WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary

Southeast Region Annex
4041 North Richards Street
P.O. Box 12436
Milwaukee, Wisconsin 53212-0436
Telephone 414-229-0800
FAX 414-229-0811

December 4, 2001

Robert Miller
Spic & Span, Inc.
4301 North Richards St
Milwaukee, WI 53212

Subject: Final Closure, Dry Clean USA, 17680 West Bluemound Road, file reference FID #268252050 ERR-ERP

Dear Mr. Miller:

Thank you for having your consultant submit the well abandonment forms. I have given this case final closure status. If you have any questions, please call me at 414-229-0850.

Sincerely,

John Feeney
Wisconsin Department of Natural Resources

Cc: Graefe Anhalt, Schloemer
SER File

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

September 24, 2001

Mr. John Feeney
Wisconsin Department of Natural Resources
P.O. Box 12436
Milwaukee, WI 53212

SUBJECT: Well Abandonment Documentation, Former Dryclean USA, 17680 West Bluemound Road, Brookfield, Wisconsin 53212
FID # 268252050

Dear John:

Enclosed are the well abandonment forms for the referenced site. Please provide a letter confirming final closure status.

Please contact me at 414-266-9284, if you have any questions.

Sincerely,

GRAEF, ANHALT, SCHLOEMER
& Associates, Inc.

Brian Schneider, P.E.
Project Engineer

Attachments: Well Abandonment Forms

Cc: Bob Miller – Spic and Span, Inc.

BWS
F:\ \John Feeney\ 9-24-2001

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

County: Milwaukee

NW 1/4 of SW 1/4 of Sec. 28 ; 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: 17680 West Bluemound Road

City, Village: Brookfield

(2) FACILITY NAME

Original Well Owner (If Known): Spic & Span Brownstone Shopping Center

Present Well Owner: Same

Street or Route: 17689 West Bluemound Road

City, State, Zip Code: Brookfield, WISCONSIN 53045

Facility Well No. and/or Name (If Applicable): MW-2

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: Site Closure

Date of Abandonment: 9/24/01

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On 10

(Date) NA

☒ 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.) 15.0 Casing Diameter (ins.) 2.0
(From ground surface)

Casing Depth (ft.) 14.97

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
Did Sealing Material Rise to Surface?	☒ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☒ No
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
TOPSOIL	Surface	4"	20 LBS	
MEDIUM CHIPS BENTONITE	4"	15.0	24 LBS	

(8) Comments: _____

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

Signature of Person Doing Work: Edward C. Druss
Date Signed: 9-24-01

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

City, State, Zip Code: MILWAUKEE, WISCONSIN 53214

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

DNR/COUNTY

FILE NAME

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

County: Milwaukee

NW 1/4 of SW 1/4 of Sec. 28 ; 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: 17680 West Bluemound Road

City, Village: Brookfield

(2) FACILITY NAME

Original Well Owner (If Known): Spic & Span Brownstone Shopping Center

Present Well Owner: Same

Street or Route: 17689 West Bluemound Road

City, State, Zip Code: Brookfield, WISCONSIN 53045

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

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: Site Closure

Date of Abandonment: 9/24/01

WELL/DRILLHOLE/BOREHOLE INFORMATION

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

(Date) 11/18/99

10

☒ Monitoring Well
☐ Water Well
☐ Drillhole
☐ Borehole

Construction Report Available? ☒ Yes ☐ No

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

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Borehole Depth (ft.) 24.0 Casing Diameter (ins.) 1.0
(From ground surface)

Casing Depth (ft.) 24.0

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
Did Sealing Material Rise to Surface?	☒ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☒ No
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
GRANULAR BENTONITE	Surface	24.0	10 LBS	

(8) Comments: _____

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

Signature of Person Doing Work: Edward C. Reisch
Date Signed: 9-24-01

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

City, State, Zip Code: MILWAUKEE, WISCONSIN 53214

(10) FOR DNR OR COUNTY USE ONLY	
Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

DNR/COUNTY

FILE NAME

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 — County: Milwaukee

NW 1/4 of SW 1/4 of Sec. 28; T. 7 N; R. 20 [X] 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: 17680 West Bluemound Road

City, Village: Brookfield

(2) FACILITY NAME

Original Well Owner (If Known): Spic & Span Brownstone Shopping Center

Present Well Owner: Same

Street or Route: 17689 West Bluemound Road

City, State, Zip Code: Brookfield, WISCONSIN 53045

Facility Well No. and/or Name (If Applicable): MHW-2

WI Unique Well No.: _ _ _ _ _

Reason For Abandonment: Site Closure

Date of Abandonment: 9/24/01

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On
10
(Date) 11/18/99

- [X] Monitoring Well
- [ ] Water Well
- [ ] Drillhole
- [ ] Borehole

Construction Report Available? [X] Yes [ ] No

Construction Type:
[ ] Drilled [ ] Driven (Sandpoint) [ ] Dug
[X] Other (Specify) Geoprobe

Formation Type:
[X] Unconsolidated Formation [ ] Bedrock

Total Borehole Depth (ft.) 24.0 (From ground surface) Casing Diameter (ins.) 1.0

Casing Depth (ft.) 24.0

Was Well Annular Space Grouted? [ ] Yes [X] No [X] Unknown
If Yes, To What Depth? ____ Feet

(4) Depth to Water (Feet) NA

Pump & Piping Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Liner(s) Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Screen Removed?	[ ] Yes	[ ] No	[X] Not Applicable
Casing Left in Place?	[X] Yes	[ ] No	

If No, Explain ____

Was Casing Cut Off Below Surface?	[X] Yes	[ ] No
Did Sealing Material Rise to Surface?	[X] Yes	[ ] No
Did Material Settle After 24 Hours?	[ ] Yes	[X] No
If Yes, Was Hole Retopped?	[ ] Yes	[ ] No

(5) Required Method of Sealing Material
[X] 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
- [X] Granular Bentonite

(7)

Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards Sacks Sealant or Volume	Mix Ratio or Mud Weight
GRANULAR BENTONITE	Surface	24.0	10 LBS	

(8) Comments: ____

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

Signature of Person Doing Work: [signature] Date Signed: 9-24-01

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

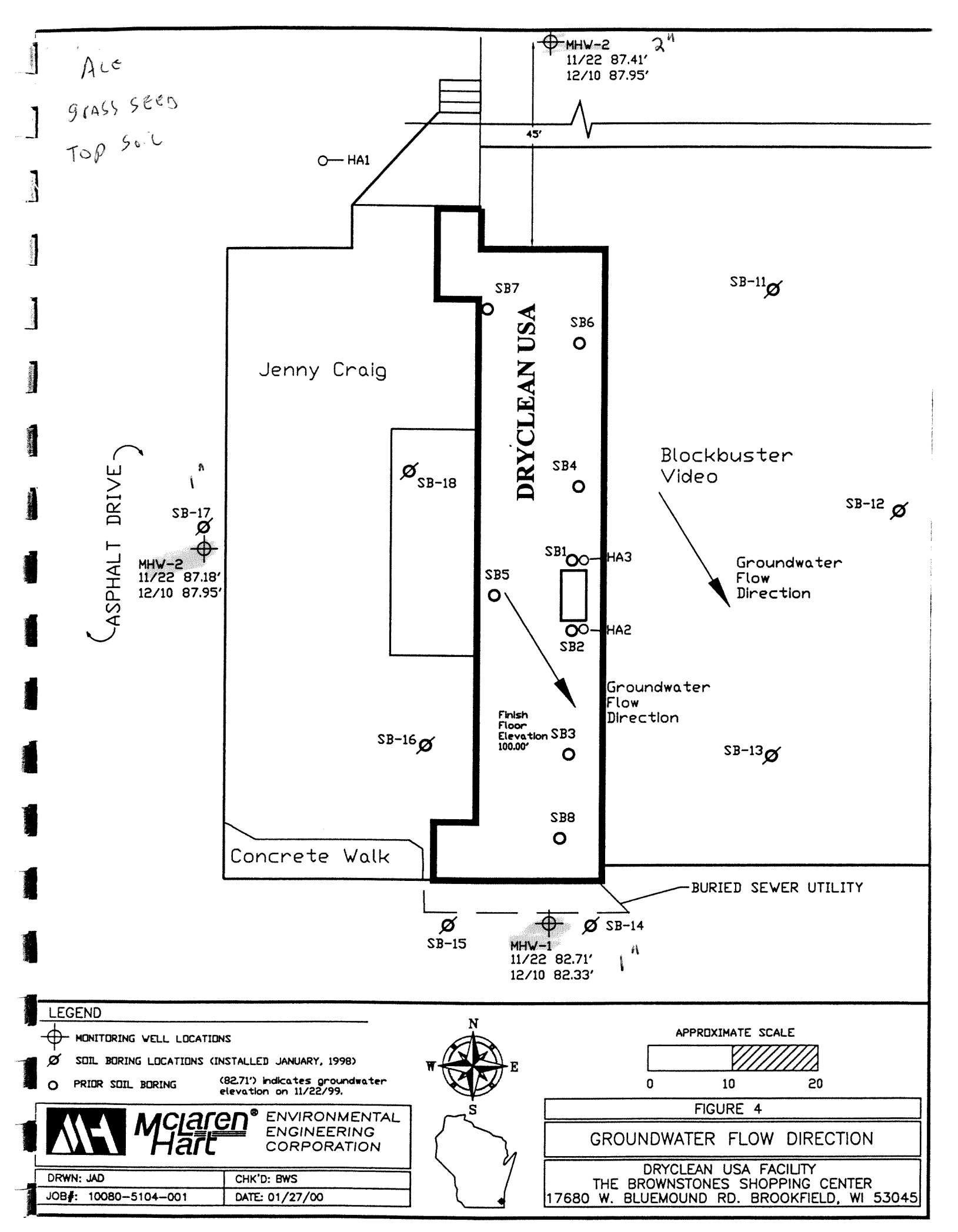
City, State, Zip Code: MILWAUKEE, WISCONSIN 53214

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

DNR/COUNTY

FILE NAME



LEGEND

- MONITORING WELL LOCATIONS
- SOIL BORING LOCATIONS (INSTALLED JANUARY, 1998)
- PRIOR SOIL BORING

(82.71') indicates groundwater elevation on 11/22/99.

N
W E
S

APPROXIMATE SCALE

0 10 20

McLaren Hart® ENVIRONMENTAL ENGINEERING CORPORATION

DRWN: JAD	CHK'D: BWS
JOB#: 10080-5104-001	DATE: 01/27/00

FIGURE 4

GROUNDWATER FLOW DIRECTION

DRYCLEAN USA FACILITY
THE BROWNSTONES SHOPPING CENTER
17680 W. BLUEMOUND RD. BROOKFIELD, WI 53045

WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor
Darrell Bazzell, Secretary

Southeast Region Annex
4041 North Richards Street
P.O. Box 12436
Milwaukee, Wisconsin 53212-0436
Telephone 414-229-0800
FAX 414-229-0811

August 14, 2001

Robert Miller
Spic & Span, Inc.
4301 North Richards St
Milwaukee, WI 53212

Subject: Deed restriction at Dry Clean USA, 17680 West Bluemound Road, file reference FID #268252050 ERR-ERP

Dear Mr. Miller:

I have reviewed your consultants request for the department to drop its deed restriction requirement for closure at this site based on a model run and reported by your consultant, Graefe Anhalt, Schloemer. The department will no longer require a deed restriction as a closure requirement. I will list this case as having final closure status in our database when I receive the well abandonment documentation.

Under NR726.05(4), the department may not close a case where the residual contamination may cause an enforcement standard (ES) exceedance. However, in your model, groundwater contamination caused by the remaining contamination did not exceed the ES at the immediate edge of the contaminated source soils. The model was conservative in that it was run with full rainwater recharge, assuming no cap covered the contaminated area.

Should contaminated soils at the site be disturbed for construction or any other purpose in the future, they must be properly characterized and disposed of. Additionally, the department must be notified at that time.

If you have any questions about this letter, please call me at 414-229-0850.

Sincerely,

John Feeney
Wisconsin Department of Natural Resources

Cc: Graefe Anhalt, Schloemer
SER File

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

closure request

May 31, 2001

Mr. John Feeney
Wisconsin Department of Natural Resources
P.O. Box 12436
Milwaukee, WI 53212

SUBJECT: FID #268252050 ERR/ERP, Dryclean USA, 1760 West Bluemound Road, Milwaukee, Wisconsin

Dear John:

Based on our conversation on October 24th, 2000, Graef, Anhalt, Schloemer & Associates, Inc. (GAS) has prepared the following evaluation of the environmental risk associated with the tetrachloroethylene (PCE) remaining in the soils on site. The objective of this evaluation is to obtain site closure. The evaluation is based on the US EPA's unsaturated zone vertical transport model (SESOIL) and the analytical fate and transport model AT123D.

(without a deed restriction) case closed 7/13/00

1.0 EVALUATION MODEL DESCRIPTION

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 the Brownstones shopping center. The APIDSS software selected to evaluate potential future groundwater impacts resulting from residual soil contamination were SESOIL and AT123D.

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 is to show that groundwater impacts are minimal even if various levels of contaminants 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). The combined model allows one to assess the potential, if any, of residual soil impacts to affect groundwater. The AT123D model allows for site specific information to be input in order to determine what groundwater impacts, if any, could be expected at various distances and times.

Data used as input for SESOIL and AT123D were obtained from recent site work performed by GAS, previous investigations by (Site Investigation Report, McLaren/Hart, March 2, 2000) and the US EPA's User's Manual for their BIOCLOR screening model (USEPA, 2000). Data requirements for these models are presented in Appendix A. GAS collected and analyzed a soil sample for total organic carbon content, and conducted saturated hydraulic conductivity tests using bail-down methods on monitoring wells MWH-1 and MWH-2. These results are presented in Appendix B.

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 (as is the case in this matter) the use of sublayers tends to underestimate the mass of contaminants within the soil column. As such, no sublayers were used in the simulations.

A soil profile was developed to reflect conditions below the dry cleaning building. The soil profile was conceptualized as a four layer vadose zone 11 feet deep. The four layers were composed of clay sand that had nearly consistent characteristics throughout the soil column (organic carbon content was decreased with depth). Because of the reported presence of granular fill below the building, a depth-weighted permeability was calculated for the soils. The model layer extending from ground surface to 4 feet below ground surface (bgs) (Layer

1) had an average PCE level of 260 ppb. The model layer extending from 4 to 6 feet bgs (Layer 2) has a PCE level of 200 ppb. The model layer extending from 6 to 10 feet bgs (Layer 3) had a PCE level of 75 ppb. The model layer extending from 10 to 11 feet bgs (Layer 4) had a PCE level of 25 ppb (a decrease in concentration by a factor of 2 every two feet below the fill layer).

The lateral extent of the significant soil contaminant plume modeled as described above was estimated at 25 feet wide (7.62 m) by 18 feet long (5.49 m). The significance of these dimensions is the total mass of contaminant added to the flow model per unit time step. Accordingly, the larger the soil prism contributing contaminants to an aquifer, the greater the impact to groundwater from that soil prism. 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 a depth-weighted average of bail-down test data collected by GAS, and an assumed conductivity for the granular material in the top four feet (0.01 cm/sec). The depth-weighted average was calculated using the equation specified in the SESOIL users guide. The percent organic carbon was estimated from an analytical result from a soil sample collected adjacent to the dry cleaner building. The value was assumed to decrease with depth by a factor of two every two feet. The bulk density and porosity were assumed based on literature values.

The only compound of significance is tetrachloroethene. The chemical input parameters for tetrachloroethene were obtained from various literature sources except for diffusivity, which was calculated using a method specified in the New SESOIL User's Guide (1993). The biodegradation rate was estimated from literature values, and was set at the slowest rate cited in the US EPA's users guide for the EPA Biochlor model.

The vadose zone profile configuration was based on observations of soil borings. As noted, 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	TWO	THREE	FOUR
Material	Sand	Clay	Clay	Clay
Thickness (cm)	121.92	60.96	121.92	30.48
Permeability (cm^2)*	1.0×10^{-7}	3.3×10^{-11}	3.3×10^{-11}	3.3×10^{-11}
Density (g/cm^3)	1.7	1.7	1.7	1.7
Fraction Organic Carbon	0.07	0.035	0.01325	0.004

* Depth weighted average of 5.2×10^{-11} cm^2

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. Infiltration of precipitation for the model was based on the assumption that 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. Evapotranspiration was estimated using the public domain version of SESOIL (this version set to run in the monthly time step uses monthly climate data and several additional climatic input parameters). A soil profile identical to the one that would be used in the APIDSS software was calibrated to site moisture content. The resulting value of evapotranspiration was used as input to the APIDSS SESOIL model.

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 average hydraulic conductivity measured in the bail-down tests on MWH-1 and MWH-2 was used (1.01 m/yr). The horizontal gradient measured across the site at three monitoring wells was input (0.075 m/m). 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. The biodegradation rate was assumed to be at the slow end of the range presented in the US EPA's users guide to their screening model Biochlor, and was set at 0.000192 /day.

2.0 RESULTS AND CONCLUSIONS

The results of the SESOIL base model and AT123D model output summary can be found in Appendix C.

Overall, the results show negligible environmental impact attributable to the PCE in the soils on site. The location of the receptor monitoring well was simulated at 5.6 m, immediately adjacent to the source and at 10 m, approximately 15 feet down flow. Model runs were simulated for 50 years. The resulting maximum groundwater concentration modeled at the well located adjacent to the soil contaminants was approximately 0.76 ppb. The resulting maximum groundwater concentration modeled at a well located 15 feet down flow from the soil contaminants was approximately 0.06 ppb. The groundwater PCE level at the 5.6 m location reached its maximum after 13 years (0.76 ppb) after which it decreased to less than the PAL (0.5 ppb) on year 27, when the level was 0.48 ppb. The maximum level at the 10 m location never exceeded the PAL and was less than the PAL by a factor of almost 10.

The results of the modeling demsonstrate that the remaining soil contamination will not pose a long-term threat to the groundwater quality at the site or areas immediately adjacent to the site. Based on the modeling, the potential for an exceedance of the ES is remote.

Furthermore, the modeling results suggest that the PAL for PCE will not be exceeded off site. Had the models been configured to simulate the effects of the building on the climatic input parameters, the results would have been even lower. Additionally, the PAL is an overly conservative risk standard for the site: it is one-tenth of the EPA drinking water standard, and it is very unlikely that an individual or municipality would attempt to draw drinking water from the tight clay soils underlying the highly developed area of the site.

As noted in the McLaren/Hart report, the potential risk to human health through direct contact with the soils is minimal.

Accordingly, Spic and Span requests that the soils beneath the building remain in place without any regulatory encumbrances, and that closure be granted without requiring a deed restriction.

Please contact Brian Schneider at (414) 266-9284, if you have any questions.

Sincerely,

GRAEF, ANHALT, SCHLOEMER
& Associates, Inc.

Brian Schneider, P.E.
Project Engineer

Geoffrey Parish, P.G., CHMM
Project Hydrogeologist

Appendices

C: Robert Miller – Spic and Span, Inc.
Mark Thimke – Foley & Lardner
Dan Prezembel – The RREEF Funds

BWS
F:\Spic and Span\ brownstones SESOIL 5-3-01

APPENDIX A – 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]	50
Number of soil layers	4
Sublayers in layer 1	1
Sublayers in layer 2	1
Sublayers in layer 3	1
Sublayers in layer 4	1
Volatile emissions:	Yes

Climate Parameters

Surface Temperature [C]	8.4
Evapotranspiration [cm/day]	0.02667
Precipitation [cm/yr]	79.02
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]	5.49
Y-dimension of the source [m]	7.62
Layer 1	
Thickness of Layer [m]	1.2192
Intrinsic Permeability [cm^2]	0.000000000052
Fraction Organic Carbon [-]	0.07
Tetrachloroethylene Load [kg]	0.0225
Layer 2	
Thickness of Layer [m]	0.6096
Intrinsic Permeability [cm^2]	0.000000000052
Fraction Organic Carbon [-]	0.035
Tetrachloroethylene Load [kg]	0.00867
Layer 3	
Thickness of Layer [m]	1.2192
Intrinsic Permeability [cm^2]	0.000000000052
Fraction Organic Carbon [-]	0.01325
Tetrachloroethylene Load [kg]	0.0065
Layer 4	
Thickness of Layer [m]	0.3048
Intrinsic Permeability [cm^2]	0.000000000052
Fraction Organic Carbon [-]	0.004
Tetrachloroethylene Load [kg]	0.00054

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 Z	0.000192]
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)	50

Media Specific Parameters

Effective Porosity [-]	0.15
Hydraulic Conductivity [m/yr]	1.01
Hydraulic Gradient [-]	0.075
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]	5.6
Y Coord - of Well [m]	0
Z Coord - Top of Screen [m]	0
Z Coord - Bottom of Screen [m]	1

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	0.000192
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]	—

APPENDIX B – TOTAL ORGANIC CARBON AND HYDRAULIC CONDUCTIVITY TEST RESULTS

TestAmerica
INCORPORATED

ANALYTICAL AND QUALITY CONTROL REPORT

Mr. Brian Schneider
GRAEF, ANHALT, SCHLOEMER
& ASSOCIATES, INC.
125 S. 84th St. Suite 401
Milwaukee, WI 53214-1470

03/26/2001

Job No: 01.01344

Enclosed are the Analytical and Quality Control reports for the following samples submitted for analysis:

Sample Number	Sample Description	Date Taken	Date Received
428829	HA-1 4' 2001-0080 Spic & Span	03/07/2001	03/08/2001

Soil results are reported on a dry weight basis. The above sample(s) may have a result flag shown on the report. The following are the result flag definitions:

A = Analyzed/extracted past hold time
B = Blank is contaminated
C = Standard outside of control limits
D = Diluted for analysis
F = Sample filtered in lab
G = Received past hold time
H = Late eluting hydrocarbons present
I = Improperly handled sample
J = Estimated concentration
L = Common lab solvent and contaminant
M = Matrix interference
P = Improperly preserved sample
Q = Result confirmed via re-analysis
S = Sediment present
T = Does not match typical pattern
W = BOD re-set due to missed dilution
X = Unidentified compound(s) present
Z = Internal standard outside limits

Karen R. Wenta
Inorganic Operations Manager

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Brian Schneider
GRAEF, ANHALT, SCHLOEMER
& ASSOCIATES, INC.
125 S. 84th St. Suite 401
Milwaukee, WI 53214-1470

03/26/2001
Job No: 01.01344
Sample No: 428829
Account No: 32700

JOB DESCRIPTION: 2001-0080 Spic and Span
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: HA-1 4' 2001-0080 Spic & Span
17680 W. Bluemound Road; Brookfield, WI
Rec'd on ice

Date/Time Taken: 03/07/2001 11:30 Date Received: 03/08/2001

Parameter	Results	Units	Reporting Limit	Method	Date Analyzed	Prep/Run Batch
lids, Total	83.2	%	n/a	SW 5030	03/14/2001	3586
:	70,000	mg/kg	50	SW 9060	03/22/2001	303

TestAmerica
INCORPORATED

QUALITY CONTROL REPORT

BLANKS

03/26/2001

Mr. Brian Schneider
GRAEF, ANHALT, SCHLOEMER
& ASSOCIATES, INC.
125 S. 84th St. Suite 401
Milwaukee, WI 53214-1470

Job No: 01.01344
Account No: 32700

Job Description: 2001-0080 Spic and Span

Parameter	Prep Batch	Run Batch	Blank Result	Reporting Limit	Units
TOC		303	<50	50	mg/kg

Method blank results exceed control limits when results are higher than the highest of any of the following: 1 - The limit of detection; 2 - Five percent of the regulatory limit for that analyte; 3 - Five percent of the measured concentration in the sample. NR149.14 (3)d

TestAmerica
INCORPORATED

QUALITY CONTROL REPORT
DUPLICATES

03/26/2001

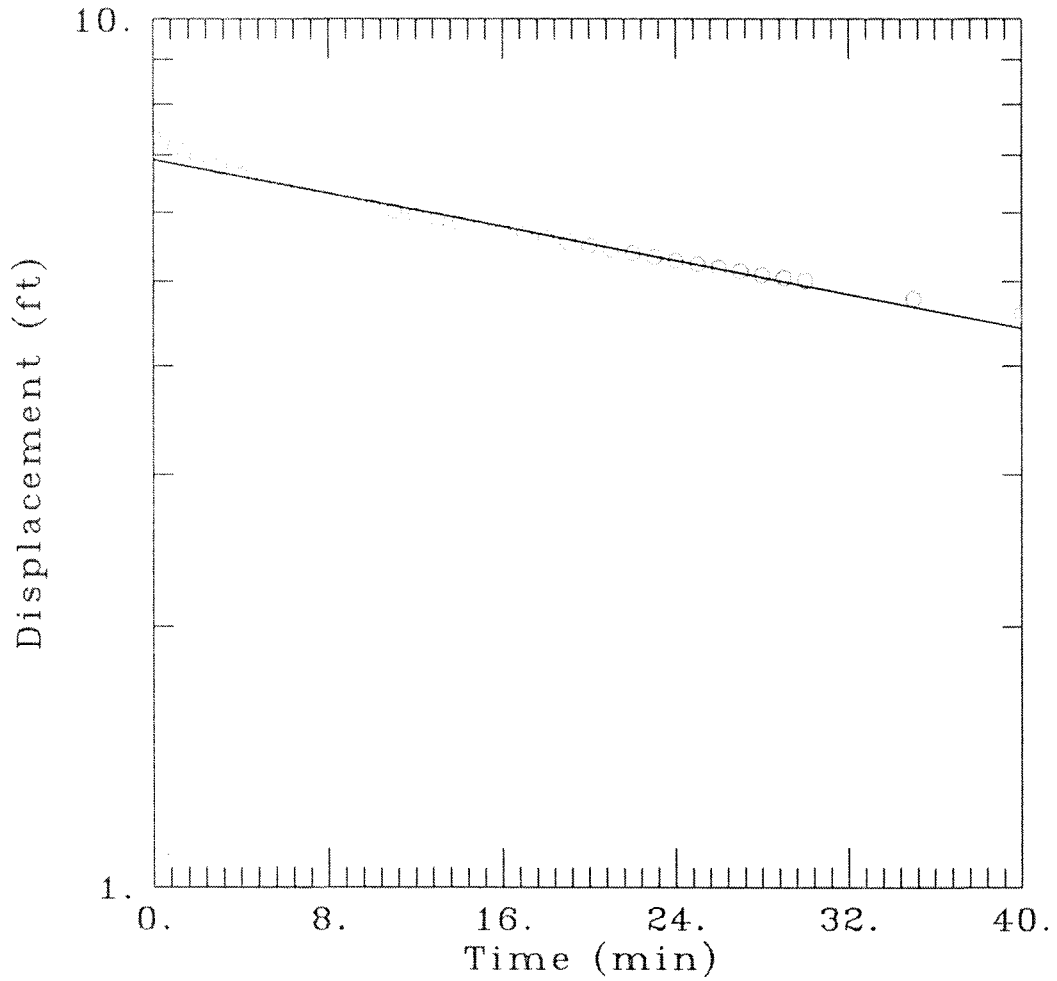
Mr. Brian Schneider
GRAEF, ANHALT, SCHLOEMER
& ASSOCIATES, INC.
125 S. 84th St. Suite 401
Milwaukee, WI 53214-1470

Job No: 01.01344
Account No: 32700

Job Description: 2001-0080 Spic and Span

Parameter	Prep Batch Number	Run Batch Number	Sample Value	Duplicate Value	Units	RPD	Control Limit
Solids, Total		3586	21.6	24.2	%	11.4	
Solids, Total		3586	77.3	76.6	%	0.9	

Spic & Span Brownstones MHW-1



DATA SET:
SasMHW1.dat
04/02/01

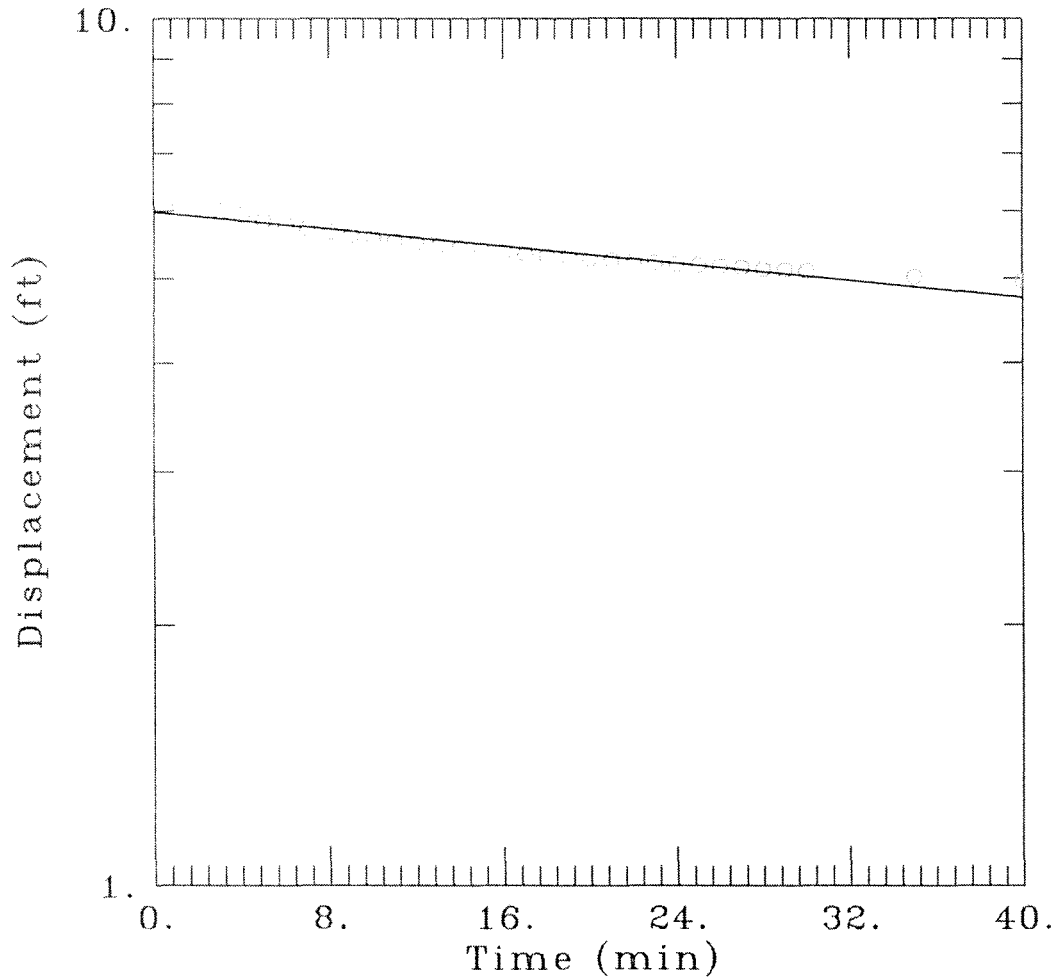
AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

ESTIMATED PARAMETERS:
K = 3.2972E-06 ft/min
y0 = 6.913 ft

TEST DATA:
H0 = 7.34 ft
rc = 0.042 ft
rw = 0.13 ft
L = 8.41 ft
b = 20. ft
H = 8.41 ft

Spic & Span Brownstones MHW-2



DATA SET:
SaSMHW2.daat
04/02/01

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

ESTIMATED PARAMETERS:
K = 8.9709E-06 ft/min
y0 = 5.975 ft

TEST DATA:
H0 = 6.39 ft
rc = 0.099 ft
rw = 0.22 ft
L = 6.94 ft
b = 20. ft
H = 6.94 ft

BASE SESOIL MODEL RUN

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

Analysis for ...
Chemicals in the analysis
Tetrachloroethylene

Number of years simulated: 50

RUN NO. 1

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

-- CLIMATIC AND HYDROLGIC INPUT PARAMETERS --

TEMPERATURE (DEG C):	8.40
EVAPOTRANSPIRATION (CM/DAY):	.267E-01
ANNUAL PRECIPITATION (CM):	79.0
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 (%):	7.00

-- APPLICATION INPUT PARAMETERS --

NUMBER OF SOIL LAYERS:	4			
YEARS TO BE SIMULATED:	50			
AREA (CM**2):	.418E+06			
DEPTHS (CM):	.12E+03	61.	.12E+03	31.
NUMBER OF SUBLAYERS/LAYER	1	1	1	1
INTRINSIC PERMEABILITIES (CM**2):	.52E-10	.52E-10	.52E-10	.52E-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):	.192E-03

**** 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	2.217E+07
SOIL ZONE 2	8.367E+06
SOIL ZONE 3	6.275E+06
LOWER SOIL ZONE	4.183E+05

-- HYDROLOGIC CYCLE COMPONENTS --

AVERAGE SOIL MOISTURE ZONE 1 (%)	12.167
AVERAGE SOIL MOISTURE BELOW ZONE 1 (%)	12.167
TOTAL PRECIPITATION (CM)	75.049
TOTAL INFILTRATION (CM)	20.881
TOTAL EVAPOTRANSPIRATION (CM)	9.772
TOTAL SURFACE RUNOFF (CM)	54.169
TOTAL GRW RUNOFF (CM)	11.108

TOTAL MOISTURE RETENTION (CM)	.000
TOTAL YIELD (CM)	65.277

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

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	8.198E-03
ADSORBED SOIL (UG/G)	2.445E-01
SOIL AIR (UG/ML)	4.927E-03

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.193E-02
ADSORBED SOIL (UG/G)	1.779E-01
SOIL AIR (UG/ML)	7.170E-03

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.222E-02
ADSORBED SOIL (UG/G)	6.871E-02
SOIL AIR (UG/ML)	7.344E-03

LOWER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.125E-02
ADSORBED SOIL (UG/G)	1.918E-02
SOIL AIR (UG/ML)	6.763E-03

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

YEAR - 2 ANNUAL SUMMARY REPORT
==========

Tetrachloroethylene

-- HYDROLOGIC CYCLE COMPONENTS --

AVERAGE SOIL MOISTURE ZONE 1 (%)	12.167
AVERAGE SOIL MOISTURE BELOW ZONE 1 (%)	12.167
TOTAL PRECIPITATION (CM)	75.049
TOTAL INFILTRATION (CM)	20.881
TOTAL EVAPOTRANSPIRATION (CM)	9.772
TOTAL SURFACE RUNOFF (CM)	54.169
TOTAL GRW RUNOFF (CM)	11.108
TOTAL MOISTURE RETENTION (CM)	.000
TOTAL YIELD (CM)	65.277

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

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	7.598E-03
ADSORBED SOIL (UG/G)	2.266E-01
SOIL AIR (UG/ML)	4.566E-03

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.048E-02
ADSORBED SOIL (UG/G)	1.563E-01
SOIL AIR (UG/ML)	6.299E-03

SUBLAYER 1

```
 SOIL MOISTURE (UG/ML)     1.137E-02
 ADSORBED SOIL (UG/G)      6.394E-02
 SOIL AIR (UG/ML)          6.834E-03

     LOWER SOIL ZONE:

SUBLAYER                       1
 ---------------------------------------------------------------
 SOIL MOISTURE (UG/ML)     1.151E-02
 ADSORBED SOIL (UG/G)      1.961E-02
 SOIL AIR (UG/ML)          6.918E-03

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

                               YEAR -   3 ANNUAL SUMMARY REPORT
                               ================================
                                             Tetrachloroethylene

          -- HYDROLOGIC CYCLE COMPONENTS --

 AVERAGE SOIL MOISTURE ZONE 1 (%)                12.167
 AVERAGE SOIL MOISTURE BELOW ZONE 1 (%)          12.167
 TOTAL PRECIPITATION (CM)                        75.049
 TOTAL INFILTRATION (CM)                         20.881
 TOTAL EVAPOTRANSPIRATION (CM)                    9.772
 TOTAL SURFACE RUNOFF (CM)                       54.169
 TOTAL GRW RUNOFF (CM)                           11.108
 TOTAL MOISTURE RETENTION (CM)                     .000
 TOTAL YIELD (CM)                                65.277

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


     UPPER SOIL ZONE:


SUBLAYER                       1
 ---------------------------------------------------------------
 SOIL MOISTURE (UG/ML)     7.016E-03
 ADSORBED SOIL (UG/G)      2.092E-01
 SOIL AIR (UG/ML)          4.217E-03

SUBLAYER                       1
 ---------------------------------------------------------------
 SOIL MOISTURE (UG/ML)     9.334E-03
 ADSORBED SOIL (UG/G)      1.392E-01
 SOIL AIR (UG/ML)          5.610E-03

SUBLAYER                       1
 ---------------------------------------------------------------
 SOIL MOISTURE (UG/ML)     1.058E-02
 ADSORBED SOIL (UG/G)      5.949E-02
 SOIL AIR (UG/ML)          6.358E-03

     LOWER SOIL ZONE:

SUBLAYER                       1
 ---------------------------------------------------------------
 SOIL MOISTURE (UG/ML)     1.077E-02
 ADSORBED SOIL (UG/G)      1.835E-02
 SOIL AIR (UG/ML)          6.473E-03

  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)	6.465E-03
ADSORBED SOIL (UG/G)	1.928E-01
SOIL AIR (UG/ML)	3.885E-03

SUBLAYER 1

SOIL MOISTURE (UG/ML)	8.393E-03
ADSORBED SOIL (UG/G)	1.251E-01
SOIL AIR (UG/ML)	5.044E-03

SUBLAYER 1

SOIL MOISTURE (UG/ML)	9.803E-03
ADSORBED SOIL (UG/G)	5.512E-02
SOIL AIR (UG/ML)	5.892E-03

LOWER SOIL ZONE:

SUBLAYER 1

SOIL MOISTURE (UG/ML)	9.985E-03
ADSORBED SOIL (UG/G)	1.701E-02
SOIL AIR (UG/ML)	6.001E-03

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)	5.948E-03
ADSORBED SOIL (UG/G)	1.774E-01
SOIL AIR (UG/ML)	3.575E-03

SUBLAYER 1

SOIL MOISTURE (UG/ML)	7.598E-03
ADSORBED SOIL (UG/G)	1.133E-01
SOIL AIR (UG/ML)	4.567E-03

SUBLAYER 1

SOIL MOISTURE (UG/ML)	9.029E-03
ADSORBED SOIL (UG/G)	5.077E-02
SOIL AIR (UG/ML)	5.427E-03

LOWER SOIL ZONE:

SUBLAYER 1

SOIL MOISTURE (UG/ML)	9.081E-03
ADSORBED SOIL (UG/G)	1.547E-02
SOIL AIR (UG/ML)	5.458E-03

Mass loading to gw (kg) in year 5 is = .422E-04

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)	3.881E-03
ADSORBED SOIL (UG/G)	1.157E-01
SOIL AIR (UG/ML)	2.333E-03

UBLAYER	1
SOIL MOISTURE (UG/ML)	4.794E-03
ADSORBED SOIL (UG/G)	7.148E-02
SOIL AIR (UG/ML)	2.881E-03

SUBLAYER	1
SOIL MOISTURE (UG/ML)	5.764E-03
ADSORBED SOIL (UG/G)	3.241E-02
SOIL AIR (UG/ML)	3.464E-03

LOWER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	5.788E-03
ADSORBED SOIL (UG/G)	9.862E-03
SOIL AIR (UG/ML)	3.478E-03

Mass loading to gw (kg) in year 10 is = .269E-04

YEAR - 15 ANNUAL SUMMARY REPORT

Tetrachloroethylene

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

UPPER SOIL ZONE:

UBLAYER	1
SOIL MOISTURE (UG/ML)	2.516E-03
ADSORBED SOIL (UG/G)	7.503E-02
SOIL AIR (UG/ML)	1.512E-03

SUBLAYER	1
SOIL MOISTURE (UG/ML)	3.077E-03
ADSORBED SOIL (UG/G)	4.588E-02
SOIL AIR (UG/ML)	1.849E-03

UBLAYER	1
SOIL MOISTURE (UG/ML)	3.680E-03
ADSORBED SOIL (UG/G)	2.069E-02
SOIL AIR (UG/ML)	2.211E-03

LOWER SOIL ZONE:

UBLAYER	1
SOIL MOISTURE (UG/ML)	3.694E-03
ADSORBED SOIL (UG/G)	6.295E-03
SOIL AIR (UG/ML)	2.220E-03

Mass loading to gw (kg) in year 15 is = .172E-04

YEAR - 20 ANNUAL SUMMARY REPORT

Tetrachloroethylene

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

UPPER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.627E-03
ADSORBED SOIL (UG/G)	4.852E-02
SOIL AIR (UG/ML)	9.780E-04

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.980E-03
ADSORBED SOIL (UG/G)	2.953E-02
SOIL AIR (UG/ML)	1.190E-03

SUBLAYER	1
SOIL MOISTURE (UG/ML)	2.357E-03
ADSORBED SOIL (UG/G)	1.325E-02
SOIL AIR (UG/ML)	1.416E-03

LOWER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	2.366E-03
ADSORBED SOIL (UG/G)	4.032E-03
SOIL AIR (UG/ML)	1.422E-03

Mass loading to gw (kg) in year 20 is = .110E-04

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)	1.051E-03
ADSORBED SOIL (UG/G)	3.134E-02
SOIL AIR (UG/ML)	6.316E-04

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.276E-03
ADSORBED SOIL (UG/G)	1.902E-02
SOIL AIR (UG/ML)	7.666E-04

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.513E-03
ADSORBED SOIL (UG/G)	8.508E-03
SOIL AIR (UG/ML)	9.094E-04

LOWER SOIL ZONE:

SUBLAYER	1
SOIL MOISTURE (UG/ML)	1.519E-03
ADSORBED SOIL (UG/G)	2.588E-03
SOIL AIR (UG/ML)	9.129E-04

Mass loading to gw (kg) in year 25 is = .706E-05

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

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

UPPER SOIL ZONE:

UBLAYER	1
SOIL MOISTURE (UG/ML)	6.784E-04
ADSORBED SOIL (UG/G)	2.023E-02
SOIL AIR (UG/ML)	4.077E-04

SUBLAYER	1
SOIL MOISTURE (UG/ML)	8.219E-04
ADSORBED SOIL (UG/G)	1.225E-02
SOIL AIR (UG/ML)	4.940E-04

UBLAYER	1
SOIL MOISTURE (UG/ML)	9.729E-04
ADSORBED SOIL (UG/G)	5.471E-03
SOIL AIR (UG/ML)	5.847E-04

LOWER SOIL ZONE:

UBLAYER	1
SOIL MOISTURE (UG/ML)	9.767E-04
ADSORBED SOIL (UG/G)	1.664E-03
SOIL AIR (UG/ML)	5.870E-04

Mass loading to gw (kg) in year 30 is = .454E-05

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

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

UPPER SOIL ZONE:

UBLAYER	1
SOIL MOISTURE (UG/ML)	4.377E-04
ADSORBED SOIL (UG/G)	1.305E-02
SOIL AIR (UG/ML)	2.630E-04

SUBLAYER	1
SOIL MOISTURE (UG/ML)	5.298E-04
ADSORBED SOIL (UG/G)	7.899E-03
SOIL AIR (UG/ML)	3.184E-04

UBLAYER	1
SOIL MOISTURE (UG/ML)	6.264E-04
ADSORBED SOIL (UG/G)	3.522E-03
SOIL AIR (UG/ML)	3.764E-04

LOWER SOIL ZONE:

UBLAYER	1

SOIL MOISTURE (UG/ML) 6.288E-04
ADSORBED SOIL (UG/G) 1.071E-03
SOIL AIR (UG/ML) 3.779E-04

Mass loading to gw (kg) in year 35 is = .292E-05

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

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

UPPER SOIL ZONE:

UBLAYER 1

SOIL MOISTURE (UG/ML) 2.823E-04
ADSORBED SOIL (UG/G) 8.418E-03
SOIL AIR (UG/ML) 1.697E-04

SUBLAYER 1

SOIL MOISTURE (UG/ML) 3.415E-04
ADSORBED SOIL (UG/G) 5.092E-03
SOIL AIR (UG/ML) 2.052E-04

UBLAYER 1

SOIL MOISTURE (UG/ML) 4.035E-04
ADSORBED SOIL (UG/G) 2.269E-03
SOIL AIR (UG/ML) 2.425E-04

LOWER SOIL ZONE:

UBLAYER 1

SOIL MOISTURE (UG/ML) 4.050E-04
ADSORBED SOIL (UG/G) 6.901E-04
SOIL AIR (UG/ML) 2.434E-04

Mass loading to gw (kg) in year 40 is = .188E-05

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

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

UPPER SOIL ZONE:

UBLAYER 1

SOIL MOISTURE (UG/ML) 1.821E-04
ADSORBED SOIL (UG/G) 5.429E-03
SOIL AIR (UG/ML) 1.094E-04

SUBLAYER 1

SOIL MOISTURE (UG/ML) 2.201E-04
ADSORBED SOIL (UG/G) 3.282E-03
SOIL AIR (UG/ML) 1.323E-04

UBLAYER 1

SOIL MOISTURE (UG/ML) 2.600E-04
ADSORBED SOIL (UG/G) 1.462E-03
SOIL AIR (UG/ML) 1.562E-04

LOWER SOIL ZONE:

UBLAYER 1

SOIL MOISTURE (UG/ML)	2.610E-04
ADSORBED SOIL (UG/G)	4.447E-04
SOIL AIR (UG/ML)	1.568E-04

Mass loading to gw (kg) in year 45 is = .121E-05

YEAR - 50 ANNUAL SUMMARY REPORT

Tetrachloroethylene

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

UPPER SOIL ZONE:

UBLAYER 1

SOIL MOISTURE (UG/ML)	1.174E-04
ADSORBED SOIL (UG/G)	3.500E-03
SOIL AIR (UG/ML)	7.055E-05

SUBLAYER 1

SOIL MOISTURE (UG/ML)	1.419E-04
ADSORBED SOIL (UG/G)	2.116E-03
SOIL AIR (UG/ML)	8.529E-05

UBLAYER 1

SOIL MOISTURE (UG/ML)	1.675E-04
ADSORBED SOIL (UG/G)	9.422E-04
SOIL AIR (UG/ML)	1.007E-04

LOWER SOIL ZONE:

UBLAYER 1

SOIL MOISTURE (UG/ML)	1.682E-04
ADSORBED SOIL (UG/G)	2.866E-04
SOIL AIR (UG/ML)	1.011E-04

Mass loading to gw (kg) in year 50 is = .782E-06

EXECUTION COMPLETED FOR RUN NO. 1 - Tetrachloroethylene *

AT123D MODEL RUN

Receptor Well At 5.6 Meters

AT123D Output File
alysis for ...

Chemicals in the analysis
Tetrachloroethylene

Number of years simulated: 50

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	50
NO. OF TIME INTERVALS FOR PRINTED OUT SOLUTION	1
INSTANTANEOUS SOURCE CONTROL = 0 FOR INSTANT SOURCE	1
SOURCE CONDITION CONTROL = 0 FOR STEADY SOURCE	50
INTERMITTENT OUTPUT CONTROL = 0 NO SUCH OUTPUT	1
CASE CONTROL =1 THERMAL, = 2 FOR CHEMICAL, = 3 RAD	2
X-COORDINATE OF RECEPTOR WELL (METERS)	.5600E+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)	.5490E+01
BEGIN POINT OF Y-SOURCE LOCATION (METERS)	.0000E+00
END POINT OF Y-SOURCE LOCATION (METERS)	.7620E+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)	.1010E+01
HYDRAULIC GRADIENT	.7500E-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)	.5000E+02

NPUT 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)	.7008E-01

LIST OF TRANSIENT SOURCE RELEASE RATE

.000E+00	.000E+00	.000E+00	.000E+00	.422E-04
.385E-04	.352E-04	.322E-04	.294E-04	.269E-04
.246E-04	.225E-04	.205E-04	.188E-04	.172E-04
.157E-04	.144E-04	.131E-04	.120E-04	.110E-04
.101E-04	.921E-05	.843E-05	.771E-05	.706E-05
.646E-05	.591E-05	.541E-05	.496E-05	.454E-05
.416E-05	.381E-05	.348E-05	.319E-05	.292E-05
.268E-05	.245E-05	.224E-05	.206E-05	.188E-05
.172E-05	.158E-05	.145E-05	.132E-05	.121E-05
.111E-05	.102E-05	.932E-06	.853E-06	

RETARDATION FACTOR	.5828E+01
RETARDED SEEPAGE VELOCITY (M/YR)	.8665E-01
RETARDED LONGITUDINAL DISPERSION COEF. (M**2/YR)	.2453E+00
RETARDED LATERAL DISPERSION COEFFICIENT (M**2/YR)	.2375E+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] =	.11E+00	conc [mg/l] =	.000E+00
z [m] =	.22E+00	conc [mg/l] =	.000E+00
z [m] =	.33E+00	conc [mg/l] =	.000E+00
z [m] =	.44E+00	conc [mg/l] =	.000E+00

```
z [m] =     .56E+00      conc [mg/l] =    .000E+00
z [m] =     .67E+00      conc [mg/l] =    .000E+00
z [m] =     .78E+00      conc [mg/l] =    .000E+00
z [m] =     .89E+00      conc [mg/l] =    .000E+00
z [m] =     .10E+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] =     .11E+00      conc [mg/l] =    .000E+00
z [m] =     .22E+00      conc [mg/l] =    .000E+00
z [m] =     .33E+00      conc [mg/l] =    .000E+00
z [m] =     .44E+00      conc [mg/l] =    .000E+00
z [m] =     .56E+00      conc [mg/l] =    .000E+00
z [m] =     .67E+00      conc [mg/l] =    .000E+00
z [m] =     .78E+00      conc [mg/l] =    .000E+00
z [m] =     .89E+00      conc [mg/l] =    .000E+00
z [m] =     .10E+01      conc [mg/l] =    .000E+00

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


  time [yr] =    10.0

z [m] =     .00E+00      conc [mg/l] =    .748E-03
z [m] =     .11E+00      conc [mg/l] =    .743E-03
z [m] =     .22E+00      conc [mg/l] =    .729E-03
z [m] =     .33E+00      conc [mg/l] =    .706E-03
z [m] =     .44E+00      conc [mg/l] =    .675E-03
z [m] =     .56E+00      conc [mg/l] =    .637E-03
z [m] =     .67E+00      conc [mg/l] =    .596E-03
z [m] =     .78E+00      conc [mg/l] =    .551E-03
z [m] =     .89E+00      conc [mg/l] =    .505E-03
z [m] =     .10E+01      conc [mg/l] =    .458E-03

avg. conc. [mg/l] =    .635E-03


  time [yr] =    15.0

z [m] =     .00E+00      conc [mg/l] =    .854E-03
z [m] =     .11E+00      conc [mg/l] =    .850E-03
z [m] =     .22E+00      conc [mg/l] =    .837E-03
z [m] =     .33E+00      conc [mg/l] =    .816E-03
z [m] =     .44E+00      conc [mg/l] =    .789E-03
z [m] =     .56E+00      conc [mg/l] =    .757E-03
z [m] =     .67E+00      conc [mg/l] =    .720E-03
z [m] =     .78E+00      conc [mg/l] =    .680E-03
z [m] =     .89E+00      conc [mg/l] =    .639E-03
z [m] =     .10E+01      conc [mg/l] =    .598E-03

avg. conc. [mg/l] =    .754E-03


  time [yr] =    20.0

z [m] =     .00E+00      conc [mg/l] =    .720E-03
z [m] =     .11E+00      conc [mg/l] =    .717E-03
z [m] =     .22E+00      conc [mg/l] =    .709E-03
z [m] =     .33E+00      conc [mg/l] =    .697E-03
z [m] =     .44E+00      conc [mg/l] =    .680E-03
z [m] =     .56E+00      conc [mg/l] =    .660E-03
z [m] =     .67E+00      conc [mg/l] =    .637E-03
z [m] =     .78E+00      conc [mg/l] =    .612E-03
z [m] =     .89E+00      conc [mg/l] =    .585E-03
z [m] =     .10E+01      conc [mg/l] =    .557E-03

avg. conc. [mg/l] =    .657E-03


  time [yr] =    25.0

z [m] =     .00E+00      conc [mg/l] =    .584E-03
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```
z [m] =     .11E+00      conc [mg/l] =    .582E-03
z [m] =     .22E+00      conc [mg/l] =    .576E-03
z [m] =     .33E+00      conc [mg/l] =    .567E-03
z [m] =     .44E+00      conc [mg/l] =    .554E-03
z [m] =     .56E+00      conc [mg/l] =    .539E-03
z [m] =     .67E+00      conc [mg/l] =    .521E-03
z [m] =     .78E+00      conc [mg/l] =    .503E-03
z [m] =     .89E+00      conc [mg/l] =    .483E-03
z [m] =     .10E+01      conc [mg/l] =    .462E-03

avg. conc. [mg/l] =    .537E-03


  time [yr] =   30.0

z [m] =     .00E+00      conc [mg/l] =    .431E-03
z [m] =     .11E+00      conc [mg/l] =    .430E-03
z [m] =     .22E+00      conc [mg/l] =    .427E-03
z [m] =     .33E+00      conc [mg/l] =    .421E-03
z [m] =     .44E+00      conc [mg/l] =    .414E-03
z [m] =     .56E+00      conc [mg/l] =    .405E-03
z [m] =     .67E+00      conc [mg/l] =    .394E-03
z [m] =     .78E+00      conc [mg/l] =    .383E-03
z [m] =     .89E+00      conc [mg/l] =    .370E-03
z [m] =     .10E+01      conc [mg/l] =    .357E-03

avg. conc. [mg/l] =    .403E-03


  time [yr] =   35.0

z [m] =     .00E+00      conc [mg/l] =    .320E-03
z [m] =     .11E+00      conc [mg/l] =    .319E-03
z [m] =     .22E+00      conc [mg/l] =    .317E-03
z [m] =     .33E+00      conc [mg/l] =    .313E-03
z [m] =     .44E+00      conc [mg/l] =    .307E-03
z [m] =     .56E+00      conc [mg/l] =    .301E-03
z [m] =     .67E+00      conc [mg/l] =    .293E-03
z [m] =     .78E+00      conc [mg/l] =    .285E-03
z [m] =     .89E+00      conc [mg/l] =    .276E-03
z [m] =     .10E+01      conc [mg/l] =    .267E-03

avg. conc. [mg/l] =    .300E-03


  time [yr] =   40.0

z [m] =     .00E+00      conc [mg/l] =    .225E-03
z [m] =     .11E+00      conc [mg/l] =    .225E-03
z [m] =     .22E+00      conc [mg/l] =    .223E-03
z [m] =     .33E+00      conc [mg/l] =    .221E-03
z [m] =     .44E+00      conc [mg/l] =    .218E-03
z [m] =     .56E+00      conc [mg/l] =    .214E-03
z [m] =     .67E+00      conc [mg/l] =    .209E-03
z [m] =     .78E+00      conc [mg/l] =    .204E-03
z [m] =     .89E+00      conc [mg/l] =    .199E-03
z [m] =     .10E+01      conc [mg/l] =    .193E-03

avg. conc. [mg/l] =    .213E-03


  time [yr] =   45.0

z [m] =     .00E+00      conc [mg/l] =    .161E-03
z [m] =     .11E+00      conc [mg/l] =    .160E-03
z [m] =     .22E+00      conc [mg/l] =    .159E-03
z [m] =     .33E+00      conc [mg/l] =    .157E-03
z [m] =     .44E+00      conc [mg/l] =    .155E-03
z [m] =     .56E+00      conc [mg/l] =    .152E-03
z [m] =     .67E+00      conc [mg/l] =    .149E-03
z [m] =     .78E+00      conc [mg/l] =    .145E-03
z [m] =     .89E+00      conc [mg/l] =    .142E-03
z [m] =     .10E+01      conc [mg/l] =    .138E-03

avg. conc. [mg/l] =    .152E-03
```

time [yr] = 50.0

z [m] =	.00E+00	conc [mg/l] =	.110E-03
z [m] =	.11E+00	conc [mg/l] =	.110E-03
z [m] =	.22E+00	conc [mg/l] =	.110E-03
z [m] =	.33E+00	conc [mg/l] =	.108E-03
z [m] =	.44E+00	conc [mg/l] =	.107E-03
z [m] =	.56E+00	conc [mg/l] =	.105E-03
z [m] =	.67E+00	conc [mg/l] =	.103E-03
z [m] =	.78E+00	conc [mg/l] =	.101E-03
z [m] =	.89E+00	conc [mg/l] =	.990E-04
z [m] =	.10E+01	conc [mg/l] =	.965E-04

avg. conc. [mg/l] = .105E-03

==Reading Input File
NUMBER OF YEARS SIMULATED: 50
==Initializing Data

Deterministic Run

SIMULATION FOR CHEMICAL Tetrachloroethylene
Run number 1

calling sesoil
HYDRO CYCLE MONTH- 1
HYDRO CYCLE MONTH- 2
HYDRO CYCLE MONTH- 3
HYDRO CYCLE MONTH- 4
HYDRO CYCLE MONTH- 5
HYDRO CYCLE MONTH- 6
HYDRO CYCLE MONTH- 7
HYDRO CYCLE MONTH- 8
HYDRO CYCLE MONTH- 9
HYDRO CYCLE MONTH- 10
HYDRO CYCLE MONTH- 11
HYDRO CYCLE MONTH- 12
Mass loading to gw (kg) in year 1 is = .000
Mass loading to gw (kg) in year 2 is = .000
Mass loading to gw (kg) in year 3 is = .000
Mass loading to gw (kg) in year 4 is = .000
Mass loading to gw (kg) in year 5 is = .422E-04
Mass loading to gw (kg) in year 6 is = .385E-04
Mass loading to gw (kg) in year 7 is = .352E-04
Mass loading to gw (kg) in year 8 is = .322E-04
Mass loading to gw (kg) in year 9 is = .294E-04
Mass loading to gw (kg) in year 10 is = .269E-04
Mass loading to gw (kg) in year 11 is = .246E-04
Mass loading to gw (kg) in year 12 is = .225E-04
Mass loading to gw (kg) in year 13 is = .205E-04
Mass loading to gw (kg) in year 14 is = .188E-04
Mass loading to gw (kg) in year 15 is = .172E-04
Mass loading to gw (kg) in year 16 is = .157E-04
Mass loading to gw (kg) in year 17 is = .144E-04
Mass loading to gw (kg) in year 18 is = .131E-04
Mass loading to gw (kg) in year 19 is = .120E-04
Mass loading to gw (kg) in year 20 is = .110E-04
Mass loading to gw (kg) in year 21 is = .101E-04
Mass loading to gw (kg) in year 22 is = .921E-05
Mass loading to gw (kg) in year 23 is = .843E-05
Mass loading to gw (kg) in year 24 is = .771E-05

Mass loading to gw (kg) in year 25 is = .706E-05
Mass loading to gw (kg) in year 26 is = .646E-05
Mass loading to gw (kg) in year 27 is = .591E-05
Mass loading to gw (kg) in year 28 is = .541E-05
Mass loading to gw (kg) in year 29 is = .496E-05
Mass loading to gw (kg) in year 30 is = .454E-05
Mass loading to gw (kg) in year 31 is = .416E-05
Mass loading to gw (kg) in year 32 is = .381E-05
Mass loading to gw (kg) in year 33 is = .348E-05
Mass loading to gw (kg) in year 34 is = .319E-05
Mass loading to gw (kg) in year 35 is = .292E-05
Mass loading to gw (kg) in year 36 is = .268E-05
Mass loading to gw (kg) in year 37 is = .245E-05
Mass loading to gw (kg) in year 38 is = .224E-05
Mass loading to gw (kg) in year 39 is = .206E-05
Mass loading to gw (kg) in year 40 is = .188E-05
Mass loading to gw (kg) in year 41 is = .172E-05
Mass loading to gw (kg) in year 42 is = .158E-05
Mass loading to gw (kg) in year 43 is = .145E-05
Mass loading to gw (kg) in year 44 is = .132E-05
Mass loading to gw (kg) in year 45 is = .121E-05
Mass loading to gw (kg) in year 46 is = .111E-05
Mass loading to gw (kg) in year 47 is = .102E-05
Mass loading to gw (kg) in year 48 is = .932E-06
Mass loading to gw (kg) in year 49 is = .853E-06
Mass loading to gw (kg) in year 50 is = .782E-06
Sesoil Completed

Running AT123D
Year 1.0 avg. conc. [mg/l] = .000
Year 2.0 avg. conc. [mg/l] = .000
Year 3.0 avg. conc. [mg/l] = .000
Year 4.0 avg. conc. [mg/l] = .000
Year 5.0 avg. conc. [mg/l] = .000
Year 6.0 avg. conc. [mg/l] = .185E-03
Year 7.0 avg. conc. [mg/l] = .391E-03
Year 8.0 avg. conc. [mg/l] = .478E-03
Year 9.0 avg. conc. [mg/l] = .600E-03
Year 10.0 avg. conc. [mg/l] = .635E-03
Year 11.0 avg. conc. [mg/l] = .707E-03
Year 12.0 avg. conc. [mg/l] = .711E-03
Year 13.0 avg. conc. [mg/l] = .751E-03
Year 14.0 avg. conc. [mg/l] = .736E-03
Year 15.0 avg. conc. [mg/l] = .754E-03
Year 16.0 avg. conc. [mg/l] = .728E-03
Year 17.0 avg. conc. [mg/l] = .731E-03

Year 18.0 avg. conc. [mg/l] = .699E-03
Year 19.0 avg. conc. [mg/l] = .692E-03
Year 20.0 avg. conc. [mg/l] = .657E-03
Year 21.0 avg. conc. [mg/l] = .644E-03
Year 22.0 avg. conc. [mg/l] = .608E-03
Year 23.0 avg. conc. [mg/l] = .591E-03
Year 24.0 avg. conc. [mg/l] = .556E-03
Year 25.0 avg. conc. [mg/l] = .537E-03
Year 26.0 avg. conc. [mg/l] = .503E-03
Year 27.0 avg. conc. [mg/l] = .484E-03
Year 28.0 avg. conc. [mg/l] = .452E-03
Year 29.0 avg. conc. [mg/l] = .432E-03
Year 30.0 avg. conc. [mg/l] = .403E-03
Year 31.0 avg. conc. [mg/l] = .384E-03
Year 32.0 avg. conc. [mg/l] = .358E-03
Year 33.0 avg. conc. [mg/l] = .340E-03
Year 34.0 avg. conc. [mg/l] = .316E-03
Year 35.0 avg. conc. [mg/l] = .300E-03
Year 36.0 avg. conc. [mg/l] = .278E-03
Year 37.0 avg. conc. [mg/l] = .263E-03
Year 38.0 avg. conc. [mg/l] = .244E-03
Year 39.0 avg. conc. [mg/l] = .230E-03
Year 40.0 avg. conc. [mg/l] = .213E-03
Year 41.0 avg. conc. [mg/l] = .201E-03
Year 42.0 avg. conc. [mg/l] = .186E-03
Year 43.0 avg. conc. [mg/l] = .175E-03
Year 44.0 avg. conc. [mg/l] = .162E-03
Year 45.0 avg. conc. [mg/l] = .152E-03
Year 46.0 avg. conc. [mg/l] = .140E-03
Year 47.0 avg. conc. [mg/l] = .132E-03
Year 48.0 avg. conc. [mg/l] = .122E-03
Year 49.0 avg. conc. [mg/l] = .114E-03
Year 50.0 avg. conc. [mg/l] = .105E-03
AT123D RUN COMPLETED
Simulation Finished

AT123D MODEL RUN

Receptor Well At 10 Meters

AT123D Output File
Analysis for ...

Chemicals in the analysis
Tetrachloroethylene

Number of years simulated: 50

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	50
NO. OF TIME INTERVALS FOR PRINTED OUT SOLUTION	1
INSTANTANEOUS SOURCE CONTROL = 0 FOR INSTANT SOURCE	1
SOURCE CONDITION CONTROL = 0 FOR STEADY SOURCE	50
INTERMITTENT OUTPUT CONTROL = 0 NO SUCH OUTPUT	1
CASE CONTROL =1 THERMAL, = 2 FOR CHEMICAL, = 3 RAD	2
X-COORDINATE OF RECEPTOR WELL (METERS)	.1000E+02
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)	.5490E+01
BEGIN POINT OF Y-SOURCE LOCATION (METERS)	.0000E+00
END POINT OF Y-SOURCE LOCATION (METERS)	.7620E+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)	.1010E+01
HYDRAULIC GRADIENT	.7500E-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)	.5000E+02

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)	.7008E-01

LIST OF TRANSIENT SOURCE RELEASE RATE

.000E+00	.000E+00	.000E+00	.000E+00	.422E-04
.385E-04	.352E-04	.322E-04	.294E-04	.269E-04
.246E-04	.225E-04	.205E-04	.188E-04	.172E-04
.157E-04	.144E-04	.131E-04	.120E-04	.110E-04
.101E-04	.921E-05	.843E-05	.771E-05	.706E-05
.646E-05	.591E-05	.541E-05	.496E-05	.454E-05
.416E-05	.381E-05	.348E-05	.319E-05	.292E-05
.268E-05	.245E-05	.224E-05	.206E-05	.188E-05
.172E-05	.158E-05	.145E-05	.132E-05	.121E-05
.111E-05	.102E-05	.932E-06	.853E-06	

RETARDATION FACTOR	.5828E+01
RETARDED SEEPAGE VELOCITY (M/YR)	.8665E-01
RETARDED LONGITUDINAL DISPERSION COEF. (M**2/YR)	.2453E+00
RETARDED LATERAL DISPERSION COEFFICIENT (M**2/YR)	.2375E+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] =	.11E+00	conc [mg/l] =	.000E+00
z [m] =	.22E+00	conc [mg/l] =	.000E+00
z [m] =	.33E+00	conc [mg/l] =	.000E+00
z [m] =	.44E+00	conc [mg/l] =	.000E+00

```
z [m] =     .56E+00      conc [mg/l] =    .000E+00
z [m] =     .67E+00      conc [mg/l] =    .000E+00
z [m] =     .78E+00      conc [mg/l] =    .000E+00
z [m] =     .89E+00      conc [mg/l] =    .000E+00
z [m] =     .10E+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] =     .11E+00      conc [mg/l] =    .000E+00
z [m] =     .22E+00      conc [mg/l] =    .000E+00
z [m] =     .33E+00      conc [mg/l] =    .000E+00
z [m] =     .44E+00      conc [mg/l] =    .000E+00
z [m] =     .56E+00      conc [mg/l] =    .000E+00
z [m] =     .67E+00      conc [mg/l] =    .000E+00
z [m] =     .78E+00      conc [mg/l] =    .000E+00
z [m] =     .89E+00      conc [mg/l] =    .000E+00
z [m] =     .10E+01      conc [mg/l] =    .000E+00

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


  time [yr] =   10.0

z [m] =     .00E+00      conc [mg/l] =    .115E-05
z [m] =     .11E+00      conc [mg/l] =    .114E-05
z [m] =     .22E+00      conc [mg/l] =    .113E-05
z [m] =     .33E+00      conc [mg/l] =    .112E-05
z [m] =     .44E+00      conc [mg/l] =    .109E-05
z [m] =     .56E+00      conc [mg/l] =    .107E-05
z [m] =     .67E+00      conc [mg/l] =    .103E-05
z [m] =     .78E+00      conc [mg/l] =    .994E-06
z [m] =     .89E+00      conc [mg/l] =    .951E-06
z [m] =     .10E+01      conc [mg/l] =    .905E-06

avg. conc. [mg/l] =    .106E-05


  time [yr] =   15.0

z [m] =     .00E+00      conc [mg/l] =    .156E-04
z [m] =     .11E+00      conc [mg/l] =    .156E-04
z [m] =     .22E+00      conc [mg/l] =    .155E-04
z [m] =     .33E+00      conc [mg/l] =    .154E-04
z [m] =     .44E+00      conc [mg/l] =    .152E-04
z [m] =     .56E+00      conc [mg/l] =    .150E-04
z [m] =     .67E+00      conc [mg/l] =    .147E-04
z [m] =     .78E+00      conc [mg/l] =    .144E-04
z [m] =     .89E+00      conc [mg/l] =    .141E-04
z [m] =     .10E+01      conc [mg/l] =    .137E-04

avg. conc. [mg/l] =    .149E-04


  time [yr] =   20.0

z [m] =     .00E+00      conc [mg/l] =    .373E-04
z [m] =     .11E+00      conc [mg/l] =    .372E-04
z [m] =     .22E+00      conc [mg/l] =    .371E-04
z [m] =     .33E+00      conc [mg/l] =    .369E-04
z [m] =     .44E+00      conc [mg/l] =    .366E-04
z [m] =     .56E+00      conc [mg/l] =    .362E-04
z [m] =     .67E+00      conc [mg/l] =    .357E-04
z [m] =     .78E+00      conc [mg/l] =    .352E-04
z [m] =     .89E+00      conc [mg/l] =    .346E-04
z [m] =     .10E+01      conc [mg/l] =    .339E-04

avg. conc. [mg/l] =    .361E-04


  time [yr] =   25.0

z [m] =     .00E+00      conc [mg/l] =    .526E-04
```

```
z [m] =     .11E+00      conc [mg/l] =    .525E-04
z [m] =     .22E+00      conc [mg/l] =    .524E-04
z [m] =     .33E+00      conc [mg/l] =    .521E-04
z [m] =     .44E+00      conc [mg/l] =    .518E-04
z [m] =     .56E+00      conc [mg/l] =    .514E-04
z [m] =     .67E+00      conc [mg/l] =    .508E-04
z [m] =     .78E+00      conc [mg/l] =    .502E-04
z [m] =     .89E+00      conc [mg/l] =    .495E-04
z [m] =     .10E+01      conc [mg/l] =    .488E-04

avg. conc. [mg/l] =    .512E-04


  time [yr] =   30.0

z [m] =     .00E+00      conc [mg/l] =    .582E-04
z [m] =     .11E+00      conc [mg/l] =    .581E-04
z [m] =     .22E+00      conc [mg/l] =    .580E-04
z [m] =     .33E+00      conc [mg/l] =    .578E-04
z [m] =     .44E+00      conc [mg/l] =    .574E-04
z [m] =     .56E+00      conc [mg/l] =    .570E-04
z [m] =     .67E+00      conc [mg/l] =    .566E-04
z [m] =     .78E+00      conc [mg/l] =    .560E-04
z [m] =     .89E+00      conc [mg/l] =    .553E-04
z [m] =     .10E+01      conc [mg/l] =    .546E-04

avg. conc. [mg/l] =    .569E-04


  time [yr] =   35.0

z [m] =     .00E+00      conc [mg/l] =    .561E-04
z [m] =     .11E+00      conc [mg/l] =    .561E-04
z [m] =     .22E+00      conc [mg/l] =    .559E-04
z [m] =     .33E+00      conc [mg/l] =    .558E-04
z [m] =     .44E+00      conc [mg/l] =    .555E-04
z [m] =     .56E+00      conc [mg/l] =    .552E-04
z [m] =     .67E+00      conc [mg/l] =    .548E-04
z [m] =     .78E+00      conc [mg/l] =    .543E-04
z [m] =     .89E+00      conc [mg/l] =    .537E-04
z [m] =     .10E+01      conc [mg/l] =    .531E-04

avg. conc. [mg/l] =    .550E-04


  time [yr] =   40.0

z [m] =     .00E+00      conc [mg/l] =    .496E-04
z [m] =     .11E+00      conc [mg/l] =    .496E-04
z [m] =     .22E+00      conc [mg/l] =    .495E-04
z [m] =     .33E+00      conc [mg/l] =    .493E-04
z [m] =     .44E+00      conc [mg/l] =    .491E-04
z [m] =     .56E+00      conc [mg/l] =    .489E-04
z [m] =     .67E+00      conc [mg/l] =    .486E-04
z [m] =     .78E+00      conc [mg/l] =    .482E-04
z [m] =     .89E+00      conc [mg/l] =    .478E-04
z [m] =     .10E+01      conc [mg/l] =    .473E-04

avg. conc. [mg/l] =    .488E-04


  time [yr] =   45.0

z [m] =     .00E+00      conc [mg/l] =    .414E-04
z [m] =     .11E+00      conc [mg/l] =    .413E-04
z [m] =     .22E+00      conc [mg/l] =    .413E-04
z [m] =     .33E+00      conc [mg/l] =    .412E-04
z [m] =     .44E+00      conc [mg/l] =    .410E-04
z [m] =     .56E+00      conc [mg/l] =    .408E-04
z [m] =     .67E+00      conc [mg/l] =    .406E-04
z [m] =     .78E+00      conc [mg/l] =    .403E-04
z [m] =     .89E+00      conc [mg/l] =    .400E-04
z [m] =     .10E+01      conc [mg/l] =    .396E-04

avg. conc. [mg/l] =    .407E-04
```

time [yr] = 50.0

z [m] =	.00E+00	conc [mg/l] =	.331E-04
z [m] =	.11E+00	conc [mg/l] =	.330E-04
z [m] =	.22E+00	conc [mg/l] =	.330E-04
z [m] =	.33E+00	conc [mg/l] =	.329E-04
z [m] =	.44E+00	conc [mg/l] =	.328E-04
z [m] =	.56E+00	conc [mg/l] =	.327E-04
z [m] =	.67E+00	conc [mg/l] =	.325E-04
z [m] =	.78E+00	conc [mg/l] =	.323E-04
z [m] =	.89E+00	conc [mg/l] =	.320E-04
z [m] =	.10E+01	conc [mg/l] =	.318E-04

avg. conc. [mg/l] = .326E-04

==Reading Input File
NUMBER OF YEARS SIMULATED: 50
==Initializing Data

Deterministic Run

SIMULATION FOR CHEMICAL Tetrachloroethylene
Run number 1

calling sesoil
HYDRO CYCLE MONTH- 1
HYDRO CYCLE MONTH- 2
HYDRO CYCLE MONTH- 3
HYDRO CYCLE MONTH- 4
HYDRO CYCLE MONTH- 5
HYDRO CYCLE MONTH- 6
HYDRO CYCLE MONTH- 7
HYDRO CYCLE MONTH- 8
HYDRO CYCLE MONTH- 9
HYDRO CYCLE MONTH- 10
HYDRO CYCLE MONTH- 11
HYDRO CYCLE MONTH- 12
Mass loading to gw (kg) in year 1 is = .000
Mass loading to gw (kg) in year 2 is = .000
Mass loading to gw (kg) in year 3 is = .000
Mass loading to gw (kg) in year 4 is = .000
Mass loading to gw (kg) in year 5 is = .422E-04
Mass loading to gw (kg) in year 6 is = .385E-04
Mass loading to gw (kg) in year 7 is = .352E-04
Mass loading to gw (kg) in year 8 is = .322E-04
Mass loading to gw (kg) in year 9 is = .294E-04
Mass loading to gw (kg) in year 10 is = .269E-04
Mass loading to gw (kg) in year 11 is = .246E-04
Mass loading to gw (kg) in year 12 is = .225E-04
Mass loading to gw (kg) in year 13 is = .205E-04
Mass loading to gw (kg) in year 14 is = .188E-04
Mass loading to gw (kg) in year 15 is = .172E-04
Mass loading to gw (kg) in year 16 is = .157E-04
Mass loading to gw (kg) in year 17 is = .144E-04
Mass loading to gw (kg) in year 18 is = .131E-04
Mass loading to gw (kg) in year 19 is = .120E-04
Mass loading to gw (kg) in year 20 is = .110E-04
Mass loading to gw (kg) in year 21 is = .101E-04
Mass loading to gw (kg) in year 22 is = .921E-05
Mass loading to gw (kg) in year 23 is = .843E-05
Mass loading to gw (kg) in year 24 is = .771E-05

Mass loading to gw (kg) in year 25 is = .706E-05
Mass loading to gw (kg) in year 26 is = .646E-05
Mass loading to gw (kg) in year 27 is = .591E-05
Mass loading to gw (kg) in year 28 is = .541E-05
Mass loading to gw (kg) in year 29 is = .496E-05
Mass loading to gw (kg) in year 30 is = .454E-05
Mass loading to gw (kg) in year 31 is = .416E-05
Mass loading to gw (kg) in year 32 is = .381E-05
Mass loading to gw (kg) in year 33 is = .348E-05
Mass loading to gw (kg) in year 34 is = .319E-05
Mass loading to gw (kg) in year 35 is = .292E-05
Mass loading to gw (kg) in year 36 is = .268E-05
Mass loading to gw (kg) in year 37 is = .245E-05
Mass loading to gw (kg) in year 38 is = .224E-05
Mass loading to gw (kg) in year 39 is = .206E-05
Mass loading to gw (kg) in year 40 is = .188E-05
Mass loading to gw (kg) in year 41 is = .172E-05
Mass loading to gw (kg) in year 42 is = .158E-05
Mass loading to gw (kg) in year 43 is = .145E-05
Mass loading to gw (kg) in year 44 is = .132E-05
Mass loading to gw (kg) in year 45 is = .121E-05
Mass loading to gw (kg) in year 46 is = .111E-05
Mass loading to gw (kg) in year 47 is = .102E-05
Mass loading to gw (kg) in year 48 is = .932E-06
Mass loading to gw (kg) in year 49 is = .853E-06
Mass loading to gw (kg) in year 50 is = .782E-06
Sesoil Completed

Running AT123D
Year 1.0 avg. conc. [mg/l] = .000
Year 2.0 avg. conc. [mg/l] = .000
Year 3.0 avg. conc. [mg/l] = .000
Year 4.0 avg. conc. [mg/l] = .000
Year 5.0 avg. conc. [mg/l] = .000
Year 6.0 avg. conc. [mg/l] = .000
Year 7.0 avg. conc. [mg/l] = .000
Year 8.0 avg. conc. [mg/l] = .452E-07
Year 9.0 avg. conc. [mg/l] = .307E-06
Year 10.0 avg. conc. [mg/l] = .106E-05
Year 11.0 avg. conc. [mg/l] = .249E-05
Year 12.0 avg. conc. [mg/l] = .467E-05
Year 13.0 avg. conc. [mg/l] = .755E-05
Year 14.0 avg. conc. [mg/l] = .110E-04
Year 15.0 avg. conc. [mg/l] = .149E-04
Year 16.0 avg. conc. [mg/l] = .191E-04
Year 17.0 avg. conc. [mg/l] = .235E-04

Year 18.0 avg. conc. [mg/l] = .278E-04
Year 19.0 avg. conc. [mg/l] = .320E-04
Year 20.0 avg. conc. [mg/l] = .361E-04
Year 21.0 avg. conc. [mg/l] = .398E-04
Year 22.0 avg. conc. [mg/l] = .432E-04
Year 23.0 avg. conc. [mg/l] = .463E-04
Year 24.0 avg. conc. [mg/l] = .490E-04
Year 25.0 avg. conc. [mg/l] = .512E-04
Year 26.0 avg. conc. [mg/l] = .531E-04
Year 27.0 avg. conc. [mg/l] = .546E-04
Year 28.0 avg. conc. [mg/l] = .557E-04
Year 29.0 avg. conc. [mg/l] = .565E-04
Year 30.0 avg. conc. [mg/l] = .569E-04
Year 31.0 avg. conc. [mg/l] = .570E-04
Year 32.0 avg. conc. [mg/l] = .569E-04
Year 33.0 avg. conc. [mg/l] = .565E-04
Year 34.0 avg. conc. [mg/l] = .559E-04
Year 35.0 avg. conc. [mg/l] = .550E-04
Year 36.0 avg. conc. [mg/l] = .540E-04
Year 37.0 avg. conc. [mg/l] = .529E-04
Year 38.0 avg. conc. [mg/l] = .516E-04
Year 39.0 avg. conc. [mg/l] = .502E-04
Year 40.0 avg. conc. [mg/l] = .488E-04
Year 41.0 avg. conc. [mg/l] = .472E-04
Year 42.0 avg. conc. [mg/l] = .457E-04
Year 43.0 avg. conc. [mg/l] = .440E-04
Year 44.0 avg. conc. [mg/l] = .424E-04
Year 45.0 avg. conc. [mg/l] = .407E-04
Year 46.0 avg. conc. [mg/l] = .391E-04
Year 47.0 avg. conc. [mg/l] = .374E-04
Year 48.0 avg. conc. [mg/l] = .358E-04
Year 49.0 avg. conc. [mg/l] = .342E-04
Year 50.0 avg. conc. [mg/l] = .326E-04
AT123D RUN COMPLETED
Simulation Finished

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

October 11, 2000

Robert Miller
Spic & Span, Inc.
4301 North Richard Street
Milwaukee, WI 53212

Subject: Deed restriction at Dry Clean USA, 17680 West Bluemound Road, file reference FID #268252050 ERR-ERP, BRRTS #0268120075

Dear Mr. Miller:

I have reviewed your consultant's request for the department to drop its deed restriction requirement for closure of this site. I am not able to drop the requirement due to problems with your consultant's site-specific residual contaminant level (RCL) calculations:

1. The ES is not a valid endpoint value for calculating a site-specific RCL. Ch. NR720 Wis. Adm. Code specifies that the PAL should be used. It would only be OK to use the ES in the equation if the dilution attenuation factor is 10 or greater.

2. Using a weighted average for present soil contamination is OK only if the soil is homogeneous. In this case, the soil varies from fill to silt to clay.

If you have any questions about this letter call me at 414-229-0850.

Sincerely,

John Feeney
Wisconsin Department of Natural Resources

Cc: SER File

McLaren Hart, Inc.

July 18, 2000

Mr. John Feeney
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 at 17680 W. Bluemound Road, Brookfield, WI
WDNR FID #268252050 ERR-ERP, WDNR BRRTS #0268120075

Dear John:

In response to your letter dated July 13, 2000, McLaren/Hart has developed site specific residual contaminant levels (RCLs) for PCE contaminated soil based on the protection of groundwater and human health in the event that the soil is not capped in the future.

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. WDNR default values and chemical specific data were used for the input parameters, with the exception of the Enforcement Standard (ES) used in place of the Preventive Action Limit (PAL). The ES is based on the Federal Maximum Contaminant Level for drinking water. Given that the water at 14 feet below land surface (bls) is contained in clay soils that could not realistically serve as a drinking water aquifer and that there is no record of wells in the vicinity of the site, the ES provides a sufficient factor of safety for the RCL model. The site specific RCL for PCE was calculated at 126 µg/kg. The RCL calculations are attached.

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 average concentration of PCE was calculated over the area of contaminated soils (4,600 square feet) to the average depth at which groundwater was observed (14 feet bls). Based on this, the average uniform concentration of PCE in the soil for comparison to the site specific RCL is 121 µg/kg. The site plan showing the area of contamination and the calculations are attached.

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

- Based on the soil borings performed on site, clay soils extend to a depth of at least 20 feet bls. This would limit migration of the PCE.

- 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 over two years 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,

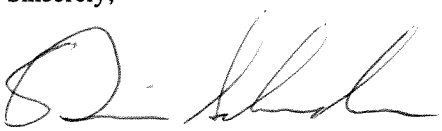
W239 N2890 Pewaukee Road, Unit D, Pewaukee, WI 53072 (414) 523-2040 FAX (414) 523-2059

M. Brady, and D. Borns, *Natural Attenuation: CERCLA, RBCA's, and the Future of Environmental Remediation,* (CRC Press LLC, Florida, 1998), pp. 65-77.)

Conclusion

Based on the site specific RCL for PCE of 126 µg/kg and the average uniform PCE concentration on site of 121 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 without the deed restriction.

Sincerely,



Brian Schneider, P.E.

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

Attachments

O:\STAFF\BSCHNEID\spic and span\brownstones\ WDNR July 17.wpd

Dryclean USA Facility at 17680 West Bluemound Road
Generic RCLs for Migration to Groundwater Pathway

Chemical	K_{oc}	DAF[1]	ES	**RCL[1]**
PCE	537.0	37.7	5.0	**126.2**

Parameter	Value	Units		Notes
ES	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=	25.4	cm	WDNR default value	1
Q=	0.2	cm^3/cm^3	WDNR default value	1

most Koc ~~values~~ from values use from 300-400

- Can use es in equation?

Average Concentration of PCE in the Soil
Average Depth to Groundwater is 14 Feet and the Total Source Area is 4,600 Square Feet.

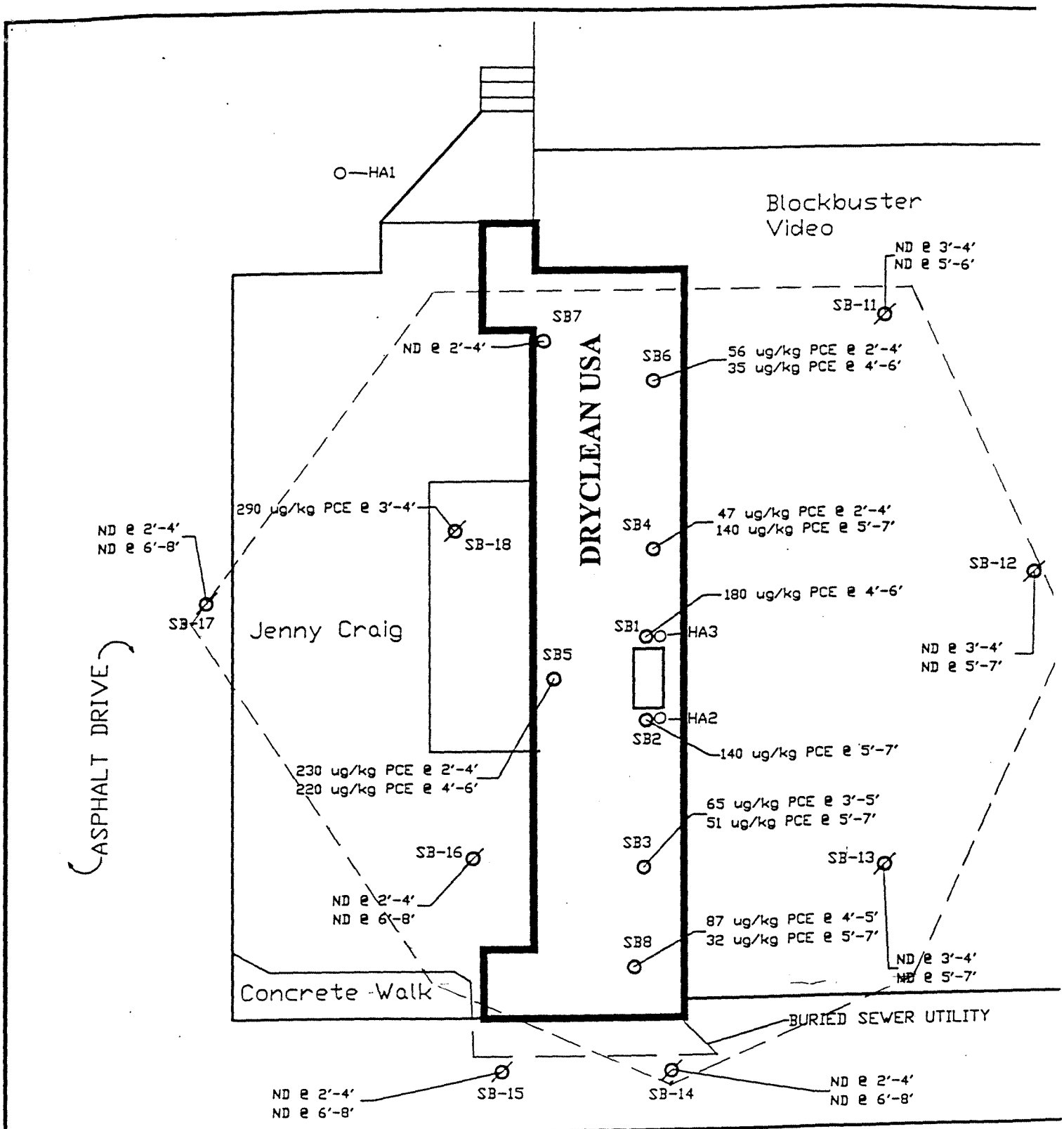
	Interval	
Soil Boring	0' to 4'	4' to 14' See note 5
HA-3/SB-1 See note 4	1200	180
HA-2/SB-2 See note 4	2100	140
SB-3	65	51
SB-4	47	140
SB-5	230	220
SB-6	56	35
SB-7	0	NS[6]
SB-8	87	32
SB-11	0	0
SB-12	0	0
SB-13	0	0
SB-14	0	0
SB-16	0	0
SB-17	0	0
SB-18	290	NS[6]
Average	**272**	**61**
Number of Samples	15	13

- can use weighted average?
- direct contact

direct contact calculated 8.5 ppm

Weighted Ave. Concentration of PCE in the Soil from 0' to 14' = (272 x 4/14)+(61 x 10/14)=121 ug/kg

Notes:
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. HA-2 and HA-3 are located in the same area as SB-2 and SB-1, respectively.
5. Soil samples were collected to a depth of eight feet below surface and it was conservatively assumed that the concentrations remained constant to a depth of fourteen feet below surface, although the site data indicated that PCE concentrations decreased with depth.
6. A soil sample was not collected from this interval.



LEGEND

- ⌀ SOIL BORING LOCATIONS (INSTALLED JANUARY, 1998)
- O PRIOR SOIL BORING
- ND = NOT DETECTED AT OR BELOW THE REPORTING LIMIT
- ug/kg = MICROGRAMS PER KILOGRAM
- 3'-4' = 3 TO 4 FEET BELOW GROUND SURFACE

N
W E
S

APPROXIMATE SCALE

0 10 20

McLaren Hart® ENVIRONMENTAL ENGINEERING CORPORATION

DRWN: JAD	CHK'D: BWS
JOB#: 10080-5104-001	DATE: 02/11/98

FIGURE 3

SOIL ANALYTICAL RESULTS

DRYCLEAN USA FACILITY
THE BROWNSTONES SHOPPING CENTER
17680 W. BLUEMOUND RD. BROOKFIELD, WI 53045

WISCONSIN
DEPT. OF NATURAL RESOURCES

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

July 13, 2000

Robert Miller
Spic & Span, Inc.
4301 North Richard Street
Milwaukee, WI 53212

Subject: Case closure, Dry Clean USA, 17680 West Bluemound Road, file reference FID #268252050 ERR-ERP, BRRTS #0268120075

Dear Mr. Miller:

Based on the investigative documentation provided to the department, it appears that the above-named site is in compliance with the requirements of chs. NR 700 to 724, Wis. Adm. Code. Therefore, the department considers the case closed, having determined that no further action is necessary at the site at this time. However, 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 site poses a threat to public health, safety, or welfare, or the environment.

This closure is contingent on your placing a restriction on the property deed that states that the soil contamination at the site must remain capped. Please send me a copy of the deed, and a draft deed restriction I will forward it to our attorney for approval. Once it is approved and has been filed, please provide a notarized copy to me, and I will have the case listed as closed on our computer database.

Please have the monitoring wells at the site properly abandoned in accordance with ch. NR141. Have your consultant send the completed well abandonment forms to me.

Sincerely,

John Feeney
Wisconsin Department of Natural Resources

Cc: McLaren/Hart
SER File

McLaren Hart, Inc.

July 3, 2000

Mr. John Feeney
Wisconsin Department of Natural Resources
P.O. Box 12436
Milwaukee, WI 53212

Re: FID #268252050 ERR/ERP
Dryclean USA
1760 West Bluemound Road, Milwaukee
Site Closure Request

Dear Mr. Feeney:

We have preformed the additional work you had requested in the May 1, 2000 letter regarding the case closure request of the former Dryclean USA facility referenced above.

1. Monitoring well MW-1 was sampled on May 9, 2000 in accordance with NR141 sampling protocol. A duplicate sample, field blank and trip blank were also submitted for analysis of the following volatile organic compounds (VOCs - Method 8260): 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. Groundwater elevations were also measured from all wells on site in order to confirm groundwater flow direction.

No VOCs were detected above the laboratory detection limits in any of the groundwater samples or blanks analyzed. Laboratory reports and chain of custody documents are attached for your review.

As previously determined, groundwater flow direction is to the southeast. Groundwater elevations and flow direction are presented on the attached figure.

2. Top and bottom depths of the roof drains adjacent to MHW-1 could not be determined because the drainage ways were sealed (inaccessable). The drain enters the ground in the vicinity of SB-14 and continues past SB-15. Based on previous experience, the drain is estimated to run four to five feet below ground surface and at this depth it would not be a conduit for groundwater flow. VOCs were not detected in soil borings SB-14 and SB-15.

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

Based on the findings of this additional investigation and the Site Investigation Report dated March 2, 2000, 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 INC.

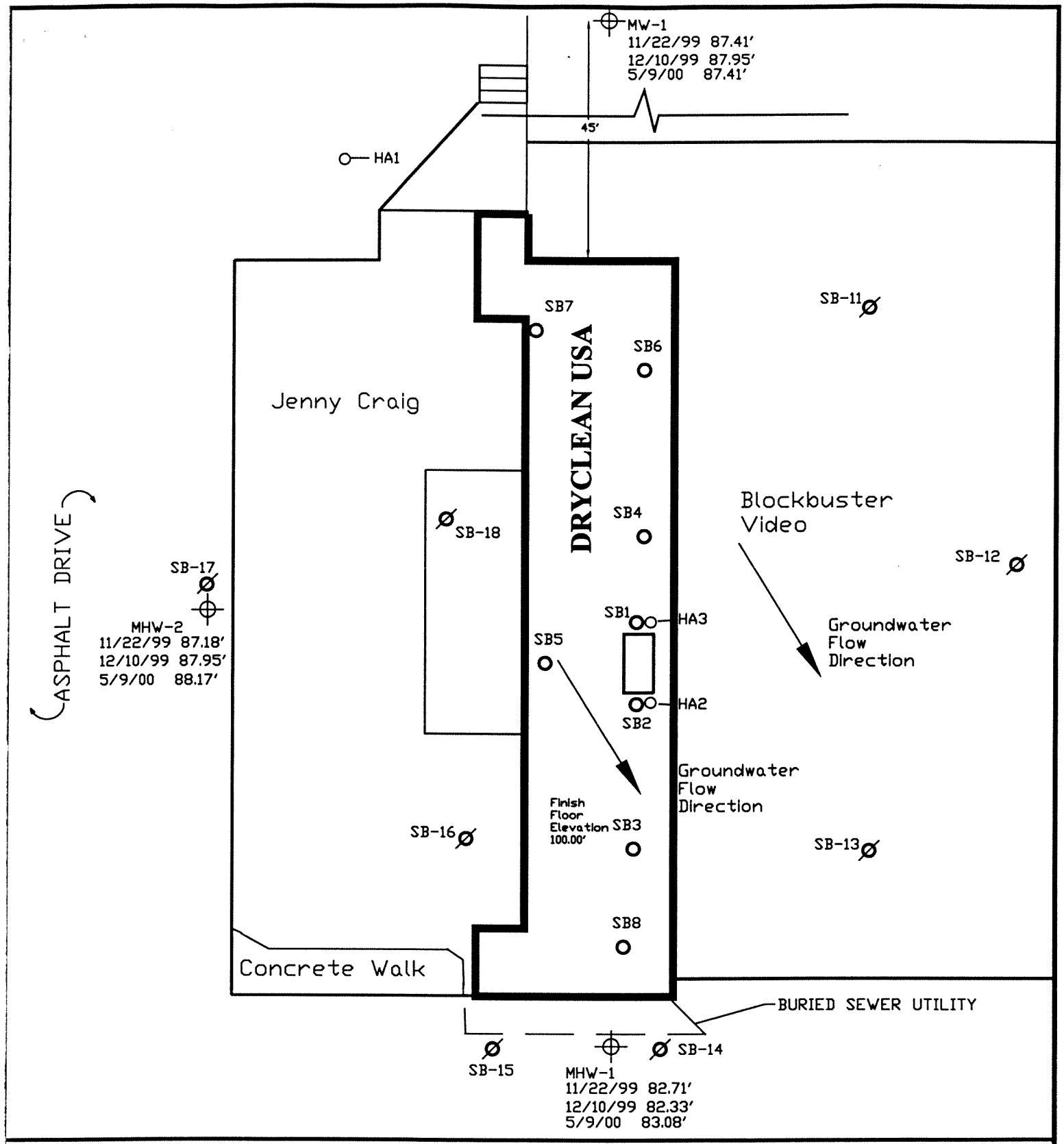
Brian Schneider, P.E.
Supervising Engineer

George J. Bayer
Associate Geoscientist

O:\COMMON\Spic&Span\BrownstonesDNRclsletter.wpd

cc: Mark Thimke, Esq. - Foley & Lardner
Mr. Robert Miller - Spic and Span, Inc.
Mr. Dan Prezembel - The RREEF Funds
Mr. Tom Kroeger - STS Consultants

Enclosures



LEGEND

- MONITORING WELL LOCATIONS (82.71') Indicates groundwater elevation on date indicated.
- SOIL BORING LOCATIONS (INSTALLED JANUARY, 1998)
- PRIOR SOIL BORING

N
W E
S

APPROXIMATE SCALE

0 10 20

McLaren Hart ENVIRONMENTAL ENGINEERING CORPORATION

DRWN: JAD	CHK'D: BWS
JOB#: 10080-5104-001	DATE: 01/27/00

FIGURE 4

GROUNDWATER FLOW DIRECTION

DRYCLEAN USA FACILITY
THE BROWNSTONES SHOPPING CENTER
17680 W. BLUEMOUND RD. BROOKFIELD, WI 53045

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

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

May 24, 2000

Brian Schneider
McLaren/Hart
W239 N2890 Pewaukee Rd.
Pewauakee, WI 53072

RE: Spic & Span

Dear Brian Schneider

Enclosed are the results of analyses for sample(s) received by the laboratory on May 10, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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:	Spic & Span	Sampled: 5/9/00
W239 N2890 Pewaukee Rd.	Project Number:	100805104001001	Received: 5/10/00
Pewauakee, WI 53072	Project Manager:	Brian Schneider	Reported: 5/24/00 11:03

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1	B005159-01	Water	5/9/00
MW-1d	B005159-02	Water	5/9/00
FB-1	B005159-03	Water	5/9/00
Trip Blank	B005159-04	Water	5/9/00

Great Lakes Analytical

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.

Andy Johnson, Project Manager

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

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

McLaren/Hart	Project:	Spic & Span	Sampled: 5/9/00
W239 N2890 Pewaukee Rd.	Project Number:	100805104001001	Received: 5/10/00
Pewauakee, WI 53072	Project Manager:	Brian Schneider	Reported: 5/24/00 11:03

WDNR Volatile Organic Compounds by Method 8260
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-1			**B005159-01**				**Water**	
1,1-Dichloroethane	0050499	5/19/00	5/20/00		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	"	"	"	*80.0-120*		*95.2*	*%*	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	*80.0-120*		*59.6*	"	*O4*
Surrogate: Toluene-d8	"	"	"	*80.0-120*		*100*	"	
Surrogate: 4-Bromofluorobenzene	"	"	"	*80.0-120*		*67.8*	"	*O4*

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

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

McLaren/Hart	Project:	Spic & Span	Sampled: 5/9/00
W239 N2890 Pewaukee Rd.	Project Number:	100805104001001	Received: 5/10/00
Pewauakee, WI 53072	Project Manager:	Brian Schneider	Reported: 5/24/00 11:03

WDNR Volatile Organic Compounds by Method 8260
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
MW-1d			**B005159-02**				**Water**	
1,1-Dichloroethane	0050499	5/19/00	5/20/00		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	"	"	"	*80.0-120*		*94.6*	*%*	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	*80.0-120*		*57.8*	"	*O4*
Surrogate: Toluene-d8	"	"	"	*80.0-120*		*100*	"	
Surrogate: 4-Bromofluorobenzene	"	"	"	*80.0-120*		*68.8*	"	*O4*

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:	Spic & Span	Sampled: 5/9/00
W239 N2890 Pewaukee Rd.	Project Number:	100805104001001	Received: 5/10/00
Pewauakee, WI 53072	Project Manager:	Brian Schneider	Reported: 5/24/00 11:03

WDNR Volatile Organic Compounds by Method 8260
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
FB-1			**B005159-03**				**Water**	
1,1-Dichloroethane	0050499	5/19/00	5/20/00		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	"	"	"	*80.0-120*		*90.4*	*%*	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	*80.0-120*		*56.2*	"	*O4*
Surrogate: Toluene-d8	"	"	"	*80.0-120*		*99.8*	"	
Surrogate: 4-Bromofluorobenzene	"	"	"	*80.0-120*		*65.6*	"	*O4*

Great Lakes Analytical

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

Andy Johnson, Project Manager

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

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

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

McLaren/Hart	Project:	Spic & Span	Sampled: 5/9/00
W239 N2890 Pewaukee Rd.	Project Number:	100805104001001	Received: 5/10/00
Pewauakee, WI 53072	Project Manager:	Brian Schneider	Reported: 5/24/00 11:03

WDNR Volatile Organic Compounds by Method 8260
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
Trip Blank			**B005159-04**				**Water**	
1,1-Dichloroethane	0050499	5/19/00	5/19/00		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	"	"	"	*80.0-120*		*92.8*	*%*	
Surrogate: 1,2-Dichloroethane-d4	"	"	"	*80.0-120*		*60.0*	"	*O4*
Surrogate: Toluene-d8	"	"	"	*80.0-120*		*101*	"	
Surrogate: 4-Bromofluorobenzene	"	"	"	*80.0-120*		*70.6*	"	*O4*

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:	Spic & Span	Sampled: 5/9/00
W239 N2890 Pewaukee Rd.	Project Number:	100805104001001	Received: 5/10/00
Pewauakee, WI 53072	Project Manager:	Brian Schneider	Reported: 5/24/00 11:03

Notes and Definitions

#	Note
O4	One or more surrogate recoveries were below the laboratory's established acceptance criteria.
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

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 N 2890 Pewaukee Rd D
Pewaukee, WI 53072
Report to: Brian Schneider
Phone #: (262) 523-2040
Fax #: ( ) 523-2059

Bill To: Same
Address:
State & Program: WI
Phone #: ( )
Fax #: ( )

TAT: (5 DAY circled) 4 DAY 3 DAY 2 DAY 1 DAY < 24 HRS.
DATE RESULTS NEEDED: 5/17/00
TEMPERATURE UPON RECEIPT:
AIR BILL NO.

Project: Spic & Span Brownstones
Sampler: George J. Bayer
PO/Quote #: 100805104 001001

FIELD ID, LOCATION	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	PRESERVATIVES	NO. CONTAINERS	TYPE CONTAINERS	VOC Special List 8010	PCE, TCE, 111TCA	11DCE, 12TCA	11DCA, 12DCA	Trans 12 DCE	Cis 12 DCE	Vinyl chloride				CRACKED-BROKEN	IMPROPERLY SEALED	GOOD CONDITION	LABORATORY ID NUMBER
1 MW-1	5/9/00		Water	HCL	3		X													B005?9-1
2 MW-1d	↓		↓	↓	3		↓													2
3 FB-1 (Field Blank)	↓		↓	↓	3		↓													3
4 TRIP Blank			↓	↓	1		↓													4
5																				
6																				
7																				
8																				
9																				
10																				

RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME	RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME
George J Bayer	5/10/99 8:30AM	[signature]	5-10-00 0900	[signature]	5-10-00		
RELINQUISHED	DATE / TIME	RECEIVED	DATE / TIME	RELINQUISHED	DATE / TIME	RECEIVED	

COMMENTS:

PAGE 1 OF 1

JG958198

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 N. Richards Street, Box 12436
Milwaukee, Wisconsin 53212-0436
TELEPHONE 414-229-0800
FAX 414-229-0810

May 1, 2000

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

SUBJECT: Case closure request, Dry Clean USA, 17680 West Bluemound Road, file reference FID #268252050 ERR-ERP

Dear Mr. Miller:

I have reviewed your consultant's submittal for additional work done at the site. I have the following questions/requirements before I can consider closing the case:

1. Resample monitoring well MHW-1 to confirm that concentrations are not increasing. Measure groundwater elevations in all three wells to confirm groundwater flow direction.

2. Determine the top and bottom depths of the sewer utility near well MHW-1 in case it may be a conduit for groundwater flow.

If you have any questions about this letter, call me at 414-229-0850.

Sincerely,

John Feeney
Hydrogeologist

cc: McLaren/Hart
SER File

McLaren® Hart, Inc.

March 2, 2000

Mr. John Feeney
Wisconsin Department of Natural Resources
P.O. Box 12436
Milwaukee, WI 53212

ERP
268252050
02-68-121075

Re: FID #268252050 ERR/ERP
Dryclean USA
1768C 1760 West Bluemound Road, Milwaukee
Site Investigation Report

Dear Mr. Feeney:

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

RECEIVED
MAR 29 2000
By PC

Brian Schneider, P.E.
Supervising Engineer

George J. Bayer
Associate Geoscientist

O:\COMMON\Spic&Span\brownfieldsdryusa.rpt.wpd

cc: Mark Thimke, Esq. - Foley & Lardner
Mr. Robert Miller - Spic and Span, Inc.
Mr. Dan Prezembel - The RREEF Funds

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

SITE INVESTIGATION REPORT

DRYCLEAN USA
BROWNSTONES CENTER
17680 WEST BLUEMOUND ROAD
BROOKFIELD, WISCONSIN
FID #: 268252050 ERR/ERP

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 2, 2000

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

ATTACHMENTS

SITE INVESTIGATION REPORT

DRYCLEAN USA
BROWNSTONES CENTER
17680 WEST BLUEMOUND ROAD
BROOKFIELD, WISCONSIN
FID #: 268252050

March 2, 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

3/2/2000

Signature and Title: Supervising Engineer

Date

BRIAN W. SCHNEIDER No. 25922 PROFESSIONAL ENGINEER WI

SITE INVESTIGATION REPORT

DRYCLEAN USA
BROWNSTONES CENTER
17680 WEST BLUEMOUND ROAD
BROOKFIELD, WISCONSIN
FID #: 268252050

March 2, 2000

CERTIFICATION - HYDROGEOLOGIST

I, George J. Bayer, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, 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

George J Bayer — Signature and Title

3/2/00 — Date

1.0 INTRODUCTION

1.1 SITE LOCATION

The Property is located in the NW 1/4 of the SW1/4 of Section 28, Township 7 North, Range 20 East. The address is 17680-C West Bluemound Road in Brookfield Wisconsin. The site location is shown in Figure 1, Attachment A.

1.2 BACKGROUND

Dryclean USA is a subsidiary of Spic and Span, Inc. and the Dryclean USA facility is leased from BB & K Brownstones, Inc., A Wisconsin Corporation, the property owner. The Brownstone Shopping Center was constructed in 1988 and 1989. Dryclean USA has occupied the center since 1989. The dry cleaning machine was placed in a containment structure in 1995. The use of dry cleaning equipment and solvents was discontinued in November 1999.

On December 12, 1996, STS Consultants (STS) performed two hand auger borings (HA-2 to HA-3) adjacent to the dry cleaning machine. Soil samples were collected from the fill soils one to two feet below ground surface (bgs). The samples were analyzed for chlorinated volatile organic compounds (CVOCs) using EPA Method 8240. Samples contained concentrations of 1,200 and 2,100 micrograms per kilogram (µg/kg) of tetrachloroethylene (PCE). Remaining CVOCs were not detected.

On the same date, STS also installed an exterior hand auger boring (HA-1) approximately 50 feet northwest of the dry cleaning machine, and an exterior monitoring well approximately 75 feet north of the dry cleaning machine. Samples were collected from 1 to 2 feet bgs in HA-1, and 5 to 7 and 9 to 11 feet bgs in MW-1. Clay soils were encountered from a depth of 5 feet bgs to the end of the boring at 17.5 feet bgs in the soil boring for MW-1. Field screening did not indicate the presence of VOCs and CVOCs were not detected in the laboratory analyses of samples collected from these borings. In addition, no VOCs were detected from a groundwater sample obtained from the monitoring well by STS.

1.3 PROPERTY OWNERSHIP

The Property is owned by:

BB&K Brownstones, Inc.,
A Wisconsin Corporation
By: RREEF Management Company
A Delaware Corporation its Agent
1211 West 22nd Street Suite 905
Oak Brook, IL 60523
Attention: Dan Prezembel
(630) 574-9190

The responsible party for the site investigation is:

Spic & 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
En Chem, Inc.
1795 Industrial Drive
Green Bay, WI 54302
(920) 469-2436

2.0 SITE PHYSIOGRAPHY, GEOLOGY AND HYDROGEOLOGY

2.1 TOPOGRAPHY AND SURFACE WATER DRAINAGE

- Site Topography. Based on the United States Geological Survey (USGS), Waukesha, Wisconsin, 7.5 minute topographic map (1994), the topography in the immediate vicinity of the site slopes downward to the north from the site.

- Surface Water Drainage. Storm water along the site is anticipated to generally drain northward 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 impacting 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 in the area of the site have been classified by the U.S. Department of Agriculture, Soil Conservation Service (1971). The general soil association is the Hochheim-Theresa Association with site-specific soils consisting of Mequon Silt Loam, Ozaukee Silt Loam, and Ashkum Silty Clay Loam Series. The general soil association is described as well-drained soils with a subsoil of clay that formed in areas of thin loess and glacial till on moraines.

  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. Drilling logs provided by the Wisconsin Geological and Natural History Survey for soil borings performed in the vicinity of the site indicate the clay to sandy clay soils extend to a depth of at least 106 feet bgs. 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. The bedrock aquifer supplies potable water to municipal and residential wells in Waukesha County. High usage of the aquifer has resulted in a depressed bedrock water table at an elevation of about 550 feet mean sea level (or about 300 feet bgs). Groundwater occurring in the glacial aquifer is hydraulically connected to the bedrock aquifer.

  Soils consisting of silty clay with a trace of sand were observed beneath fill soils observed on-site. Fill soils were observed from one to four feet below ground surface and generally consisted of sand and/or crushed stone. Groundwater was observed in monitoring wells at depths ranging from approximately 8.5 to 17 feet bgs.

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 Brownstones Shopping Center and has operated as a dry cleaning facility at this location since 1989.

- Type and Amount of Impact. Based on investigations performed prior to the McLaren/Hart investigation, soils in the immediate vicinity of the dry cleaning machine are impacted with PCE. Two samples collected from 1 to 2 feet bgs adjacent to the machine by STS Consultants contained concentrations of 1,200 and 2,100 ug/kg PCE.

- Environmental Media Potentially Affected. PCE impacts are thought to be predominately within the coarse fill materials underlying the Dryclean USA space.

- Need for Access Permission. The RREEF Funds owns the property on which the impact was found and has granted conditional access to conduct the investigation. Based on prior investigation findings, impact is believed to be limited to coarse materials beneath the floor slab of the Dryclean USA facility. Based on existing data, no off-site contamination is suspected. No off-site investigation is planned.

- Potential Receptors. No groundwater impacts have been identified at the site. Potential migration pathways include lateral migration along utility lines and along the coarse materials located beneath the buildings concrete floor slab. The City of Brookfield supplies potable water to the site and surrounding sites. Based on City of Brookfield records there are no wells in the vicinity of the site.

- 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.

- Immediate or Interim Actions: None have been conducted or are proposed.

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

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 Groundwater Sample Collection and Handling

Groundwater samples were collected from monitoring wells using either a dedicated PVC bailer or directly from the Tygon® tubing associated with the purging pump. The groundwater samples intended for VOC analysis were containerized in laboratory-provided 40-ml vials. The samples were preserved in the field using laboratory-prepared hydrochloric acid (HCl) to lower the pH of the sample to less than two. Each sample vial was filled until a positive meniscus was formed and securely capped with a Teflon®-septum lid. Each sample was inverted and firmly tapped to check for air bubbles. If bubbles were present in the sample, the sample was discarded and another collected.

As quickly as possible following sample collection, the sample vials will be labeled with the sample location identification, depth of sample, date of sample collection and intended analysis. The sample vials were then placed in resealable plastic bags and packed in an iced, insulated container. A chain-of-custody form was filled out upon completion of sampling each day, and

accompanied each container of samples to the laboratory. Samples were transported from the facility to the laboratory via laboratory courier.

3.3.3 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 be 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.

3.3.4 Laboratory Analysis

Laboratory analyses were performed by En Chem, Inc. using Wisconsin-modified U.S. EPA SW-846 Method 8260, target list compounds: PCE 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), cis 1,2-dichloroethene (cis 1,2-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 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

The protection of site personnel and the general public is a primary concern. 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 appropriate 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 April 22, 1997 Work Plan and the July 22, 1997 Work Plan Addendum, were implemented on January 10 and January 31, 1998. The scope of work included:

- Sample 18 soil borings to various depths (six to nine 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 April 22, 1997 Work Plan and the July 22, 1997 Work Plan Addendum.

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:

- Borings SB-9 and SB-10 could not be completed due to adverse subsurface conditions (maximum soil probe depth-two feet bgs) and equipment limitations.

- Only one soil sample was submited for laboratory analysis from boring SB-18 due to adverse subsurface conditions (maximum soil boring depth-four feet bgs).

- Installation and sampling of groundwater monitoring wells MHW-1 and MHW-2.

3.9 RESULTS

Boring and well locations are shown in Figures 2. Soil sample analytical results are summarized in Table 1 and groundwater analytical sample results are summarized in Table 2. Figure 3 presents soil analytical results. Figure 4 presents groundwater elevations and calculated flow direction. 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 16 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) was the only VOC detected. PCE was detected in eight of the sixteen borings (SB-1 through SB-6, SB-8, and SB-18) at concentrations as high as 290 µg/kg.

PCE was not detected in any of the borings installed outside the building. 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 fill soils immediately beneath the interior concrete slab (SB-5 and SB-18). PCE concentrations decreased with depth in the natural clay soils. The PCE concentrations in samples collected from clay soils approximately five feet bgs in SB-1 and SB-2 (performed adjacent to the dry cleaning machine and just below the depth of HA-2 and HA-3) indicated PCE concentrations of 180 and 140 µg/kg, respectively. These concentrations were approximately one-tenth less than the concentrations observed from the samples collected from the overlying fill material in HA-2 and HA-3.

3.9.2 Groundwater

One groundwater sample was collected from each of the three monitoring wells installed at the site. The groundwater sampling analytical results are detailed in Table 2. PCE was the only VOC detected. PCE was detected in groundwater monitoring well MW-1 at a concentration of 0.7 µg/L. This concentration is below the NR 140.10 Enforcement Standard (ES) of 5 µg/L and just above the Preventative Action Limit (PAL) of 0.5 µg/L. PCE was not detected above the laboratory method detection limit in the remaining groundwater monitoring wells.

Based on the water elevations in MW-1, MHW-1, and MHW-2, the groundwater flow direction in the vicinity of the site is southeast.

4.0 RISK ASSESSMENT

Based on the results of the investigation the PCE is predominantly confined to a small volume of fill soils beneath the interior concrete slab. Soil boring logs from this investigation and previous investigations performed by STS indicate the underlying clay soils extend to a depth to at least 20

feet bgs, and drilling records from the vicinity of the site indicate clay soils extend to a depth of at least 120 feet bgs.

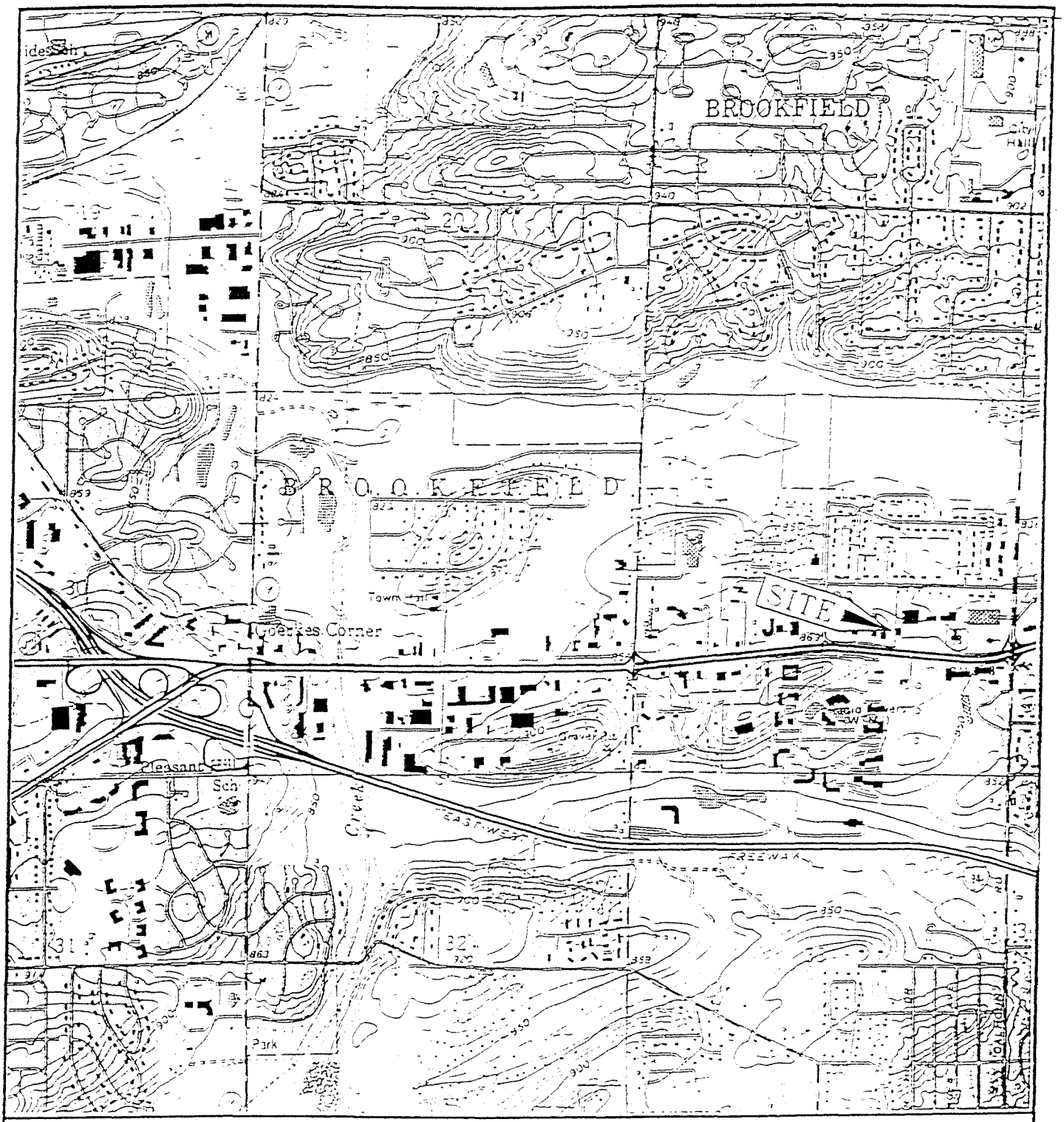
Groundwater was not observed in any of the borings within the impacted soil area. PCE was detected in the water sample from monitoring well MW-1 at a concentration of 0.7 µg/L, which is below the ES and just above the PAL. PCE was not detected above the laboratory method detection limit in the remaining groundwater monitoring wells. The soils are confined beneath a concrete floor and above tight clay soils. Given the location of the site along Bluemound Road, it is reasonable to assume that an impermeable concrete surface will be a permanent feature of this site. The clay soils observed beneath the impacted soils are estimated to have a hydraulic conductivity of 1×10^{-7} cm/sec and extend to a depth of at least 120 feet bgs. There is no record of potable water wells on or in the vicinity of the site, and water in the area is supplied by the City of Brookfield. Based on this, the potential risk to human health through ingestion of groundwater would be minimal to non-existent.

The WDNR Direct Contact Risk Model was used to evaluate the excess cancer risk attributable to contact with PCE through ingestion of soil particles and inhalation of PCE vapors. The results of the model indicate that PCE concentrations in the soil as high as 8.5 mg/kg would not exceed the acceptable cancer risk of 1.0×10^{-6}. The highest concentration of PCE observed on site was 2.1 mg/kg. Currently, the soils are confined beneath the concrete floor of the building and the direct contact risk is not present. However, if in the future the building were to be demolished and the soils disturbed , the potential risk to human health through direct contact with the soil would be minimal to non-existent. The WDNR Direct Contact Risk Model is shown in Table 3.

5.0 SUMMARY AND RECOMMENDATIONS

A site investigation was performed at Dryclean U.S.A. site, 17680-C West Bluemound Road, Brookfield, Wisconsin. The investigation was conducted to assess the magnitude and extent of PCE detected in the soils during previous investigation activities. The investigation activities were conducted between April 30, 1997 and December 10, 1999. The scope of work included collection and analysis of 28 soil samples and three groundwater samples. from 16 soil boring locations, for chlorinated volatile organic compounds.

PCE affected soils are limited in magnitude and extent. Potential migration of the PCE is limited by the concrete surface and the native low conductivity clay soils. There is no record of potable water wells on or in the vicinity of the site, and water in the area is supplied by the City of Brookfield. Based on this, the potential risk to human health through ingestion of groundwater is minimal to non-existent. The potential for direct contact with the soils would arise in the event of an excavation, and the health risk to the excavation workers associated with the soil would be minimal to non-existent. Based on this information, closure of this case is recommended.



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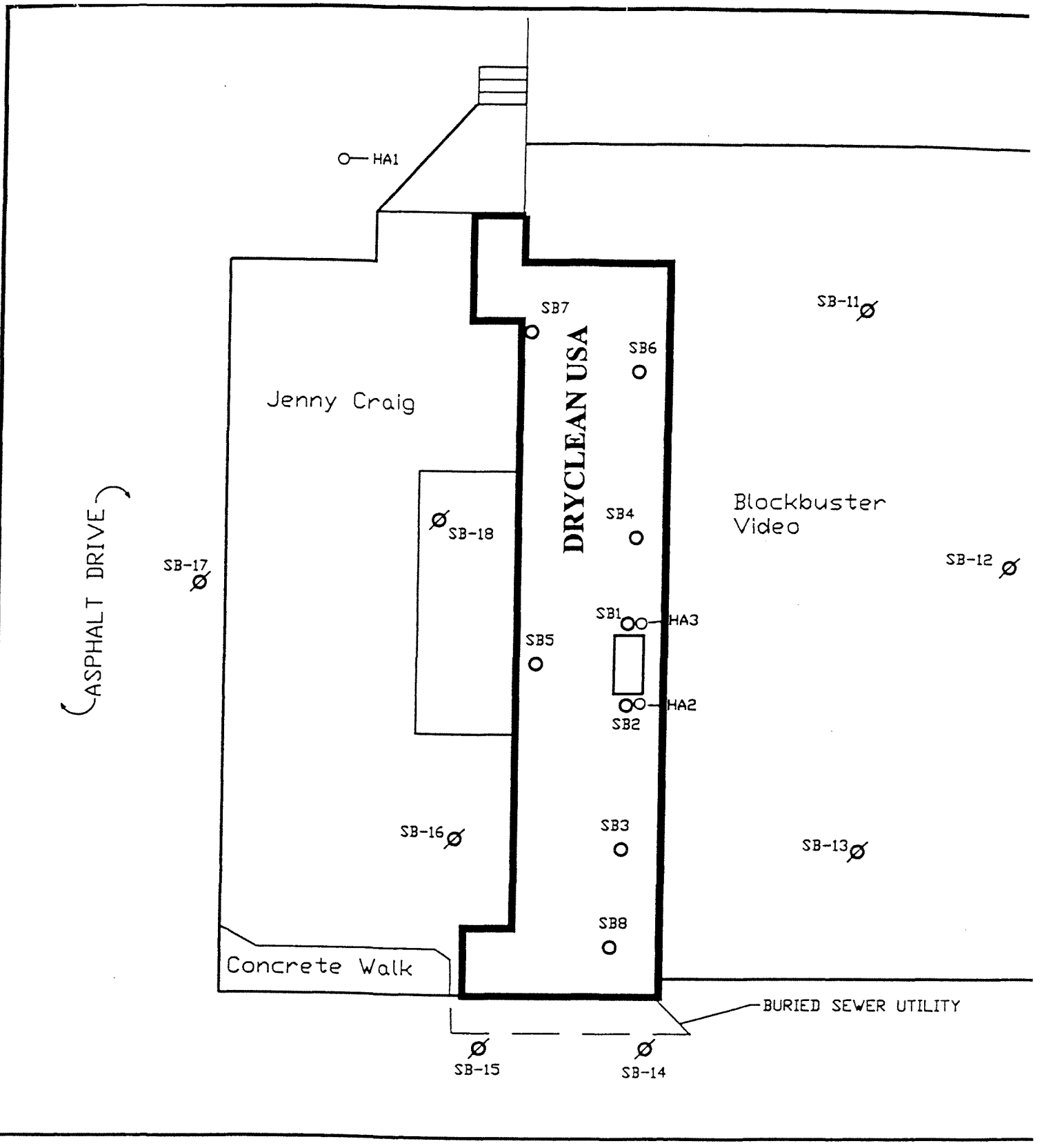


LEGEND

- ⌀ SOIL BORING LOCATIONS (INSTALLED JANUARY, 1998)
- O PRIOR SOIL BORING

N
W E
S

APPROXIMATE SCALE

0 10 20

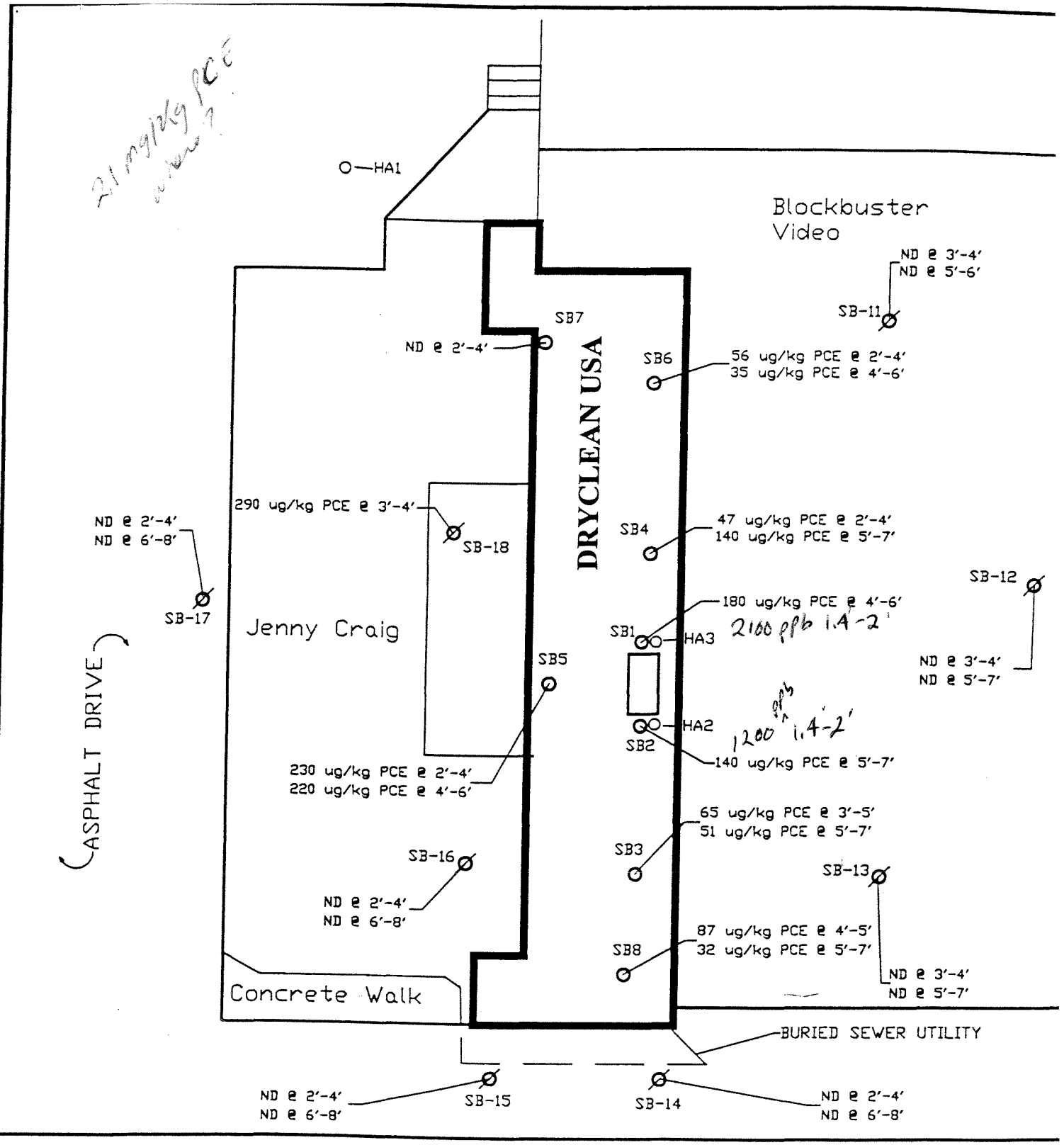
McLaren Hart® ENVIRONMENTAL ENGINEERING CORPORATION

DRWN: JAD	CHK'D: BWS
JOB#: 10080-5104-001	DATE: 02/11/98

FIGURE 2

SOIL BORING LOCATION DIAGRAM

DRYCLEAN USA FACILITY
THE BROWNSTONES SHOPPING CENTER
17680 W. BLUEMOUND RD. BROOKFIELD, WI 53045



LEGEND

- ⌀ SOIL BORING LOCATIONS (INSTALLED JANUARY, 1998)
- O PRIOR SOIL BORING
- ND = NOT DETECTED AT OR BELOW THE REPORTING LIMIT
- ug/kg = MICROGRAMS PER KILOGRAM
- 3'-4' = 3 TO 4 FEET BELOW GROUND SURFACE

N
W E
S

APPROXIMATE SCALE

0 10 20

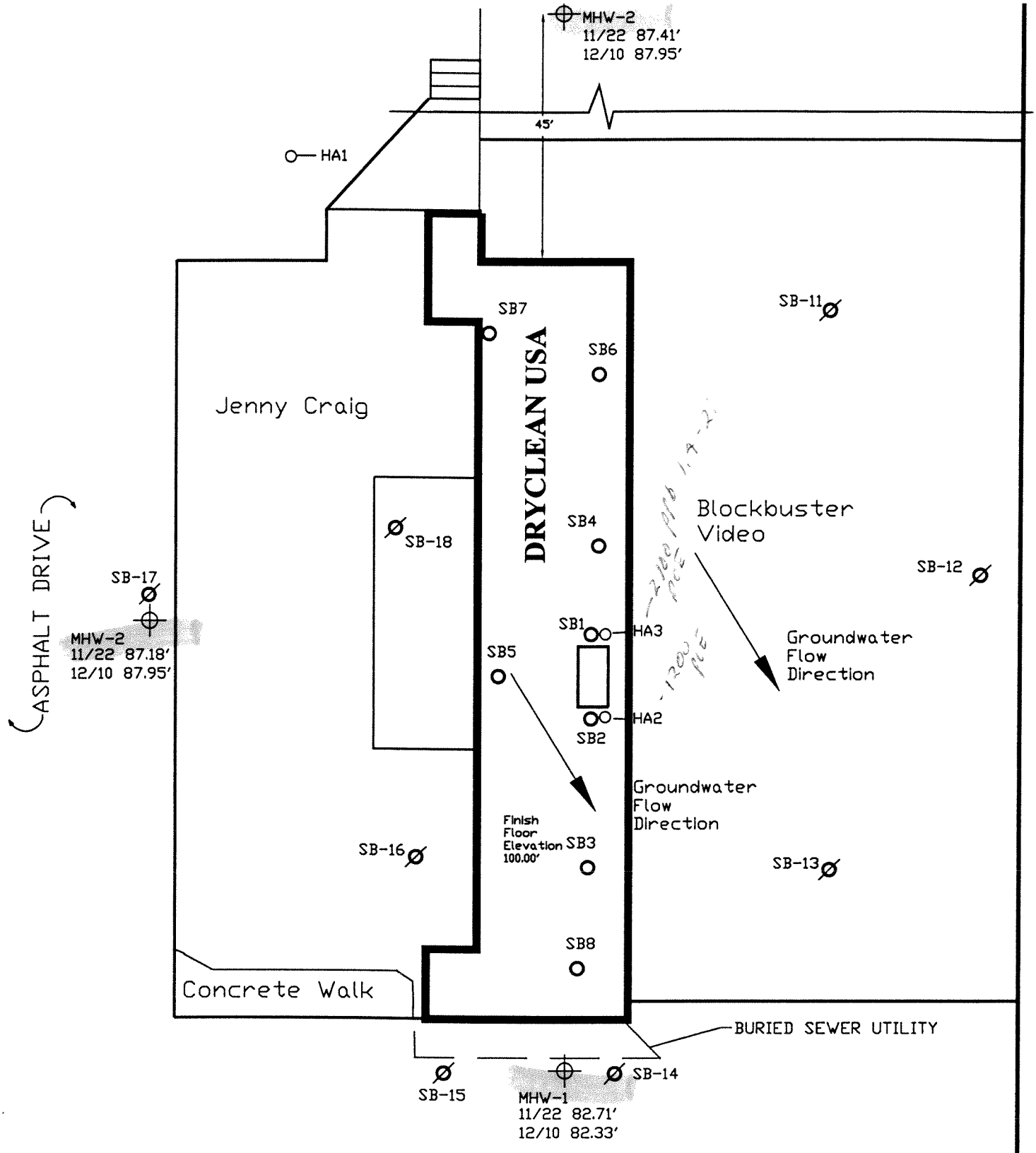
McLaren Hart® ENVIRONMENTAL ENGINEERING CORPORATION

DRWN: JAD	CHK'D: BWS
JOB#: 10080-5104-001	DATE: 02/11/98

FIGURE 3

SOIL ANALYTICAL RESULTS

DRYCLEAN USA FACILITY
THE BROWNSTONES SHOPPING CENTER
17680 W. BLUEMOUND RD. BROOKFIELD, WI 53045



LEGEND

- MONITORING WELL LOCATIONS
- SOIL BORING LOCATIONS (INSTALLED JANUARY, 1998)
- PRIOR SOIL BORING

(82.71') indicates groundwater elevation on 11/22/99.

N
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APPROXIMATE SCALE

0 10 20

McLaren Hart® ENVIRONMENTAL ENGINEERING CORPORATION

DRWN: JAD	CHK'D: BWS
JOB#: 10080-5104-001	DATE: 01/27/00

FIGURE 4

GROUNDWATER FLOW DIRECTION

DRYCLEAN USA FACILITY
THE BROWNSTONES SHOPPING CENTER
17680 W. BLUEMOUND RD. BROOKFIELD, WI 53045

Table 1
SOIL ANALYTICAL RESULTS
Dryclean USA Facility
17680 West Bluemound Road
Brookfield, Wisconsin

Samples analyzed for Volatile Organic Compounds-special list (VOCs (Method 8260)).
Concentrations in Micrograms per Kilogram ppb

Dryclean USA and adjacient Facilities

	Sample Identification	SB-1	SB-2	SB-3	SB-3	SB-4	SB-4	SB-5	SB-5	SB-6	SB-6	SB-7	SB-8	SB-8
	Depth (ft)	4-6	5-7	3-5	5-7	2-4	5-7	2-4	4-6	2-4	4-6	2-4	4-5	5-7
	Date Collected	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97
ANALYTES:	1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Tetrachloroethene	180	140	65	51	47	140	230	220	56	35	ND	87	32
	Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

	Sample Identification	SB-11	SB-11	SB-12	SB-12	SB-13	SB-13	SB-14	SB-14	SB-15	SB-15	SB-16	SB-16	SB-17	SB-17	SB-18
	Depth (ft)	3-4	5-6	3-4	5-7	3-4	5-7	2-4	6-8	2-4	6-8	2-4	5-7	2-4	6-8	3-4
	Date Collected	1/10/98	1/10/98	1/10/98	1/10/98	1/10/98	1/10/98	1/10/98	1/10/98	1/10/98	1/10/98	1/31/98	1/31/98	1/10/98	1/10/98	1/31/98
ANALYTES:	1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	290
	Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	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.

Table 2
GROUNDWATER ANALYTICAL RESULTS
Dryclean USA Facility
17680 West Bluemound Road
Brookfield, Wisconsin

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

Dryclean USA Facility - Brownstones

	Sample Identification	MW-1	MHW-1	MHW-2	TRIP BLK	ES	PAL
	Date Collected	11/22/99	11/22/99	11/22/99	11/22/99		
ANALYTES:	1,1-Dichloroethane	ND	ND	ND	ND	850	85
	1,1-Dichloroethene	ND	ND	ND	ND	7	0.7
	1,2-Dichloroethane	ND	ND	ND	ND	5	0.5
	cis-1,2-Dichloroethene	ND	ND	ND	ND	70	7
	trans-1,2-Dichloroethene	ND	ND	ND	ND	100	20
	1,1,1-Trichloroethane	ND	ND	ND	ND	200	40
	1,1,2-Trichloroethane	ND	ND	ND	ND	5	0.5
	Trichloroethene	ND	ND	ND	ND	5	0.5
	Tetrachloroethene (PCE)	0.7	ND	ND	ND	5	0.5
	Vinyl chloride	ND	ND	ND	ND	0.2	0.02

Notes:
Preventive Action Limit (PAL) and Enforcement Standard (ES) from Wisconsin Administrative Code NR 140 (Dec. 1998, No. 516).
No notation is made for reported concentrations less than the method detection limit, even if detection limit exceeds PAL or ES.

WDNR DIRECT CONTACT RISK MODEL
SOIL CLEAN-UP GOALS

COMPOUND: PCE

PROJECT NAME: Dryclean USA - Brownstones

SITE SPECIFIC PROPERTIES:

CONTAMINANT CONCENTRATION	C_{CHEM}=	8.5	mg/kg
WIDTH OF CONTAMINATED AREA	LS=	7	m
AREA OF CONTAMINATED SOIL	A=	50	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	$RISK_{ING-CHEM}$=	6.92E-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=	3.07E+10	m^3/kg
RISK FROM INHALATION OF CONT. SOIL PARTICULATES	$RISK_{INHP-CHEM}$=	6.6E-14	unitless

EXCESS CANCER RISK DUE TO INHALATION OF VAPORS

UNIT CONVERSION - AREA OF CONTAMINATED SOIL	A_{CM}=	500000	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	$D_{ei-CHEM}$=	0.066155	cm^2/g
CHEMICAL ALPHA VALUE	P_{CHEM}=	0.008935	cm^2/sec
SOIL TO AIR VOLATILIZATION FACTOR	VF_{CHEM}=	10039.38	m^3/kg
CANCER RISK DUE TO INHALATION OF VAPORS	$RISK_{INHV-CHEM}$=	2.02E-07	unitless

EXCESS CANCER RISK DUE TO CHEMICAL CONTAMINATED SOIL

$RISK_{CHEM}$= 8.94E-07 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 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 8260) 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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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 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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GROUNDWATER SAMPLE COLLECTION AND HANDLING

The groundwater monitoring wells were purged and sampled using standard field procedures and as required in Wisconsin Administrative Code NR 141. Well MW-1 was purged using a submersible pump with Tygon® or PVC tubing. Wells MHW-1 AND MHW-2 were bailed dry with a disposable bailer prior to sampling. Groundwater samples were collected directly from the pump discharge tubing or bailer.

Samples to be analyzed in the laboratory for volatile organic compounds (VOCs; SW846 Method 8260) were collected in laboratory-provided 40-milliliter glass vials with Teflon® septa. The samples were filled until a positive meniscus was formed, preserved in the field with laboratory-provided hydrochloric acid in pre-measured ampules and securely capped. The vials were then inverted, firmly tapped and examined for air bubbles. If bubbles were found, the sample was discarded and a new sample was collected.

Following sample collection, the samples were labeled with the sample identification, date of collection and intended analysis. The samples were then placed in resealable plastic bags and stored on ice in an insulated container. The samples were transported to a WDNR-certified laboratory via overnight courier or by the McLaren/Hart field 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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GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

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

December 2, 1999

Brian Schneider
McLarenHart
W239 N2890 Pewaukee Rd Unit D
Pewaukee, WI 53072

RE: Spic & Span - Brownstones

Dear Brian Schneider

Enclosed are the results of analyses for sample(s) received by the laboratory on November 23, 1999. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

McLarenHart	Project:	Spic + Span- Brownstones	Sampled:	11/22/99
W239 N2890 Pewaukee Rd Unit D	Project Number:	N/A	Received:	11/23/99
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Reported:	12/2/99 11:34

ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
MW-1	B911468-01	Water	11/22/99
MHW-2	B911468-02	Water	11/22/99
MHW-1	B911468-03	Water	11/22/99
FB-1	B911468-04	Water	11/22/99
Trip Blank	B911468-05	Water	11/22/99

GREAT LAKES ANALYTICAL

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Buffalo Grove, Illinois 60089

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

McLarenHart	Project:	Spic + Span- Brownstones	Sampled:	11/22/99
W239 N2890 Pewaukee Rd Unit D	Project Number:	N/A	Received:	11/23/99
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Reported:	12/2/99 11:34

WDNR Volatile Organic Compounds by Method 8021
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Reporting Limit	Result	Units	Notes*
MW-1			**B911468-01**			**Water**	
1,1-Dichloroethane	9110537	11/22/99	11/24/99	0.50	ND	ug/l	
1,2-Dichloroethane	"	"	"	0.50	ND	"	
1,1-Dichloroethene	"	"	"	0.50	ND	"	
cis-1,2-Dichloroethene	"	"	"	0.50	ND	"	
trans-1,2-Dichloroethene	"	"	"	0.50	ND	"	
Tetrachloroethene	"	"	"	0.50	**0.70**	"	
1,1,1-Trichloroethane	"	"	"	0.50	ND	"	
1,1,2-Trichloroethane	"	"	"	0.16	ND	"	
Trichloroethene	"	"	"	0.50	ND	"	
Vinyl chloride	"	"	"	0.17	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

McLarenHart	Project:	Spic + Span- Brownstones	Sampled: 11/22/99
W239 N2890 Pewaukee Rd Unit D	Project Number:	N/A	Received: 11/23/99
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Reported: 12/2/99 11:34

WDNR Volatile Organic Compounds by Method 8021
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Reporting Limit	Result	Units	Notes*
MHW-2			**B911468-02**			**Water**	
1,1-Dichloroethane	9110537	11/22/99	11/24/99	0.50	ND	ug/l	
1,2-Dichloroethane	"	"	"	0.50	ND	"	
1,1-Dichloroethene	"	"	"	0.50	ND	"	
cis-1,2-Dichloroethene	"	"	"	0.50	ND	"	
trans-1,2-Dichloroethene	"	"	"	0.50	ND	"	
Tetrachloroethene	"	"	"	0.50	ND	"	
1,1,1-Trichloroethane	"	"	"	0.50	ND	"	
1,1,2-Trichloroethane	"	"	"	0.16	ND	"	
Trichloroethene	"	"	"	0.50	ND	"	
Vinyl chloride	"	"	"	0.17	ND	"	

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

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

McLarenHart	Project:	Spic + Span- Brownstones	Sampled: 11/22/99
W239 N2890 Pewaukee Rd Unit D	Project Number:	N/A	Received: 11/23/99
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Reported: 12/2/99 11:34

WDNR Volatile Organic Compounds by Method 8021
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Reporting Limit	Result	Units	Notes*
MHW-1			**B911468-03**			**Water**	
1,1-Dichloroethane	9110537	11/22/99	11/24/99	0.50	ND	ug/l	
1,2-Dichloroethane	"	"	"	0.50	ND	"	
1,1-Dichloroethene	"	"	"	0.50	ND	"	
cis-1,2-Dichloroethene	"	"	"	0.50	ND	"	
trans-1,2-Dichloroethene	"	"	"	0.50	ND	"	
Tetrachloroethene	"	"	"	0.50	ND	"	
1,1,1-Trichloroethane	"	"	"	0.50	ND	"	
1,1,2-Trichloroethane	"	"	"	0.16	ND	"	
Trichloroethene	"	"	"	0.50	ND	"	
Vinyl chloride	"	"	"	0.17	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

McLarenHart	Project:	Spic + Span- Brownstones	Sampled:	11/22/99
W239 N2890 Pewaukee Rd Unit D	Project Number:	N/A	Received:	11/23/99
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Reported:	12/2/99 11:34

WDNR Volatile Organic Compounds by Method 8021
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Reporting Limit	Result	Units	Notes*
FB-1			**B911468-04**			**Water**	
1,1-Dichloroethane	9110537	11/22/99	11/24/99	0.50	ND	ug/l	
1,2-Dichloroethane	"	"	"	0.50	ND	"	
1,1-Dichloroethene	"	"	"	0.50	ND	"	
cis-1,2-Dichloroethene	"	"	"	0.50	ND	"	
trans-1,2-Dichloroethene	"	"	"	0.50	ND	"	
Tetrachloroethene	"	"	"	0.50	ND	"	
1,1,1-Trichloroethane	"	"	"	0.50	ND	"	
1,1,2-Trichloroethane	"	"	"	0.16	ND	"	
Trichloroethene	"	"	"	0.50	ND	"	
Vinyl chloride	"	"	"	0.17	ND	"	

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

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

McLarenHart	Project:	Spic + Span- Brownstones	Sampled: 11/22/99
W239 N2890 Pewaukee Rd Unit D	Project Number:	N/A	Received: 11/23/99
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Reported: 12/2/99 11:34

WDNR Volatile Organic Compounds by Method 8021
Great Lakes Analytical

Analyte	Batch Number	Date Prepared	Date Analyzed	Reporting Limit	Result	Units	Notes*
Trip Blank			**B911468-05**			**Water**	
1,1-Dichloroethane	9110537	11/22/99	11/24/99	0.50	ND	ug/l	
1,2-Dichloroethane	"	"	"	0.50	ND	"	
1,1-Dichloroethene	"	"	"	0.50	ND	"	
cis-1,2-Dichloroethene	"	"	"	0.50	ND	"	
trans-1,2-Dichloroethene	"	"	"	0.50	ND	"	
Tetrachloroethene	"	"	"	0.50	ND	"	
1,1,1-Trichloroethane	"	"	"	0.50	ND	"	
1,1,2-Trichloroethane	"	"	"	0.16	ND	"	
Trichloroethene	"	"	"	0.50	ND	"	
Vinyl chloride	"	"	"	0.17	ND	"	

GREAT LAKES ANALYTICAL

1380 Busch Parkway
Buffalo Grove, Illinois 60089

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

McLarenHart	Project:	General Project	Sampled:	11/22/99
W239 N2890 Pewaukee Rd Unit D	Project Number:	Spic + Span- Brownstones	Received:	11/23/99
Pewaukee, WI 53072	Project Manager:	Brian Schneider	Reported:	12/2/99 11:34

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

GREAT LAKES ANALYTICAL

1[illegible] Busch [illegible]way
Buffalo Grove, IL 60089-4505
(847) 808-7766
FAX (847) 808-7772

2[illegible] Wate[illegible] Roa[illegible]
Brookfield, WI 53501
(414) 798-1030
FAX (414) 798-1066

CHAIN OF CUSTODY REPORT

Client: McLaren Hart
Address: W239 N 2890 Pewaukee Rd D
Pewaukee, WI 53072
Report to: Brian Schneider
Phone #: (414) 523-2040
Fax #: (414) 523-2059

Bill To: Same
Address:
State & Program: WI
Phone #: ( )
Fax #:

TAT: (5 DAY circled) 4 DAY 3 DAY 2 DAY 1 DAY < 24 HRS.
DATE RESULTS NEEDED:
TEMPERATURE UPON RECEIPT: on ice
AIR BILL NO. GLA P/U

Project: SPIC & Span - Brownstones
Sampler: George Bayer
JOB ~~PO/Quote~~ #: 100805104 001 001

	FIELD ID, LOCATION	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	PRESERVATIVES	NO. CONTAINERS	TYPE CONTAINERS	VOC: Special List	PCE, TCE, 111TCA	11DCE, 112 TCA	11DCA, 12DCA	TRANS 1,2 DCE	CIS 1,2 DCE	Vinyl chloride	~~[illegible]~~				CRACKED BROKEN	IMPROPERLY SEALED	GOOD CONDITION	LABORATORY ID NUMBER
1	MW-1	11/22/99		Water	HCL	3		X													/	B911468-01
2	MHW-2	↓		↓	↓	3		X													/	2
3	MHW-1	↓		↓	↓	3		X													/	3
4	FB-1	↓		↓	↓	3		X													/	4
5	TRIP Blank			↓	↓	1		X													/	5
6																						
7																						
8																						
9																						
10																						

SAMPLE CONTROL

RELINQUISHED	DATE/TIME	RECEIVED	DATE/TIME	RELINQUISHED	DATE/TIME	RECEIVED	DATE/TIME
George J Bayer	11/23/99 8:00am	K Aytman	11/23/99 9:00Am	K Aytman	11/23/99	[illegible signature]	11/23/99
RELINQUISHED	DATE TIME	RECEIVED	DATE TIME	RELINQUISHED	DATE TIME	RECEIVED	DATE TIME

COMMENTS:

PAGE 1 OF 1

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 7-9

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-1

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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		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
1	24		1	(concrete)										
			1	FILL, crushed stone and sand										
2	20		2											
			3											
			4		CL									
3	12		5	CLAY, silty, trace fine to coarse grained sand, brown, dry.										
			6											

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

Signature

Firm McLaren/Hart
Brookfield, Wisconsin
Tel: 414-790-1974, Fax: 414-790-1989

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.

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 7-9

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-2

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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		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
1	24		1	(concrete)										
			2	FILL, crushed stone and sand										
2	8		3											
			4											
3	24		5											
			6	CLAY, silty, trace fine to coarse grained sand, brown, dry.	CL									
			7											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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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 7-97

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-3

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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		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
1	24		1	(concrete)										
			2	FILL, crushed stone and sand										
2	20		3											
			4											
			5	CLAY, silty, trace fine to coarse grained sand, brown, dry.	CL									
3	12		6											

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

Signature

Firm McLaren/Hart
Brookfield, Wisconsin
Tel: 414-790-1974, Fax: 414-790-1989

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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		SB-4

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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		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
1	24		1	(concrete)										
			2	FILL, crushed stone and sand										
2	8		3											
			4											
			5	CLAY, silty, trace fine to coarse grained sand, brown, dry.	CL									
3	24		6											
			7											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974. Fax: 414-790-1989

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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 7-9

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-5

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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		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
1	24		1	(concrete) FILL, crushed stone and sand										
2	20		2											
			3											
			4											
3	12		5	CLAY, silty, trace fine to coarse grained sand, brown, dry.										
			6											

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

Signature

Firm: McLaren/Hart
Brookfield, Wisconsin
Tel: 414-790-1974, Fax: 414-790-1989

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.

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 7-9

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-6

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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		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
1	24		1	(concrete)										
			2	FILL, crushed stone and sand										
2	20		3											
			4											
			5	CLAY, silty, trace fine to coarse grained sand, brown, dry.	CL									
3	12		6											

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

Signature

Firm McLaren/Hart
Brookfield, Wisconsin
Tel: 414-790-1974, Fax: 414-790-1989

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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 7-9

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-7

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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		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
1	18		1	(concrete)										
				FILL, crushed stone and sand										
			2											
2	6		3											
			4											

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

Signature

Firm McLaren/Hart
Brookfield, Wisconsin
Tel: 414-790-1974, Fax: 414-790-1989

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 7-9

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-8

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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		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
1	24		1	(concrete)										
			2	FILL, crushed stone and sand										
2	8		3		CL									
			4	CLAY, silty, trace fine to coarse grained sand, brown, dry.										
3	24		5											
			6											
			7											

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Signature

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Brookfield, Wisconsin
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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		SB-11

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/10/98	1/10/98	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		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
1	24		1	(concrete) FILL, crushed stone										
			2	SILT, clayey, some fine to coarse grained sand, brown, dry.	ML									
2	20		3	CLAY, silty, trace fine to coarse grained sand, brown, dry.	CL									
			4											
3	12		5											
			6											

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

Signature

Firm McLaren/Hart
Brookfield, Wisconsin
Tel: 414-790-1974, Fax: 414-790-1989

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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		SB-12

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/10/98	1/10/98	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		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
1	24		1	(concrete) FILL, crushed stone										
			2	SILT, clayey, some fine to coarse grained sand, brown, dry.	ML									
2	24		3	CLAY, silty, trace fine to coarse grained sand, brown, dry.	CL									
3	24		4 5 6 7											

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

Signature

Firm McLaren/Hart
Brookfield, Wisconsin
Tel: 414-790-1974, Fax: 414-790-1989

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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 7-9

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-13

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/10/98	1/10/98	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		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
1	24		1	(concrete)										
			2	FILL, crushed stone										
2	8		3	SILT, clayey, some fine to coarse grained sand, brown, dry.	ML									
			4	CLAY, silty, trace fine to coarse grained sand, brown, dry.	CL									
3	24		5											
			6											
			7											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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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		SB-14

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/10/98	1/10/98	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		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
1	24		1	FILL, clayey silt, some to little fine to coarse grained sand, dark brown, moist.										
2	18		2	CLAY, silty, trace fine to coarse grained sand and gravel, brown, moist.	CL									
3	24		3 4 5											
4	24		6 7 8											

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

Signature

Firm McLaren/Hart
Brookfield, Wisconsin
Tel: 414-790-1974, Fax: 414-790-1989

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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		SB-15

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/10/98	1/10/98	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		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
1	24		1	FILL, clayey silt, some to little fine to coarse grained sand, dark brown, moist.										
2	18		2	CLAY, silty, trace fine to coarse grained sand and gravel, brown, moist.	CL									
3	24		3 4 5	(0.1 foot sand seam at 4.5 feet, wet)										
4	24		6 7 8											

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

Signature

Firm McLaren/Hart
Brookfield, Wisconsin
Tel: 414-790-1974, Fax: 414-790-1989

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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 7-9

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-16

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/31/98	1/31/98	soil probe

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		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
1	24		1	(concrete)										
				FILL, crushed stone	ML									
			2	SILT, clayey, some fine to coarse grained sand, light brown, dry.										
2	24		3	CLAY, silty, trace fine to coarse grained sand, brown, moist.	CL									
			4											
3	24		5											
			6											
			7											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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State of Wisconsin
Department of Natural Resources

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

SOIL BOR...
Form 4400-122

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-17

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/10/98	1/10/98	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		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
1	24		1	FILL, silty fine to coarse grained sand dark to light brown, moist.										
2	12		2	CLAY, silty, trace fine to coarse grained sand and gravel, brown, moist.	CL									
3	24		3 4 5											
4	13		6 7 8											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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		SB-18

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/31/98	1/31/98	soil probe

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		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
1	18		1	(concrete)										
				FILL, crushed stone										
			2	SILT, clayey, some fine to coarse grained sand, brown, dry.	ML									
2	6		3											
			4											

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

Signature

Firm McLaren/Hart
Brookfield, Wisconsin
Tel: 414-790-1974, Fax: 414-790-1989

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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		MHW-1

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Tony Kapugi	11/18/99	11/18/99	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		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
1	30		0	FILL, silt, trace sand and organics, dark brownish gray, dry.										
			1.5	FILL, gravel and sand, some silt, brown, dry.										
			3.0											
2	48		4.5	SILT, trace fine to coarse grained sand and organics, dark brownish gray, moist.	ML CL									
			6.0											
			7.5											
3	48			CLAY, silty, brown, moist to dry.										
			9.0											
			10.5											
4	36		12.0	(moist)										
			13.5											
			15.0											
5	36		16.5											
			18.0											

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

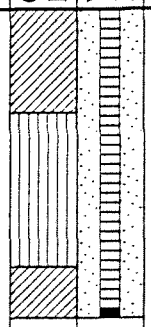
This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of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

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A 7-91

Boring Number MHW-1 Use only as an attachment to Form 4400-122. Page 2 of 2

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
6	42		19.5		ML									
			21.0	SILT, gray, moist to wet.										
			22.5	CLAY, silty, grayish brown, moist, hard.	CL									
			24.0											



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		MHW-2

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Tony Kapugi	11/18/99	11/18/99	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 ☐ E ☐ W Feet

County	DNR County Code	Civil Town/City/ or Village
Waukesha		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
1	18		0	FILL, gravel, little sand and organics, dark brownish gray, dry.										
			1.5	FILL, gravel and sand, some silt, brown, dry.										
2	42		3.0											
			4.5		CL									
			6.0											
			7.5											
3	24			CLAY, silty, brown, moist to dry.										
			9.0											
			10.5											
4	36		12.0											
			13.5											
			15.0											
5	36		16.5	CLAY, silty, grayish brown, moist, hard.	CL									
			18.0											

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

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A 7-91

Boring Number MHW-2 Use only as an attachment to Form 4400-122. Page 2 of 2

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
6	48		19.5											
			21.0											
			22.5	SILT, gray, moist to wet.	ML									
			24.0											

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		MHW-1

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Tony Kapugi	11/18/99	11/18/99	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		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
1	30		0	FILL, silt, trace sand and organics, dark brownish gray, dry.										
			1.5	FILL, gravel and sand, some silt, brown, dry.										
			3.0											
2	48		4.5	SILT, trace fine to coarse grained sand and organics, dark brownish gray, moist.	ML CL									
			6.0											
			7.5											
3	48			CLAY, silty, brown, moist to dry.										
			9.0											
			10.5											
4	36		12.0	(moist)										
			13.5											
			15.0											
5	36		16.5											
			18.0											

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

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A 7-91

Boring Number MHW-1 Use only as an attachment to Form 4400-122. Page 2 of 2

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
6	42		19.5		ML									
			21.0											
			22.5	SILT, gray, moist to wet.										
				CLAY, silty, grayish brown, moist, hard.	CL									
			24.0											

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
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☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		MHW-2

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental Tony Kapugi	11/18/99	11/18/99	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		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
1	18		0	FILL, gravel, little sand and organics, dark brownish gray, dry.										
			1.5	FILL, gravel and sand, some silt, brown, dry.										
			3.0											
2	42		4.5											
			6.0		CL									
			7.5											
3	24		9.0	CLAY, silty, brown, moist to dry.										
			10.5											
4	36		12.0											
			13.5											
			15.0											
5	36		16.5	CLAY, silty, grayish brown, moist, hard.	CL									
			18.0											

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

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A 7-91

Boring Number MHW-2 Use only as an attachment to Form 4400-122. Page 2 of 2

Sample									Soil Properties					
Number	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	Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
6	48		19.5 21.0											
			22.5	SILT, gray, moist to wet.	ML									
			24.0											

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 N. Richards Street, Box 12436
Milwaukee, Wisconsin 53212-0436
TELEPHONE 414-229-0800
FAX 414-229-0810

March 3, 1999

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

SUBJECT: Case closure request, Dry Clean USA, 17680 West Bluemound Road, file reference FID #268252050 ERR-ERP

Dear Mr. Miller:

Thank you for submitting the report by STS, Inc. concerning the monitoring well on the property. The report shows that the depth to groundwater is probably only about 10 or 11 feet. Therefore, closure at this site is not appropriate without additional groundwater investigation to confirm the groundwater flow direction and that groundwater has not been impacted.

Two additional wells or geoprobe monitoring wells should be completed at the site. One well should be outside the building very close to the dry cleaning machine. The results of this work should help determine if fate and transport modeling is needed or appropriate.

If you have any questions about this letter, call me at 414-229-0850.

Sincerely,

John Feeney
Hydrogeologist

cc: McLaren/Hart
SER File

McLaren/Hart

ENVIRONMENTAL ENGINEERING CORPORATION

Milwaukee Office
W239 N2890 Pewaukee Road Unit #D
Pewaukee, WI 53072
(414) 523-2040 - ph.
(414) 523-2059 - fax

TO: John Feeney

COMPANY: Wisconsin Department of Natural Resources

RE: Dryclean USA FID #268252050 ERP

DATE: 2/8/99

FROM: Brian Schneider

Pages (including header): 1

VIA FAX 229-0810

John,

I am writing to request your approval of the PCE soil concentrations we propose to use for the SESOIL model for the referenced site. The concentrations are as follows:

Soil Type	Soil Depth	Geometric Mean Concentration	
Gravel	0-3.5 ft.	200 ug/kg	(Based on actual data)
Clay	3.5-7 ft.	89 ug/kg	(Based on actual data)
Clay	7-9 ft.	23 ug/kg	(Estimated based on site data)
Clay	9-11.5	0 ug/kg	(Estimated based on site data)

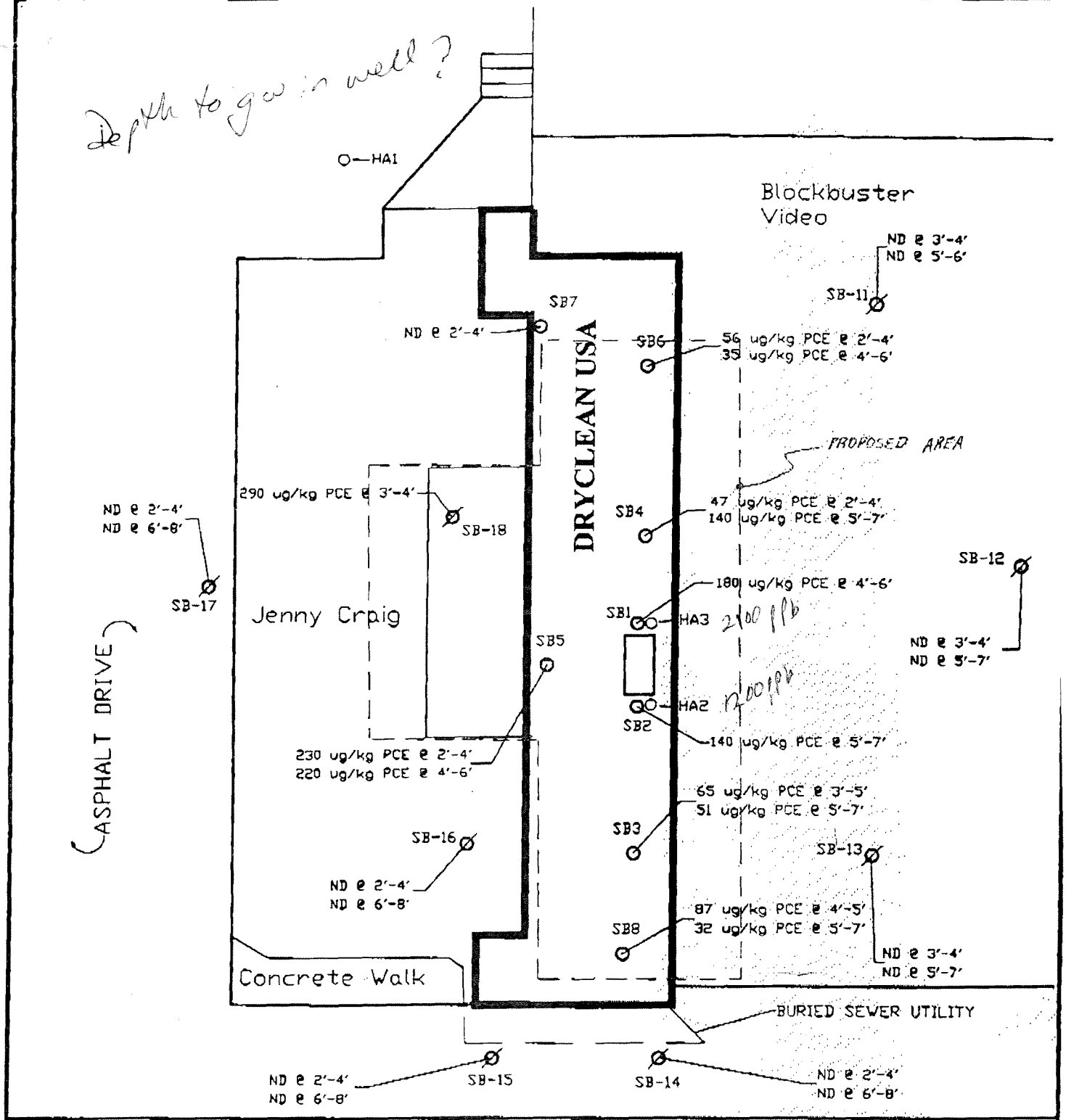
The area for which the geometric mean concentrations were calculated encompasses only the soil borings in which PCE was detected, and includes both the McLaren/Hart and STS data. The mean concentrations for the gravel layer and the uppermost clay layer are based on actual data. The concentrations for the lower two layers are estimated based on the following site data:

- the mean concentrations based on actual site data decrease with depth;
- the stiffness of the clay prevented boring below 6 to 7 feet below ground surface using a power hammer and jack, indicating the clay would also serve as an effective migration barrier;
- PCE and breakdown products were not detected in the soil sample collected from below the water table in the soil boring for MW-1 installed by STS. PCE and breakdown products were also not detected in the groundwater sample collected from monitoring well MW-1. This well is estimated to be downgradient of the PCE source. A site figure is attached indicating the soil boring locations, sample depths and PCE concentrations, and the proposed area for modeling.

I will call you to discuss this information.

Thank you.

From the desk of: **Brian W. Schneider**
McLaren/Hart
(414) 523-2040



LEGEND

- Ø SOIL BORING LOCATIONS (INSTALLED JANUARY, 1999)
- O PRIOR SOIL BORING
- ND = NOT DETECTED AT OR BELOW THE REPORTING LIMIT
- ug/kg = MICROGRAMS PER KILOGRAM
- 3'-4' = 3 TO 4 FEET BELOW GROUND SURFACE

N / W / E / S

APPROXIMATE SCALE

0 10 20

McLaren Hart ENVIRONMENTAL ENGINEERING CORPORATION

DRWN: JAD	CHK'D: BWS
JOB#: 10080-5104-001	DATE: 02/11/98

FIGURE 3

SOIL ANALYTICAL RESULTS

DRYCLEAN USA FACILITY
THE BROWNSTONES SHOPPING CENTER
17680 W. BLUEMOUND RD. BROOKFIELD, WI 53045

UWM BURKLEY

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 N. Richards Street, Box 12436
Milwaukee, Wisconsin 53212-0436
TELEPHONE 414-229-0800
FAX 414-229-0810

December 30, 1998

Robert Miller
Spic & Span, Inc.
4301 North Richards St.
Milwuakee, WI 53212

SUBJECT: Case closure request, Dry Clean USA, 17680 W. Bluemound Road, file reference FID #268252050 ERP

Dear Mr. Miller:

I have reviewed your case based on the report submitted by your consultant, McLaren Hart, Inc. I am not able to close the case at this time. Please have your consultant submit documents pertaining to the investigation conducted by STS, Inc., as referenced to by McLaren Hart, Inc. We will reconsider the case for closure at that time.

It will be necessary to put a restriction on the deed of the property making it a requirement to maintain a paved surface (cap) on the property as a condition of closure. Alternately, you may have your consultant determine a site-specific groundwater based cleanup goal (with no cap on the site). If that number is above concentrations found, a deed restriction will not be needed.

If you have any questions about this letter, call me at 414-229-0850.

Sincerely,

John Feeney
Hydrogeologist

cc: McLaren Hart, Inc.
SER File

McLaren Hart, Inc.

August 6, 1998

Mr. Michael Farley
Wisconsin Department of Natural Resources
P.O. Box 12436
Milwaukee, WI 53212

Re: FID #268252050 ERR/ERP
Dryclean USA
17680 West Bluemound Road, Milwaukee
Site Investigation Report

Dear Mr. Farley:

Enclosed are two copies of the Site Investigation Report for the Dryclean USA property referenced above. 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

Rick Smith
Principal Environmental Scientist
Office Manager

Brian Schneider, P.E.
Senior Engineer

George J. Bayer
Associate Geoscientist

O: COMMON dryusa.wpd

cc: Mark Thimke, Esq. — Foley & Lardner
Mr. Robert Miller — Spic and Span, Inc.
Mr. John Fennimore — The RREEF Funds

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

SITE INVESTIGATION REPORT

DRYCLEAN USA
BROWNSTONES CENTER
17680 WEST BLUEMOUND ROAD
BROOKFIELD, WISCONSIN
FID #: 268252050 ERR/ERP

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

August 6, 1998

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ATTACHMENTS

SITE INVESTIGATION REPORT

DRYCLEAN USA
BROWNSTONES CENTER
17680 WEST BLUEMOUND ROAD
BROOKFIELD, WISCONSIN
FID #: 268252050

August 6, 1998

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: 10 pages

ATTACHMENTS:

A	Figures	3 pages
B	Tables	3 pages
C	Field Methodologies	3 pages
D	Laboratory Analytical Reports/Chain-of-Custody Documents	32 pages
E	Soil Boring Logs/Abandonment Forms/Well Construction Logs	16 pages

Senior Engineer

Signature and Title

8/6/98

Date

P.E. Stamp

1.0 INTRODUCTION

1.1 SITE LOCATION

The Property is located in the NW 1/4 of the SE1/4 of Section 28, Township 7 North, Range 20 East. The address is 17680-C West Bluemound Road in Brookfield Wisconsin. The site location is shown in Figure 1, Attachment A.

1.2 BACKGROUND

Dryclean USA is a subsidiary of Spic and Span, Inc. and the Dryclean USA facility is leased from the RREEF Funds, the property owner. The Brownstone Shopping Center was constructed in 1988 and 1989. Dryclean USA has occupied the center since 1989. Dry cleaning operations are conducted on the premises. The dry cleaning machine was placed in a containment structure in 1995.

On December 12, 1996, STS Consultants (STS) performed two hand auger borings (HA-2 to HA-3) adjacent to the dry cleaning machine. Soil samples were collected from the fill soils one to two feet below ground surface (bgs). The samples were analyzed for chlorinated volatile organic compounds (CVOCs) using EPA Method 8240. Samples contained concentrations of 1,200 and 2,100 micrograms per kilogram (µg/kg) of tetrachloroethylene (PCE). No other CVOCs were detected.

On the same date, STS also installed an exterior hand auger boring (HA-1) approximately 50 feet northwest of the dry cleaning machine, and an exterior monitoring well approximately 75 feet north of the dry cleaning machine. Samples were collected from 1 to 2 feet bgs in HA-1, and 5 to 7 and 9 to 11 feet bgs in MW-1. Clay soils were encountered from a depth of 5 feet bgs to the end of the boring at 17.5 feet bgs in the soil boring for MW-1. Field screening did not indicate the presence of VOCs and CVOCs were not detected in the laboratory analyses of samples collected from these borings. In addition, no VOCs were detected from a groundwater sample obtained from the monitoring well by STS.

1.3 PROPERTY OWNERSHIP

The Property is owned by:

The RREEF Funds
250 East Wisconsin Avenue
Milwaukee, WI 53202
Attention: Mr. John Fennimore
(414) 289-0305

The responsible party for the site investigation is:

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

En Chem, Inc.
1795 Industrial Drive
Green Bay, WI 54302
(920) 469-2436

2.0 SITE PHYSIOGRAPHY, GEOLOGY AND HYDROGEOLOGY

2.1 TOPOGRAPHY AND SURFACE WATER DRAINAGE

- Site Topography. Based on the United States Geological Survey (USGS), Waukesha, Wisconsin, 7.5 minute topographic map (1994), the topography in the immediate vicinity of the site slopes downward to the north from the site.

- Surface Water Drainage. Storm water along the site is anticipated to generally drain northward 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 impacting 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 in the area of the site have been classified by the U.S. Department of Agriculture, Soil Conservation Service (1971). The general soil association is the Hochheim-Theresa Association with site-specific soils consisting of Mequon Silt Loam, Ozaukee Silt Loam, and Ashkum Silty Clay Loam Series. The general soil association is described as well-drained soils with a subsoil of clay that formed in areas of thin loess and glacial till on moraines.

  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. Drilling logs provided by the Wisconsin Geological and Natural History Survey for soil borings performed in the vicinity of the site indicate the clay soils extend to a depth of at least 120 feet bgs. 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. The bedrock aquifer supplies potable water to municipal and residential wells in Waukesha County. High usage of the aquifer has resulted in a depressed bedrock water table at an elevation of about 550 feet mean sea level (or about 300 feet bgs). Groundwater occurring in the glacial aquifer is hydraulically connected to the bedrock aquifer.

  Soils consisting of silty clay with a trace of sand were observed beneath fill soils observed on-site. Fill soils were observed from one to four feet below ground surface and generally consisted of sand and/or crushed stone. No groundwater was observed in borings performed by McLaren/Hart during this investigation.

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 Brownstones Shopping Center and has operated as a dry cleaning facility at this location since 1989.

- Type and Amount of Impact. Based on investigations performed prior to the McLaren/Hart investigation, soils in the immediate vicinity of the dry cleaning machine are impacted with PCE. Two samples collected from 1 to 2 feet bgs adjacent to the machine by STS Consultants contained concentrations of 1,200 and 2,100 ug/kg PCE.

- Environmental Media Potentially Affected. PCE impacts are thought to be predominately within the coarse fill materials underlying the Dryclean USA space.

- Need for Access Permission. The RREEF Funds owns the property on which the impact was found and has granted conditional access to conduct the investigation. Based on prior investigation findings, impact is believed to be limited to coarse materials beneath the floor slab of the Dryclean USA facility. Based on existing data, no off-site contamination is suspected. No off-site investigation is planned.

- Potential Receptors. No groundwater impacts have been identified at the site. Potential migration pathways include lateral migration along utility lines and along the coarse materials located beneath the buildings concrete floor slab. The City of Brookfield supplies potable water to the site and surrounding sites. Based on City of Brookfield records, there are no wells in the vicinity of the site.

- 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.

- Immediate or Interim Actions: None have been conducted or are proposed.

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

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 be 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 En Chem, Inc. using Wisconsin-modified U.S. EPA SW-846 Method 8260, 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 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

The protection of site personnel and the general public is a primary concern. 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 appropriate 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 April 22, 1997 Work Plan and the July 22, 1997 Work Plan Addendum, were implemented on April 30, 1997, January 10 and January 31, 1998. The scope of work included:

- Sample 18 soil borings to various depths (six to nine 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 April 22, 1997 Work Plan and the July 22, 1997 Work Plan Addendum.

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:

- Borings SB-9 and SB-10 could not be completed due to adverse subsurface conditions (maximum soil probe depth-two feet bgs) and equipment limitations.
- Only one soil sample was submited for laboratory analysis from boring SB-18 due to adverse subsurface conditions (maximum soil boring depth-four feet bgs).

3.9 RESULTS

The boring locations are shown in Figures 2 and the analytical results 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 16 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) was the only VOC detected. PCE was detected in eight of the sixteen borings (SB-1 through SB-6, SB-8, and SB-18) at concentrations as high as 290 µg/kg.

PCE impacted soil was generally confined to the soil borings located within a 25 foot radius of the dry cleaning machine. PCE was not detected in any of the borings installed outside the building. The highest PCE concentrations were detected in the fill soils immediately beneath the interior concrete slab (SB-5 and SB-18). PCE concentrations decreased with depth in the natural clay soils. In samples collected from clay soils approximately five feet bgs in SB-1 and SB-2 (performed adjacent to the dry cleaning machine and just below the

depth of STS borings HA-2 and HA-3) PCE concentrations were 180 and 140 µg/kg, respectively. These concentrations were approximately one-tenth of the concentrations observed in the samples collected from the overlying fill material in HA-2 and HA-3 which were 1,200 and 2,100 µg/kg. respectfully.

3.9.2 Groundwater

Groundwater was not observed in any of the soil borings installed by McLaren/Hart.

4.0 RISK ASSESSMENT

Based on the results of the investigation, the PCE is confined to a small volume of fill soils beneath the interior concrete slab. Soil boring logs from this investigation and previous investigations performed by STS indicate the underlying clay soils extend to a depth to at least 20 feet bgs, and drilling records from the vicinity of the site indicate the clay soils extend to a depth of at least 120 feet bgs.

Groundwater was not observed in any of the borings within the impacted soil area. VOCs were not detected in the water sample from MW-1. The soils are confined beneath a concrete floor slab and above tight clay soils. Given the location of the site along the commercial corridor of Bluemound Road, it is reasonable to assume that an impermeable concrete surface will be a permanent feature of this site. The clay soils observed beneath the impacted soils are estimated to have a hydraulic conductivity of 1×10^{-7} cm/sec and extend to a depth of at least 120 feet bgs. There is no record of potable water wells on or in the vicinity of the site, and water in the area is supplied by the City of Brookfield. Based on this, the potential risk to human health through ingestion of groundwater would be minimal to non-existent.

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 model indicate that PCE concentrations in the soil as high as 8.5 mg/kg would not exceed the acceptable cancer risk of 1.0×10^{-6}. The highest concentration of PCE observed on site was 2.1 mg/kg. Currently, the soils are confined beneath the concrete floor of the building and the direct contact risk is not present. However, if in the future the building were to be demolished and the soils disturbed, the potential risk to human health through direct contact with the soil would be minimal to non-existent. The WDNR Direct Contact Risk Model is shown in Table 2.

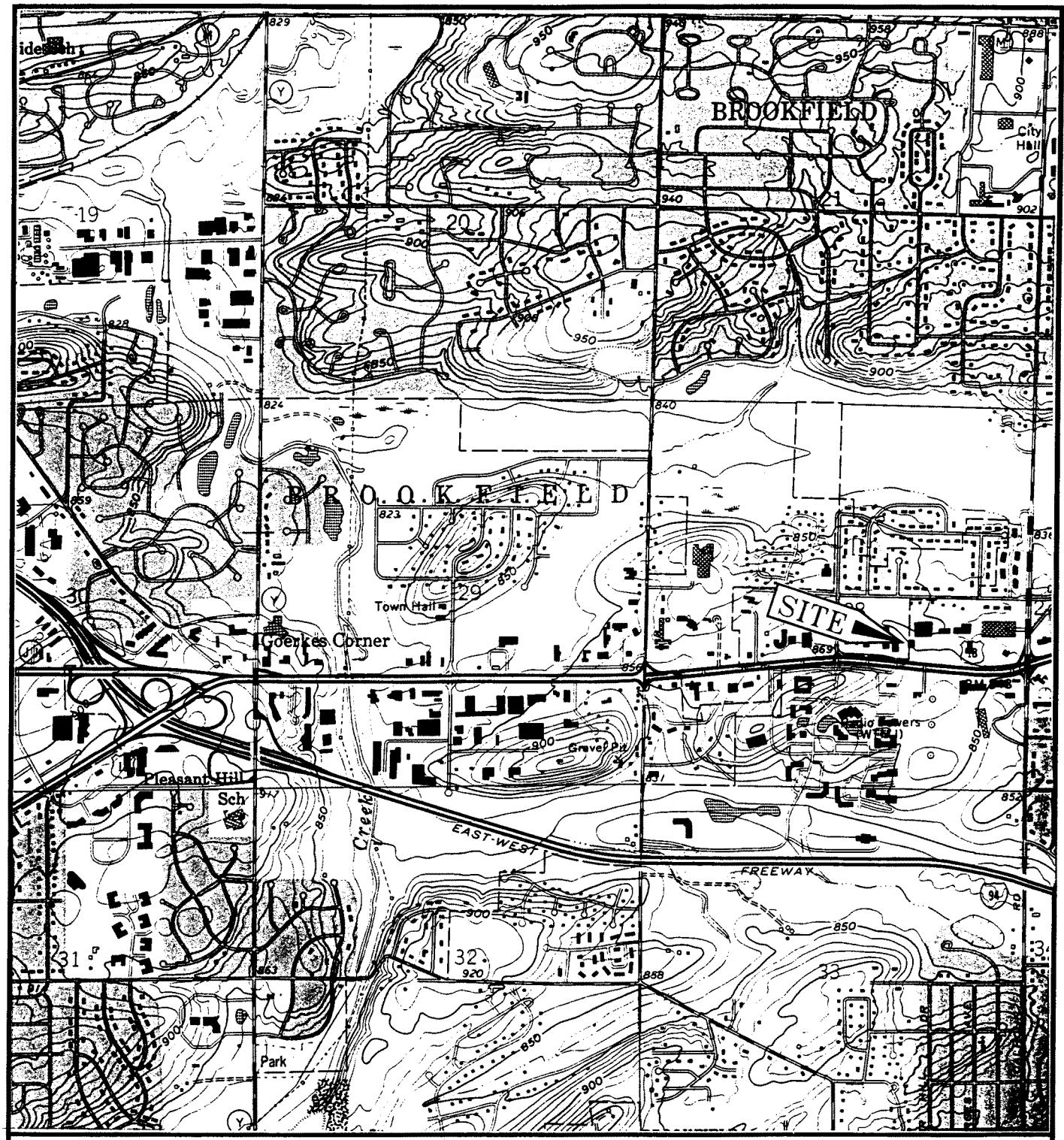
STS Samples

5.0 SUMMARY AND RECOMMENDATIONS

A site investigation was performed at Dryclean U.S.A. site, 17680 West Bluemound Road, Milwaukee, Wisconsin. The investigation was conducted to assess the magnitude and extent of PCE detected in the soils during previous investigation activities. The investigation activities were conducted on April 30, 1997, January 10, 1998 and January 31, 1998. The scope of work included collection and analysis of 28 soil samples from 16 soil boring locations for chlorinated volatile organic compounds.

PCE affected soils are limited in magnitude and extent and no evidence of groundwater impact was observed. Potential migration of the PCE is limited by the concrete surface and the native low conductivity clay soils. There is no record of potable water wells on or in the vicinity of the site, and water in the area is supplied by the City of Brookfield. Based on this, the potential risk to human health through ingestion of groundwater is minimal to non-existent. The potential for direct contact with the soils would only arise in the event of an excavation, and the health risk to the excavation

workers associated with the soil would be minimal to non-existent. Based on this information, closure of this case is recommended.



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SCALE 1:24,000
SOURCE: USGS (1994) 7.5-MINUTE SERIES
TOPOGRAPHIC MAP WAUKESHA, WI. QUADRANGLE

McLaren Hart® ENVIRONMENTAL ENGINEERING CORPORATION

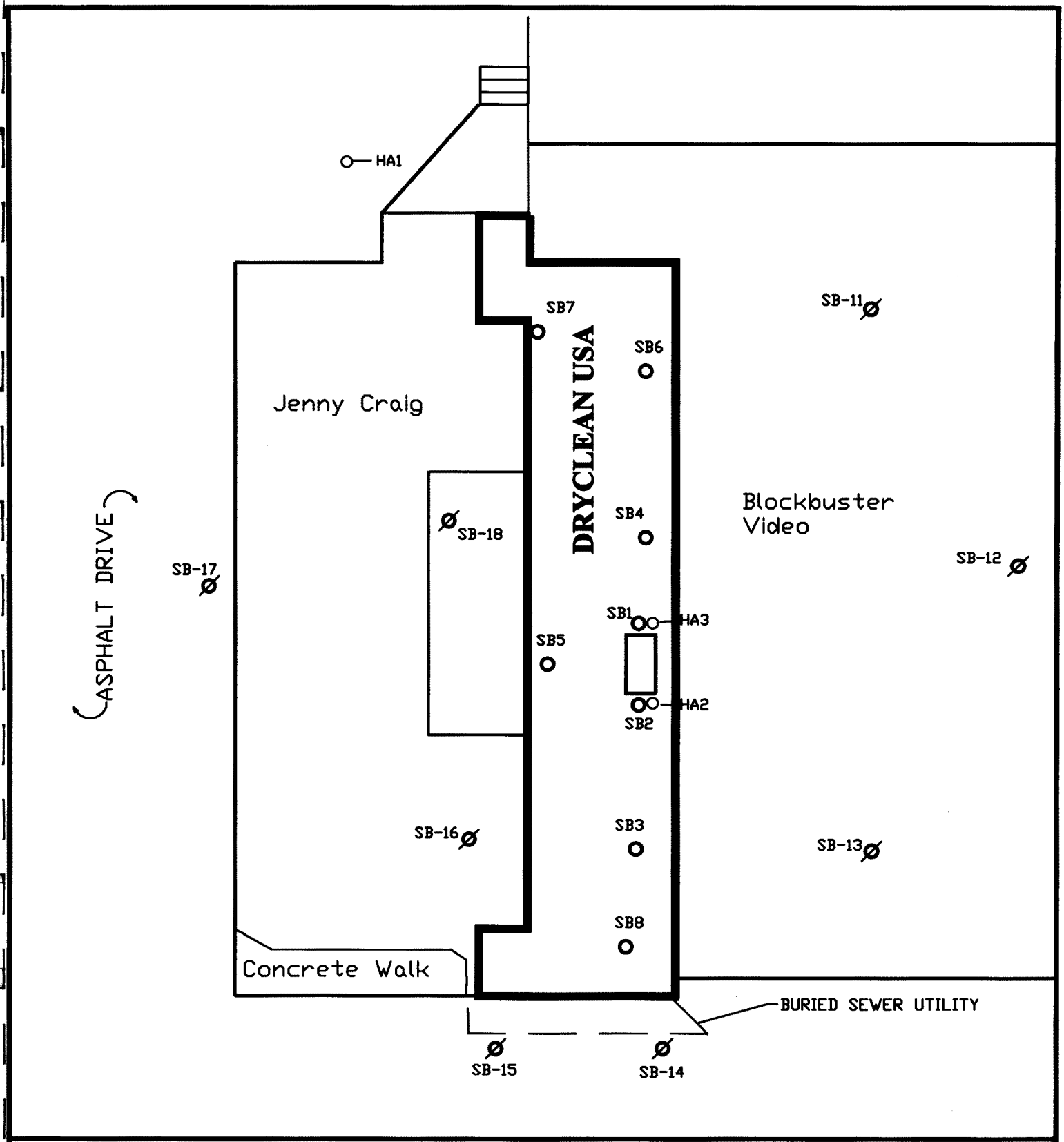
DRWN: GSV	CHK'D: BWS
JOB#: 10080-5104-001-001	DATE: 04-14-97

FIGURE 1

SITE LOCATION

THE BROWNSTONES SHOPPING CENTER
17680 W. BLUEMOUND RD. BROOKFIELD, WI. 53045

DWG: BORDERP



LEGEND

- ⌀ SOIL BORING LOCATIONS (INSTALLED JANUARY, 1998)
- O PRIOR SOIL BORING

N
W E
S

APPROXIMATE SCALE

0 10 20

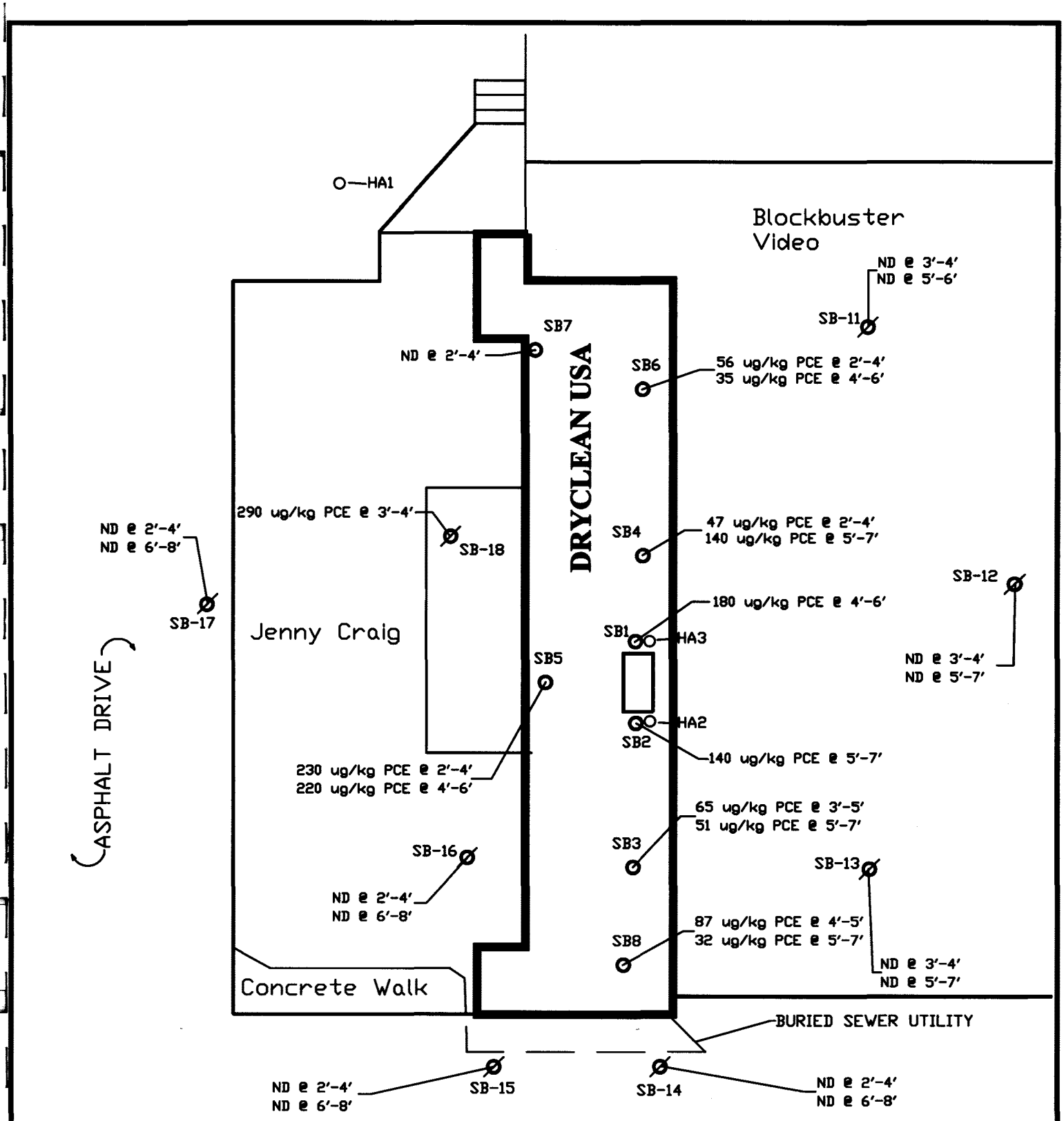
McLaren Hart® ENVIRONMENTAL ENGINEERING CORPORATION

DRWN: JAD	CHK'D: BWS
JOB#: 10080-5104-001	DATE: 02/11/98

FIGURE 2

SOIL BORING LOCATION DIAGRAM

DRYCLEAN USA FACILITY
THE BROWNSTONES SHOPPING CENTER
17680 W. BLUEMOUND RD. BROOKFIELD, WI 53045



LEGEND

- ⌀ SOIL BORING LOCATIONS (INSTALLED JANUARY, 1998)
- O PRIOR SOIL BORING
- ND = NOT DETECTED AT OR BELOW THE REPORTING LIMIT
- ug/kg = MICROGRAMS PER KILOGRAM
- 3'-4' = 3 TO 4 FEET BELOW GROUND SURFACE

N
W E
S

APPROXIMATE SCALE

0 10 20

McLaren Hart ENVIRONMENTAL ENGINEERING CORPORATION

DRWN: JAD	CHK'D: BWS
JOB#: 10080-5104-001	DATE: 02/11/98

FIGURE 3

SOIL ANALYTICAL RESULTS

DRYCLEAN USA FACILITY
THE BROWNSTONES SHOPPING CENTER
17680 W. BLUEMOUND RD. BROOKFIELD, WI 53045

Table 1
SOIL ANALYTICAL RESULTS
Dryclean USA Facility
17680 West Bluemound Road
Brookfield, Wisconsin

Samples analyzed for Volatile Organic Compounds-special list (VOCs (Method 8260)).
Concentrations in Micrograms per Kilogram

Dryclean USA and adjacient Facilities

	Sample Identification	SB-1	SB-2	SB-3	SB-3	SB-4	SB-4	SB-5	SB-5	SB-6	SB-6	SB-7	SB-8	SB-8
	Depth (ft)	4-6	5-7	3-5	5-7	2-4	5-7	2-4	4-6	2-4	4-6	2-4	4-5	5-7
	Date Collected	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97	4/30/97
ANALYTES:	1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Tetrachloroethene	180	140	65	51	47	140	230	220	56	35	ND	87	32
	Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

	Sample Identification	SB-11	SB-11	SB-12	SB-12	SB-13	SB-13	SB-14	SB-14	SB-15	SB-15	SB-16	SB-16	SB-17	SB-17	SB-18
	Depth (ft)	3-4	5-6	3-4	5-7	3-4	5-7	2-4	6-8	2-4	6-8	2-4	5-7	2-4	6-8	3-4
	Date Collected	1/10/98	1/10/98	1/10/98	1/10/98	1/10/98	1/10/98	1/10/98	1/10/98	1/10/98	1/10/98	1/31/98	1/31/98	1/10/98	1/10/98	1/31/98
ANALYTES:	1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	290
	Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	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.

TABLE 2
WDNR DIRECT CONTACT RISK MODEL
SOIL CLEAN-UP GOALS

COMPOUND: PCE

PROJECT NAME: Dryclean U.S.A.

SITE SPECIFIC PROPERTIES:

CONTAMINANT CONCENTRATION	C_{CHEM}=	8.5	mg/kg
WIDTH OF CONTAMINATED AREA	LS=	15	m
AREA OF CONTAMINATED SOIL	A=	175	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 (NON-INDUSTRIAL)

AGE ADJUSTED SOIL INGESTION FACTOR	$IF_{SOIL/ADJ}$=	**114.29**	**mg-yr/kg-day**
CANCER RISK FROM INGESTION OF CONTAMINATED SOIL	$RISK_{ING-CHEM}$=	**6.92E-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=**	**1.88E+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}=	**1750000**	**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	$D_{ei-CHEM}$=	**0.066155**	**cm^2/g**
CHEMICAL ALPHA VALUE	$Þ_{CHEM}$=	**0.008935**	**cm^2/sec**
SOIL TO AIR VOLATILIZATION FACTOR	VF_{CHEM}=	**6146.558**	**m^3/kg**
CANCER RISK DUE TO INHALATION OF VAPORS	$RISK_{INHV-CHEM}$=	**3.3E-07**	**unitless**

EXCESS CANCER RISK DUE TO CHEMICAL CONTAMINATED SOIL

$RISK_{CHEM}$= 1.02E-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 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 8260) 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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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 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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EN CHEM INC.

1795 Industrial Drive
Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
FAX: 414-469-8827

. . . *chemistry for the environment*

Lab Certifications
Wisconsin: 405132750
Minnesota: 055-999-334
Iowa: 135

Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB1 4-6
Sample Desc. :
Sample Matrix : SOIL — Date Collected: 04/30/1997
En Chem Proj# : 9705019 — Date Received : 05/01/1997
En Chem Lab # : 224706 — Date Reported : 05/06/1997

Report to: MC LAREN/HART
3695-M NORTH 126TH STREET
BROOKFIELD, WI 53005

Bill to: MCLAREN/HART

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	86	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	RJN

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		25	60
1,2-Dichloroethane	ND	ug/kg		25	60
1,1-Dichloroethene	ND	ug/kg		25	60
cis-1,2-Dichloroethene	ND	ug/kg		25	60
trans-1,2-Dichloroethene	ND	ug/kg		25	60
Tetrachloroethene	180	ug/kg		29	70
1,1,1-Trichloroethane	ND	ug/kg		25	60
1,1,2-Trichloroethane	ND	ug/kg		25	60
Trichloroethene	ND	ug/kg		25	60
Vinyl chloride	ND	ug/kg		25	60
Dibromofluoromethane (SS)	98	%Recov			
Toluene-d8 (SS)	100	%Recov			
4-Bromofluorobenzene (SS)	90	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by: J. Duranceau

EN CHEM INC.

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Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
FAX: 414-469-8827

. . . chemistry for the environment

Lab Certifications
Wisconsin: 405132750
Minnesota: 055-999-334
Iowa: 135

Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB2 5-7
Sample Desc. :
Sample Matrix : SOIL — Date Collected: 04/30/1997
En Chem Proj# : 9705019 — Date Received : 05/01/1997
En Chem Lab # : 224707 — Date Reported : 05/06/1997

Report to: MC LAREN/HART
3695-M NORTH 126TH STREET
BROOKFIELD, WI 53005

Bill to: MCLAREN/HART

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	84	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	RJN

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		25	60
1,2-Dichloroethane	ND	ug/kg		25	60
1,1-Dichloroethene	ND	ug/kg		25	60
cis-1,2-Dichloroethene	ND	ug/kg		25	60
trans-1,2-Dichloroethene	ND	ug/kg		25	60
Tetrachloroethene	140	ug/kg		30	72
1,1,1-Trichloroethane	ND	ug/kg		25	60
1,1,2-Trichloroethane	ND	ug/kg		25	60
Trichloroethene	ND	ug/kg		25	60
Vinyl chloride	ND	ug/kg		25	60
Dibromofluoromethane (SS)	98	%Recov			
Toluene-d8 (SS)	99	%Recov			
4-Bromofluorobenzene (SS)	93	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by: J. Duncan

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Minnesota: 055-999-334
Iowa: 135

Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB3 3-5
Sample Desc. :
Sample Matrix : SOIL — Date Collected: 04/30/1997
En Chem Proj# : 9705019 — Date Received : 05/01/1997
En Chem Lab # : 224708 — Date Reported : 05/08/1997

Report to: MC LAREN/HART
3695-M NORTH 126TH STREET
BROOKFIELD, WI 53005

Bill to: MCLAREN/HART

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	85	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	CJG

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		25	60
1,2-Dichloroethane	ND	ug/kg		25	60
1,1-Dichloroethene	ND	ug/kg		25	60
cis-1,2-Dichloroethene	ND	ug/kg		25	60
trans-1,2-Dichloroethene	ND	ug/kg		25	60
Tetrachloroethene	65	ug/kg	Q	29	70
1,1,1-Trichloroethane	ND	ug/kg		25	60
1,1,2-Trichloroethane	ND	ug/kg		25	60
Trichloroethene	ND	ug/kg		25	60
Vinyl chloride	ND	ug/kg		25	60
Dibromofluoromethane (SS)	110	%Recov			
Toluene-d8 (SS)	106	%Recov			
4-Bromofluorobenzene (SS)	98	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by: J. Duranceau

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Minnesota: 055-999-334
Iowa: 135

Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB3 5-7
Sample Desc. :
Sample Matrix : SOIL Date Collected: 04/30/1997
En Chem Proj# : 9705019 Date Received : 05/01/1997
En Chem Lab # : 224709 Date Reported : 05/08/1997

Report to: MC LAREN/HART
3695-M NORTH 126TH STREET
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Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	82	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	CJG

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		25	60
1,2-Dichloroethane	ND	ug/kg		25	60
1,1-Dichloroethene	ND	ug/kg		25	60
cis-1,2-Dichloroethene	ND	ug/kg		25	60
trans-1,2-Dichloroethene	ND	ug/kg		25	60
Tetrachloroethene	51	ug/kg	Q	31	74
1,1,1-Trichloroethane	ND	ug/kg		25	60
1,1,2-Trichloroethane	ND	ug/kg		25	60
Trichloroethene	ND	ug/kg		25	60
Vinyl chloride	ND	ug/kg		25	60
Dibromofluoromethane (SS)	111	%Recov			
Toluene-d8 (SS)	109	%Recov			
4-Bromofluorobenzene (SS)	98	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by: J. Durocean

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Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB4 2-4
Sample Desc. :
Sample Matrix : SOIL — Date Collected: 04/30/1997
En Chem Proj# : 9705019 — Date Received : 05/01/1997
En Chem Lab # : 224710 — Date Reported : 05/08/1997

Report to: MC LAREN/HART
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Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	92	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	CJG

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		25	60
1,2-Dichloroethane	ND	ug/kg		25	60
1,1-Dichloroethene	ND	ug/kg		25	60
cis-1,2-Dichloroethene	ND	ug/kg		25	60
trans-1,2-Dichloroethene	ND	ug/kg		25	60
Tetrachloroethene	47	ug/kg	Q	27	65
1,1,1-Trichloroethane	ND	ug/kg		25	60
1,1,2-Trichloroethane	ND	ug/kg		25	60
Trichloroethene	ND	ug/kg		25	60
Vinyl chloride	ND	ug/kg		25	60
Dibromofluoromethane (SS)	115	%Recov			
Toluene-d8 (SS)	110	%Recov			
4-Bromofluorobenzene (SS)	98	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by: Jo Duracean

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Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB4 4-6
Sample Desc. :
Sample Matrix : SOIL — Date Collected: 04/30/1997
En Chem Proj# : 9705019 — Date Received : 05/01/1997
En Chem Lab # : 224711 — Date Reported : 05/07/1997

Report to: MC LAREN/HART
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Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	83	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	CJG

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		25	60
1,2-Dichloroethane	ND	ug/kg		25	60
1,1-Dichloroethene	ND	ug/kg		25	60
cis-1,2-Dichloroethene	ND	ug/kg		25	60
trans-1,2-Dichloroethene	ND	ug/kg		25	60
Tetrachloroethene	140	ug/kg		30	72
1,1,1-Trichloroethane	ND	ug/kg		25	60
1,1,2-Trichloroethane	ND	ug/kg		25	60
Trichloroethene	ND	ug/kg		25	60
Vinyl chloride	ND	ug/kg		25	60
Dibromofluoromethane (SS)	108	%Recov			
Toluene-d8 (SS)	101	%Recov			
4-Bromofluorobenzene (SS)	95	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by: J. Durocher

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Iowa: 135

Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB5 2-4
Sample Desc. :
Sample Matrix : SOIL — Date Collected: 04/30/1997
En Chem Proj# : 9705019 — Date Received : 05/01/1997
En Chem Lab # : 224712 — Date Reported : 05/07/1997

Report to: MC LAREN/HART
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Bill to: MCLAREN/HART

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	94	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	CJG

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		25	60
1,2-Dichloroethane	ND	ug/kg		25	60
1,1-Dichloroethene	ND	ug/kg		25	60
cis-1,2-Dichloroethene	ND	ug/kg		25	60
trans-1,2-Dichloroethene	ND	ug/kg		25	60
Tetrachloroethene	230	ug/kg		26	62
1,1,1-Trichloroethane	ND	ug/kg		25	60
1,1,2-Trichloroethane	ND	ug/kg		25	60
Trichloroethene	ND	ug/kg		25	60
Vinyl chloride	ND	ug/kg		25	60
Dibromofluoromethane (SS)	117	%Recov			
Toluene-d8 (SS)	115	%Recov			
4-Bromofluorobenzene (SS)	103	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by: J. Duracean

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Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB5 4-6
Sample Desc. :
Sample Matrix : SOIL Date Collected: 04/30/1997
En Chem Proj# : 9705019 Date Received : 05/01/1997
En Chem Lab # : 224713 Date Reported : 05/07/1997

Report to: MC LAREN/HART
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Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	81	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	CJG

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		25	60
1,2-Dichloroethane	ND	ug/kg		25	60
1,1-Dichloroethene	ND	ug/kg		25	60
cis-1,2-Dichloroethene	ND	ug/kg		25	60
trans-1,2-Dichloroethene	ND	ug/kg		25	60
Tetrachloroethene	220	ug/kg		31	74
1,1,1-Trichloroethane	ND	ug/kg		25	60
1,1,2-Trichloroethane	ND	ug/kg		25	60
Trichloroethene	ND	ug/kg		25	60
Vinyl chloride	ND	ug/kg		25	60
Dibromofluoromethane (SS)	111	%Recov			
Toluene-d8 (SS)	103	%Recov			
4-Bromofluorobenzene (SS)	95	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by: J. Durocher

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Iowa: 135

Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB6 2-4
Sample Desc. :
Sample Matrix : SOIL — Date Collected: 04/30/1997
En Chem Proj# : 9705019 — Date Received : 05/01/1997
En Chem Lab # : 224715 — Date Reported : 05/08/1997

Report to: MC LAREN/HART
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Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	93	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	CJG

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		25	60
1,2-Dichloroethane	ND	ug/kg		25	60
1,1-Dichloroethene	ND	ug/kg		25	60
cis-1,2-Dichloroethene	ND	ug/kg		25	60
trans-1,2-Dichloroethene	ND	ug/kg		25	60
Tetrachloroethene	56	ug/kg	Q	27	65
1,1,1-Trichloroethane	ND	ug/kg		25	60
1,1,2-Trichloroethane	ND	ug/kg		25	60
Trichloroethene	ND	ug/kg		25	60
Vinyl chloride	ND	ug/kg		25	60
Dibromofluoromethane (SS)	117	%Recov			
Toluene-d8 (SS)	112	%Recov			
4-Bromofluorobenzene (SS)	103	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by:

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Iowa: 135

Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB6 4-6
Sample Desc. :
Sample Matrix : SOIL — Date Collected: 04/30/1997
En Chem Proj# : 9705019 — Date Received : 05/01/1997
En Chem Lab # : 224716 — Date Reported : 05/08/1997

Report to: MC LAREN/HART
3695-M NORTH 126TH STREET
BROOKFIELD, WI 53005

Bill to: MCLAREN/HART

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	85	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	CJG

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		25	60
1,2-Dichloroethane	ND	ug/kg		25	60
1,1-Dichloroethene	ND	ug/kg		25	60
cis-1,2-Dichloroethene	ND	ug/kg		25	60
trans-1,2-Dichloroethene	ND	ug/kg		25	60
Tetrachloroethene	35	ug/kg	Q	30	72
1,1,1-Trichloroethane	ND	ug/kg		25	60
1,1,2-Trichloroethane	ND	ug/kg		25	60
Trichloroethene	ND	ug/kg		25	60
Vinyl chloride	ND	ug/kg		25	60
Dibromofluoromethane (SS)	111	%Recov			
Toluene-d8 (SS)	105	%Recov			
4-Bromofluorobenzene (SS)	97	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by: J. Duncan

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Lab Certifications
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Iowa: 135

Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB7 2-4
Sample Desc. :
Sample Matrix : SOIL — Date Collected: 04/30/1997
En Chem Proj# : 9705019 — Date Received : 05/01/1997
En Chem Lab # : 224714 — Date Reported : 05/07/1997

Report to: MC LAREN/HART
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Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	93	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	CJG

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		750	1800
1,2-Dichloroethane	ND	ug/kg		750	1800
1,1-Dichloroethene	ND	ug/kg		750	1800
cis-1,2-Dichloroethene	ND	ug/kg		750	1800
trans-1,2-Dichloroethene	ND	ug/kg		750	1800
Tetrachloroethene	ND	ug/kg		750	1800
1,1,1-Trichloroethane	ND	ug/kg		750	1800
1,1,2-Trichloroethane	ND	ug/kg		750	1800
Trichloroethene	ND	ug/kg		750	1800
Vinyl chloride	ND	ug/kg		750	1800
Dibromofluoromethane (SS)	86	%Recov			
Toluene-d8 (SS)	112	%Recov			
4-Bromofluorobenzene (SS)	125	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by: Jp. Duracean

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Iowa: 135

Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB8 4-5
Sample Desc. :
Sample Matrix : SOIL — Date Collected: 04/30/1997
En Chem Proj# : 9705019 — Date Received : 05/01/1997
En Chem Lab # : 224717 — Date Reported : 05/08/1997

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Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	79	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	CJG

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		25	60
1,2-Dichloroethane	ND	ug/kg		25	60
1,1-Dichloroethene	ND	ug/kg		25	60
cis-1,2-Dichloroethene	ND	ug/kg		25	60
trans-1,2-Dichloroethene	ND	ug/kg		25	60
Tetrachloroethene	87	ug/kg		32	77
1,1,1-Trichloroethane	ND	ug/kg		25	60
1,1,2-Trichloroethane	ND	ug/kg		25	60
Trichloroethene	ND	ug/kg		25	60
Vinyl chloride	ND	ug/kg		25	60
Dibromofluoromethane (SS)	108	%Recov			
Toluene-d8 (SS)	103	%Recov			
4-Bromofluorobenzene (SS)	97	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by:

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Iowa: 135

Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: SB8 5-7
Sample Desc. :
Sample Matrix : SOIL — Date Collected: 04/30/1997
En Chem Proj# : 9705019 — Date Received : 05/01/1997
En Chem Lab # : 224718 — Date Reported : 05/08/1997

Report to: MC LAREN/HART
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Bill to: MCLAREN/HART

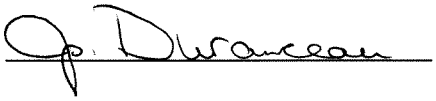
Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID			SM2540G	05/05/1997	PHS

Parameter	Result	Units	Flag	LOD	LOQ
Total Solids	80	percent			

Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+-S-ME	SW846 5030	05/02/1997	SW846 8260	05/05/1997	CJG

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/kg		25	60
1,2-Dichloroethane	ND	ug/kg		25	60
1,1-Dichloroethene	ND	ug/kg		25	60
cis-1,2-Dichloroethene	ND	ug/kg		25	60
trans-1,2-Dichloroethene	ND	ug/kg		25	60
Tetrachloroethene	32	ug/kg	Q	31	74
1,1,1-Trichloroethane	ND	ug/kg		25	60
1,1,2-Trichloroethane	ND	ug/kg		25	60
Trichloroethene	ND	ug/kg		25	60
Vinyl chloride	ND	ug/kg		25	60
Dibromofluoromethane (SS)	110	%Recov			
Toluene-d8 (SS)	103	%Recov			
4-Bromofluorobenzene (SS)	95	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by: 

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Iowa: 135

Location : PRJ# 100805104001001/SPIC&SPAN
Your Sample ID: MEOH BLANK
Sample Desc. :
Sample Matrix : METHANOL Date Collected: 04/30/1997
En Chem Proj# : 9705019 Date Received : 05/01/1997
En Chem Lab # : 224719 Date Reported : 05/06/1997

Report to: MC LAREN/HART
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Analysis	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
8260+	SW846 5030	05/02/1997	SW846 8260	05/05/1997	RJN

Parameter	Result	Units	Flag	LOD	LOQ
1,1-Dichloroethane	ND	ug/l		25	60
1,2-Dichloroethane	ND	ug/l		25	60
1,1-Dichloroethene	ND	ug/l		25	60
cis-1,2-Dichloroethene	ND	ug/l		25	60
trans-1,2-Dichloroethene	ND	ug/l		25	60
Tetrachloroethene	ND	ug/l		25	60
1,1,1-Trichloroethane	ND	ug/l		25	60
1,1,2-Trichloroethane	ND	ug/l		25	60
Trichloroethene	ND	ug/l		25	60
Vinyl chloride	ND	ug/l		25	60
Dibromofluoromethane (SS)	83	%Recov			
Toluene-d8 (SS)	85	%Recov			
4-Bromofluorobenzene (SS)	94	%Recov			

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by appropriately certified laboratories.

These results have been reviewed and their authenticity verified by: _____

Company Name: McLaren / Hart
Branch or Location: Brookfield
Project Contact: Brian Schneider
Telephone: 414-790-1974
Project Number: 10P805T04001601
Project Name: Spice + Spaw, Brownstones
Project Location: Brownstones Shopping Mall
Sampled By (Print): Tim Bork
Regulatory Program *(circle)*: UST RCRA CLP SDWA
NPDES/WPDES CAA NR____ Other____

EN CHEM INC. CHAIN OF CUSTODY

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FAX 414-469-8827

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Superior, WI 54880
715-392-5844 • 1-800-837-8238
FAX 715-392-5843

802 Deming Way
Madison, WI 53717
608-827-5501 • 1-888-5 ENCHEM
Fax: 608-827-5503

NR720 Confirmation Analysis Required?
(En Chem will confirm unless otherwise instructed.)

P.O. # ____ Quote # 3429 Page 1 of 2

Mail Report To: Brian Schneider
Company: McLaren / Hart
Address: 3615 N 124th St
Brookfield, WI 53005
Invoice To: Brian Schneider
Company:
Address:
Mail Invoice To: Brian Schneider

Field ID	Sample Description	Collection Date	Collection Time	Field Screen	Matrix	Filt'd Y/N	Preserv*	Analysis Requested	SHADED AREA FOR LABORATORY USE ONLY: Good Cond.	Total Bottles	Comments	Laboratory Number
SB1 4-6		4/30		NA	Soil	NA	NC-F DRYWT-A	SW 846 8260 (target list) Dry Wt	✓	1-2oz M 1-5oz		224706
SB2 5-7												224707
SB3 3-5												224708
SB3 5-7												224709
SB4 2-4												224710
SB4 4-6												224711
SB5 2-4												224712
SB5 4-6												224713
SB7 2-4												224714
SB6 2-4												224715
SB6 4-6												224716
SB8 4-5												224717

*Preservation Code
A=None B=HCL C=H2SO4
D=HN03 E=EnCore F=Methanol**
G=NaOH O=Other (Indicate)

**If not using En Chem's methanol, indicate volume of methanol added and mark the appropriate samples.

Relinquished By:	Date/Time:	Received By:
T Bork	5/1/97 10:00	[illegible]
[illegible]	5/1/97 13:00	5/1/97 Q Wecker 1320 RO
Q Wecker	5/1/97 1610	[illegible]

Received By (En Chem): [illegible]

En Chem Project No. 9705019

Sample Receipt Temp. *(Must be rec'd at 4°C)*: ROI

EN CHEM INC. — CHAIN OF CUSTODY

P.O. # ✓ JW Quote # 3429 Page 2 of 2

Company Name:
Branch or Location:
Project Contact:
Telephone:
Project Number: SAME as 1 of 2
Project Name:
Project Location:
Sampled By (Print):

Regulatory Program *(circle)*: UST RCRA CLP SDWA
NPDES/WPDES CAA NR_____ Other_____

NR720 Confirmation Analysis Required?
(En Chem will confirm unless otherwise instructed.)

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2231 Catlin Ave., Suite 420, Superior, WI 54880, 715-392-5844 • 1-800-837-8238, FAX 715-392-5843
802 Deming Way, Madison, WI 53717, 608-827-5501 • 1-888-5 ENCHEM, Fax: 608-827-5503

Mail Report To:
Company:
Address: SAME as 1 of 2

Invoice To:
Company:
Address: SAME as 1 of 2

Mail Invoice To:

Field ID	Sample Description	Collection Date	Collection Time	Field Screen	Matrix	Filt'd Y/N	Preserv*	Analysis Requested	SHADED AREA FOR LABORATORY USE ONLY: Good Cond.	Total Bottles	Comments	Laboratory Number
SB3 5-7		4/30		NA	Soil	NA	Vial-F DRYwt-A	SW 846 8260 (target list only) DryWt		1-2oz-M 1-5oz		224718
MeOH Blank		4/30		NA	F	NA	F	SW 846 8260		1-2oz-M		224719

*Preservation Code
A=None B=HCL C=H2SO4
D=HN03 E=EnCore F=Methanol**
G=NaOH O=Other (Indicate)

**If not using En Chem's methanol, indicate volume of methanol added and mark the appropriate samples.

Relinquished By:	Date/Time:	Received By:
[signature]	5/1/97 10:00	[signature] ROI
[signature]	5/1/97 13:00	5/1/97 a Wacker 1320 ROI
a Wacker	5/1/97 1610	[signature] ROI

En Chem Project No. 9705019

Sample Receipt Temp. *(Must be rec'd at 4°C)* ROI

EN CHEM INC.

. . . chemistry for the environment

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Lab Certification No. 405132750
Location : PRJ# 100805104001001/SPIC&SPAN
En Chem Proj# : 9705019
Date Reported : 05/08/1997

Report to: MC LAREN/HART

Thank you for using En Chem! Samples were analyzed according to strict EPA or Wisconsin DNR methodology. Any comments or problems associated with the receipt of or analysis are reported below:

The LOQ for the VOC analysis is 60 ug/kg for those samples with a dilution factor of 50. Detection limits are corrected for percent solids for those parameters that were detected.

The "Q" flag is present when a parameter has been detected below the LOQ. This indicates the results are qualified due to the uncertainty of the parameter concentration between the LOD and LOQ.

Sample nos. 224708, 224709, 224710, 224715, 224716 and 224718: The presence of Tetrachloroethene was confirmed on 05/07/97 by a second GC/MS analysis.

Sample no. 224714: Detection limit for VOC elevated due to the presence of an unrequested analyte.

EN CHEM INC.

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- Analytical Report -

Project Name : DRYCLEAN USA

Project Number : 100805104001

WI DNR LAB ID : 405132750

Client: MC LAREN/HART

Report Date : 1/15/98

Sample No.	Field ID	Collection Date	Sample No.	Field ID	Collection Date
880135-001	SB-12 3'-4'	1/10/98			
880135-002	SB-12 5'-7'	1/10/98			
880135-003	SB-13 3'-4'	1/10/98			
880135-004	SB-13 5'-7'	1/10/98			
880135-005	SB-11 3'-4'	1/10/98			
880135-006	SB-11 5'-6'	1/10/98			
880135-007	SB-14 2'-4'	1/10/98			
880135-008	SB-14 6'-8'	1/10/98			
880135-009	SB-17 2'-4'	1/10/98			
880135-010	SB-17 6'-8'	1/10/98			
880135-011	SB-15 2'-4'	1/10/98			
880135-012	SB-15 6'-8'	1/10/98			
880135-013	MEOH BLANK	1/10/98			

The "Q" flag is present when a parameter has been detected below the LOQ. This indicates the results are qualified due to the uncertainty of the parameter concentration between the LOD and the LOQ.

Soil VOC detects are corrected for the total solids, unless otherwise noted.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this final report is authorized by Laboratory management, as is verified by the following signature.

J. Duranceau — 1/15/98

Approval Signature **Date**

EN CHEM INC.

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- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Field ID : SB-12 3'-4'
Lab Sample Number : 880135-001
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	88.4				%		1/13/98	SM2540G	SM2540G	PHS

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL **Prep Method:** SW846 5030 **Prep Date:** 1/13/98 **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/kg		1/13/98	SW846 8260
4-Bromofluorobenzene	90				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	98				%Recov		1/13/98	SW846 8260
Toluene-d8	97				%Recov		1/13/98	SW846 8260

All soil results are reported on a dry weight basis unless otherwise noted.

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- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Field ID : SB-12 5'-7'
Lab Sample Number : 880135-002
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	82.5				%		1/13/98	SM2540G	SM2540G	PHS

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL **Prep Method:** SW846 5030 **Prep Date:** 1/13/98 **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/kg		1/13/98	SW846 8260
4-Bromofluorobenzene	99				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	107				%Recov		1/13/98	SW846 8260
Toluene-d8	106				%Recov		1/13/98	SW846 8260

All soil results are reported on a dry weight basis unless otherwise noted.

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- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Field ID : SB-13 3'-4'
Lab Sample Number : 880135-003
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	81.9				%		1/13/98	SM2540G	SM2540G	PHS

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL **Prep Method:** SW846 5030 **Prep Date:** 1/13/98 **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/kg		1/13/98	SW846 8260
4-Bromofluorobenzene	93				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	102				%Recov		1/13/98	SW846 8260
Toluene-d8	101				%Recov		1/13/98	SW846 8260

All soil results are reported on a dry weight basis unless otherwise noted.

EN CHEM INC.

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- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Field ID : SB-14 2'-4'
Lab Sample Number : 880135-007
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	86.8				%		1/13/98	SM2540G	SM2540G	PHS

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL **Prep Method:** SW846 5030 **Prep Date:** 1/13/98 **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/kg		1/13/98	SW846 8260
4-Bromofluorobenzene	99				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	109				%Recov		1/13/98	SW846 8260
Toluene-d8	107				%Recov		1/13/98	SW846 8260

All soil results are reported on a dry weight basis unless otherwise noted.

EN CHEM INC.

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- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Field ID : SB-13 5'-7'
Lab Sample Number : 880135-004
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	79.1				%		1/13/98	SM2540G	SM2540G	PHS

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL **Prep Method:** SW846 5030 **Prep Date:** 1/13/98 **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/kg		1/13/98	SW846 8260
4-Bromofluorobenzene	97				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	106				%Recov		1/13/98	SW846 8260
Toluene-d8	102				%Recov		1/13/98	SW846 8260

All soil results are reported on a dry weight basis unless otherwise noted.

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- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Field ID : SB-11 3'-4'
Lab Sample Number : 880135-005
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	85.2				%		1/13/98	SM2540G	SM2540G	PHS

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL — **Prep Method:** SW846 5030 — **Prep Date:** 1/13/98 — **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/kg		1/13/98	SW846 8260
4-Bromofluorobenzene	98				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	110				%Recov		1/13/98	SW846 8260
Toluene-d8	106				%Recov		1/13/98	SW846 8260

All soil results are reported on a dry weight basis unless otherwise noted.

EN CHEM INC.

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- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Ficld ID : SB-11 5'-6'
Lab Sample Number : 880135-006
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	84.8				%		1/13/98	SM2540G	SM2540G	PHS

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL **Prep Method:** SW846 5030 **Prep Date:** 1/13/98 **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/kg		1/13/98	SW846 8260
4-Bromofluorobenzene	97				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	106				%Recov		1/13/98	SW846 8260
Toluene-d8	106				%Recov		1/13/98	SW846 8260

All soil results are reported on a dry weight basis unless otherwise noted.

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- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Field ID : SB-14 6'-8'
Lab Sample Number : 880135-008
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	83.1				%		1/13/98	SM2540G	SM2540G	PHS

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL **Prep Method:** SW846 5030 **Prep Date:** 1/13/98 **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/kg		1/13/98	SW846 8260
4-Bromofluorobenzene	104				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	115				%Recov		1/13/98	SW846 8260
Toluene-d8	113				%Recov		1/13/98	SW846 8260

All soil results are reported on a dry weight basis unless otherwise noted.

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- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Field ID : SB-17 2'-4'
Lab Sample Number : 880135-009
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	77.4				%		1/13/98	SM2540G	SM2540G	PHS

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL **Prep Method:** SW846 5030 **Prep Date:** 1/13/98 **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/kg		1/13/98	SW846 8260
4-Bromofluorobenzene	103				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	112				%Recov		1/13/98	SW846 8260
Toluene-d8	112				%Recov		1/13/98	SW846 8260

All soil results are reported on a dry weight basis unless otherwise noted.

EN CHEM INC.

1795 Industrial Drive
Green Bay, WI 54302
920-469-2436
800-7-ENCHEM
FAX: 920-469-8827

- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Field ID : SB-17 5'-9'
Lab Sample Number : 880135-010
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	80.9				%		1/13/98	SM2540G	SM2540G	PHS

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL **Prep Method:** SW846 5030 **Prep Date:** 1/13/98 **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/kg		1/13/98	SW846 8260
4-Bromofluorobenzene	100				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	111				%Recov		1/13/98	SW846 8260
Toluene-d8	109				%Recov		1/13/98	SW846 8260

All soil results are reported on a dry weight basis unless otherwise noted.

EN CHEM INC.

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Green Bay, WI 54302
920-469-2436
800-7-ENCHEM
FAX: 920-469-8827

- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Field ID : SB-15 2'-4'
Lab Sample Number : 880135-011
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	82.6				%		1/13/98	SM2540G	SM2540G	PHS

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL **Prep Method:** SW846 5030 **Prep Date:** 1/13/98 **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/kg		1/13/98	SW846 8260
4-Bromofluorobenzene	92				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	103				%Recov		1/13/98	SW846 8260
Toluene-d8	102				%Recov		1/13/98	SW846 8260

All soil results are reported on a dry weight basis unless otherwise noted.

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- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Field ID : SB-15 6'-8'
Lab Sample Number : 880135-012
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Solids, percent	80.6				%		1/13/98	SM2540G	SM2540G	PHS

Organic Results

SPECIAL VOLATILE LIST - SOIL/METHANOL **Prep Method:** SW846 5030 **Prep Date:** 1/13/98 **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/kg		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/kg		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/kg		1/13/98	SW846 8260
4-Bromofluorobenzene	96				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	104				%Recov		1/13/98	SW846 8260
Toluene-d8	105				%Recov		1/13/98	SW846 8260

All soil results are reported on a dry weight basis unless otherwise noted.

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- Analytical Report -

Project Name : DRYCLEAN USA
Project Number : 100805104001
Field ID : MEOH BLANK
Lab Sample Number : 880135-013
WI DNR LAB ID : 405132750

Client : MC LAREN/HART
Report Date : 1/14/98
Collection Date : 1/10/98
Matrix Type : METHANOL

Organic Results

SPECIAL VOLATILE LIST - METHANOL **Prep Method:** SW846 5030 **Prep Date:** 1/13/98 **Analyst:** JJB

Analyte	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Analysis Method
1,1-Dichloroethane	< 25	25	60		ug/L		1/13/98	SW846 8260
1,1-Dichioroethene	< 25	25	60		ug/L		1/13/98	SW846 8260
1,2-Dichloroethane	< 25	25	60		ug/L		1/13/98	SW846 8260
trans-1,2-Dichloroethene	< 25	25	60		ug/L		1/13/98	SW846 8260
1,1,1-Trichloroethane	< 25	25	60		ug/L		1/13/98	SW846 8260
1,1,2-Trichloroethane	< 25	25	60		ug/L		1/13/98	SW846 8260
Trichloroethene	< 25	25	60		ug/L		1/13/98	SW846 8260
Tetrachloroethene	< 25	25	60		ug/L		1/13/98	SW846 8260
Vinyl chloride	< 25	25	60		ug/L		1/13/98	SW846 8260
4-Bromofluorobenzene	98				%Recov		1/13/98	SW846 8260
Dibromofluoromethane	100				%Recov		1/13/98	SW846 8260
Toluene-d8	95				%Recov		1/13/98	SW846 8260

EN CHEM INC.

1241 Bellevue St., Suite 9
Green Bay, WI 54302
920-469-2436 • 1-800-736-2436
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802 Deming Way
Madison, WI 53717
608-827-5501 • 1-888-536-2436
Fax: 608-827-5503

1423 N. 8th Street., Suite 122
Superior, WI 54880
715-392-5844 • 1-800-837-8238
FAX 715-392-5843

CHAIN OF CUSTODY

20542

Page 1 of

Company Name: McLaren Hart
Branch or Location: Pewaukee, WI
Project Contact: Brian Schneider
Telephone: 414 523-2040
Project Number: 10080 5104 001
Project Name: Dryclean USA
Project Location: Brookfield, WI
Sampled By (Print): George J. Bayer

P.O. # Quote # 970106003M

Mail Report To: Brian Schneider
Company: McLaren Hart
Address: W239 N 2890 Pewaukee Rd
Pewaukee, WI 53072

Invoice To: SAME
Company:
Address:

Mail Invoice To:

Regulatory Program *(circle)*: UST RCRA CLP SDWA
NPDES/WPDES CAA NR_____
Other

NR720 Confirmation Analysis Required? *(circle)*: Y N
(En Chem will not confirm unless otherwise instructed.)

ANALYSES REQUESTED

FILTERED? (YES/NO): NO
PRESERVATION (CODE)*: F

Special List VOC 8260 PCE, TCE, 111TCA, 11DCE, 112TCA, 11DCA, 12 DCA, Trans 1,2-DCE, Vinyl Chloride

FIELD ID	SAMPLE DESCRIPTION	COLLECTION DATE	COLLECTION TIME	FIELD SCREEN	MATRIX	GOOD COND.	TOTAL BOTTLES	COMMENTS	LABORATORY NUMBER
	SB-12 3'-4'	1/10/98			Soil	X	5 1-2oz		001
	SB-12 5'-7'								002
	SB-13 3'-4'								003
	SB-13 5'-7'								004
	SB-11 3-4								005
	SB-11 5'-6'								006
	SB-14 2'-4'								007
	SB-14 6'-8'								008
	SB-17 2'-4'								009
	SB-17 6'-8'								010
	SB-15 2-4								011
	SB-15 6'-8'								012
	MEOH BLANK						1-2oz		013

SHADED AREA FOR LABORATORY USE ONLY

*Preservation Code
A=None B=HCL C=H2SO4
D=HN03 E=EnCore F=Methanol**
G=NaOH O=Other (Indicate)

**If not using En Chem's methanol, indicate volume of methanol added and mark the appropriate samples.

Relinquished By:	Date/Time:	Received By:	Date/Time:
George J Bayer	1/12/98 8am	[illegible]	1/12/98 1130
[illegible]	1/12/98 11:30	[illegible]	1-12-98 1130
[illegible]	1-12-98 1400		
		Received By (En Chem): [illegible]	1-12-98 14:00

En Chem Project No. 880135
Sample Receipt Temp. KOI
Sample Receipt pH (Wet/Metals)

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		SB-1

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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)
☐ N ☐ E
Feet ☐ S Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
Waukesha		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
1	24		1	(concrete)										
				FILL, crushed stone and sand										
			2											
2	20		3											
			4		CL									
3	12		5	CLAY, silty, trace fine to coarse grained sand, brown, dry.										
			6											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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		SB-2

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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		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
1	24		1	(concrete)										
			1	FILL, crushed stone and sand										
			2											
2	8		3											
			4											
3	24		5											
			5	CLAY, silty, trace fine to coarse grained sand, brown, dry.	CL									
			6											
			7											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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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		SB-3

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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		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
1	24		1	(concrete)										
				FILL, crushed stone and sand										
			2											
2	20		3											
			4		CL									
				CLAY, silty, trace fine to coarse grained sand, brown, dry.										
3	12		5											
			6											

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

Signature	Firm
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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		SB-4

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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)
☐ N ☐ E
Feet ☐ S Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
Waukesha		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
1	24		1	(concrete)										
				FILL, crushed stone and sand										
			2											
2	8		3											
			4		CL									
				CLAY, silty, trace fine to coarse grained sand, brown, dry.										
3	24		5											
			6											
			7											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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		SB-5

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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)
☐ N ☐ E
Feet ☐ S Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
Waukesha		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
1	24		1	(concrete)										
				FILL, crushed stone and sand										
			2											
2	20		3											
			4											
				CLAY, silty, trace fine to coarse grained sand, brown, dry.										
3	12		5											
			6											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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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
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-6

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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 ☐ E ☐ W

County	DNR County Code	Civil Town/City/ or Village
Waukesha		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
1	24		1	(concrete)										
				FILL, crushed stone and sand										
			2											
2	20		3											
			4		CL									
				CLAY, silty, trace fine to coarse grained sand, brown, dry.										
3	12		5											
			6											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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		SB-7

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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		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
1	18		1	(concrete)										
				FILL, crushed stone and sand										
			2											
2	6		3											
			4											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-8

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-Site Environmental/Denny Totske	4/30/97	4/30/97	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		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
1	24		1	(concrete)										
				FILL, crushed stone and sand										
			2											
2	8		3		CL									
			4	CLAY, silty, trace fine to coarse grained sand, brown, dry.										
3	24		5											
			6											
			7											

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

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

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Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-11

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/10/98	1/10/98	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		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
1	24		1	(concrete)										
				FILL, crushed stone										
			2	SILT, clayey, some fine to coarse grained sand, brown, dry.	ML									
2	20		3	CLAY, silty, trace fine to coarse grained sand, brown, dry.	CL									
			4											
3	12		5											
			6											

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

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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		SB-12

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/10/98	1/10/98	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		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
1	24		1	(concrete)										
				FILL, crushed stone										
			2	SILT, clayey, some fine to coarse grained sand, brown, dry.	ML									
2	24		3	CLAY, silty, trace fine to coarse grained sand, brown, dry.	CL									
			4											
3	24		5											
			6											
			7											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

State of Wisconsin
Department of Natural Resources

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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		SB-13

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/10/98	1/10/98	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)
☐ N ☐ E
Feet ☐ S Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
Waukesha		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
1	24		1	(concrete) FILL, crushed stone										
2	8		3	SILT, clayey, some fine to coarse grained sand, brown, dry.	ML									
			4	CLAY, silty, trace fine to coarse grained sand, brown, dry.	CL									
3	24		5											
			6											
			7											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

State of Wisconsin
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☐ 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		SB-14

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/10/98	1/10/98	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		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
1	24		1	FILL, clayey silt, some to little fine to coarse grained sand, dark brown, moist.										
2	18		2	CLAY, silty, trace fine to coarse grained sand and gravel, brown, moist.	CL									
3	24		3 4 5											
4	24		6 7 8											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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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
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Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-15

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/10/98	1/10/98	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		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
1	24		1	FILL, clayey silt, some to little fine to coarse grained sand, dark brown, moist.										
2	18		2	CLAY, silty, trace fine to coarse grained sand and gravel, brown, moist.	CL									
3	24		3 4 5	(0.1 foot sand seam at 4.5 feet, wet)										
4	24		6 7 8											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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SOIL BORING LOG INFORMATION
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Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Dryclean USA Facility		SB-16

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/31/98	1/31/98	soil probe

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		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	(concrete)										
1	24		1	FILL, crushed stone	ML									
			2	SILT, clayey, some fine to coarse grained sand, light brown, dry.										
2	24		3	CLAY, silty, trace fine to coarse grained sand, brown, moist.	CL									
			4											
3	24		5											
			6											
			7											

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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		SB-17

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/10/98	1/10/98	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		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
1	24		1	FILL, silty fine to coarse grained sand dark to light brown, moist.										
2	12		2	CLAY, silty, trace fine to coarse grained sand and gravel, brown, moist.	CL									
3	24		3											
4	13		4											
			5											
			6											
			7											
			8											

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Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

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☐ 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		SB-18

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
On-site Environmental/Denny Totske	1/31/98	1/31/98	soil probe

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		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
1	18		1	(concrete)										
				FILL, crushed stone										
			2	SILT, clayey, some fine to coarse grained sand, brown, dry.	ML									
2	6		3											
			4											

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

Signature	Firm
	McLaren/Hart Brookfield, Wisconsin Tel: 414-790-1974, Fax: 414-790-1989

McLaren Hart sm

ENVIRONMENTAL ENGINEERING CORPORATION

W239 N2890 Pewaukee Road Unit # D
PEWAUKEE, WISCONSIN 53072
phone:(414)523-2040 fax:(414)523-2059

LETTER OF TRANSMITTAL

DATE: 1/12/98
JOB No:
RE:

TO: John Feeney
Wisconsin Department of Natural Resources
4041 N. Richards Street,
P.O. Box 12436
Milwaukee, Wisconsin 53212-0436

RECEIVED
JAN 14 1999
By

WE ARE SENDING:

- ☐ Attached
- ☐ Under separate cover via
- ☐ Letter
- ☐ Prints
- ☐ Diskette
- ☒ Report
- ☐ Specifications
- ☐ Samples
- ☐ Sketch
- ☐ Change Order
- ☐

COPIES	DATE	No.	DESCRIPTION
	11/4/97		STS Report Dry Clean USA
	5/1/97		STS Report Dry Clean USA

TRANSMITTED AS CHECKED BELOW:

- ☐ For your use
- ☐ For review and comment
- ☐ As requested
- ☐ Prints returned after loan to McLaren/Hart
- ☐ For services to be completed
- ☐

REMARKS:

John,
These are the reports you requested in your letter. Please call if you have any questions.
Thanks

COPY TO:

SIGNED:

(Translet.xls)

January 14, 1997

JAN 16 1997

Mr. John Fennimore
RREEF Funds
250 East Wisconsin Avenue
Suite 925
Milwaukee, WI 53202

Re: Soil Analytical Results From the Hand Augers and Monitoring Well Installation at the Brownstones Shopping Center in Brookfield, Wisconsin -- STS Project No. 85134XA

Dear Mr. Fennimore:

This correspondence has been prepared to present the results of the soil analysis from the hand augers and groundwater monitoring well installation at the Dryclean USA facility located at Brownstones Shopping Center at 17430-17680 West Bluemound Road in Brookfield, Wisconsin. The Dryclean USA facility is located within the 17680 West Bluemound Road building. STS completed three hand augers and installed one monitoring well at the aforementioned site. Soil samples from each of the hand augers, plus the monitoring well, were analyzed for chlorinated volatile organic compounds (CVOCs).

Installation/Sampling of Groundwater Monitoring Well

One monitoring wells, MW-1, was installed at the subject site on December 12, 1996. The well was installed north of the 17680 building near where the sewer line serving Dryclean USA exits from the building. The well was installed in accordance with NR140 of the Wisconsin Administrative Code (WAC). The well location is indicated on the attached Figure 1.

The well was installed to a depth of 15 feet below ground surface (bgs). The boring was drilled using 4-1/4-inch diameter continuous flight hollow stem augers. The well was screened to intersect the groundwater table, with the screen interval from 5 to 15 feet below ground surface. The well was constructed of Schedule 40 PVC well screen and riser. A flush-mounted protector pipe was installed. The well is secured with a flushmount cover that requires a special tool to remove and the cap of the well pipe also has a lock to secure it. Soil sampling was performed every 2 feet while drilling for in-field screening, soil classification and laboratory analytical purposes. The soils were classified visually according to the Unified Soil Classification System (USCS). Soil cuttings generated during the drilling procedure were containerized in WDOT-approved 55-gallon drums and will be stored on-site until proper disposal is arranged.

STS Consultants Ltd.
Consulting Engineers

11425 West Lake Park Drive
Milwaukee, Wisconsin 53224
414.359.3030/Fax 414.359.0822

Soil samples were field screened with a 10.6 eV Photoionization Detector (PID) using the WDNR headspace method to evaluate the presence and degree of impacts, if any. Two soil samples from the well boring were submitted for laboratory analysis. One of the two was from the apparent water table surface. The second sample was from 5 to 7 feet below the ground surface (bgs) at the approximate elevation of the backfill for the sanitary sewer line.

The monitoring well has not yet been sampled because water has not yet collected in the well. STS checked the monitoring well for water on December 19, 1996 and January 3, 1997. STS continues to check for water at the monitoring well approximately once every two weeks. Groundwater elevations are expected to rise in the spring at which time, a water sample will collected from the well once water has collected and the well has been properly developed in accordance with NR140, WAC.

Hand Auger Sampling Procedures

Three hand augers were conducted on the subject property. One hand auger (HA-1) was performed north of the Dry Clean USA facility's rear exit door to determine if any spills of dry cleaning materials had occurred outside of the building. The other two hand augers (HA-2 and HA-3) were located to the north and the south of the dry cleaning machine at Dryclean USA to provide information of possible impacts from the dry cleaning practices at the facility. The locations of these hand augers are indicated on the attached Figure 1.

Coring through the tile and concrete for the interior hand augers and the asphalt pavement for the exterior hand auger was required to perform the hand augers. After the coring was completed a split-spoon soil sample was taken. The soil sample was taken at 0.2-1.5 feet bgs at HA-1. The soil sample was taken at 1.3-1.8 feet bgs at HA-2 and from 1.4-2.0 feet bgs at HA-3. All three of these soil samples were taken from the soils located below the base course.

Samples were split into two samples. One sample was used for field screening soil classification purposes. The second sample was place directly into the laboratory sample jars for analytical testing. Soil samples were field screened using WDNR headspace methods.

The hand auger equipment was decontaminated between boring locations using Alconox™ and a distilled water rinse to prevent cross-contamination between soil sampling locations.

After the hand augers were completed, the boreholes were abandoned with bentonite chips to the bottom of the concrete or asphalt and filled with a concrete patch to the ground surface. The borehole abandonment forms are attached.

Laboratory Analysis

Soil samples were submitted to En Chem, Inc. Laboratory in Green Bay, Wisconsin for the analysis of select CVOCs. The CVOCs included were tetrachloroethene (PCE), 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), trans-1,2-dichloroethene, 1,1,2-trichloroethene, 1,1-Dichloroethane, 1,2-dichloroethene and vinyl chloride. These CVOCs were analyzed by EPA Method 8240. The analytical results and the chain-of-custody form are attached.

Soil Description

A silty clay topsoil fill was encountered at the monitoring well, from 0-1 foot bgs. A silty sand and clay fill was present below the topsoil fill to 3 feet bgs. Buried topsoil consisting of a silty clay was present from 3 to 5 feet bgs. A silty clay was present from 5 feet to the terminal depth of the boring, 17 feet bgs. The soil collected at the hand auger locations was a silty clay and sand. The boring logs are attached.

Field Screening Results

Soil samples were screened at 2 foot intervals at the monitoring well location and the sample collected just below the base course at each hand auger location was screened with a PID meter. None of the samples collected had elevated PID readings (readings greater than 1 instrument unit).

Soil Quality

No CVOCs were detected in the soil samples collected from MW-1 or from HA-1, located outside the building. The soil samples collected at HA-2 and HA-3 both had significant concentrations of PCE. At HA-2 the sample had a PCE concentration of 1200 ug/kg approximately equivalent to parts per billion. The sample from HA-3 had a PCE concentration of 2100 ug/kg.

Recommendations

The investigation indicates that a release of PCE has occurred and that PCE is present under the floor slab of the Dryclean USA facility. The notification of this release should be reported to the WDNR. After the release is reported the WDNR will likely recommend an investigation to determine the extent of the affected soils.

The monitoring well will be monitored, developed and sampled as soon as water collects in the well. The groundwater collected from the well will be analyzed for the same parameters as the soils from the well.

General Qualifications

The results, conclusions and recommendations presented in this report are based upon the data obtained from the specific sampling locations and under the conditions stated in the report. Variations in the soil and groundwater conditions typically exist at most sites between sampling locations and at different times. This report has been prepared to aid our client in the evaluation of the groundwater conditions. This report should not be utilized for any purpose other than specifically stated.

We appreciate the opportunity to be of service to you. Please do not hesitate to contact us at (414)359-3030 if you have any questions or comments.

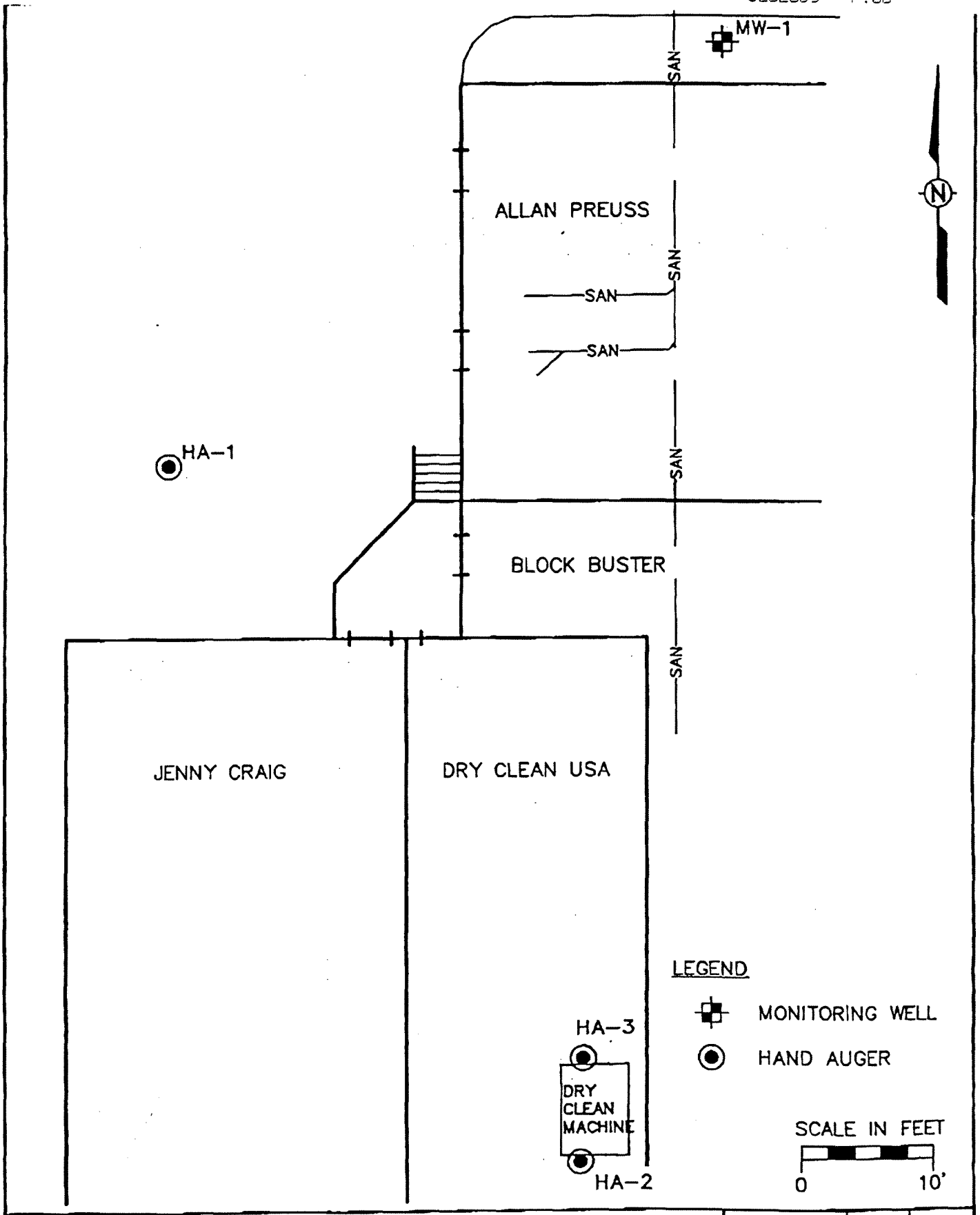
Respectfully,

STS CONSULTANTS, LTD

Mary L. Siegan, E.I.T.
Assistant Project Engineer

Thomas W. Kroeger
Principal Hydrogeologist

Attachments



STS Consultants Ltd.
Consulting Engineers

MONITORING WELL AND HAND AUGER LOCATION MAP BROWNSTONES SHOPPING CENTER 17680 WEST BLUEMOUND ROAD BROOKFIELD, WISCONSIN

DRAWN BY	JMI.	1-6-97
CHECKED BY	MLS	1-6-97
APPROVED BY	TWK	1-6-97
CADFILE G534A001	SCALE AS SHOWN	
STS PROJECT NO. 85134XA	FIGURE NO. 1	

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
85134XA

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
17680 West Bluemound Road		MW-1

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Wisconsin Soil Testing Andrew Guenther	12/12/96	12/12/96	Solid Stem Auger

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Water Level	Surface Elevation	Borehole Diameter
		MW-1			4.25 inches

Boring Location State Plane	Lat Long	Local Grid Location (if applicable)
SW 1/4 of SW 1/4 of Section 28, T 7 N, R 20 E		Feet S Feet W

County	DNR County Code	Civil Town/City/ or Village
Waukesha County	68	City of Brookfield, Wisconsin

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
			0	Fill: Topsoil-silty clay, trace fine to coarse sand-brown-moist	CL									
1	8	7	2.5	Fill: Silty sand and clay, some fine to coarse gravel-brown-moist	CL/SM			<1						
2	4	8	5	Topsoil: Silty clay, trace fine to coarse gravel-brown-moist	CL			<1	0.5					
3	17	6						<1	0.5					
4	24	15	7.5	Silty clay, trace silt seams and fine sand seams-brown to gray-moist				<1	4.5+					
5	24	19	10					<1	4.5					
6	24	31	12.5		CL			<1	4.5+					
7	24	27						<1	4.5+					
8	24	26	15					<1	3.75					
			17.5	END OF BORING Groundwater monitoring well installed to 16.0 feet on 12-12-96.										
			20											
			22.5											
			25											
			27.5											

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

Signature: Mary Stegan Firm: STS Consultants, Ltd

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.

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
85'34XA

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
17680 West Bluemound Road		HA-1

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
STS Consultants Ltd. DLM	12/12/96	12/12/96	Hand Auger

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Water Level	Surface Elevation	Borehole Diameter
					3.0 Inches

Boring Location		Local Grid Location (if applicable)
State Plane SW 1/4 of SW 1/4 of Section 28, T 7 N, R 20 E	Lat Long	Feet S Feet W

County	DNR County Code	Civil Town/City/ or Village
Waukesha County	68	City of Brookfield, Wisconsin

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
1	8			Asphalt pavement										
				Silty clay and fine to coarse sand-brown-moist	CL/SP			<1						
			2.5	END OF BORING Backfilled with bentonite chips and concrete patch at surface.										
			5											
			7.5											
			10											
			12.5											
			15											
			17.5											
			20											
			22.5											
			25											
			27.5											

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

Signature	Firm
Mary L. Hogan	STS Consultants, Ltd

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.

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
85134XA

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
17680 West Bluemound Road		*HA-2*

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
STS Consultants Ltd. *DLM*	*12/12/98*	*12/12/98*	*Hand Auger*

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Water Level	Surface Elevation	Borehole Diameter
					3.0 inches

Boring Location State Plane	Lat Long	Local Grid Location (if applicable)
SW 1/4 of SW 1/4 of Section 28, T 7 N, R 20 E		*Feet S* *Feet W*

County	DNR County Code	Civil Town/City/ or Village
Waukesha County	*68*	*City of Brookfield, Wisconsin*

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				Concrete under tile	GP									
1	4		2.5	Base coarse	GP			<1						
				Fill: Silty clay with fine to coarse sand and gravel-brown-moist										
			5	END OF BORING Backfilled with bentonite chips and concrete patch.										
			7.5											
			10											
			12.5											
			15											
			17.5											
			20											
			22.5											
			25											
			27.5											

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

Signature	Firm
Mary Logan	STS Consultants, Ltd

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.

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
85134XA

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
17680 West Bluemound Road		*HA-3*

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
STS Consultants Ltd. *DLM*	*12/12/96*	*12/12/96*	*Hand Auger*

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Water Level	Surface Elevation	Borehole Diameter
					3.0 inches

Boring Location State Plane	Lat Long	Local Grid Location (if applicable)
SW 1/4 of SW 1/4 of Section 28, T 7 N, R 20 E		*Feet S* *Feet W*

County	DNR County Code	Civil Town/City/ or Village
Waukesha County	*68*	*City of Brookfield, Wisconsin*

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
			0	Concrete under tile floor	GP									
1	5		2.5	Base coarse	FL/SP			<1						
			5	Fill: Silty clay and fine to coarse sand and gravel-brown-moist										
			7.5	END OF BORING Backfilled with bentonite chips and concrete patch.										
			10											
			12.5											
			15											
			17.5											
			20											
			22.5											
			25											
			27.5											

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

Signature: Mary Deegan Firm: STS Consultants

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.

State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ _____

MONITORING WELL CONSTRUCTIC
Form 4400-113A Rev. 4-9

Facility/Project Name: Brownstone REEF	Local Grid Location of Well: ____ ft. ☐N ☐S ____ ft. ☐E ☐W	Well Name: MW-1
Facility License, Permit or Monitoring Number: _____	Grid Origin Location: Lat. ____ Long. ____ or St. Plane ____ ft. N. ____ ft. E.	Wis. Unique Well Number / DNR Well Numbe
Type of Well: Water Table Observation Well ■ 11; Piezometer ☐ 12	Section Location of Waste/Source: ___1/4 of ___ 1/4 of Sec. ___, T. ___ N, R. ___ ☐E ☐W	Date Well Installed: 12/12/96 (m m d d y y)
Distance Well Is From Waste/Source Boundary: ____ ft.	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☐ Downgradient n ☐ Not Known	Well Installed By: (Person's Name and Firm): Andrew Guenther / Wisconsin Soil Testing
Is Well A Point of Enforcement Std. Application? ☐ Yes ☐ No		

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft

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

13. Sieve analysis attached? ☐ Yes ☒ No

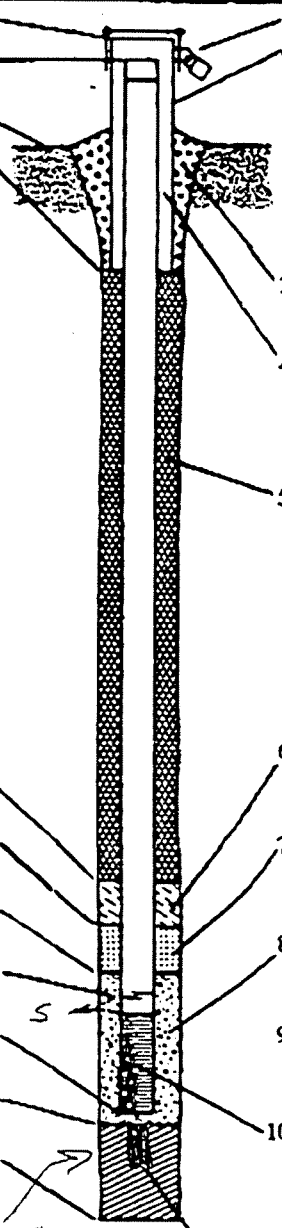
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ■ 41; Other ☐ _____

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):
N/A

E. Bentonite seal, top _____ ft. MSL or 3.0 ft
F. Fine sand, top _____ ft. MSL or 3.5 ft
G. Filter pack, top _____ ft. MSL or 4.0 ft
H. Screen joint, top _____ ft. MSL or 4.5 ft
I. Well bottom _____ ft. MSL or 15.0 ft
J. Filter pack, bottom _____ ft. MSL or 16.0 ft
K. Borehole, bottom _____ ft. MSL or 17.0 ft
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.06 in.



1. Cap and lock? ■ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8.0 in
b. Length: 1.0 ft
c. Material: Aluminum — Steel ☐ 04; Other ■
d. Additional protection? ☐ Yes ☐ No
If yes, describe: Expandable Cap
3. Surface seal: Bentonite ☐ 3(; Concrete ■ 0; Other ☐
4. Material between well casing and protective pipe: None — Bentonite ☐ 3(; Annular space seal ☐; 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. 0.88 Ft³ volume added for any of the above
f. How installed: Tremie ☐ 0; 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. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint 35/45
b. Volume added 0.22 ft³
8. Filter pack material: Manufacturer, product name and mesh siz
a. Red Flint 35/45
b. Volume added 5.28 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: Badrock Enterprise
c. Slot size: 0.01 in
d. Slotted length: 9.8 ft
11. Backfill material (below filter pack): Red Flint Sand — None ■ 14; Other ☐

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

Signature: David J. Mahlik Firm: STS Consultants

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats. and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

Department of Natural Resources

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

County: Waukesha

SW 1/4 of SW 1/4 of Sec. 20 : 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: 17600 W Bluemound Rd

City, Village: City

(2) FACILITY NAME

Original Well Owner (If Known): RREEF Funds

Present Well Owner:

Street or Route: 250 E Wisconsin

City, State, Zip Code: Milwaukee WI 53202

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

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: Soil Samples

Date of Abandonment: 12/12/96

WELL/DRILLHOLE/BOREHOLE INFORMATION

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

(Date) 12/12/96

☐ Monitoring Well
☐ Water Well
☐ Drillhole
■ Borehole

Construction Report Available? ■ Yes ☐ No

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
■ Other (Specify) Hand Auger

Formation Type:
■ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (ft.) _____

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

(4) Depth to Water (Feet) _____

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
Did Sealing Material Rise to Surface?	☐ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☐ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing 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
☐ Bentonite - Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Concrete	Surface	0.2		
Bentonite chips	0.2	1.5		

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: David Markert / STS Consultants

Signature of Person Doing Work: David J Mark — Date Signed: 12/12/96

Street or Route: 11425 W Lake Park Dr — Telephone Number: (414) 359-3030

City, State, Zip Code: Milwaukee WI 53224

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

Department of Natural Resources Form 3300-22

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

County: Waukesha

SW 1/4 of SW 1/4 of Sec. 28 : 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: 17680 W Bluemound Rd

City, Village: City

(2) FACILITY NAME

Original Well Owner (If Known): RREEF Funds

Present Well Owner:

Street or Route: 250 E. Wisconsin

City, State, Zip Code: Milwaukee, WI 53202

Facility Well No. and/or Name (If Applicable): HA-2

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: Soil Samples

Date of Abandonment: 12/12/96

WELL/DRILLHOLE/BOREHOLE INFORMATION

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

(Date) 12/12/96

☐ Monitoring Well
☐ Water Well
☐ Drillhole
■ Borehole

Construction Report Available? ■ Yes ☐ No

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
■ Other (Specify) Hand Auger

Formation Type:
■ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (ft.) _____

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

(4) Depth to Water (Feet) _____

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
Did Sealing Material Rise to Surface?	☐ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☐ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing 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
☐ Bentonite - Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Concrete	Surface	0.3		
Bentonite	0.3	1.8		

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: STS Consultants

Signature of Person Doing Work: David J Mart — Date Signed: 12/12/96

Street or Route: 11425 W Lake Park Dr — Telephone Number: (414) 359-3030

City, State, Zip Code: Milwaukee WI 53224

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected _____ District/County _____

Reviewer/Inspector _____

Follow-up Necessary _____

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

County: Waukesha

SW 1/4 of SW 1/4 of Sec. 28 : 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: 17630 W Bluemound Rd

City, Village: City

(2) FACILITY NAME

Original Well Owner (If Known): RREEF Funds

Present Well Owner:

Street or Route: 250 E Wisconsin

City, State, Zip Code: Milwaukee, WI 53202

Facility Well No. and/or Name (If Applicable): HA-3

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: Soil Samples

Date of Abandonment: 12/12/96

WELL/DRILLHOLE/BOREHOLE INFORMATION

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

(Date) 12/12/96

☐ Monitoring Well
☐ Water Well
☐ Drillhole
■ Borehole

Construction Report Available? ■ Yes ☐ No

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
■ Other (Specify) Hand Auger

Formation Type:
■ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (ft.) _____

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

(4) Depth to Water (Feet) _____

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
Did Sealing Material Rise to Surface?	☐ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☐ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing 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
☐ Bentonite - Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Concrete	Surface	0.3		
Bentonite	0.3	2.0		

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work: STS Consultants

Signature of Person Doing Work	Date Signed
David Markiz	12/12/96
Street or Route: 11425 W. Lake Park Dr	Telephone Number: (414) 359-3030
City, State, Zip Code: Milwaukee WI 53224	

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

EN CHEM INC.

. . . chemistry for the environment

1795 Industrial Drive
Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
Fax: 414-469-8827

Lab Certification No. 405132750
Location : BROWNSTONE RREEF/ #85134XA
Your Sample ID: HA-1 S-1
Sample Desc. : SOIL 0.2' TO 1.5' BGS
Sample Matrix : SOIL Date Collected: 12/12/1996
En Chem Proj# : 9612250 Date Received : 12/13/1996
En Chem Lab # : 209645 Date Reported : 12/17/1996

Report to: STS
11425 WEST LAKE DRIVE
MILWAUKEE, WI 53224

Bill to: STS CONSULTANTS

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID	Total Solids	91	percent				SM2540G	12/16/1996	PHS
8260+-S-ME	1,1-Dichloroethane	ND	ug/kg	25	SW846 5030	12/16/1996	SW846 8260	12/16/1996	RJN
	1,2-Dichloroethane	ND	ug/kg	25					
	1,1-Dichloroethene	ND	ug/kg	25					
	trans-1,2-Dichloroethene	ND	ug/kg	25					
	Tetrachloroethene	ND	ug/kg	25					
	1,1,1-Trichloroethane	ND	ug/kg	25					
	1,1,2-Trichloroethane	ND	ug/kg	25					
	Trichloroethene	ND	ug/kg	25					
	Vinyl chloride	ND	ug/kg	25					
	Dibromofluoromethane (SS)	92	%Recov	1					
	Toluene-d8 (SS)	98	%Recov	1					
	4-Bromofluorobenzene (SS)	88	%Recov	1					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

J. Duncan

EN CHEM INC.

. . . chemistry for the environment

1795 Industrial Drive
Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
FAX: 414-469-8827

Lab Certification No. 405132750
Location : BROWNSTONE RREEF/ #85134XA
Your Sample ID: MW-1 S-3
Sample Desc. : SOIL 5-7'
Sample Matrix : SOIL Date Collected: 12/12/1996
En Chem Proj# : 9612250 Date Received : 12/13/1996
En Chem Lab # : 209646 Date Reported : 12/17/1996

Report to: STS
11425 WEST LAKE DRIVE
MILWAUKEE, WI 53224

Bill to: STS CONSULTANTS

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID	Total Solids	88	percent				SM2540G	12/16/1996	PHS
8260+-S-ME	1,1-Dichloroethane	ND	ug/kg	25	SW846 5030	12/16/1996	SW846 8260	12/16/1996	RJN
	1,2-Dichloroethane	ND	ug/kg	25					
	1,1-Dichloroethene	ND	ug/kg	25					
	trans-1,2-Dichloroethene	ND	ug/kg	25					
	Tetrachloroethene	ND	ug/kg	25					
	1,1,1-Trichloroethane	ND	ug/kg	25					
	1,1,2-Trichloroethane	ND	ug/kg	25					
	Trichloroethene	ND	ug/kg	25					
	Vinyl chloride	ND	ug/kg	25					
	Dibromofluoromethane (SS)	96	%Recov	1					
	Toluene-d8 (SS)	102	%Recov	1					
	4-Bromofluorobenzene (SS)	91	%Recov	1					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

EN CHEM INC.

. . . chemistry for the environment

1795 Industrial Drive
Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
FAX: 414-469-8827

Lab Certification No. 405132750
Location : BROWNSTONE RREEF/ #85134XA
Your Sample ID: MW-1 S-5
Sample Desc. : SOIL 9-11'
Sample Matrix : SOIL Date Collected: 12/12/1996
En Chem Proj# : 9612250 Date Received : 12/13/1996
En Chem Lab # : 209647 Date Reported : 12/17/1996

Report to: STS
11425 WEST LAKE DRIVE
MILWAUKEE, WI 53224

Bill to: STS CONSULTANTS

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyze By
TOTSOLID	Total Solids	84	percent				SM2540G	12/16/1996	PHS
8260+-S-ME	1,1-Dichloroethane	ND	ug/kg	25	SW846 5030	12/16/1996	SW846 8260	12/16/1996	RJN
	1,2-Dichloroethane	ND	ug/kg	25					
	1,1-Dichloroethene	ND	ug/kg	25					
	trans-1,2-Dichloroethene	ND	ug/kg	25					
	Tetrachloroethene	ND	ug/kg	25					
	1,1,1-Trichloroethane	ND	ug/kg	25					
	1,1,2-Trichloroethane	ND	ug/kg	25					
	Trichloroethene	ND	ug/kg	25					
	Vinyl chloride	ND	ug/kg	25					
	Dibromofluoromethane (SS)	94	%Recov	1					
	Toluene-d8 (SS)	101	%Recov	1					
	4-Bromofluorobenzene (SS)	88	%Recov	1					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

EN CHEM INC.

. . . chemistry for the environment

1795 Industrial Drive
Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
Fax: 414-469-8827

Lab Certification No. 405132750
Location : BROWNSTONE RREEF/ #85134XA
Your Sample ID: HA-2 S-1
Sample Desc. : SOIL 1.3' TO 1.8' BGS
Sample Matrix : SOIL Date Collected: 12/12/1996
En Chem Proj# : 9612250 Date Received : 12/13/1996
En Chem Lab # : 209648 Date Reported : 12/17/1996

Report to: STS
11425 WEST LAKE DRIVE
MILWAUKEE, WI 53224

Bill to: STS CONSULTANTS

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyze By
TOTSOLID	Total Solids	94	percent				SM2540G	12/16/1996	PHS
8260+-S-ME	1,1-Dichloroethane	ND	ug/kg	25	SW846 5030	12/16/1996	SW846 8260	12/16/1996	RJN
	1,2-Dichloroethane	ND	ug/kg	25					
	1,1-Dichloroethene	ND	ug/kg	25					
	trans-1,2-Dichloroethene	ND	ug/kg	25					
	Tetrachloroethene	1200	ug/kg	26					
	1,1,1-Trichloroethane	ND	ug/kg	25					
	1,1,2-Trichloroethane	ND	ug/kg	25					
	Trichloroethene	ND	ug/kg	25					
	Vinyl chloride	ND	ug/kg	25					
	Dibromofluoromethane (SS)	94	%Recov	1					
	Toluene-d8 (SS)	100	%Recov	1					
	4-Bromofluorobenzene (SS)	89	%Recov	1					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

J. Duncan

EN CHEM INC.

. . . chemistry for the environment

1795 Industrial Drive
Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
Fax: 414-469-8827

Lab Certification No. 405132750
Location : BROWNSTONE RREEF/ #85134XA
Your Sample ID: HA-3 S-1
Sample Desc. : SOIL 1.4' TO 2.0' BGS
Sample Matrix : SOIL Date Collected: 12/12/1996
En Chem Proj# : 9612250 Date Received : 12/13/1996
En Chem Lab # : 209649 Date Reported : 12/17/1996

Report to: STS
11425 WEST LAKE DRIVE
MILWAUKEE, WI 53224

Bill to: STS CONSULTANTS

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID	Total Solids	94	percent				SM2540G	12/16/1996	PHS
8260+-S-ME	1,1-Dichloroethane	ND	ug/kg	25	SW846 5030	12/16/1996	SW846 8260	12/16/1996	RJN
	1,2-Dichloroethane	ND	ug/kg	25					
	1,1-Dichloroethene	ND	ug/kg	25					
	trans-1,2-Dichloroethene	ND	ug/kg	25					
	Tetrachloroethene	2100	ug/kg	27					
	1,1,1-Trichloroethane	ND	ug/kg	25					
	1,1,2-Trichloroethane	ND	ug/kg	25					
	Trichloroethene	ND	ug/kg	25					
	Vinyl chloride	ND	ug/kg	25					
	Dibromofluoromethane (SS)	92	%Recov	1					
	Toluene-d8 (SS)	99	%Recov	1					
	4-Bromofluorobenzene (SS)	87	%Recov	1					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

Company Name: STS Consultants
Branch or Location: Milwaukee
Project Contact: Mary Siegan
Telephone: 414 359-3030
Project Number: 85134XA
Project Name: Brownstone Reef
Project Location:
Sampled By (Print): David Markelz
Regulatory Program *(circle)*: UST RCRA CLP SDWA
NPDES/WPDES CAA NR____ Other____

EN CHEM INC. CHAIN OF CUSTODY

1241 Bellevue St., Suite 9, Green Bay, WI 54302, 414-469-2436 • 1-800-736-2436, FAX 414-469-8827
2231 Catlin Ave., Suite 420, Superior, WI 54880, 715-392-5844 • 1-800-837-8238, FAX 715-392-5843
802 Deming Way, Madison, WI 53717, 608-827-5501 • 1-888-5 ENCHEM, Fax: 608-827-5503

Due Dec. 20th

NR720 Confirmation Analysis Required?
(En Chem will confirm unless otherwise instructed.)

P.O. # ____ Quote # 011-1634 Page 1 of 1

Mail Report To: Mary Siegan
Company: STS Consultants
Address: 11425 W Lake Park Dr
Milwaukee WI 53224
Invoice To: Same
Company:
Address:
Mail Invoice To:

Field ID	Sample Description	Collection Date	Collection Time	Field Screen	Matrix	Filt'd Y/N	Preserv*	Analysis Requested	SHADED AREA FOR LABORATORY USE ONLY: Good Cond.	Total Bottles	Comments	Laboratory Number
HA-1 S-1	Soil, 0.2' to 1.5' BGS	12/12/96	1:35	0.0	Soil	N/A	F	1,1-DCA, 1,2-DCA	X	1-502 1-302/m		209645
MW-1 S-3	Soil 5-7' BGS	12/11/96	9:30	0.0	Soil	N/A	F	1,1-DCE, Trans-1,2-DCE,				209646
MW-1 S-5	Soil 9-11' BGS	12/11/96	10:00	0.0	Soil	N/A	F	TCE, 1,1,1-TCA, 1,1,2-TCA				209647
HA2 S-1	Soil 1.3-1.8'	12/12/96	11:48	0.0	Soil	N/A	F	PCE Vinyl Claride				209648
HA-3 S-1	Soil 1.4-2.0'	12/12/96	12:45	0.0	Soil	N/A	F		√	X		209649

* no meoh blank
RA

*Preservation Code
A=None B=HCL C=H2SO4
D=HNO3 E=EnCore F=Methanol**
G=NaOH O=Other (Indicate)

**If not using En Chem's methanol, indicate volume of methanol added and mark the appropriate samples.

Relinquished By:	Date/Time:	Received By:
Linda Larson	12/17/96 10:30	
Relinquished By:	Date/Time:	Received By:
	12/13/96 1:00	C. Wacker 1305
Relinquished By:	Date/Time:	Received By (En Chem):
C. Wacker	12/13/96 1700	

En Chem Project No. 9612250
Sample Receipt Temp. *(Must be rec'd at 4°C)* ROT

May 1, 1997

MAY 2 1997

Mr. John Fennimore
The RREEF Funds
250 E. Wisconsin Ave.
Milwaukee, WI 53202

Re: Groundwater Sampling and Analysis at the Brownstones Shopping Center, Brookfield, Wisconsin -- STS Project No. 85217XA

Dear Mr. Fennimore,

STS Consultants, Ltd. (STS) collected a groundwater sample from the monitoring well at the Brownstones Shopping Center on April 4, 1997 in accordance with our proposal No. 5908MP.

The groundwater monitoring well is located near where a sewer line serving Dry Clean USA exits the building. This location was chosen to provide an indication of whether PCE had migrated preferentially through the coarser backfill of the sewer line. PCE is the dry cleaning solvent used by Dry Clean USA at the Brownstones Shopping Center. PCE was detected at 1200 μg/kg and 2100 μg/kg in two soil samples collected from interior cores conducted in December 1996 at the Dry Clean USA facility.

Approximately 8.4 feet of water were present in the well prior to purging. After measuring the depth of the water column, the well was purged of 5.5 well volumes at which point the water removed from the well was clear.

A sample of the water was collected for analysis for volatile organic compounds (VOCs) using a bottom discharging, disposable bailer. The sample was refrigerated and shipped under chain-of-custody to U.S. Filter/Enviroscan for analysis for halogenated and aromatic VOCs by U.S. EPA method 8021. Method 8021 includes tetrachloroethene (PCE) and its breakdown products.

The groundwater sample was analyzed on April 12, 1997 which was within the 14 day holding time allowed by the method. None of the chlorinated or aromatic VOCs, including PCE, were detected in the groundwater sample. A copy of the laboratory's analytical report is attached.

If you have any questions regarding the information contained herein, please contact us.

Sincerely,

STS CONSULTANTS, LTD.

Jane A. Kettler
Project Chemist

Thomas W. Kroeger
Principal Hydrogeologist

STS Consultants Ltd.
Consulting Engineers

11425 West Lake Park Drive
Milwaukee, Wisconsin 53224
414.359.3030/Fax 414.359.0822

K:85217XA/C517A001.doc/JAK-tm

U.S. FILTER

U.S. FILTER/ENVIROSCAN
301 WEST MILITARY ROAD
ROTHSCHILD, WI 54474
TELEPHONE 715-359-7226
FACSIMILE 715-355-3221

April 17, 1997

STS Consultants
11425 W. Lake Park Dr.
Milwaukee, WI 53224

Attn: Jane Kettler

Re: 85217XA

Please find enclosed the analytical results for the samples received April 9, 1997.

All analyses were completed in accordance with appropriate EPA methodologies. Methods and dates of analysis are included in the report tables.

The chain of custody document is enclosed.

If you have any questions about the results, please call. Thank you for using US Filter/Enviroscan for your analytical needs.

Sincerely,

US Filter/Enviroscan

Jay C. Hunger
Analytical Chemist

U.S. FILTER

UNITED STATES FILTER CORPORATION

STS Consultants
11425 W. Lake Park Dr.
Milwaukee, WI 53224

CUST NUMBER: 85217XA
SAMPLED BY: Client
DATE REC'D: 04/09/97
REPORT DATE: 04/17/97
PREPARED BY: JCH
REVIEWED BY:

Attn: Jane Kettler

	Units	Reporting Limit	MW-1 04/04/97	Qualifiers	Date Analyzed
EPA 8021					
Benzene	µg/l	0.5	X		04/12/97
Bromobenzene	µg/l	2.0	X	CSH	04/12/97
Bromodichloromethane	µg/l	1.0	X		04/12/97
n-Butylbenzene	µg/l	1.0	X	CSL	04/12/97
sec-Butylbenzene	µg/l	1.0	X		04/12/97
tert-Butylbenzene	µg/l	1.0	X		04/12/97
Carbon Tetrachloride	µg/l	1.0	X	SPH	04/12/97
Chlorobenzene	µg/l	1.0	X		04/12/97
Chlorodibromomethane	µg/l	1.0	X		04/12/97
Chloroethane	µg/l	1.0	X	CSH	04/12/97
Chloroform	µg/l	1.0	X		04/12/97
Chloromethane	µg/l	2.0	X	CSH	04/12/97
o-Chlorotoluene	µg/l	1.0	X	CSH	04/12/97
p-Chlorotoluene	µg/l	2.0	X		04/12/97
1,2-Dibromo-3-chloropropane	µg/l	1.0	X		04/12/97
1,2-Dibromoethane	µg/l	1.0	X		04/12/97
1,2-Dichlorobenzene	µg/l	1.0	X		04/12/97
1,3-Dichlorobenzene	µg/l	1.0	X		04/12/97
1,4-Dichlorobenzene	µg/l	1.0	X		04/12/97
Dichlorodifluoromethane	µg/l	2.0	X		04/12/97
1,1-Dichloroethane	µg/l	1.0	X		04/12/97
1,2-Dichloroethane	µg/l	1.0	X		04/12/97
1,1-Dichloroethylene	µg/l	1.0	X	CSH	04/12/97
cis-1,2-Dichloroethylene	µg/l	2.0	X		04/12/97
trans-1,2-Dichloroethylene	µg/l	1.0	X	SPH	04/12/97
1,2-Dichloropropane	µg/l	1.0	X		04/12/97
1,3-Dichloropropane	µg/l	1.0	X		04/12/97
2,2-Dichloropropane	µg/l	2.0	X		04/12/97
Ethylbenzene	µg/l	1.0	X		04/12/97
Hexachlorobutadiene	µg/l	1.0	X	CSH	04/12/97
Isopropylbenzene	µg/l	1.0	X		04/12/97
Isopropyl Ether	µg/l	1.0	X	CSL	04/12/97
p-Isopropyltoluene	µg/l	1.0	X		04/12/97
Methyl tert Butyl Ether	µg/l	1.0	X	CSL	04/12/97
Methylene Chloride	µg/l	2.0	X		04/12/97
Naphthalene	µg/l	1.0	X	CSL SPL	04/12/97
n-Propylbenzene	µg/l	1.0	X		04/12/97
Tetrachloroethylene	µg/l	1.0	X		04/12/97
1,1,2,2-Tetrachloroethane	µg/l	1.0	X		04/12/97
Toluene	µg/l	1.0	X		04/12/97
1,2,3-Trichlorobenzene	µg/l	1.0	X	CSL	04/12/97
1,2,4-Trichlorobenzene	µg/l	1.0	X	CSL	04/12/97
1,1,1-Trichloroethane	µg/l	1.0	X	SPH	04/12/97
1,1,2-Trichloroethane	µg/l	1.0	X		04/12/97
Trichloroethylene	µg/l	0.5	X	CSH	04/12/97
Analytical No.:			879		

X = Analyzed but not detected.

U.S. FILTER

UNITED STATES FILTER CORPORATION

STS Consultants
11425 W. Lake Park Dr.
Milwaukee, WI 53224

CUST NUMBER: 85217XA
SAMPLED BY: Client
DATE REC'D: 04/09/97
REPORT DATE: 04/17/97
PREPARED BY: JCH
REVIEWED BY:

Attn: Jane Kettler

	Units	Reporting Limit	MW-1 04/04/97	Qualifiers	Date Analyzed
EPA 8021					
Trichlorofluoromethane	µg/l	1.0	X	CSH	04/12/97
1,2,4-Trimethylbenzene	µg/l	1.0	X		04/12/97
1,3,5-Trimethylbenzene	µg/l	1.0	X	CSH	04/12/97
Vinyl Chloride	µg/l	0.2	X		04/12/97
m- & p-Xylene	µg/l	1.0	X		04/12/97
o-Xylene	µg/l	1.0	X		04/12/97
Analytical No.:			879		

X = Analyzed but not detected.

Qualifier Descriptions

CSH	Check standard for this analyte exhibited a high bias. Sample results may also be biased high.
CSL	Check standard for this analyte exhibited a low bias. Sample results may also be biased low. Non-detects verified with a low standard comparison.
SPH	Matrix spike recovery within analytical batch was high. Sample matrix appears similar to your sample; result may be biased high.
SPL	Matrix spike recovery within analytical batch was low. Sample matrix appears similar to your sample; result may be biased low.

STSC 1 STSmil 4545.5 4-30-97

CHAIN OF CUSTODY RECORD

№ 27029

STS

Contact Person Jane Kettler
Phone No (414) 359-3030 Office Milwaukee
Project No. 85217xA ~~PO No.~~ TASK 3000
Project Name Reef - Brownstone

Special Handling Request
☐ Rush
☐ Verbal
☐ Other

RECORD NUMBER 1 THROUGH 1
Laboratory U.S. Filter
Contact Person Will Elcock
Phone No.
Results Due STD

Sample I.D.	Date	Time	Grab	Composite	No. of Containers	Sample Type (Water, soil, air, sludge, etc.)	Preservation Y	Preservation N	Field Data PID/FID Ambient	Field Data PID/FID Sample	Field Data PH	Field Data Special Cond.	Analysis Request	Comments on Sample (Include Major Contaminants)
MW-1	4/4	11:30	X		3	Water	X						VOC 8021	~~21000879~~

Collected by: Dan Z / Mary	Date 4/4/97	Time 11:30	Delivery by: UPS	Date 4/8/97	Time PM
Received by:	Date	Time	Relinquished by:	Date	Time
Received by:	Date	Time	Relinquished by:	Date	Time
Received by:	Date	Time	Relinquished by:	Date	Time
Received for lab by: L. Matus	Date 4-9-97	Time 11:00	Relinquished by:	Date	Time

Laboratory Comments Only: Seals Intact Upon Receipt? ☐ Yes ☐ No ☐ N/A received

Final Disposition:	Comments (Weather Conditions, Precautions, Hazards):

Distribution: Original and Green - Laboratory Yellow - As needed Pink - Transporter Goldenrod - STS Project File
Instructions to Laboratory: Forward completed original to STS with analytical results. Retain green copy.

9/94cp10k

STS Consultants Ltd.
Consulting Engineers

McLaren Hart®

ENVIRONMENTAL ENGINEERING CORPORATION

May 20, 1997

Mr. Michael Farley
BRR Program Assistant
Wisconsin Department of Natural Resources
Box 12436
4041 N. Richards St.
Milwaukee, WI 532212

Re: Dry Clean U.S.A. Facility, Brownstones Center, 17680 West Bluemound Road, Brookfield, Wisconsin FID# 268252050

Dear Mr. Farley:

The purpose of this letter is to inform you that Spic & Span, Inc., has hired McLaren/Hart Environmental Engineering Corporation (McLaren/Hart) as the environmental consultant for the referenced site.

Please contact me, if you have any questions.

Sincerely,

Brian Schneider, P.E.
Senior Engineer

10.080.5104.001.001

3695-M North 126th Street, Brookfield, WI 53005 (414) 790-1974 FAX (414) 790-1989

May 1, 1997

MAY 2 1997

Mr. John Fennimore
The RREEF Funds
250 E. Wisconsin Ave.
Milwaukee, WI 53202

Re: Groundwater Sampling and Analysis at the Brownstones Shopping Center, Brookfield, Wisconsin -- STS Project No. 85217XA

Dear Mr. Fennimore,

STS Consultants, Ltd. (STS) collected a groundwater sample from the monitoring well at the Brownstones Shopping Center on April 4, 1997 in accordance with our proposal No. 5908MP.

The groundwater monitoring well is located near where a sewer line serving Dry Clean USA exits the building. This location was chosen to provide an indication of whether PCE had migrated preferentially through the coarser backfill of the sewer line. PCE is the dry cleaning solvent used by Dry Clean USA at the Brownstones Shopping Center. PCE was detected at 1200 μg/kg and 2100 μg/kg in two soil samples collected from interior cores conducted in December 1996 at the Dry Clean USA facility.

Approximately 8.4 feet of water were present in the well prior to purging. After measuring the depth of the water column, the well was purged of 5.5 well volumes at which point the water removed from the well was clear.

A sample of the water was collected for analysis for volatile organic compounds (VOCs) using a bottom discharging, disposable bailer. The sample was refrigerated and shipped under chain-of-custody to U.S. Filter/Enviroscan for analysis for halogenated and aromatic VOCs by U.S. EPA method 8021. Method 8021 includes tetrachloroethene (PCE) and its breakdown products.

The groundwater sample was analyzed on April 12, 1997 which was within the 14 day holding time allowed by the method. None of the chlorinated or aromatic VOCs, including PCE, were detected in the groundwater sample. A copy of the laboratory's analytical report is attached.

If you have any questions regarding the information contained herein, please contact us.

Sincerely,

STS CONSULTANTS, LTD.

Jane A. Kettler
Project Chemist

Thomas W. Kroeger
Principal Hydrogeologist

STS Consultants Ltd.
Consulting Engineers

11425 West Lake Park Drive
Milwaukee, Wisconsin 53224
414.359.3030/Fax 414.359.0822

K:85217XA/C517A001.doc/JAK-tm

U.S. FILTER

U.S. FILTER/ENVIROSCAN
301 WEST MILITARY ROAD
ROTHSCHILD, WI 54474

TELEPHONE 715-359-7226
FACSIMILE 715-355-3221

April 17, 1997

STS Consultants
11425 W. Lake Park Dr.
Milwaukee, WI 53224

Attn: Jane Kettler

Re: 85217XA

Please find enclosed the analytical results for the samples received April 9, 1997.

All analyses were completed in accordance with appropriate EPA methodologies. Methods and dates of analysis are included in the report tables.

The chain of custody document is enclosed.

If you have any questions about the results, please call. Thank you for using US Filter/Enviroscan for your analytical needs.

Sincerely,

US Filter/Enviroscan

Jay C. Hunger
Analytical Chemist

U.S. FILTER

UNITED STATES FILTER CORPORATION

STS Consultants
11425 W. Lake Park Dr.
Milwaukee, WI 53224

CUST NUMBER: 85217XA
SAMPLED BY: Client
DATE REC'D: 04/09/97
REPORT DATE: 04/17/97
PREPARED BY: JCH
REVIEWED BY:

Attn: Jane Kettler

	Units	Reporting Limit	MW-1 04/04/97	Qualifiers	Date Analyzed
EPA 8021					
Benzene	µg/l	0.5	X		04/12/97
Bromobenzene	µg/l	2.0	X	CSH	04/12/97
Bromodichloromethane	µg/l	1.0	X		04/12/97
n-Butylbenzene	µg/l	1.0	X	CSL	04/12/97
sec-Butylbenzene	µg/l	1.0	X		04/12/97
tert-Butylbenzene	µg/l	1.0	X		04/12/97
Carbon Tetrachloride	µg/l	1.0	X	SPH	04/12/97
Chlorobenzene	µg/l	1.0	X		04/12/97
Chlorodibromomethane	µg/l	1.0	X		04/12/97
Chloroethane	µg/l	1.0	X	CSH	04/12/97
Chloroform	µg/l	1.0	X		04/12/97
Chloromethane	µg/l	2.0	X	CSH	04/12/97
o-Chlorotoluene	µg/l	1.0	X	CSH	04/12/97
p-Chlorotoluene	µg/l	2.0	X		04/12/97
1,2-Dibromo-3-chloropropane	µg/l	1.0	X		04/12/97
1,2-Dibromoethane	µg/l	1.0	X		04/12/97
1,2-Dichlorobenzene	µg/l	1.0	X		04/12/97
1,3-Dichlorobenzene	µg/l	1.0	X		04/12/97
1,4-Dichlorobenzene	µg/l	1.0	X		04/12/97
Dichlorodifluoromethane	µg/l	2.0	X		04/12/97
1,1-Dichloroethane	µg/l	1.0	X		04/12/97
1,2-Dichloroethane	µg/l	1.0	X		04/12/97
1,1-Dichloroethylene	µg/l	1.0	X	CSH	04/12/97
cis-1,2-Dichloroethylene	µg/l	2.0	X		04/12/97
trans-1,2-Dichloroethylene	µg/l	1.0	X	SPH	04/12/97
1,2-Dichloropropane	µg/l	1.0	X		04/12/97
1,3-Dichloropropane	µg/l	1.0	X		04/12/97
2,2-Dichloropropane	µg/l	2.0	X		04/12/97
Ethylbenzene	µg/l	1.0	X		04/12/97
Hexachlorobutadiene	µg/l	1.0	X	CSH	04/12/97
Isopropylbenzene	µg/l	1.0	X		04/12/97
Isopropyl Ether	µg/l	1.0	X	CSL	04/12/97
p-Isopropyltoluene	µg/l	1.0	X		04/12/97
Methyl tert Butyl Ether	µg/l	1.0	X	CSL	04/12/97
Methylene Chloride	µg/l	2.0	X		04/12/97
Naphthalene	µg/l	1.0	X	CSL SPL	04/12/97
n-Propylbenzene	µg/l	1.0	X		04/12/97
Tetrachloroethylene	µg/l	1.0	X		04/12/97
1,1,2,2-Tetrachloroethane	µg/l	1.0	X		04/12/97
Toluene	µg/l	1.0	X		04/12/97
1,2,3-Trichlorobenzene	µg/l	1.0	X	CSL	04/12/97
1,2,4-Trichlorobenzene	µg/l	1.0	X	CSL	04/12/97
1,1,1-Trichloroethane	µg/l	1.0	X	SPH	04/12/97
1,1,2-Trichloroethane	µg/l	1.0	X		04/12/97
Trichloroethylene	µg/l	0.5	X	CSH	04/12/97
Analytical No.:			879		

X = Analyzed but not detected.

U.S. FILTER

UNITED STATES FILTER CORPORATION

STS Consultants
11425 W. Lake Park Dr.
Milwaukee, WI 53224

CUST NUMBER: 85217XA
SAMPLED BY: Client
DATE REC'D: 04/09/97
REPORT DATE: 04/17/97
PREPARED BY: JCH
REVIEWED BY:

Attn: Jane Kettler

	Units	Reporting Limit	MW-1 04/04/97	Qualifiers	Date Analyzed
EPA 8021					
Trichlorofluoromethane	µg/l	1.0	X	CSH	04/12/97
1,2,4-Trimethylbenzene	µg/l	1.0	X		04/12/97
1,3,5-Trimethylbenzene	µg/l	1.0	X	CSH	04/12/97
Vinyl Chloride	µg/l	0.2	X		04/12/97
m- & p-Xylene	µg/l	1.0	X		04/12/97
o-Xylene	µg/l	1.0	X		04/12/97
Analytical No.:			879		

X = Analyzed but not detected.

Qualifier Descriptions

CSH	Check standard for this analyte exhibited a high bias. Sample results may also be biased high.
CSL	Check standard for this analyte exhibited a low bias. Sample results may also be biased low. Non-detects verified with a low standard comparison.
SPH	Matrix spike recovery within analytical batch was high. Sample matrix appears similar to your sample; result may be biased high.
SPL	Matrix spike recovery within analytical batch was low. Sample matrix appears similar to your sample; result may be biased low.

STSC 1 STSMIL 4548.5 4.30.97

CHAIN OF CUSTODY RECORD

№ 27029

STS

Contact Person Jane Kettler
Phone No (414) 359-3030 Office Milwaukee
Project No. 85217xA ~~PO No.~~ TASK 3000
Project Name Reef - Brown Stone

Special Handling Request
- ☐ Rush
- ☐ Verbal
- ☐ Other

RECORD NUMBER 1 THROUGH 1
Laboratory U.S. Filter
Contact Person Will Elcoate
Phone No.
Results Due STD

Sample I.D.	Date	Time	Grab	Composite	No. of Containers	Sample Type (Water, soil, air, sludge, etc.)	Preservation Y	Preservation N	Field Data PID/FID Ambient	Field Data PID/FID Sample	Field Data PH	Field Data Special Cond.	Analysis Request	Comments on Sample (Include Major Contaminants)
MW-1	4/4	11:30	x		3	Water	x						VOC 8021	21000879

Collected by: David Mark	Date 4/4/97	Time 11:30	Delivery by: UPS	Date 4/8/97	Time PM
Received by:	Date	Time	Relinquished by:	Date	Time
Received by:	Date	Time	Relinquished by:	Date	Time
Received by:	Date	Time	Relinquished by:	Date	Time
Received for lab by: L. Malitz	Date 4-9-97	Time 11:00	Relinquished by:	Date	Time

Laboratory Comments Only: Seals Intact Upon Receipt? ☐ Yes ☐ No ☐ N/A received

Final Disposition:	Comments (Weather Conditions, Precautions, Hazards):

Distribution: Original and Green - Laboratory Yellow - As needed Pink - Transporter Goldenrod - STS Project File
Instructions to Laboratory: Forward completed original to STS with analytical results. Retain green copy.

9/94cp10k

STS Consultants Ltd.
Consulting Engineers

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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

Southeast Region Annex
4041 N. Richards Street, Box 12436
Milwaukee, WI 53212-0436
TELEPHONE 414-229-0800
FAX 414-229-0810

April 10, 1997

BRRTS# : 02-68-120075
Facility ID#: 268252050
BRR/ERP

SPIC & SPAN
4301 N RICHARDS ST
MILWAUKEE WI 53212

SUBJECT: Reported Contamination at Dry Clean USA, 17680C W. Bluemound Rd., Brookfield

On 3-26-97 Mark Thimke of Foley & Lardner Attorneys informed the Department that chlorinated solvent caused soil contamination and potential groundwater contamination at the subject address.

Based on the information submitted to the Wisconsin Department of Natural Resources (WDNR), we believe you are responsible for restoring the environment at the referenced site under Section 292, Wisconsin Stats., known as the hazardous substances spills law. Utilizing information submitted to the Department, this case has been assigned an unknown ranking due to the lack of information concerning soil and groundwater contamination.

WDNR Southeast Region Prioritization and Scoring Policy

Due to the WDNR workload, it is necessary to rank all contamination cases for review priority. Lower priority cases do not have assigned project managers, however, responsible parties are required to proceed with investigation and clean-up efforts. Due to the lack of information about this site, its relative priority cannot be determined. Therefore, the priority ranking of this site is considered unknown. Until a priority has been assigned to this site, you should proceed with the required response work, submitting all plans and reports, along with quarterly status reports, to this office. The WDNR will notify you if your site will receive active oversight.

Your responsibilities include investigating the extent of the contamination and then selecting and implementing the most appropriate remedial action. Enclosed is information to help you understand what you need to do to ensure your compliance with the spills law.

The purpose of this letter is threefold: 1) to describe your legal responsibilities, 2) to explain what you need to do to investigate and clean up the contamination, and 3) to provide you with information about cleanups, environmental consultants, possible financial assistance, and working cooperatively with the Department of Natural Resources.

Legal Responsibilities:
Your legal responsibilities are defined both in statute and in administrative codes. The hazardous

substances spill law, Section 292.11 (3) Wisconsin Statutes, states:

* RESPONSIBILITY. A person who possesses or controls a hazardous substance which is discharged or who causes the discharge of a hazardous substance shall take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands, or waters of the state.

Wisconsin Administrative Codes chapters NR 700 through NR 728 establish requirements for emergency and interim actions, public information, site investigations, design and operation of remedial action systems, and case closure. Chapter NR 708 includes provisions for immediate actions in response to limited contamination. Wisconsin Administrative Code chapter NR 140 establishes groundwater standards for contaminants that reach groundwater.

Steps to Take:
The longer contamination is left in the environment the farther it can spread and the more it may cost to clean up. Quick action may lessen damage to your property and to neighboring properties and reduce your costs in investigating and cleaning up the contamination. To ensure that your cleanup complies with Wisconsin's laws and administrative codes, you should hire a professional environmental consultant who understands what needs to be done. These are the first four steps to take:

1. By 5-23-97, please submit written verification (such as a letter from the consultant) that you have hired an environmental consultant. You will need to work quickly to meet this timeline.

2. By 7-6-97, your consultant must submit a workplan and a schedule for conducting the investigation. The consultant must follow the Department's administrative codes and our technical guidance documents. Please include with your workplan a copy of any previous information that has been completed (such as an underground tank removal report or a preliminary soil excavation report).

3. Please keep us informed of what is being done at your site. Submittal requirement timelines are dependent upon the contaminants of concern at the site. As described in Chap. NR 700.11, if the site meets the criteria for a "simple site", progress reports must be submitted semi-annually, beginning 6 months from the initial notification date. If the site meets the criteria for a "complex site", the site investigation report and a draft remedial options report must be submitted to the Department within 30 days of completion of both reports. Your consultant must clearly document the extent and degree of soil and groundwater contamination and submit a proposal for cleaning up the contamination.

4. For complex sites, per chapter NR 724.13(3), you or your consultant must provide us with a brief report at least every 90 days, starting after the remediation system begins operation. The reports should summarize the work completed since the last report. Quarterly reports need only include one or two pages of text, plus any relevant maps and tables. However, please note that should conditions at your site warrant, you may receive a letter requiring more frequent contacts with the Department.

Due to the number of contaminated sites and our staffing levels in the WDNR Southeast Region, we will be unable to provide workplan approvals for investigations or remedial actions. To maintain your compliance with the spills law and chs. NR 700 through NR 728, do not delay the investigation and cleanup of your site by waiting for WDNR responses. We have provided detailed technical guidance

to environmental consultants. Your consultant is expected to know our technical procedures and administrative codes and should be able to answer your questions on meeting cleanup requirements.

Your correspondence and reports regarding this site should be sent to:

Michael Farley
BRR Program Assistant
Wisconsin Department of Natural Resources
Box 12436
4041 N Richards St
Milwaukee WI 53212

Unless otherwise requested, please send only one copy of plans and reports. To speed processing, correspondence should reference the BRRTS and FID numbers shown at the top of this letter.

Information for Site Owners:
Enclosed is a list of environmental consultants and some important tips on selecting a consultant. If you are eligible for reimbursement of costs under Wisconsin's PECFA program (see last paragraph) you will need to compare at least three consultants' proposals before hiring a consultant. Consultants and laboratories working in the PECFA program are required to carry errors and omissions insurance to help protect you against unsuitable work. Also enclosed are materials on controlling costs, understanding the cleanup process, and choosing a site cleanup method. This information has been prepared to help you understand your responsibilities and what your environmental consultant needs to do. Please read this information carefully.

If you are interested in obtaining the protection of limited liability under s. 292, Stats., please contact Mark Giesfeldt at (608) 267-7562 or Darsi Foss at (608) 267-6713, in the Department of Natural Resources' Madison office for more information. The liability exemption under s. 292 Stats., is available to persons who meet the definