg/l] = .000E+00
z [m] = .13E+01 conc [mg/l] = .000E+00
z [m] = .16E+01 conc [mg/l] = .000E+00
z [m] = .18E+01 conc [mg/l] = .000E+00
z [m] = .20E+01 conc [mg/l] = .000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 45.0

z [m] = .00E+00 conc [mg/l] = .000E+00
z [m] = .22E+00 conc [mg/l] = .000E+00
z [m] = .44E+00 conc [mg/l] = .000E+00

z [m] = .67E+00 conc [mg/l] = .000E+00
z [m] = .89E+00 conc [mg/l] = .000E+00
z [m] = .11E+01 conc [mg/l] = .000E+00
z [m] = .13E+01 conc [mg/l] = .000E+00
z [m] = .16E+01 conc [mg/l] = .000E+00
z [m] = .18E+01 conc [mg/l] = .000E+00
z [m] = .20E+01 conc [mg/l] = .000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 50.0

z [m] = .00E+00 conc [mg/l] = .000E+00
z [m] = .22E+00 conc [mg/l] = .000E+00
z [m] = .44E+00 conc [mg/l] = .000E+00
z [m] = .67E+00 conc [mg/l] = .000E+00
z [m] = .89E+00 conc [mg/l] = .000E+00
z [m] = .11E+01 conc [mg/l] = .000E+00
z [m] = .13E+01 conc [mg/l] = .000E+00
z [m] = .16E+01 conc [mg/l] = .000E+00
z [m] = .18E+01 conc [mg/l] = .000E+00
z [m] = .20E+01 conc [mg/l] = .000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 55.0

z [m] = .00E+00 conc [mg/l] = .000E+00
z [m] = .22E+00 conc [mg/l] = .000E+00
z [m] = .44E+00 conc [mg/l] = .000E+00
z [m] = .67E+00 conc [mg/l] = .000E+00
z [m] = .89E+00 conc [mg/l] = .000E+00
z [m] = .11E+01 conc [mg/l] = .000E+00
z [m] = .13E+01 conc [mg/l] = .000E+00
z [m] = .16E+01 conc [mg/l] = .000E+00
z [m] = .18E+01 conc [mg/l] = .000E+00
z [m] = .20E+01 conc [mg/l] = .000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 60.0

z [m] = .00E+00 conc [mg/l] = .000E+00
z [m] = .22E+00 conc [mg/l] = .000E+00
z [m] = .44E+00 conc [mg/l] = .000E+00
z [m] = .67E+00 conc [mg/l] = .000E+00
z [m] = .89E+00 conc [mg/l] = .000E+00
z [m] = .11E+01 conc [mg/l] = .000E+00
z [m] = .13E+01 conc [mg/l] = .000E+00
z [m] = .16E+01 conc [mg/l] = .000E+00
z [m] = .18E+01 conc [mg/l] = .000E+00
z [m] = .20E+01 conc [mg/l] = .000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 65.0

z [m] = .00E+00 conc [mg/l] = .000E+00
z [m] = .22E+00 conc [mg/l] = .000E+00
z [m] = .44E+00 conc [mg/l] = .000E+00
z [m] = .67E+00 conc [mg/l] = .000E+00
z [m] = .89E+00 conc [mg/l] = .000E+00
z [m] = .11E+01 conc [mg/l] = .000E+00
z [m] = .13E+01 conc [mg/l] = .000E+00
z [m] = .16E+01 conc [mg/l] = .000E+00
z [m] = .18E+01 conc [mg/l] = .000E+00
z [m] = .20E+01 conc [mg/l] = .000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 70.0

```
z [m] =     .00E+00      conc [mg/l] =    .000E+00
z [m] =     .22E+00      conc [mg/l] =    .000E+00
z [m] =     .44E+00      conc [mg/l] =    .000E+00
z [m] =     .67E+00      conc [mg/l] =    .000E+00
z [m] =     .89E+00      conc [mg/l] =    .000E+00
z [m] =     .11E+01      conc [mg/l] =    .000E+00
z [m] =     .13E+01      conc [mg/l] =    .000E+00
z [m] =     .16E+01      conc [mg/l] =    .000E+00
z [m] =     .18E+01      conc [mg/l] =    .000E+00
z [m] =     .20E+01      conc [mg/l] =    .000E+00

avg. conc. [mg/l] =    .000E+00


  time [yr] =    75.0

z [m] =     .00E+00      conc [mg/l] =    .000E+00
z [m] =     .22E+00      conc [mg/l] =    .000E+00
z [m] =     .44E+00      conc [mg/l] =    .000E+00
z [m] =     .67E+00      conc [mg/l] =    .000E+00
z [m] =     .89E+00      conc [mg/l] =    .000E+00
z [m] =     .11E+01      conc [mg/l] =    .000E+00
z [m] =     .13E+01      conc [mg/l] =    .000E+00
z [m] =     .16E+01      conc [mg/l] =    .000E+00
z [m] =     .18E+01      conc [mg/l] =    .000E+00
z [m] =     .20E+01      conc [mg/l] =    .000E+00

avg. conc. [mg/l] =    .000E+00


  time [yr] =    80.0

z [m] =     .00E+00      conc [mg/l] =    .000E+00
z [m] =     .22E+00      conc [mg/l] =    .000E+00
z [m] =     .44E+00      conc [mg/l] =    .000E+00
z [m] =     .67E+00      conc [mg/l] =    .000E+00
z [m] =     .89E+00      conc [mg/l] =    .000E+00
z [m] =     .11E+01      conc [mg/l] =    .000E+00
z [m] =     .13E+01      conc [mg/l] =    .000E+00
z [m] =     .16E+01      conc [mg/l] =    .000E+00
z [m] =     .18E+01      conc [mg/l] =    .000E+00
z [m] =     .20E+01      conc [mg/l] =    .000E+00

avg. conc. [mg/l] =    .000E+00


  time [yr] =    85.0

z [m] =     .00E+00      conc [mg/l] =    .000E+00
z [m] =     .22E+00      conc [mg/l] =    .000E+00
z [m] =     .44E+00      conc [mg/l] =    .000E+00
z [m] =     .67E+00      conc [mg/l] =    .000E+00
z [m] =     .89E+00      conc [mg/l] =    .000E+00
z [m] =     .11E+01      conc [mg/l] =    .000E+00
z [m] =     .13E+01      conc [mg/l] =    .000E+00
z [m] =     .16E+01      conc [mg/l] =    .000E+00
z [m] =     .18E+01      conc [mg/l] =    .000E+00
z [m] =     .20E+01      conc [mg/l] =    .000E+00

avg. conc. [mg/l] =    .000E+00


  time [yr] =    90.0

z [m] =     .00E+00      conc [mg/l] =    .000E+00
z [m] =     .22E+00      conc [mg/l] =    .000E+00
z [m] =     .44E+00      conc [mg/l] =    .000E+00
z [m] =     .67E+00      conc [mg/l] =    .000E+00
z [m] =     .89E+00      conc [mg/l] =    .000E+00
z [m] =     .11E+01      conc [mg/l] =    .000E+00
z [m] =     .13E+01      conc [mg/l] =    .000E+00
z [m] =     .16E+01      conc [mg/l] =    .000E+00
z [m] =     .18E+01      conc [mg/l] =    .000E+00
z [m] =     .20E+01      conc [mg/l] =    .000E+00
```

avg. conc. [mg/l] = .000E+00

time [yr] = 95.0

z [m] =	.00E+00	conc [mg/l] =	.000E+00
z [m] =	.22E+00	conc [mg/l] =	.000E+00
z [m] =	.44E+00	conc [mg/l] =	.000E+00
z [m] =	.67E+00	conc [mg/l] =	.000E+00
z [m] =	.89E+00	conc [mg/l] =	.000E+00
z [m] =	.11E+01	conc [mg/l] =	.000E+00
z [m] =	.13E+01	conc [mg/l] =	.000E+00
z [m] =	.16E+01	conc [mg/l] =	.000E+00
z [m] =	.18E+01	conc [mg/l] =	.000E+00
z [m] =	.20E+01	conc [mg/l] =	.000E+00

avg. conc. [mg/l] = .000E+00

time [yr] = 100.

z [m] =	.00E+00	conc [mg/l] =	.000E+00
z [m] =	.22E+00	conc [mg/l] =	.000E+00
z [m] =	.44E+00	conc [mg/l] =	.000E+00
z [m] =	.67E+00	conc [mg/l] =	.000E+00
z [m] =	.89E+00	conc [mg/l] =	.000E+00
z [m] =	.11E+01	conc [mg/l] =	.000E+00
z [m] =	.13E+01	conc [mg/l] =	.000E+00
z [m] =	.16E+01	conc [mg/l] =	.000E+00
z [m] =	.18E+01	conc [mg/l] =	.000E+00
z [m] =	.20E+01	conc [mg/l] =	.000E+00

avg. conc. [mg/l] = .000E+00

WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary
Gloria L. McCutcheon, Regional Director

Waukesha Service Center
407 Pilot Court, Suite 100
Waukesha, Wisconsin 53188
Telephone 262-574-2166
FAX 262-574-2117

August 22, 2002

Mr. Brian Schneider
Graef, Anhalt, Schloemer & Associates
125 South 84th Street, Suite 401
Milwaukee, WI 53214-1470

Subject: Spin & Span, Inc., DBA Dryclean USA
15740 West Capitol Drive, Brookfield, Wisconsin
FID# 268188470, BRRTS# 02-68-223678

Dear Mr. Schneider:

The Wisconsin Department of Natural Resources (Department) received via e-mail your calculations of the direct contact residual contaminant level (RCL) for tetrachloroethene (PCE) for the above referenced facility. After reviewing the calculations, the Department compared your calculated direct contact RCL to RCLs for ingestion, inhalation of fugitive dust, and inhalation of volatiles as calculated using the EPA Superfund Risk Assessment Soil Screening Web Site. The Department agrees that your calculated 12.3 ppm value for the ingestion RCL is the most restrictive direct contact RCL for the site. The Department therefore approves the calculated 12.3 ppm direct contact RCL for PCE at the site.

If you have any questions concerning this matter, please contact me at (262) 574-2166.

Sincerely,

David G. Volkert, P.G.
Hydrogeologist
Bureau for Remediation & Redevelopment

cc: SER File

Volkert, David G

From: Schneider, Brian[SMTP:Brian.Schneider@GASAI.com]
Sent: Tuesday, August 20, 2002 1:40 PM
To: Volkert, David G
Subject: direct contact

FID 2681884 70

direct contact risk car resid .xls

Dave,

I have attached an updated calculation for the site. The one you had was from an old report. Also, take a look at NR 720.19 (5).

Thanks <<direct contact risk car resid .xls>>

Brian Schneider, P.E.
Graef, Anhalt, Schloemer & Associates, Inc.
One Honey Creek Corporate Center
125 South 84th Street, Suite 401
Milwaukee, Wisconsin 53214-1470
Phone # 1-414-266-9284
FAX # 1-414-256-4065
E-Mail: brian.schneider@gasai.com

WDNR DIRECT CONTACT RISK MODEL
SOIL CLEAN-UP GOALS
Carcinogenic Contaminants in Non-Industrial Soil

COMPOUND: PCE **PROJECT NAME: Capitol Drive**
Reviewed

SITE SPECIFIC PROPERTIES:

CONTAMINANT CONCENTRATION	C_{CHEM}=	12.3	mg/kg
COMBINED TARGET CANCER RISK LEVEL	TR=	9.99E-07	

CHEMICAL SPECIFIC PROPERTIES

ORAL CANCER SLOPE FACTOR(FROM RISK-BASED CONC. TABLE BACKGROUND INFORMATION)	SFo=	0.052	$[(mg/kg\text{-}day)]^{-1}$
INHALATION CANCER SLOPE FACTOR(FROM RISK-BASED CONC. TABLE BACKGROUND INFORMATION)	SFi=	0.002	(mg/m^3)
MOLECULAR DIFFUSIVITY OR AIR DIFFUSION COEFFICIENT	D_{air}=	0.072	cm^2/sec
WATER DIFFUSION COEFFICIENT	Dwater=	8.20E-06	cm^2/sec
HENRY'S LAW CONSTANT	H'=	0.765	unitless
ORGANIC CARBON PARTITION COEFFICIENT	K_{OC}=	155	cm^3/gm

DNR DEFAULT EXPOSURE ASSUMPTIONS PER NR 720.19(5)(c)2.a.

AVERAGE BODY WEIGHT FOR ADULT	BWa=	70	kg
AVERAGE BODY WEIGHT FOR CHILD	BWc=	15	kg
AVERAGING TIME	AT=	70	yr
EXPOSURE FREQUENCY	EF=	350	days/year
EXPOSURE DURATION FOR ADULT - INGESTION	EDa=	24	yr
EXPOSURE DURATION FOR CHILD - INGESTION	EDc=	6	yr
INGESTION RATE OF SOIL FOR ADULT	IRa=	100	mg/day
INGESTION RATE OF SOIL FOR CHILD	IRc=	200	mg/day
INHALATION RATE FOR ADULT LABORER	IRw=	24	m^3/day
AGE-ADJUSTED SOIL INGESTION FACTOR	IFs=	114	mg-yr/kg-d
INHALATION EXPOSURE DURATION	ED=	30	yr
INHALATION RATE FOR ADULT LABORER	IR=	20	m^3/day
CONCENTRATION OF PARTICULATED LESS THAN 10um IN AIR	Cp=	1.4	ug/m^3
INVERSE OF THE MEAN CONCENTRATION AT THE CENTER OF SQUARE SOURCE	Q/C=	97.78	kg/m^3
EXPOSURE INTERVAL	T=	9.50E+08	s
SOIL DRY BULK DENSITY	p_b=	1.5	g/cm^3
AIR FILLED POROSITY	O_a=	0.28	cm^3/cm^3
VOLUMETRIC SOIL MOSITURE CONTENT	O_w=	0.15	cm^3/cm^3
TOTAL SOIL POROSITY	n=	0.43	cm^3/cm^3

SOIL ORGANIC CARBON CONTENT	f_{oc}=	0.006	g/g

CONTINUED ON FOLLOWING PAGE

DIRECT CONTACT RISK MODEL (CONTINUED)

CALCULATED INPUT VALUES

SOIL:WATER DISTRIBUTION COEFFICIENT	K_d=	0.93	L/kg
APPARENT DIFFUSIVITY	D_A=	2.43E-03	cm^2/s
VOLATILIZATION FACTOR	VF=	3.61E+03	m^3/kg

TARGET CANCER RISK LEVEL FOR INGESTION OF SOIL (NON-INDUSTRIAL SOIL)

TARGET CANCER RISK LEVEL	TR=	9.99E-07	**unitless**

TARGET CANCER RISK LEVEL FOR INHALATION (NON-INDUSTRIAL SOIL)

	TR=	8.00E-07	**unitless**

References

1.) Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance, WDNR, April 1997

2.) Table for Texas Risk Reduction Program Rule (1/19/2000)
Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals).

3.) EPA Region 9: Preliminary Remediation Goals (PRGs) Tables

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: January 17, 2001

FILE REF: 4400

TO: Kim Smith – SER
LaRonda Crook - SER

FROM: Jamie Dunn - NOR

SUBJECT: Closure Request w/fee – Dryclean USA Facility #83 FID268188470
(BRRTS #02-68-223678)

Closure request denied with letter October 20, 2000 BRRTS code 80
Please up-date BRRTs

Thanks. Call if you have any questions (715) 635-4049

File Copy

WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
William H. Smith, Regional Director

Northern Region Headquarters
810 W. Maple Street
Spooner, Wisconsin 54801
Telephone 715-635-2101
FAX 715-635-4105
TDD 715-635-4001

October 20, 2000

Mr. Robert Miller
Spic and Span, Inc.
4301 N. Richards St.
Milwaukee, WI 53212

Subject: Closure Request - Dryclean USA facility #83

Dear Mr. Miller:

The Wisconsin Department of Natural Resources (the Department) has received a request for closure of the above-referenced site submitted on your behalf by McLaren/Hart. Based on a review of the site investigation report and Closure Request dated July 20, 2000, the Department is not able to grant closure at this time. A request for closure was denied on May 17, 2000 based on the same considerations:

1. Your consultant has not presented sufficient information to support the suggestion that groundwater has not been impacted by Tetrachloroethylene (PCE). Groundwater quality has to be assessed.
2. Your consultant calculated site specific residual contaminate levels (RCLs) for PCE based on a direct contact risk model. That site-specific direct contact RCL of 8.25 mg/kg has been exceeded in the B-3 soil boring. If this soil is left in place a deed restriction requiring maintenance of the floor barrier will be a requirement of closure.
3. In addition, your consultant included in the latest closure request a calculated RCL for groundwater protection of 246.7 ug/kg. That RCL has also been exceeded at a number of locations. Your consultant states "the RCL algorithm is based on the assumption that the contaminated soil is a homogeneous mass from the depth at which contamination begins to the depth at which it comes into contact with the groundwater table". From the soil boring logs in the Site Investigation Report it is clear that is not the case. In the application of the groundwater pathway RCL, the soil concentrations were averaged. Actual soil contaminate concentrations exceed the RCL. Further, no attempt has been made to delineate the depth to groundwater at groundwater quality.

Soil borings have been advanced to a depth of up to 10.5 feet. If borings could be advanced why is it "infeasible" to install monitoring wells? Site closure may be reconsidered once the above referenced issues have been resolved. Please submit a WDNR Case Summary and Closeout Form (4400-202) with any future closeout request. If you have any questions or comments regarding this letter, feel free to contact me at (715) 635-4049.

Sincerely

Jamie Dunn, Hydrogeologist
Remediation & Redevelopment

Cc: Brian Schneider, McLaren/Hart

WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Region Annex
4041 North Richards Street
PO Box 12436
Milwaukee, Wisconsin 53212-0436
Telephone 414-229-0800
FAX 414-229-0810

May 17, 2000

Mr. Robert Miller
Spic and Span, Inc.
4301 N. Richards St.
Milwaukee, WI 53212

Subject: Closure request for the Dryclean USA facility #83 at 15740 W. Capitol Drive, Brookfield, WI **WDNR FID#268188470 WDNR BRRTS#0268223678**

Dear Mr. Miller:

The Wisconsin Department of Natural Resources (the Department) has received a request for closure of the above-referenced site submitted on your behalf by McLaren/Hart. Based on a review of the site investigation report, the Department is not able to grant closure at this time. The following information must be obtained and provided to the Department prior to reconsideration of site closure:

1. Your consultant has not presented sufficient information to support the suggestion that groundwater has not been impacted by tetrachloroethylene (PCE) soil contamination. Please evaluate potential groundwater contamination by sampling groundwater in the vicinity of B-1 and B-3 and if contamination is identified, by defining the degree and extent of it. Also develop site specific residual contaminant levels (RCLs) for PCE contaminated soil based on protection of groundwater.

2. Your consultant calculated site specific residual contaminant levels (RCLs) for PCE based on a direct contact risk model. The site specific RCL concentration of 8.25 mg/kg PCE is exceeded in soil at the location of B-3. Currently the affected soils are located under a floor slab, which eliminates the threat posed by direct contact. If this soil is left in place, a deed restriction requiring maintenance of the floor barrier will be a requirement of site closure.

Site closure may be reconsidered once the Department has received the above-referenced information. Please also note that future closure requests must include a WDNR Case Summary and Closeout Form (4400-202). If you have any questions regarding this letter, please contact me at the letterhead address or at (414) 229-0874.

Please include the BRRTS and FID numbers listed above on any future submittals.

Sincerely,
Nancy D. Ryan

Nancy D. Ryan, Hydrogeologist
Remediation and Redevelopment

Cc: SER site file
Brian Schneider, McLaren/Hart

March 6, 2000

Mr. Jim Delwiche
Hydrogeologist
Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
P.O. Box 12436
Milwaukee, WI 53212

Re: Dryclean USA
15740 West Capitol Drive, Brookfield, Wisconsin
Site Investigation Report

FID# 268188470

BRRTS 02-68-223678

Dear Mr. Delwiche:

Enclosed are two copies of the Site Investigation Report for the Dryclean USA property referenced above, and a check for $750 for the report review fee. The report was prepared in accordance with applicable sections of Wis. Adm. Code chs. NR 716.15. Based on the results of the investigation, McLaren/Hart recommends closure of the site. Feel free to contact either Brian Schneider or George Bayer if you have any questions or require additional information.

Sincerely,

McLAREN/HART ENVIRONMENTAL ENGINEERING CORPORATION

Brian Schneider, P.E.
Senior Engineer

George J. Bayer
Associate Geoscientist

O:\COMMON\1123-Spic & Span\spic&span83rpt.wpd

cc: Mark Thimke, Esq.
Mr. Robert Miller

W239 N2890 Pewaukee Road, Unit D, Pewaukee, WI 53072 (414) 523-2040 FAX (414) 523-2059

02-68-223678

FID# 268188470

SITE INVESTIGATION REPORT

DRYCLEAN USA
FACILITY #83
15740 WEST CAPITOL DRIVE
BROOKFIELD, WISCONSIN

Prepared for:

Mr. Robert Miller
Spic and Span, Inc.
4301 North Richards Street
Milwaukee, WI 53212

Prepared by:

McLaren/Hart
Environmental Engineering Corporation
W239 N2890 Pewaukee Road
Pewaukee, Wisconsin 53072

March 1, 2000

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

ATTACHMENTS

SITE INVESTIGATION REPORT

DRYCLEAN USA
FACILITY #83
15740 WEST CAPITOL DRIVE
BROOKFIELD, WISCONSIN
FID #:
BRRTS #:

March 1, 2000

CERTIFICATION - PROFESSIONAL ENGINEER

I, Brian W. Schneider, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all 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.

REPORT: 9 pages

ATTACHMENTS:

A	Figures	3 pages
B	Tables	1 pages
C	Field Methodologies	3 pages
D	Laboratory Analytical Reports/Chain-of-Custody Documents	37 pages
E	Soil Boring Logs/Abandonment Forms/Well Construction Logs	16 pages

Brian W. Schneider Supervising Engineer — 3/1/2000

Signature and Title — Date

BRIAN W. SCHNEIDER No. 28922 WAUKESHA, WI PROFESSIONAL ENGINEER

Stamp

1.0 INTRODUCTION

1.1 SITE LOCATION

The Property is located in the SE 1/4 of the SE 1/4 of Section 3, Township 7 North, Range 20 East. The address is 15740 West Capitol Drive in Brookfield, Wisconsin. The site location is shown in Figure 1, Attachment A.

1.2 BACKGROUND

The following report summarizes investigation activities performed in or adjacent to the Dryclean USA facility located in the Capitol Plaza Shopping Center. These activities were performed as a follow-up to the investigation activities previously performed by McLaren/Hart on October 19, 1998, and documented in the Site Investigation Work Plan by McLaren/Hart dated July 1, 1999. A site location diagram is presented in Figure 1.

Dryclean USA is a subsidiary of Spic and Span, Inc. and the Dryclean USA facility space is leased from Century Capitol, the property owner. Dryclean USA has occupied the space and conducted dry cleaning operations since August, 1981. The dry cleaning machine was placed in a containment structure in 1995. The dry cleaning machine and dry cleaning chemicals are no longer utilized at the facility.

On October 19, 1998, McLaren/Hart performed three soil boring tests (B-1 to B-3) in the immediate vicinity of the dry cleaning machine. Soil samples were collected from each boring from approximately 0.5 to 2.5 and 4.5 to 6 feet below ground surface (bgs). The samples were analyzed for tetrachloroethylene (PCE) and its potential breakdown products. Generally, one sample was obtained from fill soils beneath the concrete slab and one sample was obtained from native soils (or fill) found at a greater depth. Laboratory analyses were performed by Great Lakes Analytical using U.S. EPA SW-846 Method 8021. PCE concentrations ranged from 48 µg/kg to 11,000 µg/kg. No PCE breakdown products were detected above the laboratory detection limit of 25 µg/kg. Groundwater was not encountered during this investigation. Additional details are included in the attached Site Investigation Results report.

1.3 PROPERTY OWNERSHIP

The Property is owned by:

Century Capitol
222 Ohio Street
Oshkosh, WI 54903
Attention: Mr. Wayne Chaney
(920) 426-1404

The responsible party for the site investigation:

Spic and Span, Inc.
4301 North Richards Street
Milwaukee, WI 53212
Attention: Mr. Robert Miller
(414) 964-5050

1.4 CONSULTANTS AND CONTRACTORS

The site investigation activities reported herein were performed by:

McLaren/Hart Environmental Engineering Corporation
W239 N2890 Pewaukee Road, Unit D
Pewaukee, WI 53072
(414) 523-2040 - phone
(414) 523-2059 - fax

As part of the investigation, the following service/commodity providers also conducted activities associated with the Property investigation:

Soil Probe Services

On-Site Environmental Services, Inc.
P.O. Box 280
Sun Prairie, WI 53590
(608) 837-8992

Laboratory Analytical Services

Great Lakes Analytical
1380 Busch Parkway
Buffalo Grove, IL 60089
(847) 808-7766

2.0 SITE PHYSIOGRAPHY, GEOLOGY AND HYDROGEOLOGY

2.1 TOPOGRAPHY AND SURFACE WATER DRAINAGE

- Site Topography. Based on the United States Geological Survey (USGS), Wauwatosa, Wisconsin, 7.5 minute topographic map (1971), the topography in the immediate vicinity of the site slopes downward to the east from the site.

- Surface Water Drainage. Storm water along the site is anticipated to generally drain eastward along the curb side drainage associated with the parking lot of the retail mall in which Dryclean USA is located. The curb side drainage discharges to the storm sewer system. Storm water collected on the roof of the building is conveyed by roof drains to the storm sewer as well.

2.2 SOILS AND GEOLOGY/HYDROGEOLOGY

- Site Geology/Hydrogeology. The surface soils (less than five feet deep) have been classified by the U.S. Department of Agriculture. Soil Conservation Service (1971). The general soil association is the Ozaukee -Morley-Mequon Association with site-specific soils consisting of Ozaukee Silt Loam Series. The general soil association is described as well-drained to poorly drained soils with a subsoil of silty clay that formed in areas of thin loess and silty clay loam glacial till on moraines.

  The Ozaukee Silt Loam consists of moderately well-drained, silty soils that have a silty clay loam and silty clay subsoil underlain by calcareous silty clay loam glacial till. The Ozaukee soils have moderately slow permeability and high available water capacity.

  As noted, the site soils formed in areas of glacial till. The glacial till deposits in the area of the subject property vary between 100 to 200 feet thick and consist of unsorted, unstratified, unconsolidated mixtures of clay, silt, sand, pebbles, cobbles and boulders. The glacial till overlies the Niagara Dolomite bedrock which is up to 450 feet thick. The glacial deposits, as well as the bedrock, are considered to be groundwater aquifers.

3.0 SITE INVESTIGATION ACTIVITIES

The site investigation scope of work was developed in response to data gaps from the previous investigation. Additional tasks were added to the scope of work as the need for additional data was identified. The additional tasks are specified in the following sections.

3.1 PROJECT SCOPING DATA

To the extent practical, the scope of the project was defined in consideration of the criteria listed in NR 716.07, as detailed below. The data were updated during the investigation, as appropriate:

- Site Use. The Dryclean USA facility is located in the Capitol Plaza Shopping Center and has operated as a dry cleaning facility at this location since August, 1981.

- Type and Amount of Impact. Based on previous investigations, soils in the immediate vicinity of the dry cleaning machine are impacted with PCE. PCE concentrations ranged from 48 to 11,000 µg/kg.

- Environmental Media Potentially Affected. PCE impacts are estimated to be predominately within the coarse fill soils and silty clay soils underlying the Dryclean USA facility.

- Need for Access Permission. Century Capitol owns the property on which the impacts were found. Based on prior investigation findings, the impacts are believed to be limited to coarse fill soils in the vicinity of the dry cleaning machine and may extend to adjacent tenant spaces.

  Based on existing data, off-site impacts are not suspected and off-site access permission will not be required. Access permission may be required from both the adjacent tenants and the property owner (see Figure 2).

- Potential Receptors. No groundwater impacts have been identified at the site. Groundwater was not observed during the previous investigation. A water supply well, which services the shopping center, is located approximately eight feet north of the Dryclean USA facility (80 feet north of the dry cleaning machine [source area]). Well records obtained for the subject property indicate the well is 300 feet deep and is cased to a depth of 106 feet below ground surface where dolomite bedrock was encountered.

- Significant Resources. Based on existing data, the site has not affected and does not present a threat to any threatened or endangered species, sensitive habitats, wetlands, resource waters, or historical or archeological sites.

3.2 SITE PHYSIOGRAPHY/SAMPLING STRATEGY

The sampling strategy was developed to identify the boundaries of soil impact, based on the known site conditions and characteristics. The sampling locations were selected based on data obtained from prior investigations and site characteristics.

3.3 FIELD INVESTIGATION METHODS

3.3.1 Soil Sample Collection and Handling

Soil sampling was performed using either portable power, hand augering, or soil probe equipment. Upon collection, the soil was classified with respect to USGS classification, color, moisture content, evidence of impact (discoloration and odor) and other observations. When practical, ASTM methods D-2487 and D-2488 were utilized. The information was recorded in a bound field notebook used to record daily activities.

As soon as possible following sample collection, the soil samples for the laboratory analysis were transferred to appropriate laboratory-provided containers. A fresh pair of latex (or similar) gloves will be used during the handling of each sample to minimize the potential for cross contamination. The samples were containerized in laboratory-provided 60-ml glass jars with Teflon® septa. Twenty-five to 35 grams of soil was placed in the jars and each sample was preserved in the field with laboratory-provided purge-and-trap grade methanol.

The sample jars were labeled with the sample location identification, depth of sample, date of sample collection and intended analysis. The sample jars were placed in resealable plastic bags and packed in an iced, insulated container. A chain-of-custody form was completed each day, and accompanied each container of samples from the site to the laboratory. Samples were transported from the facility to the laboratory via overnight courier.

3.3.2 Decontamination Procedures

Soil sampling equipment was decontaminated before each boring location using an Alconox or TSP solution and rinsed in clean water (distilled, deionized or municipal potable). Any sampling tools (i.e., spoons, knives, spatulas, etc.) were also cleaned in a solution of Alconox or TSP solution and rinsed in clean water prior to collection of each sample. A clean pair of latex, or equivalent, gloves was used during each sample to minimize the potential for cross-contamination.

3.3.3 Laboratory Analysis

Laboratory analyses were performed by Great Lakes Analytical using Wisconsin-modified U.S. EPA SW-846 Method 8021, target list compounds: PCE 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), trans-1,2-dichloroethene, cis-1,2-dichloroethene, 1,1,2-trichloroethane, 1,1-dichlorethane, 1,2-dichloroethane, and vinyl

chloride. The target list is defined to identify the PCE used at the facility, its potential breakdown products and related compounds.

3.4 QUALITY ASSURANCE/QUALITY CONTROL METHODS

The following quality assurance/quality control measures were implemented during the site investigation activities:

- Decontamination procedures and measures to minimize the potential for cross-contamination of samples were followed as specified in section 2.3.2.
- All site activities were recorded in a bound field notebook (see Field Documentation section below).
- Chain-of-custody procedures were followed as specified in Attachment D.

A methanol blank was included in each cooler shipped to the laboratory. The samples were shipped on ice; therefore, no temperature blanks were required.

3.5 FIELD DOCUMENTATION

All site activities were documented in a bound field notebook. Included in the daily documentation are:

- Procedures for sampling and other routine activities associated with the site investigation.
- Field observations.
- Chronological log of site activities.

3.6 SITE HEALTH AND SAFETY

All reasonable measures were taken to protect the health and safety of the personnel and general public. A site Health and Safety Plan that meets or exceeds the standards found in 29 CFR 1910.120 was prepared and followed during site activities. All project personnel and subcontracted personnel were trained in hazardous materials handling and have on-site training and experience.

Detailed methodologies for each of these tasks is provided in Attachment D. Additional information is presented in the following sections.

3.7 INVESTIGATION SCOPE OF WORK

The site investigation activities, as presented in the March 17, 1999 Work Plan, were implemented on April 12, 1999. The scope of work included:

- Sample 8 soil borings to various depths (eight to twelve feet) below ground surface.
- Collect up to two soil samples from each boring for laboratory analysis of selected VOCs. The samples were collected from various depths.

The specific objectives of each sampling location are presented in the July 1, 1999 Work Plan.

3.8 VARIATIONS FROM WORK PLAN

The following tasks were altered or added to the original work plan in response to field conditions and data needs:

- Boring B-7 was relocated approximately 7 feet east due to subsurface obstructions.
- Boring B-8 was relocated approximately 6 feet east due to access conflicts.
- Boring B-10 was relocated approximately 7 feet northwest due to access conflicts.
- Boring B-12 was added and installed approximately 27 feet northwest of boring B-10.
- Boring B-13 was added and installed approximately 12 feet northwest of the water supply well.

3.9 RESULTS

The boring locations are shown in Figure 2 . The analytical results, including soil sample results from B-1, B-2 and B-3, are summarized in Table 1. Figure 3 presents soil analytical results. Laboratory reports, quality control data and chain of custody documents are provided in Attachment D. Soil boring logs are provided in Attachment E.

3.9.1 Soil Sampling

One to two soil samples were collected from each of the ten soil borings installed at the site. The samples were submitted for laboratory analysis of select VOCs. The soil sampling analytical results are detailed in Table 1. Tetrachloroethene (PCE) and cis-1,2 dichloroethene were the only VOCs detected. PCE was detected in three of the ten additional borings (B-5, B-6, and B-10) while cis-1,2 dichloroethene was detected in boring B-6 only.

PCE impacted soil was generally confined to within a 25 foot radius of the dry cleaning machine. The highest PCE concentrations were detected in the sandy fill and shallow silty clay fill soils immediately beneath the interior concrete slab (B-1, B-2, B-6 and B-10).

PCE concentrations decreased with depth in the natural clay soils. With the exception of the PCE detected at a concentration of 31 µg/kg at a depth of 8.5 to 10.5 feet bgs in B-5, PCE was not detected above the laboratory detection limits at depths greater than 8 feet bgs. The 31 µg/kg concentration in the deeper sample from B-5 was approximately one-hundred times less than the concentrations observed from the samples collected from the overlying fill material and shallow silty clay soils in B-1. PCE was not detected above the laboratory detection limit at boring location B-13 which was installed near the water supply well.

3.9.2 Groundwater

Groundwater was not observed in any of the soil borings (as deep as 12.5 feet bgs) installed.

4.0 RISK ASSESSMENT

Based on the results of the investigation the PCE is predominantly confined to a small volume of fill soils and shallow (1-6 feet bgs) silty clay soils beneath the interior concrete slab. Furthermore, PCE concentrations in the soils decrease with distance from the dry cleaning machine, and are confined to within the building footprint. Soil boring logs from this investigation indicate the underlying clay soils extend to a depth to at least 12.5 feet bgs, and regional geological information indicates the clay soils extend to a depth of at least 60 feet. Hard pan with zones of sand and gravel were observed beneath the clay soils to a depth of 105 feet bgs where dolomite bedrock was encountered.

The WDNR Direct Contact Risk Model was used to evaluate the excess cancer risk attributable to contact with PCE through ingestion of soil particles, inhalation of soil particles and inhalation of PCE vapors. The results of the WDNR Direct Contact Risk Model indicate that soils with concentrations below 8.25 mg/kg would not pose a threat to human health. PCE was detected above the 8.25 mg/kg concentration in boring B-3 at a concentration of 11 mg/kg and 8.5 mg/kg. No other PCE impacts were observed above the 8.25 mg/kg criteria. In addition, all soil boring locations where PCE was detected are located beneath the interior concrete slab.

Dry cleaning equipment and PCE are no longer used at the site.

The potential risk to human health through direct contact would be minimal for the following reasons:

- Only a very limited volume of soil, estimated to be less than 10 cubic yards, contains concentrations of PCE that exceed the direct contact limit of 8.5 mg/kg.

- The soils are currently beneath a floor slab and would become accessible only in the event of building demolition. Building demolition would potentially expose workers for a period of a few days. The Direct Contact Risk Model is based on a minimum exposure period of six years.

The WDNR Direct Contact Risk Model is shown in Table 2.

The potential risk to human health through ingestion of groundwater would be minimal for the following reasons:

- The PCE is contained within low conductivity clay soils. The Highest PCE concentration detected below 8.5 feet bgs was 31 µg/kg and PCE was not detected below 8.5 feet bgs outside the immediate area of the former dry cleaning machine.

- There is a separation distance between soil and groundwater of at least five feet or more (groundwater was not encountered during this investigation), and there is approximately 100 feet of clay and hard pan (extremely dense silty clay with some sand and gravel) to the cased depth (105 feet bgs) of the nearest well.

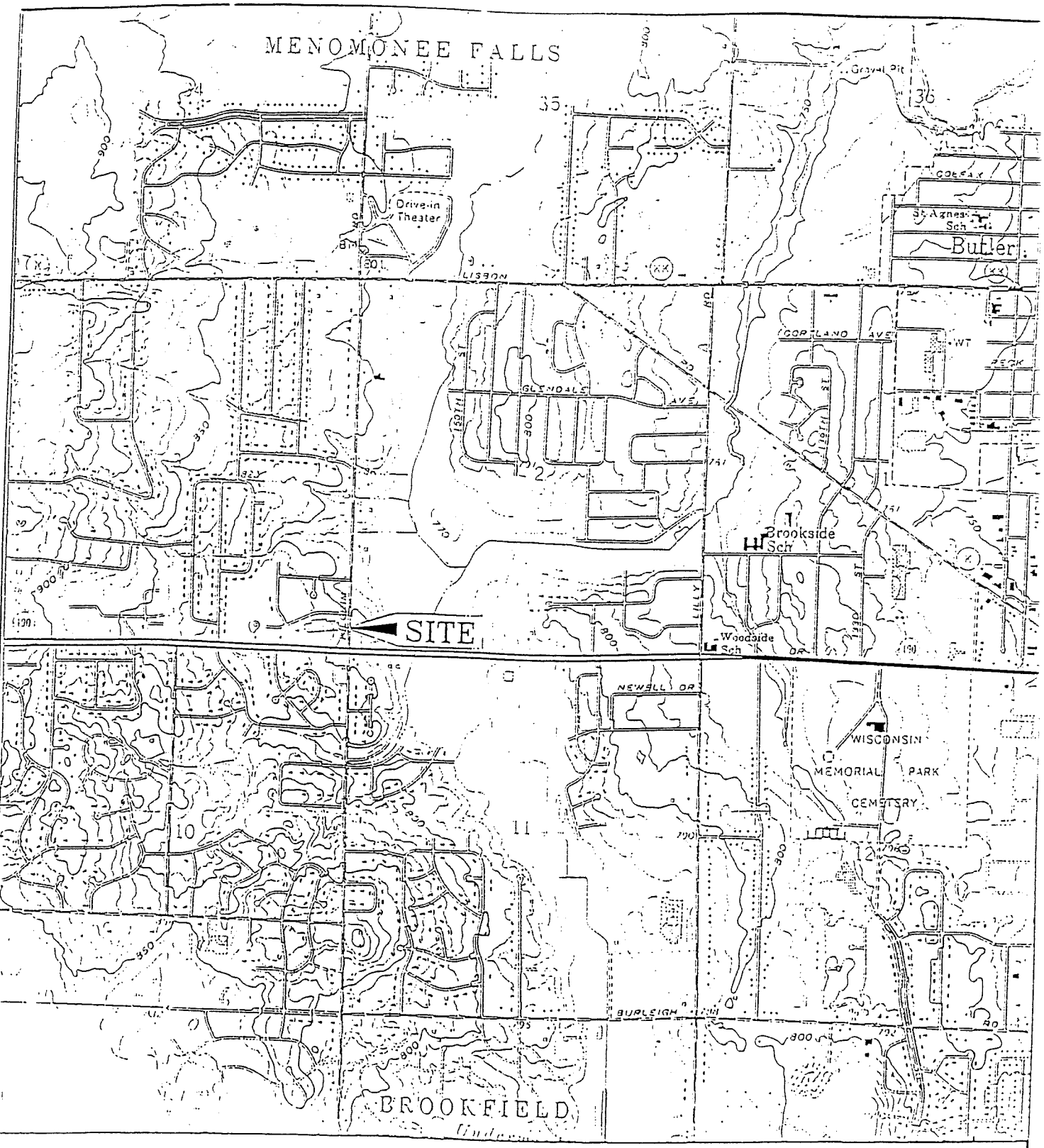
how do they know this?

- The affected soils are located under a floor slab, so there is minimal infiltration.

- The dry cleaning equipment and PCE are no longer used at the site. The PCE is amenable to biodegradation and the concentrations will naturally decrease with time.

5.0 SUMMARY AND RECOMMENDATIONS

Soil samples were obtained from areas surrounding the dry cleaning machine located within the Dryclean USA facility. Soil borings were also installed within the adjacent facilities, (Walgreens and Midwest Framing) and on the exterior of the building to evaluate the horizontal and vertical extent of PCE impacts. Based on the results of the investigation, the PCE is confined to a small volume of fill soils and shallow silty clay soils beneath the interior concrete slab (1-9 feet bgs). Furthermore, PCE concentrations in the soils decrease with distance from the dry cleaning machine. The PCE concentrations are limited in magnitude and further migration is limited by underlying native clay soils. The results of the WDNR Direct Contact Risk Modeling indicate that even in the event of future demolition of the building and disturbance of the soils, the PCE would not pose a threat to human health and the quality of the environment through direct contact. In addition, the potential risk to human health through ingestion of groundwater is minimal. The dry cleaning machine has been removed from the facility, and the PCE in the soil will naturally decrease in concentration. Therefore, McLaren/Hart requests closure of this site.



USGS 7.5 minute series Wauwatosa, Wisconsin topographic quadrangle dated 1958, photorevised 1971

N
W E
S

APPROXIMATE SCALE

0 1000 2000 3000 4000 5000 Feet

McLaren Hart ENVIRONMENTAL ENGINEERING CORPORATION

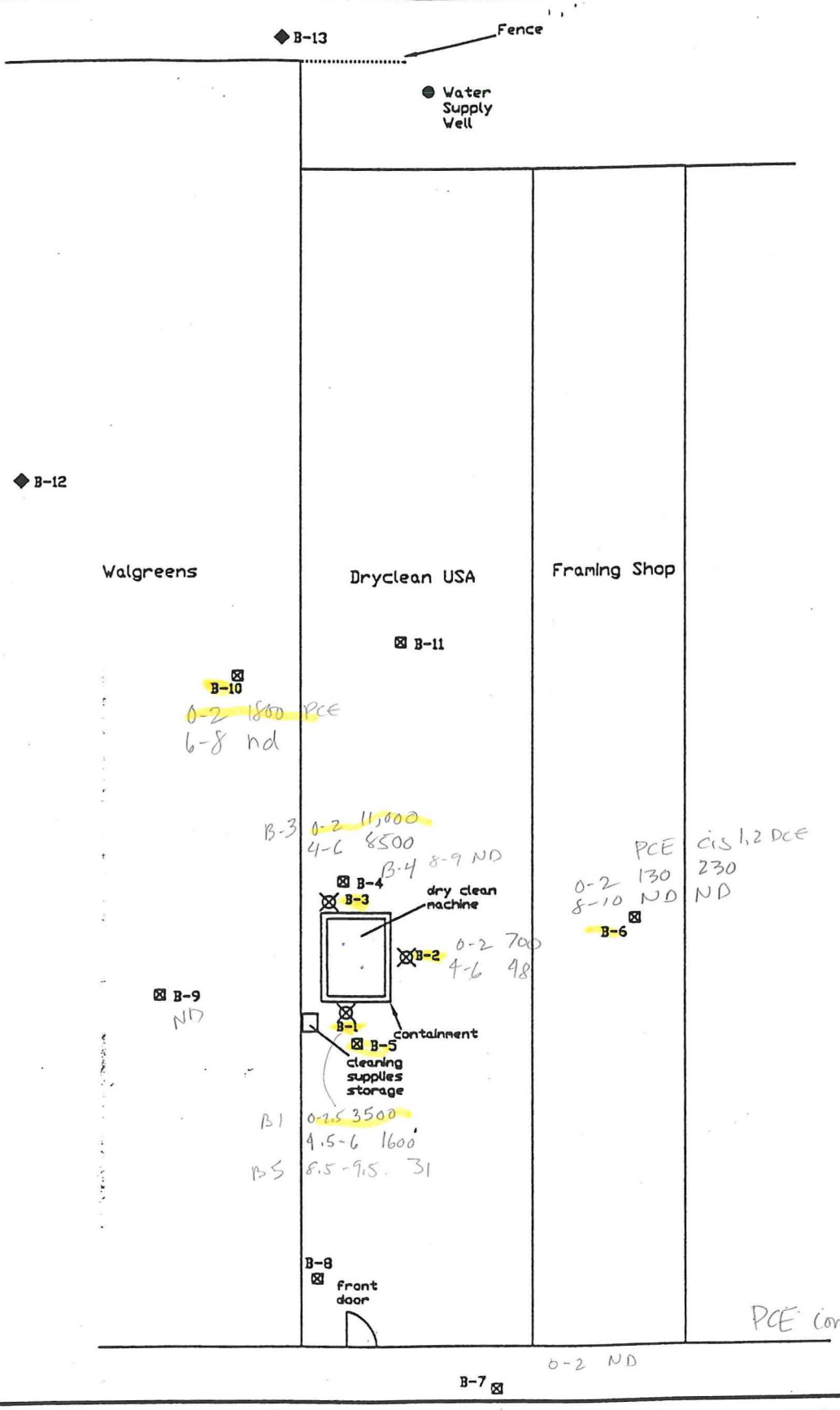
DRWN: MED	CHK'D: GJB
JOB #: 10080.4135.001.001	DATE: 10-14-98

FIGURE 1

SITE LOCATION MAP

Dryclean USA (store # 83)
15740 West Capitol Dr., Brookfield, WI

DWG store 83



LEGEND

⊠ Boring Location Installed on 10/20/98

◆ Boring Location Installed on 12/30/99

⊠ Boring Location Installed on 9/23/99

APPROXIMATE SCALE

0 5 10 Feet

McLaren Hart® ENVIRONMENTAL ENGINEERING CORPORATION

FIGURE 2

Boring Locations
Dryclean USA (store # 83)
15740 West Capitol Dr.
Brookfield, WI

DRWN: MED	CHK'D: GJB
JOB#:10000.1123.001.001	DATE: 12.30.99

DWG: U:\common\Spic&Spac\83revised.dwg

Table 1
SOIL ANALYTICAL RESULTS
Dryclean USA Facility #83
15740 West Capitol Drive
Brookfield, Wisconsin

All samples analyzed for Volatile Organic Compounds-special list (VOCs Method 8021).
Concentrations in Micrograms per Kilogram unless otherwise indicated

Dryclean USA Facility #83

	Sample Identification	B-1	B-1	B-2	B-2	B-3	B-3	B-4	B-5
	Depth (ft)	0.5-2.5	4.5-6.0	0.5-2.5	4.5-6.0	0.5-2.5	4.5-6.0	8.5-9.5	8.5-10.5
	Date Collected	10/20/98	10/20/98	10/20/98	10/20/98	10/20/98	10/20/98	9/23/99	9/23/99
ANALYTES:	1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	Tetrachloroethene (PCE)	3500	1600	700	48	11000	8500	ND	31
	Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND

	Sample Identification	B-6	B-6	B-7	B-7	B-8	B-8	B-9	B-9
	Depth (ft)	0.5-2.5	8.5-10.5	0.5-2.5	10.5-12.5	0.5-2.5	8.5-10.5	0.5-2.5	8.5-9.0
	Date Collected	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99
ANALYTES	1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	cis-1,2-Dichloroethene	230	ND	ND	ND	ND	ND	ND	ND
	trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	Tetrachloroethene (PCE)	130	ND	ND	ND	ND	ND	ND	ND
	Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND

	Sample Identification	B-10	B-10	B-11	B-11	B-12	B-12	B-13	B-13
	Depth (ft)	0.5-2.5	6.5-8.4	0.5-2.5	8.5-9.5	0.5-2.5	8.0-9.6	0.5-2.5	8.0'-10'
	Date Collected	9/23/99	9/23/99	9/23/99	9/23/99	12/30/99	12/30/99	12/30/99	12/30/99
ANALYTES	1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	Tetrachloroethene (PCE)	1,800	ND	ND	ND	ND	ND	ND	ND
	Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
Only positive detection (i.e., > practical quantitation limit) shown.
ND: Not detected above practical quantitation limit.
NA: Not analyzed

WDNR DIRECT CONTACT RISK MODEL
SOIL CLEAN-UP GOALS

COMPOUND: PCE

PROJECT NAME: Dryclean USA

SITE SPECIFIC PROPERTIES:

CONTAMINANT CONCENTRATION	C_{CHEM}=	8.25	mg/kg
WIDTH OF CONTAMINATED AREA	LS=	10	m
AREA OF CONTAMINATED SOIL	A=	120	m^2
ORGANIC CARBON CONTENT OF SOIL	OC=	0.0038	fraction
SOIL PARTICLE DENSITY	P_S=	2.6	g/cm^3
SOIL POROSITY	E=	0.45	unitless

CHEMICAL SPECIFIC PROPERTIES

ORAL CANCER SLOPE FACTOR (FROM RISK-BASED CONC. TABLE BACKGROUND INFORMATION)

$SF_{O\text{-}CHEM}$= 0.052 $[(mg/kg\text{-}day)]^{-1}$

INHALATION CANCER SLOPE FACTOR (FROM RISK-BASED CONC. TABLE BACKGROUND INFORMATION)

$SF_{i\text{-}CHEM}$= 0.00203 $[(mg/kg\text{-}day)]^{-1}$

MOLECULAR DIFFUSIVITY OR AIR DIFFUSION COEFFICIENT	$D_{i\text{-}CHEM}$=	0.0861	cm^2/sec
HENRY'S LAW CONSTANT	H_{CHEM}=	0.0149	$atm\text{-}m^3/mol$
ORGANIC CARBON PARTITION COEFFICIENT	$K_{OC\text{-}CHEM}$=	324	cm^3/gm

DNR DEFAULT EXPOSURE ASSUMPTIONS PER NR 720.19(5)(c)2.a.

INGESTION RATE OF SOIL AGE 1-6	$IR_{SOILAGE\ 1\text{-}6}$=	200	mg/day
INGESTION RATE OF SOIL AGE 7-31	$IR_{SOILAGE\ 7\text{-}31}$=	100	mg/day
DAILY INHALATION RATE	IR_{AIR}=	20	m^3/day
AVERAGE BODY WEIGHT AGE 1-6	$BW_{AGE\ 1\text{-}6}$ =	15	kg
AVERAGE BODY WEIGHT AGE 7-31	$BW_{AGE\ 7\text{-}31}$=	70	kg
EXPOSURE DURATION DURING AGES 1-6	$ED_{AGE\ 1\text{-}6}$ =	6	yr
EXPOSURE DURATION DURING AGES 7-31	$ED_{AGE\ 7\text{-}31}$=	24	yr
EXPOSURE DURATION FOR INHALATION OF PARTICULATES	$ED_{INHALATION}$=	30	yr
EXPOSURE FREQUENCY	EF=	350	days/year
AVERAGING TIME	AT=	70	yr

CONTINUED ON FOLLOWING PAGE

DIRECT CONTACT RISK MODEL (CONTINUED)

EXCESS CANCER RISK DUE TO INGESTION OF SOIL

AGE ADJUSTED SOIL INGESTION FACTOR	$IF_{SOIL/ADJ}$=	114.29	mg-yr/kg-day
CANCER RISK FROM INGESTION OF CONTAMINATED SOIL	$RISK_{ING-CHEM}$=	6.72E-07	unitless

EXCESS CANCER RISK DUE TO INHALATION OF PARTICLES

WIND SPEED IN MIXING ZONE	V=	2.25	m/sec
DIFFUSION HEIGHT	DH=	2	m
RESPIRABLE FRACTION	RF=	0.036	g/m^2-hr
FRACTION OF VEGETATIVE COVER	G=	0.05	unitless
MEAN ANNUAL WIND SPEED	Um=	4.5	m/sec
EQUIVALENT THRESHOLD VALUE OF WIND SPEED AT 10 M	Ut=	12.8	m/sec
FUNCTION DEPENDENT ON Um/Ut	F(x)=	0.0497	unitless
PARTICULATE EMISSION FACTOR	PEF=	1.83E+10	m^3/kg
RISK FROM INHALATION OF CONT. SOIL PARTICULATES	$RISK_{INHP-CHEM}$=	1.08E-13	unitless

EXCESS CANCER RISK DUE TO INHALATION OF VAPORS

UNIT CONVERSION - AREA OF CONTAMINATED SOIL	A_{CM}=	1200000	cm^2
EXPOSURE INTERVAL	T=	7.90E+08	sec
SOIL-WATER PARTITION COEFFICIENT	K_{d-CHEM}=	1.2312	cm^3/g
SOIL-AIR PARTITION COEFFICIENT	$K_{as-CHEM}$=	0.496183	g/cm^3
EFFECTIVE DIFFUSIVITY	$D_{el-CHEM}$=	0.066155	cm^2/g
CHEMICAL ALPHA VALUE	P_{CHEM}=	0.008935	cm^2/sec
SOIL TO AIR VOLATILIZATION FACTOR	VF_{CHEM}=	5975.82	m^3/kg
CANCER RISK DUE TO INHALATION OF VAPORS	$RISK_{INHV-CHEM}$=	3.29E-07	unitless

EXCESS CANCER RISK DUE TO CHEMICAL CONTAMINATED SOIL

$RISK_{CHEM}$= 1.00E-06 unitless

References

1.) Smith, R.L. October, 1995. "EPA Region III Risk-Based Concentration Table Background Information."

2.) U.S. EPA 1991. Risk Assessment Guidance for Superfund Volume 1: Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals).

SOIL PROBE SAMPLE COLLECTION METHODS

A soil probe (Geoprobe® or other) unit consists of a hydraulic ram with a hydraulic hammer, the sampling probe and driving rods. The sampling probe is a one- or two-inch diameter stainless steel tube into which a disposable polyethylene liner is inserted prior to each sampling event. The sampler is then driven into the ground using the hydraulic ram or, when the hydraulic ram cannot exert enough pressure to continue to push the sampler into the ground, the hammer.

Prior to driving the sampler into the ground and between each sampling event, the stainless steel tube was washed in a solution of water and Alconox®. The sampler was rinsed in clean water. A new, clean plastic sleeve was inserted for each sampling event. The plastic sleeves are disposable and not intended for reuse.

After the sampler penetrated the ground to the appropriate depth, the nose plug was removed (one-inch sampler only; the two-inch sampler does not use a nose plug) and the sampler was pushed/hammered an additional two feet into the ground (undisturbed soil collection procedures). Upon advancing the sampler two feet (one-inch sampler) or four feet (two-inch sampler), the entire sampler, with the plastic sleeve intact, was withdrawn. The plastic sleeve was then provided to the on-site geologist or scientist for soil classification and sample containerization.

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SAMPLE CUSTODY PROCEDURES

Sample custody procedures are designed to comply with U.S. EPA and National Enforcement Investigation Council (NEIC) requirements for sample control. Samples collected during a site investigation are the responsibility of identified persons from the time they were collected until they or their derived data are incorporated into the final report. Stringent chain-of-custody procedures were followed to maintain and document sample possession.

Chain-of-custody forms were competed to the fullest extent possible prior to sample shipment. They included the following information:

- Sample identification;
- Date collected;
- Source of sample (including type of sample and site identification);
- Sampler name.

The forms were filled out in a legible manner using waterproof ink and were signed by the sampler. Similar information was provided on the sample label, which was securely attached to the sample bottle. Samples were always accompanied by a chain-of-custody record. When transferring samples, the individuals relinquishing and receiving them signed, dated and noted the time on the record. A separate custody record accompanied each sample container. A copy of the custody record was retained by the field sampler and filed upon return to the office.

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SOIL SAMPLE LOGGING, COLLECTION AND HANDLING

Following retrieval of the soil sample from the sampling device, a section of sample intended for laboratory analysis was contained. A portion of the sample was immediately transferred to laboratory-provided containers, field preserved (if appropriate), labeled, placed in a plastic bag, sealed and stored in an insulated container pending shipment to the laboratory.

The remaining sample was classified in accordance with ASTM method D-2487, with reference to method D-2488 (as appropriate). The descriptions may include information pertaining to soil type (Unified Soil Classification System code), grain size distribution, gradation, color (Munsell notation or other), odor, moisture content, consistency, grain shape, lithology and other content, structure, mottling and layering, as appropriate. Upon completion of classification, this portion of the sample was contained in a sealed plastic bag pending field screening, or was deposited in an appropriate container pending disposal.

The samples to be analyzed in the laboratory for volatile organic compounds (VOCs; SW-846 Method 8021) were transferred to laboratory-provided 60-ml glass jars with Teflon® septa. Twenty-five to 35 grams of soil was placed in the jars and preserved in the field with laboratory-provided purge-and-trap grade methanol. The jars were then securely sealed, labeled with the sample identification, date of collection and intended analysis. The selected sample containers were then placed in resealable plastic bags and stored on ice in an insulated container.

The samples were transported to a Wisconsin-certified laboratory via overnight courier or the laboratory courier or McLaren/Hart staff. All sampling locations and procedures were documented in a bound field notebook used to record daily activities at the site.

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Date: October 1, 1999

McLaren/Hart
W239 N2890 Pewaukee Rd., Unit D
Pewaukee, WI 53072
Attention: Brian Schneider

Project: Dry Clean USA #83

Enclosed are the results from the 14 soil samples and 1 liquid sample received at Great Lakes Analytical on Sept. 24, 1999. The requested analyses are listed below:

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
B909448-01	Soil: B-6	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-02	Soil: B-6 8.5-10.5'	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-03	Soil: B-10	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-04	Soil: B-10 6.5-8.4	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-05	Soil: B-9	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-06	Soil: B-9 8.5-9'	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-07	Soil: B-5	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-08	Soil: B-4	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-09	Soil: B-11	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-10	Soil: B-11 8.5-9.5'	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-11	Soil: B-8	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-12	Soil: B-8 8.5-10.5	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5

SAMPLE#	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
B909448-13	Soil: B-7	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-14	Soil: B-7 10.5-12.5'	9/23/99	VOC , EPA 5030/8021 Percent Solids, EPA 7.3.3.1.5
B909448-15	Liquid: Field Blank	9/23/99	VOC , EPA 5030/8021

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

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Laboratory Director

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McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis for:	Percent Solids, EPA 7.3.3.1.5		
Attention: Brian Schneider	First Sample #:	B909448-01	Analyzed:	Sep30-Oct1, 1999
			Reported:	Oct 1, 1999

LABORATORY ANALYSIS FOR: Percent Solids, EPA 7.3.3.1.5

Sample Number	Sample Description	Detection Limit %	Sample Result %
B909448-01	B-6	0.10	83
B909448-02	B-6 8.5-10.5'	0.10	89
B909448-03	B-10	0.10	83
B909448-04	B-10 6.5-8.4	0.10	86
B909448-05	B-9	0.10	88
B909448-06	B-9 8.5-9'	0.10	90
B909448-07	B-5	0.10	88
B909448-08	B-4	0.10	86
B909448-09	B-11	0.10	77
B909448-10	B-11 8.5-9.5'	0.10	88
B909448-11	B-8	0.10	90

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McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis for:	Percent Solids, EPA 7.3.3.1.5		
Attention: Brian Schneider	First Sample #:	B909448-12	Analyzed:	Sep30-Oct1, 1999
			Reported:	Oct 1, 1999

LABORATORY ANALYSIS FOR: Percent Solids, EPA 7.3.3.1.5

Sample Number	Sample Description	Detection Limit %	Sample Result %
B909448-12	B-8 8.5-10.5	0.10	86
B909448-13	B-7	0.10	84
B909448-14	B-7 10.5-12.5'	0.10	87

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McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil: B-6	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-01	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	230
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	130
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

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McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil: B-6 8.5-10.5'	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-02	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	N.D.
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

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McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil: B-10	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-03	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	1,800
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

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McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil: B-10 6.5-8.4	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-04	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	N.D.
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

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McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil: B-9	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-05	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	N.D.
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

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McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil: B-9 8.5-9'	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-06	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	N.D.
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

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McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil: B-5	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-07	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	31
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

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McLaren/Hart
W239 N2890 Pewaukee Rd., Unit D
Pewaukee, WI 53072
Attention: Brian Schneider

Client Project ID: Dry Clean USA #83
Sample Descript: Soil: B-4
Analysis Method: EPA 5030/8021
Lab Number: B909448-08

Sampled: Sep 23, 1999
Received: Sep 24, 1999
Analyzed: Sep 29, 1999
Reported: Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	N.D.
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

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McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil: B-11	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-09	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	N.D.
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

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McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil: B-11 8.5-9.5'	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-10	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	N.D.
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

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GREAT LAKES ANALYTICAL

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Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

McLaren/Hart
W239 N2890 Pewaukee Rd., Unit D
Pewaukee, WI 53072
Attention: Brian Schneider

Client Project ID: Dry Clean USA #83
Sample Descript: Soil: B-8
Analysis Method: EPA 5030/8021
Lab Number: B909448-11

Sampled: Sep 23, 1999
Received: Sep 24, 1999
Analyzed: Sep 29, 1999
Reported: Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	N.D.
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE; Wisconsin DNR-999917160

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Buffalo Grove, Illinois 60089

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(847) 808-7766 FAX (847) 808-7772

McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil: B-8 8.5-10.5	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-12	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	N.D.
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

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Laboratory Director

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McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil: B-7	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-13	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	N.D.
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

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Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001;
USACE: Wisconsin DNR-999917160

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1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Soil: B-7 10.5-12.5'	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-14	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	N.D.
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

Accreditations/Certifications: Illinois EPA-100261; New Jersey DEP-54001; USACE; Wisconsin DNR-999917160

GREAT LAKES ANALYTICAL

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Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

McLaren/Hart	Client Project ID:	Dry Clean USA #83	Sampled:	Sep 23, 1999
W239 N2890 Pewaukee Rd., Unit D	Sample Descript:	Liquid: Field Blank	Received:	Sep 24, 1999
Pewaukee, WI 53072	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	B909448-15	Analyzed:	Sep 29, 1999
			Reported:	Oct 1, 1999

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/L	Sample Results µg/L
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
cis-1,2-Dichloroethene	6.0	19	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	N.D.
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

2A

GREAT LAKES ANALYTICAL

CHAIN OF CUSTODY REPORT

1380 Busch Parkway
Buffalo Grove, IL 60089-4505
(847) 808-7766
FAX (847) 808-7772

20725 Watertown Road
Brookfield, WI 53501
(414) 798-1030
FAX (414) 798-1066

Client: McLaren Hart | Bill To: Same | TAT: 5 DAY 4 DAY 3 DAY 2 DAY 1 DAY < 24 HRS.

Address: W239 N2890 Pewaukee Rd #D | Address: | DATE RESULTS NEEDED: 10/1/99

Pewaukee, WI 53072 | TEMPERATURE UPON RECEIPT: ____

Report to: Brian Schneider | Phone #: (414) 523-2040 Fax #: (414) 523-2059 | State & Program: WI | Phone #: ? Fax #: ? | OUR BILL NO. GLAPIL

Project: Dry Clean USA #83

Sampler: George Bayer

PO/Quote #: 10080 10080 01001

	FIELD ID, LOCATION	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	PRESERVATIVES	NO. CONTAINERS	TYPE CONTAINERS	8021 Specific (BTEX)	PCE, TCE, 111TCA	11DCE, 112TCA	11DCA, 12DCA	Trans 12 DCE	Vinyl Chloride	Cis 12 DCE	Dry Wt	CRACKED/BROKEN	IMPROPERLY SEALED	SAMPLE CONTROL: GOOD CONDITION	LABORATORY ID NUMBER
1	B-6 0.5'-2.5'	9/23		Soil	MeOH	2	X								X			X	B9094485
2	B-6 8.5'-10.5'																	X	2
3	B-10 0.5'-2.5'																	X	3
4	B-10 6.5-8.4																	X	4
5	B-9 0.5'-2.5'																	X	5
6	B-9 8.5'-9'																	X	6
7	B-5 8.5'-10.5'																	X	7
8	B-4 8.5'-9.5'																	X	8
9	B-11 0.5'-2.5'																	X	9
10	B-11 8.5'-9.5'																	X	10

RELINQUISHED	RECEIVED	RELINQUISHED	RECEIVED
George J Bayer 9/24/99 9:00am	K Hartman 09/24/99 9:00am	K Hartman 09/24/99	Amy Lenzen 9-24-99 3:50

COMMENTS:

JG9568198

GREAT LAKES ANALYTICAL

CHAIN OF CUSTODY REPORT

1380 Busch Parkway
Buffalo Grove, IL 60089-4505
(847) 808-7766
FAX (847) 808-7772

20725 Watertown Road
Brookfield, WI 53501
(414) 798-1030
FAX (414) 798-1066

Client: McLaren Hart | Bill To: | TAT: (5 DAY) 4 DAY 3 DAY 2 DAY 1 DAY < 24 HRS.

Address: | Address: | DATE RESULTS NEEDED: 10/1/99

TEMPERATURE UPON RECEIPT: _____

Report to: | Phone #: ( ) Fax #: ( ) | State & Program: WI | Phone #: ( ) Fax #: ( ) | AIR BILL NO. GAPLU

Project: Dryclean USA #83

Sampler:

PO/Quote #: 10000/008 001 001

	FIELD ID, LOCATION	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	PRESERVATIVES	NO. CONTAINERS	TYPE CONTAINERS	8021 Spec List	PCE, TCE	1,1,1 TCA	1,1 DCA	1,2 DCA	Vinyl Chloride	cis 1,2 DCE	Dry wt	SAMPLE CONTROL: CRACKED/BROKEN	SAMPLE CONTROL: IMPROPERLY SEALED	SAMPLE CONTROL: GOOD CONDITION	LABORATORY ID NUMBER
1	B-8 0.5-2.5	9/23		Soil	MeOH	2		X										X	B9924K8-11
2	B-8 8.5-10.5					2												X	12
3	B-7 0.5'-2.5'					2												X	13
4	B-7 10.5'-12.5'					2												X	14
5	FIELD BLANK FB-1 MEOH					1												X	15
6																			
7																			
8																			
9																			
10																			

RELINQUISHED	RECEIVED	RELINQUISHED	RECEIVED
George J Bayer 9/24/99 9:00	K Ottman 09/24/99 9:00am	K Ottman 09/24/99	Amy Leaonni 9-24-99
RELINQUISHED	RECEIVED	RELINQUISHED	RECEIVED

COMMENTS:

JG958198

GREAT LAKES ANALYTICAL
1380 Busch Parkway
Buffalo Grove, Illinois 60089
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(847) 808-7766 FAX (847) 808-7772

McLaren/Hart	Project:	Dryclean USA	Sampled: 12/30/99
W239 N2890 Pewaukee Rd.	Project Number:	#83	Received: 1/3/00
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Revised Report: 1/14/00 14:33

WDNR Volatile Organic Compounds by Method 8021
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Reporting Limit	Result	Units	Notes*
B-12 .5-2.5'			**B001005-01**			**Soil (WI)**	
1,1-Dichloroethane	0010192	1/10/00	1/12/00	25	ND	ug/kg dry	
1,2-Dichloroethane	"	"	"	25	ND	"	
1,1-Dichloroethene.	"	"	"	25	ND	"	
cis-1,2-Dichloroethene	"	"	"	25	ND	"	
trans-1,2-Dichloroethene	"	"	"	25	ND	"	
Tetrachloroethene	"	"	"	25	ND	"	
1,1,1-Trichloroethane	"	"	"	25	ND	"	
1,1,2-Trichloroethane	"	"	"	25	ND	"	
Trichloroethene	"	"	"	25	ND	"	
Vinyl chloride	"	"	"	25	ND	"	

Great Lakes Analytical

Refer to end of report for text of notes and definitions.

Andy Johnson, Project Manager

GREAT LAKES ANALYTICAL
1380 Busch Parkway
Buffalo Grove, Illinois 60089
Email: info@glalabs.com
(847) 808-7766 FAX (847) 808 7772

McLaren/Hart	Project:	Drycleaning USA	Sampled: 12/30/99
W239 N2890 Pewaukee Rd.	Project Number:	#83	Received: 1/3/00
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Revised Report: 1/14/00 14:33

WDNR Volatile Organic Compounds by Method 8021
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Reporting Limit	Result	Units	Notes*
B-12 8.0-9.6'			**B001005-02**			**Soil (WI)**	
1,1-Dichloroethane	0010192	1/10/00	1/12/00	25	ND	ug/kg dry	
1,2-Dichloroethane	"	"	"	25	ND	"	
1,1-Dichloroethene	"	"	"	25	ND	"	
cis-1,2-Dichloroethene	"	"	"	25	ND	"	
trans-1,2-Dichloroethene	"	"	"	25	ND	"	
Tetrachloroethene	"	"	"	25	ND	"	
1,1,1-Trichloroethane	"	"	"	25	ND	"	
1,1,2-Trichloroethane	"	"	"	25	ND	"	
Trichloroethene	"	"	"	25	ND	"	
Vinyl chloride	"	"	"	25	ND	"	

Great Lakes Analytical

Refer to end of report for text of notes and definitions.

Andy Johnson, Project Manager

GREAT LAKES ANALYTICAL
1380 Busch Parkway
Buffalo Grove, Illinois 60089
Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

McLaren/Hart	Project:	Dryclean USA	Sampled: 12/30/99
W239 N2890 Pewaukee Rd.	Project Number:	#83	Received: 1/3/00
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Revised Report: 1/14/00 14:33

WDNR Volatile Organic Compounds by Method 8021
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Reporting Limit	Result	Units	Notes*
B-13 .5-2.5'			**B001005-03**			**Soil (WI)**	
1,1-Dichloroethane	0010192	1/10/00	1/12/00	25	ND	ug/kg dry	
1,2-Dichloroethane	"	"	"	25	ND	"	
1,1-Dichloroethene	"	"	"	25	ND	"	
cis-1,2-Dichloroethene	"	"	"	25	ND	"	
trans-1,2-Dichloroethene	"	"	"	25	ND	"	
Tetrachloroethene	"	"	"	25	ND	"	
1,1,1-Trichloroethane	"	"	"	25	ND	"	
1,1,2-Trichloroethane	"	"	"	25	ND	"	
Trichloroethene	"	"	"	25	ND	"	
Vinyl chloride	"	"	"	25	ND	"	

Great Lakes Analytical

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Andy Johnson, Project Manager

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McLaren/Hart	Project:	Drycleam USA	Sampled: 12/30/99
W239 N2890 Pewaukee Rd.	Project Number:	#83	Received: 1/3/00
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Revised Report: 1/14/00 14:33

WDNR Volatile Organic Compounds by Method 8021
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Reporting Limit	Result	Units	Notes*
B-13 8.0-10.0'			**B001005-04**			**Soil (WI)**	
1,1-Dichloroethane	0010192	1/10/00	1/12/00	25	ND	ug/kg dry	
1,2-Dichloroethane	"	"	"	25	ND	"	
1,1-Dichloroethene	"	"	"	25	ND	"	
cis-1,2-Dichloroethene	"	"	"	25	ND	"	
trans-1,2-Dichloroethene	"	"	"	25	ND	"	
Tetrachloroethene	"	"	"	25	ND	"	
1,1,1-Trichloroethane	"	"	"	25	ND	"	
1,1,2-Trichloroethane	"	"	"	25	ND	"	
Trichloroethene	"	"	"	25	ND	"	
Vinyl chloride	"	"	"	25	ND	"	

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McLaren/Hart	Project:	Dryclean USA	Sampled: 12/30/99
W239 N2890 Pewaukee Rd.	Project Number:	#83	Received: 1/3/00
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Revised Report: 1/14/00 14:33

WDNR Volatile Organic Compounds by Method 8021
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Reporting Limit	Result	Units	Notes*
MeOH Blank			**B001005-05**			**Methanol**	
1,1-Dichloroethane	0010240	1/12/00	1/12/00	25	ND	ug/l	
1,2-Dichloroethane	"	"	"	25	ND	"	
1,1-Dichloroethene	"	"	"	25	ND	"	
cis-1,2-Dichloroethene	"	"	"	25	ND	"	
trans-1,2-Dichloroethene	"	"	"	25	ND	"	
Tetrachloroethene	"	"	"	25	ND	"	
1,1,1-Trichloroethane	"	"	"	25	ND	"	
1,1,2-Trichloroethane	"	"	"	25	ND	"	
Trichloroethene	"	"	"	25	ND	"	
Vinyl chloride	"	"	"	25	ND	"	

Great Lakes Analytical

Refer to end of report for text of notes and definitions.

Andy Johnson, Project Manager

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Buffalo Grove, Illinois 60089
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(847) 808-7766 FAX (847) 808-7772

McLaren/Hart	Project:	Drycleaning USA	Sampled: 12/30/99
W239 N2890 Pewaukee Rd.	Project Number:	#83	Received: 1/3/00
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Reported: 1/13/00 14:33

Dry Weight Determination
Great Lakes Analytical

Sample Name	Lab ID	Matrix	Result	Units
B-12 .5-2.5'	B001005-01	Soil (WI)	79.3	%
B-12 8.0-9.6'	B001005-02	Soil (WI)	87.9	%
B-13 .5-2.5'	B001005-03	Soil (WI)	84.1	%
B-13 8.0-10.0'	B001005-04	Soil (WI)	85.3	%

Great Lakes Analytical

Andy Johnson, Project Manager

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McLaren/Hart	Project: Drycleam USA	Sampled: 12/30/99
W239 N2890 Pewaukee Rd.	Project Number: #83	Received: 1/3/00
Pewaukee, WI 53072	Project Manager: Brian Schneider	Revised Report: 1/14/00 14:33

Notes and Definitions

#	Note
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

Great Lakes Analytical

Andy Johnson, Project Manager

Client: Mclaren Hart	Bill To: Same	TAT: (5 DAY) 4 DAY 3 DAY 2 DAY 1 DAY < 24 HRS.
Address: W239 N2890 Pewaukee Rd D Pewaukee, WI 53072	Address:	DATE RESULTS NEEDED:
		TEMPERATURE UPON RECEIPT:
Report to: Brian Schneider Phone #: ( ) Fax #: ( )	State & Program: WI Phone #: ( ) Fax #:	AIR BILL NO.
Project: Dryclean USA #83		
Sampler: George Jr Bayer		
PO/Quote #:		

	FIELD ID, LOCATION	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	PRESERVATIVES	NO. CONTAINERS	TYPE CONTAINERS	8021 Special(VOCs)	PCE TCE 111TCA	11DCE 112TCA	11DCA 12DCA	Trans 1,2 DCE	Vinyl Chloride	Cis 1,2 DCE	Drywt			CRACKED BROKEN	IMPROPERLY SEALED	GOOD CONDITION	LABORATORY ID NUMBER
1	B-12 0.5'-2.5'	12/30/99		Soil	MeOH	2		X							X						B001005-1
2	B-12 8.0'-9.6'	↓		↓	↓	2		↓							↓						2
3	B-13 0.5'-2.5'	↓		↓	↓	2		↓							↓						3
4	B-13 8.0'-10.0'	↓		↓	↓	2		↓							↓						4
5	MEOH Blank	↓			↓	1		↓													5
6																					
7																					
8																					
9																					
10																					

SAMPLE CONTROL

RELINQUISHED George J Bayer 12/30/99 12:00	RECEIVED Cindy L. Seel 12/30/99 3:15p	RELINQUISHED Cindy L. Seel 12/30/99	RECEIVED K Ayarman 12/30/99
RELINQUISHED K Ayarman 01/03/00	RECEIVED [signature] 1/3/00	RELINQUISHED	RECEIVED

COMMENTS:

PAGE 1 OF 1

JC958108

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
DRYCLEAN USA FACILITY #83		B-4

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Services Tony Kapugi	9/23/99	9/23/99	SOILPROBE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
— — —	— — — — — —		Feet	Feet	2.0 Inches

Boring Location
State Plane N, E S/C/N
1/4 of 1/4 of Section T N,R
Lat ° ' "
Long ° ' "
Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
WAUKESHA	68	BROOKFIELD

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
	0			0.4'Concrete										
1	2		1	FILL, sand, fine to coarse grained, some gravel, little silt, light brown, dry.				<1						
			2											
2	2		3	FILL, clay, silty, trace fine to coarse grained sand, brown, moist.				<1						
			4											
3	2		5					<1						
			6		CL									
4	2		7	CLAY, Silty, trace fine to coarse grained sand, roots, and organics, dark gray, moist.				<1						
			8		CL									
5	2		9	CLAY, little fine to coarse grained sand, brown, moist.				<1						
				(Probe refusal at 9.5')										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	McLaren/Hart Pewaukee, Wisconsin Tel: 414-523-2040, Fax: 414-523-2059

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
DRYCLEAN USA FACILITY #83		B-5

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Services Tony Kapugi	9/23/99	9/23/99	SOILPROBE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
— — —	— — — — — —		Feet	Feet	2.0 Inches

Boring Location
State Plane N, E S/C/N
1/4 of 1/4 of Section T N,R
Lat ° ' "
Long ° ' "

Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
WAUKESHA	68	BROOKFIELD

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
	0			0.4'Concrete										
1	2		1	FILL, sand, fine to coarse grained, some gravel, little silt, light brown, dry.				<1						
2	2		3	FILL, clay, silty, trace fine to coarse grained sand, brown, moist.				<1						
3	2		5					<1						
4	2		7	CLAY, Silty, trace fine to coarse grained sand, roots, and organics, dark gray, moist.	CL			<1						
5	2		9	CLAY, little fine to coarse grained sand, brown, moist.	CL			<1						
			10											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

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State of Wisconsin
Department of Natural Resources

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☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
DRYCLEAN USA FACILITY #83		B-6

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Services Tony Kapugi	9/23/99	9/23/99	SOILPROBE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet	Feet	2.0 Inches

Boring Location
State Plane N, E S/C/N Lat ° ' "
1/4 of 1/4 of Section T N,R Long ° ' "
Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
WAUKESHA	68	BROOKFIELD

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
	0			0.4' Concrete										
1	2		1	FILL, sand, fine to coarse grained, some gravel, little silt, light brown, dry.				<1						
2	2		3	FILL, clay, silty, trace fine to coarse grained sand, brown, moist.				<1						
3	2		5		CL			<1						
4	2		7	CLAY, Silty, trace fine to coarse grained sand, brown, moist.				<1						
5	2		9	CLAY, little fine to coarse grained sand, brown, moist.	CL			<1						
			10											

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Signature	Firm
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Department of Natural Resources

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☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
DRYCLEAN USA FACILITY #83		B-7

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Services Tony Kapugi	9/23/99	9/23/99	SOILPROBE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
— — —	— — — — — —		Feet	Feet	2.0 Inches

Boring Location
State Plane N, E S/C/N Lat ° ' "
1/4 of 1/4 of Section T N,R Long ° ' "

Local Grid Location (If applicable)
☐ N ☐ E
Feet ☐ S Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
WAUKESHA	68	BROOKFIELD

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
	0		0	0.4' Concrete										
1	2		1.5	FILL, sand, fine to coarse grained, some gravel, little silt, light brown, dry.				<1						
2	2		3.0	FILL, clay, silty, trace fine to coarse grained sand, brown, moist.				<1						
3	1.5		4.5					<1						
			6.0		CL									
4	1.5		7.5	CLAY, silty, trace fine to coarse grained sand, roots and organics, brown, moist.	CL			<1						
5	2		9.0	CLAY, little fine to coarse grained sand, brown, moist.				<1						
6	2		10.5					<1						
			12.0											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	McLaren/Hart Pewaukee, Wisconsin Tel: 414-523-2040, Fax: 414-523-2059

State of Wisconsin
Department of Natural Resources

Route To:
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☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
DRYCLEAN USA FACILITY #83		B-8

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Services Tony Kapugi	9/23/99	9/23/99	SOILPROBE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet	Feet	2.0 Inches

Boring Location
State Plane N, E S/C/N Lat o ' "
1/4 of 1/4 of Section T N,R Long o ' "
Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
WAUKESHA	68	BROOKFIELD

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
	0			0.4' Concrete										
1	1.5		1	FILL, sand, fine to coarse grained, some gravel, little silt, light brown, dry.				<1						
2	2		3	FILL, clay, silty, trace fine to coarse grained sand, brown, moist.				<1						
3	1.5		5					<1						
			6		CL									
4	1.5		7	CLAY, silty, trace fine to coarse grained sand, roots and organics, brown, moist.	CL			<1						
5	1.5		9	CLAY, little fine to coarse grained sand, brown, moist.				<1						
			10											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	McLaren/Hart Pewaukee, Wisconsin Tel: 414-523-2040, Fax: 414-523-2059

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State of Wisconsin
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☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
DRYCLEAN USA FACILITY #83		B-9

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Services Tony Kapugi	9/23/99	9/23/99	SOILPROBE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
— — —	— — — — — — — —		Feet	Feet	2.0 Inches

Boring Location
State Plane N, E S/C/N
1/4 of 1/4 of Section T N,R
Lat o ' "
Long o ' "
Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
WAUKESHA	68	BROOKFIELD

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
)	0		0	0.4'Concrete										
1	2		1.5	FILL, sand, fine to coarse grained, some gravel, little silt, light brown, dry.				<1						
2	2		3.0	FILL, clay, silty, trace fine to coarse grained sand, brown, moist.				<1						
3	2		4.5		CL			<1						
4	2		6.0	CLAY, Silty, trace fine to coarse grained sand, roots, and organics, dark gray, moist.	CL			<1						
5	2		7.5	CLAY, little fine to coarse grained sand, brown, moist. (probe refusal at 9')				<1						
			9.0											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	McLaren/Hart Pewaukee, Wisconsin Tel: 414-523-2040, Fax: 414-523-2059

State of Wisconsin
Department of Natural Resources

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☐ Wastewater ☐ Water Resources
☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
DRYCLEAN USA FACILITY #83		B-10

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Services Tony Kapugi	9/23/99	9/23/99	SOILPROBE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
— — —	— — — — — —		Feet	Feet	2.0 Inches

Boring Location
State Plane N, E S/C/N Lat ° ' "
1/4 of 1/4 of Section T N,R Long ° ' "

Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
WAUKESHA	68	BROOKFIELD

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
	0			0.4'Concrete										
1	2		1	FILL, sand, fine to coarse grained, some gravel, little silt, light brown, dry.				<1						
2	2		3	FILL, clay, silty, trace fine to coarse grained sand, brown, moist.				<1						
3	2		5					<1						
4	2		7	CLAY, Silty, trace fine to coarse grained sand, brown, moist.	CL			<1						
			8	(probe refusal at 8.4')										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	McLaren/Hart Pewaukee, Wisconsin Tel: 414-523-2040, Fax: 414-523-2059

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State of Wisconsin
Department of Natural Resources

Route To:
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☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

SOIL BORING LOG INFORMATION
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Facility/Project Name	License/Permit/Monitoring Number	Boring Number
DRYCLEAN USA FACILITY #83		B-11

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Services Tony Kapugi	9/23/99	9/23/99	SOILPROBE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
— — —	— — — — — —		Feet	Feet	2.0 Inches

Boring Location
State Plane N, E S/C/N
1/4 of 1/4 of Section T N,R
Lat o ' "
Long o ' "
Local Grid Location (If applicable)
☐ N ☐ E
Feet ☐ S Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
WAUKESHA	68	BROOKFIELD

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
	0		0	0.4'Concrete										
1	2		1.5	FILL, sand, fine to coarse grained, some gravel, little silt, light brown, dry.				<1						
2	2		3.0	FILL, clay, silty, trace fine to coarse grained sand, brown, moist.				<1						
3	2		4.5					<1						
			6.0		CL									
4	2		7.5	CLAY, Silty, trace fine to coarse grained sand, roots, and organics, dark gray, moist.	CL			<1						
5	2		9.0	CLAY, little fine to coarse grained sand, brown, moist.				<1						
			10.5											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	McLaren/Hart Pewaukee, Wisconsin Tel: 414-523-2040, Fax: 414-523-2059

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
DRYCLEAN USA FACILITY #83		B-12

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Services Tony Kapugi	12/30/99	12/30/99	SOILPROBE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet	Feet	2.0 Inches

Boring Location
State Plane N, E S/C/N
1/4 of 1/4 of Section T N,R
Lat ° ' "
Long ° ' "
Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
WAUKESHA	68	BROOKFIELD

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
	0			0.4'Concrete										
1	2		1.5	FILL, sand, fine to coarse grained, some gravel, little silt, light brown, dry.				<1						
2	1.5		3.0	FILL, clay, silty, trace fine to coarse grained sand, brown, moist.				<1						
3	1.5		4.5					<1						
			6.0	(0.3' silty sand layer from 5.7' to 6')	CL									
4	2		7.5	CLAY, Silty, trace fine to coarse grained sand, brown, moist.				<1						
5	1.0		9.0					<1						
				(boring backfilled with bentonite chips) (soil probe refusal at 9.6')										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	McLaren/Hart Pewaukee, Wisconsin Tel: 414-523-2040, Fax: 414-523-2059

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State of Wisconsin
Department of Natural Resources

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☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
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SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
DRYCLEAN USA FACILITY #83		B-13

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Services Tony Kapugi	12/30/99	12/30/99	SOILPROBE

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
— — —	— — — — — —		Feet	Feet	2.0 Inches

Boring Location
State Plane N, E S/C/N
1/4 of 1/4 of Section T N,R
Lat o ' "
Long o ' "

Local Grid Location (If applicable)
Feet ☐ N ☐ S Feet ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
WAUKESHA	68	BROOKFIELD

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
	0			0.3'Asphalt										
1	2		1.5	Fill, fine to coarse grained sand, little gravel and some silt, light brown, dry.				<1						
2	2		3.0	FILL, slay, trace sand, fine to coarse grained, brown, moist.				<1						
				SILT, little fine grained sand, yellowish brown, moist.	ML									
3	2		4.5		CL			<1						
			6.0											
4	2		7.5	CLAY, silty, trace fine to coarse grained sand, brown, moist.				<1						
5	2		9.0					<1						
6	1.5		10.5					<1						
			12.0	(Borehole backfilled with bentonite chips)										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	McLaren/Hart Pewaukee, Wisconsin Tel: 414-523-2040, Fax: 414-523-2059

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July 20, 2000

Ms. Nancy D. Ryan
Wisconsin Department of Natural Resources
4041 North Richards Street
P.O. Box 12436
Milwaukee, WI 53212-0436

RE: Closure request for the Dryclean USA facility #83 at 15740 W. Capitol Drive, Brookfield, WI
WDNR FID #268188470 WDNR BRRTS #0268223678

Dear Ms. Ryan:

As requested in your letter dated May 17, 2000 regarding the referenced site, McLaren/Hart has developed site specific residual contaminant levels (RCLs) for PCE contaminated soil based on the protection of groundwater and human health.

Installation of wells inside the building to evaluate potential groundwater contamination is infeasible. Additionally, soil samples collected from 8.5 to 10.5 feet below land surface (bls) in B-4 and B-5 which were located adjacent to and below the maximum depths of B-1 and B-3, had an average concentration of only 15 micrograms per kilogram (µg/kg), indicating that significant concentrations of PCE do not extend below 10.5 feet bls. Groundwater was not encountered in the soil borings which extended to a depth of approximately 16 feet below land surface (bls).

Summary of RCL Model

The algorithm for Generic RCL for Migration to Groundwater Pathway was used as the basis for calculation of a site specific RCL. With the exception of the annualized groundwater recharge, WDNR default values and chemical specific data were used for the input parameters. The annualized groundwater recharge rate was estimated at 5% of the WDNR default value because the affected soils are covered by a concrete floor and roof. Based on the location of the site (in a developed area at the corner of two major thoroughfares), the site is expected to remain developed. The site specific RCL for PCE was calculated at 246.7 µg/kg. The RCL calculations are included in Attachment 1.

The total mass of PCE on site was calculated by dividing the contaminated soils into four zones. The mass of PCE was then calculated for each zone from the average PCE concentration in that zone and the soil mass. The mass of PCE in each of the four zones was summed to get the estimated total mass of PCE on site, approximately 513 grams. The site plan showing each of the four zones, a table summary of the laboratory analytical results, and the calculations are shown in Attachment 2.

The RCL algorithm is based on the assumption that the contaminated soil is a homogeneous mass from the depth at which the contamination begins to the depth at which it comes in contact with the groundwater table. Therefore, in order to represent a uniform soil concentration on site to fit the site specific RCL algorithm, the mass of PCE (513 grams) was distributed over a lateral area of 2,500 square feet and a depth of 25 feet bls. The 2,500 square foot area is based on the observed maximum lateral extent of soil contamination and assumes no further lateral migration. The 25 foot depth is the estimated

thickness of the clay soils based on soil boring observations and the construction log for the nearest well which was installed on site. These clay soils would not be capable of producing drinking water that the model RCL is designed to protect. Based on this distribution of the PCE mass on site, the average uniform concentration of PCE in the soil for comparison to the site specific RCL is 180.7 µg/kg. The site plan and the calculations are presented in Attachment 2. The well construction log is included in Attachment 3.

Additional notes in support of the RCL model used include the following:

- Based on the soil borings and the attached well construction log, there is approximately 15 feet (10 to 25 feet bls) of low conductivity clay soils (1×10^{-6} to 1×10^{-8} cm/sec) beneath the PCE impacts. This would limit vertical migration of the PCE.

- Based on the attached well construction log, the nearest potential receptor draws water at depths starting at approximately100 feet bls. The depth to groundwater for the RCL model was assumed to be 25 feet bls.

- Although the contaminants observed naturally degrade, the RCL model assumes that chemical, physical and/or biological degradation of contaminants is not occurring. Given that the most recent soil samples were collected almost one year ago, it is estimated that the concentrations of PCE in the soil are now significantly lower than the concentrations used for comparison to the RCL. (P. Brady, M. Brady, and D. Borns, *Natural Attenuation: CERCLA, RBCA's, and the Future of Environmental Remediation,* (CRC Press LLC, Florida, 1998), pp. 65-77.)

- The NR 140 Preventive Action Level (PAL) was used as the basis for the RCL. The PAL is one-tenth of the NR 140 Enforcement Standard (ES) or the federal minimum contaminant level for drinking water. Use of the PAL results in an RCL that is more conservative.

Conclusion

Based on the site specific RCL for PCE of 246.7 µg/kg and the average uniform PCE concentration on site of 180.7 µg/kg, the soils are protective of groundwater. In addition, further migration is limited by the low conductivity soils on site. Based on this, McLaren/Hart requests closure of the site.

Sincerely,

Brian Schneider, P.E.
Supervising Engineer

C: Bob Miller - Spic and Span
Mark Thimke - Foley & Lardner

Attachments:
1. RCL Calculations
2. Site Plan, Analytical Results Summary, and PCE Concentration Calculations
3. Well Construction Log

O:\STAFF\BSCHNEID\spic and span\capitol drive WDNR July 6.wpd

Dryclean USA Facility #83 at 15740 W. Capitol Drive
Generic RCLs for Migration to Groundwater Pathway

Chemical	K_{oc}	DAF[1]	PAL	RCL[1]
PCE	446.7	656.5	0.5	**190.4**
cis-1,2-DCE	35.5	295.0	7.0	**348.6**

	Value	Units		Notes
PAL	variable	ug/l	chemical specific	2
K_{oc}=	variable	L/kg	chemical specific	3
f_{oc}=	0.001	g/g	WDNR default value	1
p_b=	1.5	g/cm^3	WDNR default value	1
n=	0.45	cm^3/cm^3	WDNR default value	1
d=	152.4	cm	WDNR default value	1
R=	1.3	cm	See note	4
Q=	0.2	cm^3/cm^3	WDNR default value	1

1. Algorithm for Generic RCL for Migration to Groundwater Pathway from Soil Cleanup Levels for PAHs, Interim Guidance, Wisconsin Department of Natural Resources, April 1997

2. NR 140

3. Groundwater Chemicals Desk Reference, Second Edition, John H. Montgomery

4. The infiltration rate was assumed to be 5% jof the WDNR default value. This is a conservative value given that there is a concrete floor and roof over the affected soils.

650 IS UNREALISTIC for DAF

328

SOLUBILITY of PCE

Dryclean USA Facility #83 at 15740 W. Capitol Drive
Generic RCLs for Migration to Groundwater Pathway

Chemical	K_{oc}	DAF[1]	PAL	RCL[1]
PCE	537.0	735.9	0.5	**246.7**
cis-1,2-DCE	35.5	295.0	7.0	**348.6**

	Value	Units		Notes
PAL	variable	ug/l	chemical specific	2
K_{oc}=	variable	L/kg	chemical specific	3
f_{oc}=	0.001	g/g	WDNR default value	1
p_b=	1.5	g/cm^3	WDNR default value	1
n=	0.45	cm^3/cm^3	WDNR default value	1
d=	152.4	cm	WDNR default value	1
R=	1.3	cm	See note	4
Q=	0.2	cm^3/cm^3	WDNR default value	1

1. Algorithm for Generic RCL for Migration to Groundwater Pathway from Soil Cleanup Levels for PAHs, Interim Guidance, Wisconsin Department of Natural Resources, April 1997

2. NR 140

3. Groundwater Chemicals Desk Reference, Second Edition, John H. Montgomery
Average of values from Pavlostathis and Mathavan, 1992

4. The infiltration rate was assumed to be 5% jof the WDNR default value. This is a conservative value given that there is a concrete floor and roof over the affected soils.

Table 1
SOIL ANALYTICAL RESULTS
Dryclean USA Facility #83
15740 West Capitol Drive
Brookfield, Wisconsin
All samples analyzed for Volatile Organic Compounds-special list (VOCs Method 8021).
Concentrations in Micrograms per Kilogram unless otherwise indicated

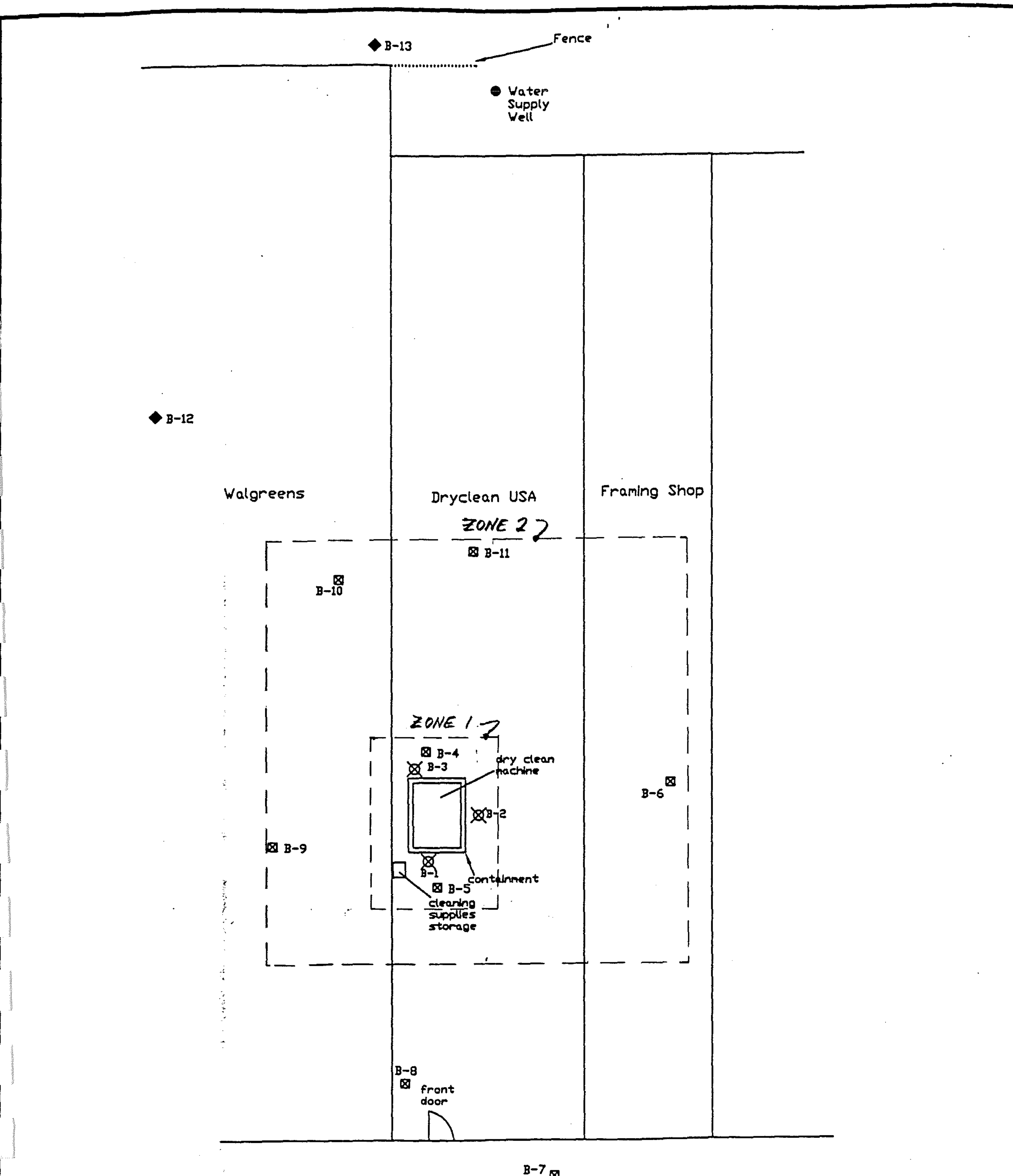
Dryclean USA Facility #83

	Sample Identification	B-1	B-1	B-2	B-2	B-3	B-3	B-4	B-5
	Depth (ft)	0.5-2.5	4.5-6.0	0.5-2.5	4.5-6.0	0.5-2.5	4.5-6.0	8.5-9.5	8.5-10.5
	Date Collected	10/20/98	10/20/98	10/20/98	10/20/98	10/20/98	10/20/98	9/23/99	9/23/99
ANALYTES:	1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	Tetrachloroethene (PCE)	3500	1600	700	48	11000	8500	ND	31
	Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND

	Sample Identification	B-6	B-6	B-7	B-7	B-8	B-8	B-9	B-9
	Depth (ft)	0.5-2.5	8.5-10.5	0.5-2.5	10.5-12.5	0.5-2.5	8.5-10.5	0.5-2.5	8.5-9.0
	Date Collected	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99	9/23/99
ANALYTES	1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	cis-1,2-Dichloroethene	230	ND	ND	ND	ND	ND	ND	ND
	trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	Tetrachloroethene (PCE)	130	ND	ND	ND	ND	ND	ND	ND
	Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND

	Sample Identification	B-10	B-10	B-11	B-11	B-12	B-12	B-13	B-13
	Depth (ft)	0.5-2.5	6.5-8.4	0.5-2.5	8.5-9.5	0.5-2.5	8.0-9.6	0.5-2.5	8.0'-10'
	Date Collected	9/23/99	9/23/99	9/23/99	9/23/99	12/30/99	12/30/99	12/30/99	12/30/99
ANALYTES	1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND
	Tetrachloroethene (PCE)	1,800	ND	ND	ND	ND	ND	ND	ND
	Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
Only positive detection (i.e., > practical quantitation limit) shown.
ND: Not detected above practical quantitation limit.
NA: Not analyzed



LEGEND

◆ Boring Location Installed on 12/30/99

☒ Boring Location Installed on 10/20/98

⊠ Boring Location Installed on 9/23/99

APPROXIMATE SCALE

McLaren Hart® ENVIRONMENTAL ENGINEERING CORPORATION

DRWN: MED	CHK'D: GJB
JOB#:10000.1123.001.001	DATE: 12.30.99

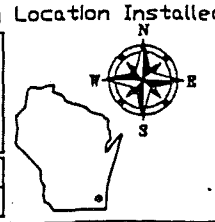


FIGURE 2

Boring Locations
Dryclean USA (store # 83)
15740 West Capitol Dr.
Brookfield, WI

Dryclean USA Facility #83 at 15740 W. Capitol Drive
PCE Mass and Average Concentration

Zone	Interval	Depth (ft.)	Area (sq. ft.)	Volume (cubic ft.)	Average Soil Conc. (ug/kg)	Mass of PCE in Soil (g)
1	0.5-3.5	3.0	300.0	900.0	5066.0	207.2
1	3.5-7.0	3.5	300.0	1050.0	3380.0	161.3
1	7.0-10.5	3.5	300.0	1050.0	15.0	0.7
2	0.5-3.5	3.0	2200.0	6600.0	480.0	144.0
					Total	**513.3**

Estimated maximum concentration of PCE in the soil when contact with groundwater could occur:

Depth (ft.)	Area (sq. ft.)	Volume (cubic ft.)	Ave. Uniform Soil Conc. (ug/kg)
25.0	2500.0	62500.0	**180.7**

Soil Density 100 lbs/cf

UNIVERSITY OF WISCONSIN GEOLOGICAL & NATURAL HISTORY SURVEY
1815 University Avenue, Madison, Wisconsin 53706

Log No. Wk-357
Sample Nos. 269190 - 269249

County: Waukesha

Well name Kohl's Food Stores
City of Brookfield*
Owner.... Kohl's Food Stores
Address.. 11100 W. Burleigh St.
Wauwatosa, Wis.
Driller.. Milaeger Well & Pump Co., Inc.
Engineer.

Completed... 6/30/66
Field check. R.D.H. of U.S.G.S.T.
Altitude.... 810'
Use.....General purpose (commercial)
Static w. l. -- 37'
Spec. cap... -- 3.1

R. 20E.
T. 7 N.
Sec. 3

Loc: SW¼,SW¼,NE¼,SE¼,SE¼,SE¼,Sec. 3,T. 7N.,R. 20E. Quad. Wauwatosa 7½'

Drill Hole						Casing & Liner Pipe or Curbing							
Dia.	from	to	Dia.	from	to	Dia.	Wgt.& Kind	from	to	Dia.	Wgt.& Kind	from	to
12"	0	40'				12"	steel	0	40'				
8"	40'	300'				8"	steel	+18"	106'				

Grout: Kind	from	to
Cement	0	40'

Samples from 0 to 300' Date received: 8/22/66 Issued: July, 1968
Examined by: J. M. Warren Date: 5/26/67

Formations: Drift, Silurian

Remarks: Well tested for 4 hrs. at 118 to 250 gpm with 31 to 81 feet of drawdown. Specific capacity figured on maximum values. *Located at 15740 Capitol Drive, Northwest corner of Pilgrim Rd.

LOG OF WELL:

DRIFT	0-10	10		Snd,yl or pl rd lt bn,M,Srnd,P srtg, mch C, VC, V fn; ltl V fn/C gvl, mch dolic cl & st
	10-25	15		Cl,pl yl bn&mxd clr,P srtg,dolic; mch st, V fn gvl, V fn snd, ltl fn/VC & fn gvl
	25-35	10		Snd,pl yl bn&mxd clr,C & VC,Sang, mch V fn/M; mch dolic cl & st, ltl V fn & fn gvl
	35-40	5		Cl,pl yl bn&mxd clr,dolic;mch st,V fn & VC snd,ltl fn/C,fn&V fn gvl
	40-50	10		Snd,pl yl bn&mxd clr,C&VC,ltl fn&M,mch V fn;mch dolic cl,st,fn&V fn
	50-55	5		Gvl,pl yl bn&mxd clr,fn&V fn,tr M,mch dolic cl,st&V fn snd,ltl fn gvl
	55-60	5		Snd,pl yl bn&mxd clr,C,mch M,fn&VC,ltl V fn;mch fn&V fn gvl,cl&st
	60-70	10		Snd,mxd pl clrs,VC,Srnd,G srtg,mch C,tr M;mch V fn gvl,ltl fn
	70-75	5		Snd,mxd pl clrs,VC,Srnd,P srtg, mch VC;ltl M,V fn;mch V fn gvl,ltl fn,cl&st
	75-85	10		Gvl,mxd pl clrs,M&fn,Sang,F srtg,ltl V fn:ltl VC snd & cl,tr st
	85-100	15		Snd,mxd pl clrs,C&VC,rnd,F srtg,tr V fn/M,mch fn&V fn gvl,tr st&cl
105'	100-105	5		Snd,V pl or&mxd clr,M&C,ang,ltl VC,fn&V fn:ltl lim&Fe stn, tr st
SILURIAN	105-120	15		Dol, V pl gry gn,mot yl gry,V fn,dns; tr V pl gn sh & pl gry sndy sh
	120-130	10		Dol, V pl yl gry mot V pl yl bn, V fn, dns, mch fn, tr mot V pl gn;tr V pl gn sh
	130-135	5		Dol, yl gry mot V pl gn & V pl yl bn,dns,mch fn,tr mot V pl gn,
	135-140	5		Dol, yl gry mot V pl gn & V pl yl bn,dns, mch fn,tr mot V pl gn
	140-145	5		Dol, yl gry, fn & V fn, dns, tr V pl gn & V pl gry sh
	145-180	35		Dol, yl gry, fn & V fn, dns, tr V pl gn & V pl gry sh
	180-185	5		Dol, V pl or,fn,dns, ltl V fn: tr gn & gry sh & wh cht

Log No. WR-357

Well name Kohl's Food Stores, City of Brookfield
Sample Nos. 269190 to 269240

	185-205	20		Dol, V pl or, fn, dns, ltl V fn; tr por wh cht
	205-220	15		Dol, V pl or, fn, dns, tr fn, slgt sft; tr cht & pyr
	220-240	20		Dol, V pl or, fn, dns, tr V fn, slgt sft; tr cht & lim
	240-250	10		Dol, V pl or gry mot wh,dns, tr V fn, slgt sft;
	250-265	15		Dol, gry or mot wh, fn,dns,tr V fn, slgt sft; tr lim
	265-270	5		Dol, gry or mot V pl yl, fn, dns, tr V fn; tr lim & gry sh
195'	270-300	30		Dol, gry or mot V pl yl, fn, dns, tr V fn; tr lim

END OF WELL

SITE INVESTIGATION WORK PLAN

DRYCLEAN USA
FACILITY #83
15740 WEST CAPITOL DRIVE
BROOKFIELD, WISCONSIN

Prepared for:

Mr. Robert Miller
Spic and Span, Inc.
4301 North Richards Street
Milwaukee, WI 53212

Prepared by:

McLaren/Hart
Environmental Engineering Corporation
W239 N2890 Pewaukee Road, Unit D
Pewaukee, Wisconsin 53072

July 1, 1999

TABLE OF CONTENTS

ATTACHMENTS

SITE INVESTIGATION WORK PLAN

DRYCLEAN USA
FACILITY #83
15740 WEST CAPITOL DRIVE
BROOKFIELD, WISCONSIN

1.0 INTRODUCTION

1.1 BACKGROUND

The following report summarizes proposed investigation activities to be performed in or adjacent to the Dryclean USA facility. These activities will be performed as a follow-up to the investigation activities previously performed by McLaren/Hart on October 19, 1998 and documented in the attached Site Investigation Results report dated November 2, 1998. A site location diagram is presented in Figure 1.

Dryclean USA is a subsidiary of Spic and Span, Inc. and the Dryclean USA facility space is leased from Century Capitol, the property owner. Dryclean USA has occupied the space and conducted dry cleaning operations since August, 1981. The dry cleaning machine was placed in a containment structure in 1995.

On October 20, 1998, McLaren/Hart performed three soil boring tests (B-1 to B-3) in the immediate vicinity of the dry cleaning machine. Soil samples were collected from each boring from approximately 0.5 to 2.5 and 4.5 to 6 feet below ground surface (bgs). The samples were analyzed for tetrachloroethylene (PCE) and its potential breakdown products. Generally, one sample was obtained from fill soils beneath the concrete slab and one sample was obtained from native soils (or fill) found at a greater depth. Laboratory analyses were performed by Great Lakes Analytical using U.S. EPA SW-846 Method 8021. PCE concentrations ranged from 48 µg/kg to 8400 µg/kg. No PCE breakdown products were detected above the laboratory detection limit of 25 µg/kg. Additional details are included in the attached Site Investigation Results report.

1.2 SITE LOCATION AND OWNERSHIP

The Property is located in the SE 1/4 of the SE 1/4 of Section 3, Township 7 North, Range 20 East. The address is 15740 West Capitol Drive. The Property is owned by:

Century Capitol
222 Ohio Street
Oshkosh, WI 54903
Attention: Mr. Wayne Chaney
(920) 426-1404

The responsible party for the site investigation:

Spic & Span, Inc.
4301 North Richards Street
Milwaukee, WI 53212
Attention: Mr. Robert Miller
(414) 964-5050

1.3 CONSULTANTS AND CONTRACTORS

The site investigation consultant is:

McLaren/Hart Environmental Engineering Corporation
W239 N2890 Pewaukee Road, Unit D
Pewaukee, Wisconsin 53707
Attention: Mr. Brian W. Schneider P.E.
(414) 523-2040 - phone
(414) 523-2059 - fax

As part of the investigation, the following service/commodity providers will conduct activities associated with the investigation:

Soil Probe Services

Terra-Trace Environmental Services
15 Cornell Drive
Lincolnshire, IL 60069
(847) 945-6118

Laboratory Analytical Services

Great Lakes Analytical
1380 Busch Parkway
Buffalo Grove, IL 60089
(847) 808-7766

2.0 OBJECTIVES AND PROJECT SCOPE

2.1 PROJECT SCOPING

To the extent practical, the scope of the project was defined in consideration of the criteria listed in NR 716.07, as follows:

- Site Use. The Dryclean USA facility is located in the Capitol Plaza Shopping Center and has operated as a dry cleaning facility at this location since August, 1981.

- Type and Amount of Impact. Based on investigations performed to date, soils in the immediate vicinity of the dry cleaning machine are impacted with PCE. Three samples collected from 0.5 to 2.5 feet bgs adjacent to the machine contained concentrations of 3,500, 700 and 11,000 ug/kg PCE, respectively. Three samples collected from 4.5 to 6 feet bgs also adjacent to the machine contained concentrations of 1,600, 48, and 8,500 µg/kg PCE, respectively.

- Environmental Media Potentially Affected. PCE impacts are estimated to be predominately within the coarse fill soils and silty clay soils underlying the Dryclean USA facility.

- Need for Access Permission. Century Capitol owns the property on which the impacts were found. Based on prior investigation findings, the impacts are believed to be limited to coarse fill soils in the vicinity of the dry cleaning machine and may extend to adjacent tenant spaces.

  Based on existing data, off-site impacts are not suspected and off-site access permission will not be required. Access permission may be required from both the adjacent tenants and the property owner (see Figure 2).

- Potential Receptors. No groundwater impacts have been identified at the site. Groundwater was not observed during the previous investigation.

- Significant Resources. Based on existing data, the site has not affected and does not present a threat to any threatened or endangered species, sensitive habitats, wetlands, resource waters, or historical or archeological sites.

- Potential Remedial Actions. Potential remedial actions, if required, may include natural attenuation, bioremediation, soil vapor extraction and/or capping and monitoring.

The additional information needed to determine an appropriate remedial response includes, the lateral boundaries of affected soil in the vicinity of the dry cleaning machine and other data needed to determine a site-specific cleanup approach.

2.2 SITE PHYSIOGRAPHY/SAMPLING STRATEGY

The sampling strategy was developed to identify the boundaries of soil impact, based on the known site conditions and characteristics. The sampling locations were selected based on data obtained from prior investigations and the following site characteristics:

- Site Topography. Based on the United States Geological Survey (USGS), Wauwatosa, Wisconsin, 7.5 minute topographic map (1971), the topography in the immediate vicinity of the site slopes downward to the east from the site.

- Surface Water Drainage. Storm water along the site is anticipated to generally drain eastward along the curb side drainage associated with the parking lot of the retail mall in which Dryclean USA is located. The curb side drainage discharges to the storm sewer system. Storm water collected on the roof of the building is conveyed by roof drains to the storm sewer as well.

- Site Geology/Hydrogeology. The surface soils (less than five feet deep) have been classified by the U.S. Department of Agriculture, Soil Conservation Service (1971). The general soil association is the Ozaukee -Morley-Mequon Association with site-specific soils consisting of Ozaukee Silt Loam Series. The general soil association is described as well-drained to poorly drained soils with a subsoil of silty clay that formed in areas of thin loess and silty clay loam glacial till on moraines.

  The Ozaukee Silt Loam consists of moderately well-drained, silty soils that have a silty clay loam and silty clay subsoil underlain by calcareous silty clay loam glacial till. The Ozaukee soils have moderately slow permeability and high available water capacity.

  As noted, the site soils formed in areas of glacial till. The glacial till deposits in the area of the subject property vary between 100 to 200 feet thick and consist of unsorted, unstratified, unconsolidated mixtures of clay, silt, sand, pebbles, cobbles and boulders. The glacial till overlies the Niagara Dolomite bedrock which is up to 450 feet thick. The glacial deposits, as well as the bedrock, are considered to be groundwater aquifers.

3.0 INVESTIGATION SCOPE OF WORK

Based on the information obtained during the site investigation performed on October 19, 1998, McLaren/Hart recommends the following approach to assess the extent of the subsurface impacts.

Assuming that significant subsurface structures are not present in the vicinity of the dry cleaning machine, four to eight borings will be installed and soil samples from 0.5 to 2.5 feet bgs and 10 to 12 feet bgs will be collected for laboratory analysis. Two additional borings (B-4 and B-5) will be advanced to a depth of approximately 10 to 12 feet bgs near existing borings to determine the vertical extent of impacts. The actual depths of the borings and samples will depend on equipment limitations, presence of subsurface obstacles and observed soil characteristics. Boring locations are as follows:

- **B-4** Located approximately 2 feet east of B-3.
- **B-5** Located approximately 2 feet south of B-1.
- **B-6** Located approximately 20 feet east of the dry cleaning machine, in the adjacent framing shop. If access to this location is denied, the boring will be performed along the east side of the Dryclean USA facility.
- **B-7** Located approximately 35 feet south of the dry-cleaning machine.
- **B-8, B-9, B-10** Located within the Walgreens facility west, southwest, and northwest of the dry-cleaning machine.
- **B-11** Located approximately 26 feet north of the dry-cleaning machine.

The approximate referenced soil boring locations are depicted on Figure 2.

3.1 FIELD METHODS AND LABORATORY ANALYSES

3.1.1 Soil Sample Collection and Handling

Soil sampling will be performed using soil probe techniques. Upon collection, the soil will be classified with respect to USGS classification, color, moisture content, evidence of impact (discoloration and odor) and other observations. When practical, ASTM methods D-2487 and D-2488 will be utilized. The information will be recorded in a bound field notebook used to record daily activities.

As soon as possible following sample collection, the soil samples designated for laboratory analysis will be transferred to appropriate laboratory-provided containers. A fresh pair of latex (or similar) gloves will be used during the handling of each sample to minimize the

potential for cross contamination. The samples will be containerized in pre-tarred 60-ml glass jars with Teflon® septa. Approximately 25 to 30 grams of sample will be placed in the jar and preserved with laboratory-provided purge-and-trap grade methanol. Soil samples intended for analysis of dry weight will be contained in HDPE jars (provided by the laboratory) or resealable bags.

The sample jars will be labeled with the sample location identification, depth of sample, date of sample collection and intended analysis. The sample jars will then be placed in resealable plastic bags and packed in an iced, insulated container. A chain-of-custody form will be completed each day, and will accompany each container of samples from the site to the laboratory. Samples will be transported from the facility to the laboratory via overnight courier.

3.1.2 Decontamination Procedures

The auger and all down-hole equipment will be decontaminated before each boring location using an Alconox or TSP solution and rinsed in known-clean water (distilled, deionized or municipal potable). Any sampling tools (i.e., spoons, knives, spatulas, etc.) will also be cleaned in a solution of Alconox or TSP solution and rinsed in known-clean water prior to collection of each sample. A clean pair of latex, or equivalent, gloves is used for each sample to minimize the potential for cross-contamination.

3.1.3 Laboratory Analysis

Laboratory analyses will be performed by En Chem, Inc. using Wisconsin-modified U.S. EPA SW-846 Method 8021, for the target list compounds: PCE 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), trans-1,2-dichloroethene, 1,1,2-trichloroethane, 1,1-dichlorethane, 1,2-dichloroethane, and vinyl chloride. The target list is defined to identify the compound used at the facility (PCE), its potential breakdown products and related compounds.

3.2 QUALITY ASSURANCE/QUALITY CONTROL METHODS

The following quality assurance/quality control measures will be implemented during the site investigation activities.

- Decontamination procedures and measures to minimize the potential for cross-contamination of samples will be followed as specified in section 3.1.2.
- All site activities will be recorded in a bound field notebook (see Field Documentation section below).
- Chain-of-custody procedures will be followed as specified in section 3.1.2.

3.2.1 Replicate and Blank Samples

One methanol blank will be sampled on-site. The samples will be shipped on ice; therefore, no temperature blanks are anticipated to be required. If no solid ice is present in the cooler upon receipt by the laboratory, the melt waste will be measured for temperature.

3.3 INVESTIGATIVE WASTE MANAGEMENT

All investigative wastes generated during site activities, including soil probe spoils, sampling gloves and used sample jars not intended for laboratory analysis, will be contained in labeled, 55-gallon drums. The drums will be stored on-site, out of the way of daily site activities, pending disposal.

3.4 FIELD DOCUMENTATION

All site activities will be documented in a bound field notebook. Included in the daily documentation are:

- Procedures for sampling and other routine activities associated with the site investigation;
- Field observations; and
- Chronological log of site activities

3.5 SITE HEALTH AND SAFETY

The protection of site personnel and the general public is a primary concern. All reasonable measures will be taken to protect the health and safety of the personnel and general public. A site Health and Safety Plan that meets or exceeds the standards found in 29 CFR 1910.120 will be prepared and followed during site activities. All project personnel and subcontracted personnel are trained in hazardous materials handling and have appropriate on-site training and experience. During site activities, the Health and Safety Officer (HSO) may halt work if, in the HSO's opinion, unsafe conditions are present. Work will not continue until the unsafe conditions have been rectified to the satisfaction of the HSO.

3.6 REPORTING

Upon receipt of the laboratory results, if the boundaries of impact have been sufficiently defined, a report detailing the investigative results will be prepared and submitted to the WDNR. Two copies of the report will be submitted. The report will include:

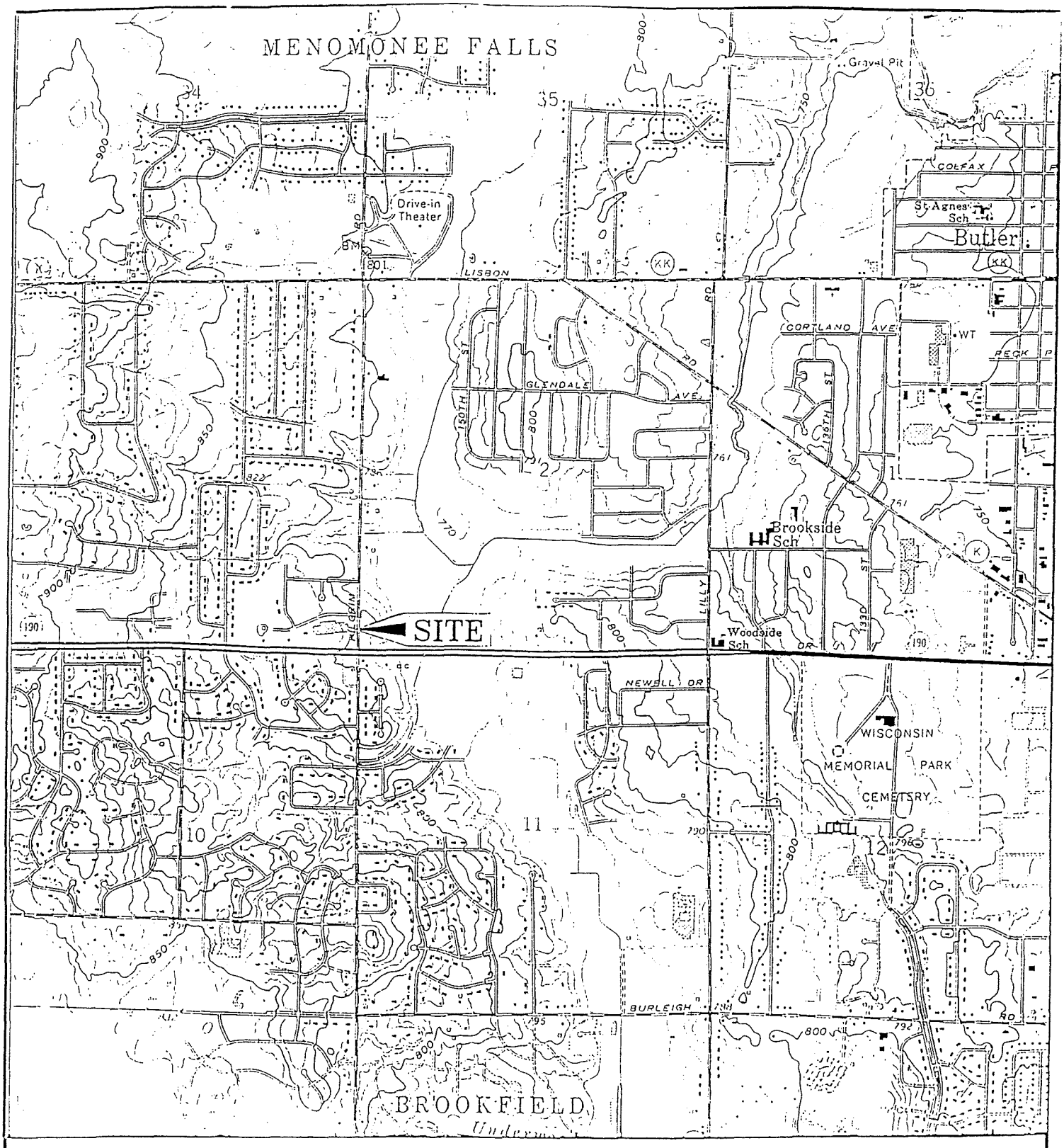
- The WDNR's identification number for the Dryclean USA facility investigation (if issued) and the date of submittal;

- An executive summary summarizing the investigative results, conclusions and, if necessary, recommendations for further site work;
- The project title and purpose;
- An identification of the current property owner or other parties, as appropriate;
- An identification of the consulting firm and all subcontractors performing work associated with the investigation;
- An assessment of the potential for events at the site to present a public health threat and a summary of any response actions at the facility relating to the investigation;
- Investigative methods; and
- Investigative results, including in-field observations, laboratory results, discrepancies between the field observations and laboratory results, and data interpretations.

4.0 SCHEDULE

Upon approval of this Work Plan by Spic and Span, Inc., and Century Capitol a copy will be submitted to the WDNR. It is assumed work will proceed without formal WDNR approval.

The site work will begin following Digger's Hotline clearance, and clearance by the property owner and tenants to proceed. Site work is anticipated to require one day. Laboratory results are generally received within three weeks of sample submittal. The investigation report is anticipated to be completed within four weeks following receipt of the laboratory reports. Therefore, the final report is anticipated to be completed within eight weeks of initiation of field activities, assuming additional investigation is not required.



USGS 7.5 minute series Wauwatosa, Wisconsin topographic quadrangle dated 1958, photorevised 1971

N
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APPROXIMATE SCALE

0 1000 2000 3000 4000 5000 feet

McLaren Hart ENVIRONMENTAL ENGINEERING CORPORATION

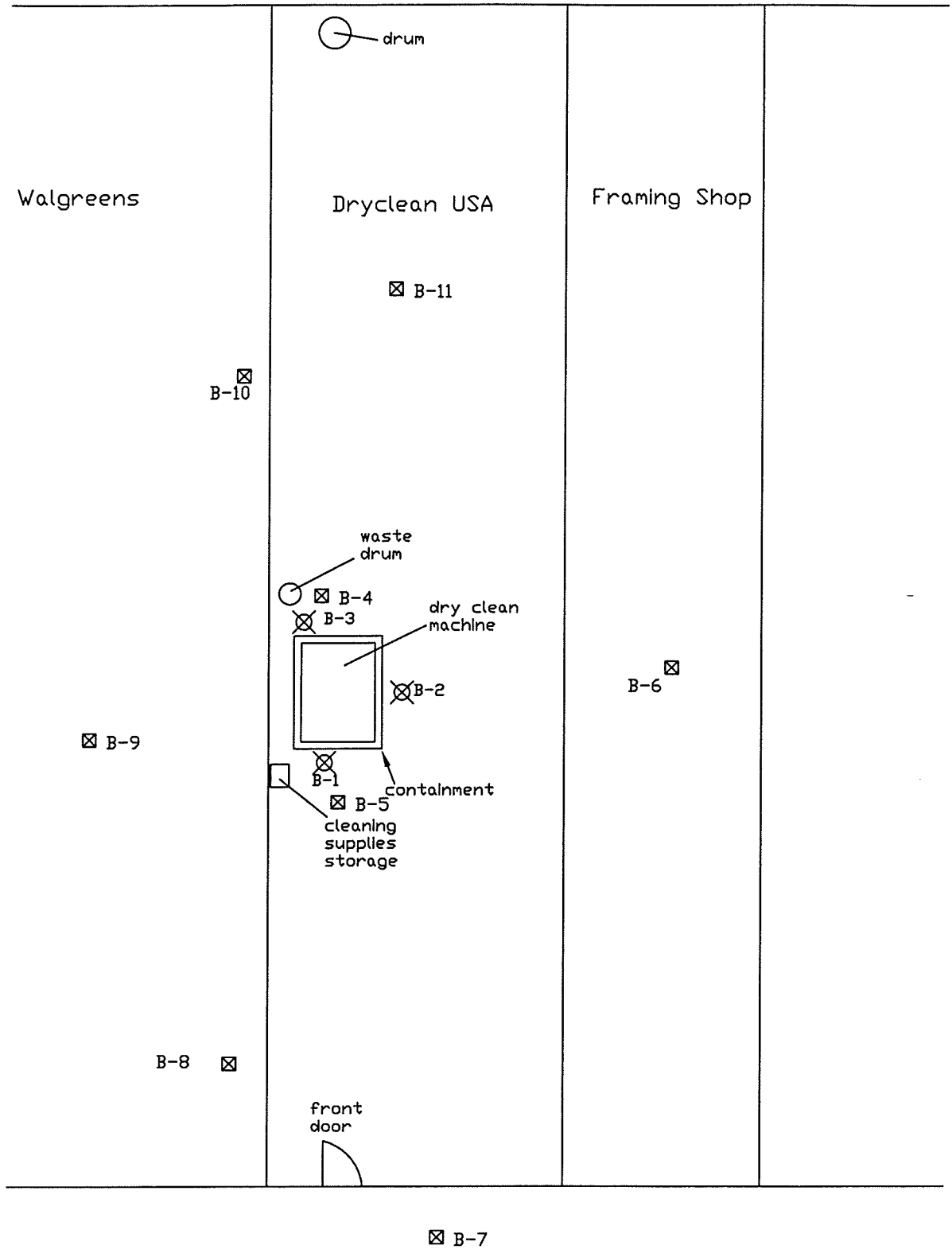
DR'WN: MED	CHK'D: CJB
JOB #: 10080.4135.001.001	DATE: 10-14-98

FIGURE 1

SITE LOCATION MAP

Dryclean USA (store # 83)
15740 West Capitol Dr., Brookfield, WI

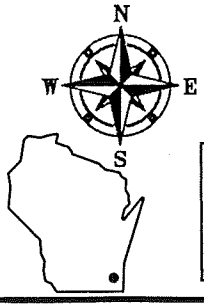
DWG: store 83



LEGEND

⊠ Boring Location

⊠ Proposed Boring Location



APPROXIMATE SCALE

0 5 10 feet

McLaren Hart® ENVIRONMENTAL ENGINEERING CORPORATION

DRWN: MED	CHK'D: GJB
JOB#:10080.4135.001.001	DATE: 10-30-98

FIGURE 2

Boring Locations
Dryclean USA (store # 83)
15740 West Capitol Dr.
Brookfield, WI

July 1, 1999

Mr. Bob Miller
Spic & Span, Inc.
4301 North Richards Street
Milwaukee, WI 53212-1097

Re: Site Investigation Results
Dryclean U.S.A. Facility #83
Brookfield, Wisconsin
McLaren/Hart Project No.: 10080.4135.001-001

Dear Bob:

McLaren/Hart Environmental Engineering Corporation (McLaren/Hart) conducted a site investigation on behalf of Spic & Span, Incorporated at the Dryclean U.S.A. facility located at 15740 West Capitol Drive, Brookfield, Wisconsin. Soils beneath the subject facility were investigated to determine if site dry cleaning operations have potentially contributed to subsurface impacts. The site investigation scope was outlined in our Site Investigation Workplan dated October 13, 1998.

The facility is located in a strip mall. Walgreens occupies the tenant space immediately to the west while the Framing Shop occupies the tenant space immediately to the east. A site location diagram is presented in Figure 1.

Scope and Methods

On October 6, 1998, McLaren/Hart personnel visited the site to select boring locations. The areas below the loading door and the filter changing equipment of the dry cleaning machine were identified as having the greatest potential for impact. A third boring location was selected opposite these, at the corner of the dry cleaning machine. Prior to any boring installation, Diggers Hotline was notified to ensure that buried facility utilities would not be encountered.

Sampling was conducted on October 19, 1998 using soil probe techniques. Borings were advanced to approximately 6 feet below ground surface (bgs). Boring locations are presented in Figure 2. The following locations were sampled:

1. Northwest corner of dry cleaning machine (boring B-1);
2. Southwest of dry cleaning machine (boring B-2); and
3. Adjacent to dry cleaning machine loading door (boring B-3).

Upon sample collection, the soil was classified with respect to United States Geological Survey methods and observed for color, moisture content, and any evidence of impact, including

discoloration and odor. The information was recorded in a bound field notebook used to record daily activities.

As soon as possible following sample collection, the soil samples selected for laboratory analysis were transferred to appropriate laboratory-provided containers. A fresh pair of latex (or similar) gloves were used during the handling of each sample to minimize the potential for cross contamination. The samples were containerized in laboratory-provided 60-ml glass jars with Teflon® septa. Twenty-five (25) to 35 grams of soil were placed in the jars and each sample was preserved in the field with laboratory-provided purge-and-trap grade methanol. The sample jars were labeled with the sample identification, depth, date of collection and intended analysis. The sample jars were then placed in resealable plastic bags and packed on ice, in an insulated container. A chain-of-custody form was completed each day, and accompanied each container of samples from the site to the laboratory.

Two soil samples from each soil boring location were submitted for laboratory analysis of tetrachloroethylene (PCE) and its potential breakdown products. Generally, one sample was obtained from fill soils beneath the concrete slab and one sample was obtained from native soils (or fill) found at a greater depth. Laboratory analyses were performed by Great Lakes Analytical using U.S. EPA SW-846 Method 8020. Target list compounds included: PCE, 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), trans-1,2-dichloroethene, 1,1,2-trichloroethane, 1,1-dichlorethane, 1,2-dichloroethane, and vinyl chloride. Great Lakes Analytical laboratory is certified by the Wisconsin Department of Natural Resources.

Results

Fill soils containing various amounts of sand, gravel and silt were encountered underlying the facility to a depth of approximately 1.5 feet bgs. Silty clay fill soils with a trace of sand were observed beneath the sandy fill to a depth of approximately 5.5 feet bgs. Approximately 5 feet of fill soils were observed. Dark gray silty clay with a trace of fine to coarse grained sand, roots and organics was observed beneath the fill soils. The soils were moist and no groundwater was observed. No staining or odors were observed during this investigation. Soil boring logs are presented in Attachment A.

PCE concentrations ranged from 48 to 11,000 µg/kg. No PCE breakdown products were detected above the laboratory detection limit of 25 µg/kg. Concentrations of PCE decreased with depth. A summary of the detected compounds and concentrations is provided in Table 1. The laboratory reports are included in Attachment B.

Conclusions and Recommendations

PCE was detected in all of the samples collected, although concentrations decreased with depth. Based on the analytical data, McLaren/Hart recommends additional investigation to determine the horizontal and vertical extent of PCE impacts beneath the Dryclean U.S.A. facility.

Additionally, Wisconsin Administrative Code NR 700 specifies reporting requirements for owners/operators that discover a hazardous substance release. McLaren/Hart recommends that legal counsel evaluate the reporting requirements, if any, per the referenced regulation.

We look forward to be of service to you in this matter. Please contact me if you have any questions.

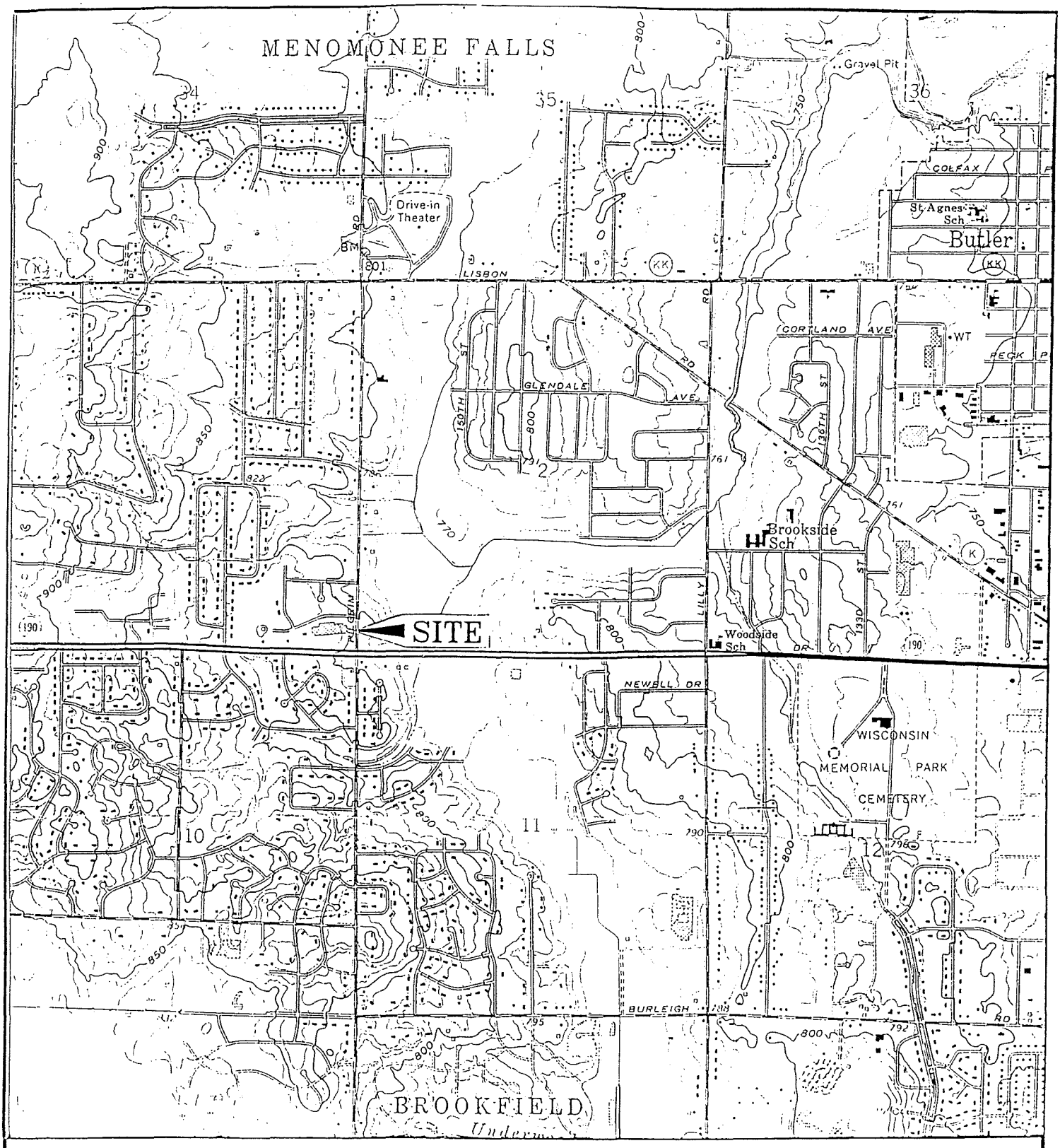
Sincerely,

McLAREN/HART ENVIRONMENTAL ENGINEERING CORPORATION

Brian W. Schneider, P.E.
Senior Engineer

George J. Bayer
Associate Geoscientist

O:\COMMON\Spic&Span\spic&span83.wpd



USGS 7.5 minute series Wauwatosa, Wisconsin topographic quadrangle dated 1958, photorevised 1971

N
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APPROXIMATE SCALE

0 1000 2000 3000 4000 5000 Feet

McLaren Hart ENVIRONMENTAL ENGINEERING CORPORATION

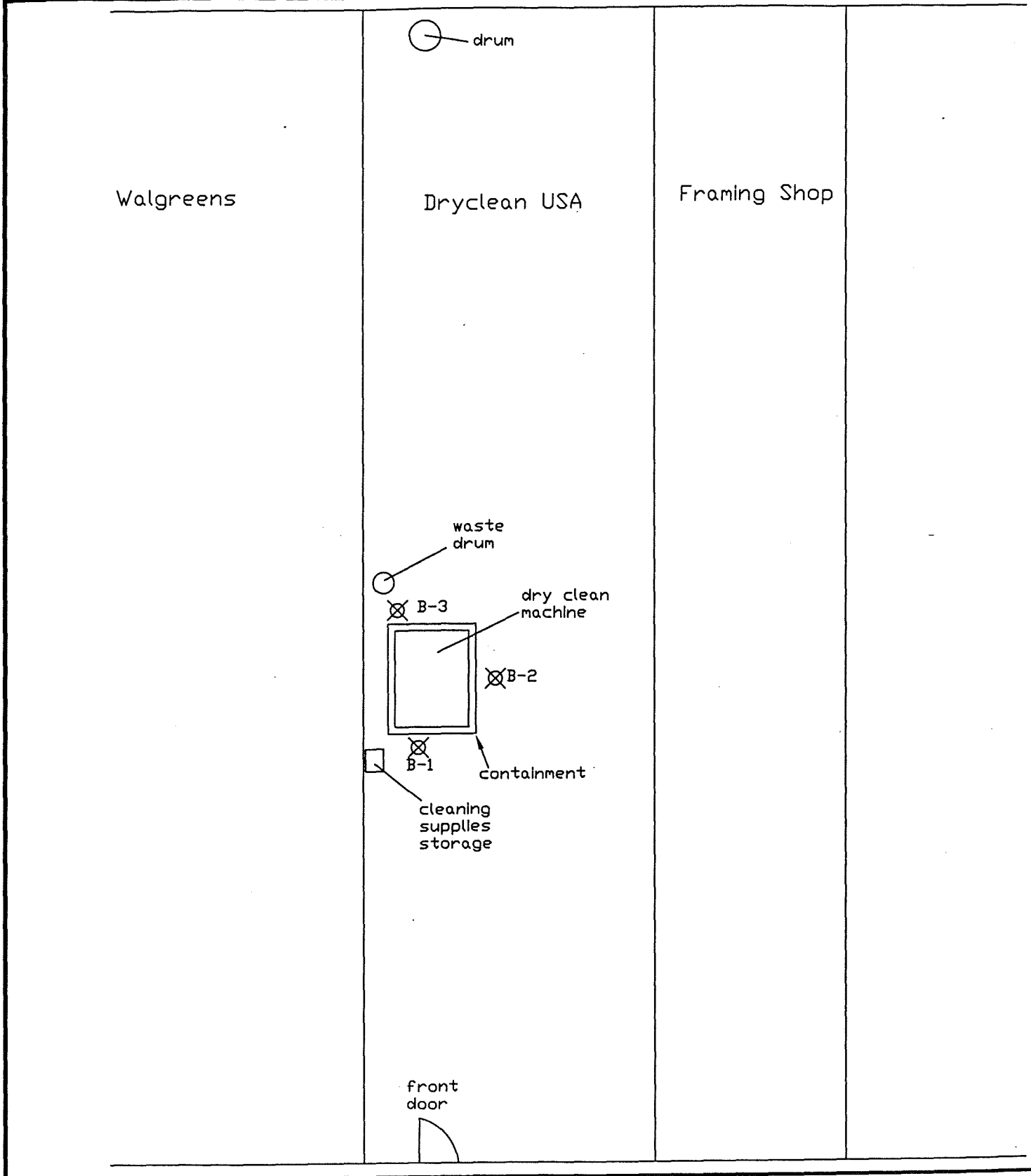
DRWN: MED	CHK'D: GJB
JOB#: 10080.4135.001.001	DATE: 10-14-98

FIGURE 1

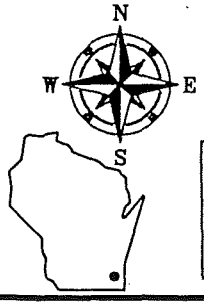
SITE LOCATION MAP

Dryclean USA (store # 83)
15740 West Capitol Dr., Brookfield, WI

DWG: store 83



LEGEND
⊗ Boring Location



APPROXIMATE SCALE
0 5 10 feet

FIGURE 2

McLaren Hart® ENVIRONMENTAL ENGINEERING CORPORATION

DRWN: MED	CHK'D: GJB
JOB#:10080.4135.001.001	DATE: 10-30-98

Boring Locations
Dryclean USA (store # 83)
15740 West Capitol Dr.
Brookfield, WI

Table 1
SOIL ANALYTICAL RESULTS
Dryclean USA Facility #83
15740 West Capitol Drive
Brookfield, Wisconsin

All samples analyzed for Volatile Organic Compounds-special list (VOCs Method 8021).
Concentrations in Micrograms per Kilogram unless otherwise indicated

Dryclean USA Facility #83

	Sample Identification	B-1	B-1	B-2	B-2	B-3	B-3
	Depth (ft)	0.5-2.5	4.5-6.0	0.5-2.5	4.5-6.0	0.5-2.5	4.5-6.0
	Date Collected	10/20/98	10/20/98	10/20/98	10/20/98	10/20/98	10/20/98
ANALYTES:	1,1-Dichloroethane	ND	ND	ND	ND	ND	ND
	1,1-Dichloroethene	ND	ND	ND	ND	ND	ND
	1,2-Dichloroethane	ND	ND	ND	ND	ND	ND
	trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND
	1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND
	Trichloroethene	ND	ND	ND	ND	ND	ND
	Tetrachloroethene (PCE)	3500	1600	700	48	11000	8500
	Vinyl chloride	ND	ND	ND	ND	ND	ND

Notes:
Only positive detection (i.e., > practical quantitation limit) shown.
ND: Not detected above practical quantitation limit.
NA: Not analyzed

McLaren Hart®

ENVIRONMENTAL ENGINEERING CORPORATION

Facility/Project Name: Dryclean U.S.A. Facility #83	Geologist: George Baver	Boring Number: B-1	
Boring Drilled By (Firm Name and Name of Crew Chief): On-Site Environmental - Denny Tatzke	Start Date: 10/20/98	Completion Date: 10/20/98	Drilling Method: Soil probe
County: Waukesha	Civil Town/City/Village: Brookfield		Borehole Diameter: 1.5"

Sample Number and Type	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description and Geologic Origin for Each Major Unit	USCS	PID (IU)	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P200	RQD/Comments
			0	.4' Concrete slab								
1	24		1	FILL, fine to coarse grained sand, some gravel, little silt, light brown, moist.								
			2	FILL, Clay, silty trace fine to coarse grained sand, brown, moist.								
2	24		3									
			4									
3	18		5									
			6	CLAY, silty, trace fine to coarse grained sand, roots, and organics dark gray, moist, (possibly buried topsoil)	CL							
			7									
			8									
			9									
			10									
			11									
			12									
			13									
			14									
			15									
			16									
			17									
			18									
			19									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	McLaren/Hart, Inc.

McLaren Hart®

ENVIRONMENTAL ENGINEERING CORPORATION

Facility/Project Name: Dryclean U.S.A. Facility #83	Geologist: George Baver		Boring Number: B-2
Boring Drilled By (Firm Name and Name of Crew Chief): On-Site Environmental - Denny Totzke	Start Date: 10/20/98	Completion Date: 10/20/98	Drilling Method: Soil probe
County: Waukesha	Civil Town/City/Village: Brookfield		Borehole Diameter: 1.5"

Sample Number and Type	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description and Geologic Origin for Each Major Unit	USCS	PID (IU)	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P200	RQD/Comments
			0	.4' Concrete slab								
1	24		1	FILL, fine to coarse grained sand, some gravel, little silt, light brown, moist.								
			2	FILL, Clay, silty, trace fine to coarse grained sand, brown, moist.								
2	24		3									
			4									
3	18		5									
			6	CLAY, silty, trace fine to coarse grained sand, roots, and organics dark gray, moist.	CL							
			7									
			8									
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			15									
			16									
			17									
			18									
			19									

I hereby certify that the information on this form is true and correct to the best of my knowledge

Signature	Firm
	McLaren/Hart, Inc.

McLaren Hart®

ENVIRONMENTAL ENGINEERING CORPORATION

Facility/Project Name: Dryclean U.S.A. Facility #83	Geologist: George Baver		Boring Number: B-3
Boring Drilled By (Firm Name and Name of Crew Chief): On-Site Environmental - Denny Tatzke	Start Date: 10/20/98	Completion Date: 10/20/98	Drilling Method: Soil probe
County: Waukesha	Civil Town/City/Village: Brookfield		Borehole Diameter: 1.5"

Sample Number and Type	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description and Geologic Origin for Each Major Unit	USCS	PID (IU)	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P200	RQD/Comments
			0	.4' Concrete slab								
1	24		1	FILL, fine to coarse grained sand, some gravel, little silt, light brown, moist.								
			2	FILL, Clay, silty, trace fine to coarse grained sand, brown, moist.								
2	24		3									
			4									
3	18		5									
			6	CLAY, silty, trace fine to coarse grained sand, roots, and organics dark gray, moist.	CL							
			7									
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			19									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
	McLaren/Hart, Inc.

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

McLaren/Hart
1300 E. Touhy Avenue
Des Plaines, IL 60018
Attention: Brlan Schneider

Client Project ID: Dryclean USA
Sample Descript: Soil: #83 B-1 0.5-2.5'
Analysis Method: EPA 5030/8021
Lab Number: 810-2717

Sampled: Oct 20, 1998
Received: Oct 21, 1998
Analyzed: Oct 23, 1998
Reported: Oct 28, 1998

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
1,1-Dichloroethene	5.7	18	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	3,500 X
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8102717.mlh <3>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

McLaren/Hart	Client Project ID:	Dryclean USA	Sampled:	Oct 20, 1998
1300 E. Touhy Avenue	Sample Descript:	Soil: #83 B-1 4.5-6'	Received:	Oct 21, 1998
Des Plaines, IL 60018	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	810-2718	Analyzed:	Oct 23, 1998
			Reported:	Oct 28, 1998

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
1,1-Dichloroethene	5.7	18	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	1,600
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8102717.mlh <4>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

McLaren/Hart	Client Project ID:	Dryclean USA	Sampled:	Oct 20, 1998
1300 E. Touhy Avenue	Sample Descript:	Soil: #83 B-2 0.5'-2.5'	Received:	Oct 21, 1998
Des Plaines, IL 60018	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	810-2719	Analyzed:	Oct 23, 1998
			Reported:	Oct 28, 1998

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
1,1-Dichloroethene	5.7	18	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	700
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL
1380 Busch Parkway
Buffalo Grove, Illinois 60089
Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

McLaren/Hart	Client Project ID:	Dryclean USA	Sampled:	Oct 20, 1998
1300 E. Touhy Avenue	Sample Descript:	Soil: #83 B-2 4.5-6.5'	Received:	Oct 21, 1998
Des Plaines, IL 60018	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	810-2720	Analyzed:	Oct 23, 1998
			Reported:	Oct 28, 1998

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quantitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
1,1-Dichloroethene	5.7	18	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	48
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

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GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

McLaren/Hart	Client Project ID:	Dryclean USA	Sampled:	Oct 20, 1998
1300 E. Touhy Avenue	Sample Descript:	Soil: #83 B-3 0.5-2.5'	Received:	Oct 21, 1998
Des Plaines, IL 60018	Analysis Method:	EPA 5030/8021		
Attention: Brian Schneider	Lab Number:	810-2721	Analyzed:	Oct 23, 1998
			Reported:	Oct 28, 1998

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
1,1-Dichloroethene	5.7	18	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	11,000
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8102717.mlh <7>

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

Email: info@glalabs.com
(847) 808-7766 FAX (847) 808-7772

McLaren/Hart
1300 E. Touhy Avenue
Des Plaines, IL 60018
Attention: Brian Schneider

Client Project ID: Dryclean USA
Sample Descript: Soil: #83 B-3 4.5-6'
Analysis Method: EPA 5030/8021
Lab Number: 810-2722

Sampled: Oct 20, 1998
Received: Oct 21, 1998
Analyzed: Oct 23, 1998
Reported: Oct 28, 1998

WDNR VOLATILE ORGANIC COMPOUNDS (5030/8021)

Analyte	Method Detection Limit µg/kg	Practical Quanitation Limit µg/kg	WDNR Reporting Limit µg/kg Wet Weight	Sample Results µg/kg Dry Weight
1,1-Dichloroethane	7.2	23	25	N.D.
1,2-Dichloroethane	2.3	7.5	25	N.D.
1,1-Dichloroethene	5.7	18	25	N.D.
trans-1,2-Dichloroethene	5.4	17	25	N.D.
Tetrachloroethene	5.2	16	25	8,500
1,1,1-Trichloroethane	5.6	18	25	N.D.
1,1,2-Trichloroethane	4.6	15	25	N.D.
Trichloroethene	6.2	20	25	N.D.
Vinyl chloride	8.2	26	25	N.D.

Analytes reported as N.D. were not present above the WDNR Reporting Limit IN WET WEIGHT as specified in Release News, Volume 4, Number 3, July 1994.

GREAT LAKES ANALYTICAL

Kevin W. Keeley
Laboratory Director

8102717.mlh <8>

Accreditations/Certifications: Delaware # 002, Illinois EPA 100261, New Jersey DEP-54001, New York DOH-11187, Tennessee DOH-02804, Tennessee DEC, USACE, Virginia 00194, Wisconsin DNR 999917160

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, IL 60089-4505
(847) 808-7766
FAX (847) 808-7772

20725 Watertown Road
Brookfield, WI 53501
(414) 798-1030
FAX (414) 798-1066

CHAIN OF CUSTODY REPORT

Client: McLaren Hart
Address: W239 N2890 Pewaukee Rd Unit D
Pewaukee, WI 53072
Report to: Brian Schneider
Phone #: (414) 523 3040
Fax #: (414) 523 2059

Bill To: SAME
Address:
State & Program: WI
Phone #: ( )
Fax #: ( )

TAT: (5 DAY) 4 DAY 3 DAY 2 DAY 1 DAY < 24 HRS
DATE RESULTS NEEDED: 10/28
TEMPERATURE UPON RECEIPT: Onice
AIR BILL NO. Open

Project: Dryclean USA
Sampler: George J Bayer
PO/Quote #:

FIELD ID, LOCATION	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	PRESERVATIVES	NO. CONTAINERS	TYPE CONTAINERS	Special List:	PCE, TCE, 111TCA	11DCE, 112TCA	11DCA, 12DCA	Trans 1,2-DCE	Vinyl Chloride	CRACKED/BROKEN	IMPROPERLY SEALED	GOOD CONDITION	LABORATORY ID NUMBER
1 #83 B-1 .5-2.5'	10/20/98		SOIL	MEOH	2		X								✓	8102717
2 #83 B-1 4.5-6'															✓	8102718
3 #83 B-2 .5-2.5'															✓	8102719
4 #83 B-2 4.5-6'															✓	8102720
5 #83 B-3 .5-2.5'															✓	8102721
6 #83 B-3 4.5-6'															✓	8102722
7 #86 B-1 .5-2.5'															✓	8102723
8 #86 B-1 4.5-5.5'															✓	8102724
9 #86 B-2 .5'-2.5'															✓	8102735 ~~8102725~~
10 #86 B-2 4.5'-5.5'																8102725 ~~8102726~~

RELINQUISHED George J Bayer 10/21/98 7:30
RECEIVED Kim Aptman 10/21/98
RELINQUISHED K Aptman 10/21/98
RECEIVED [signature]
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COMMENTS: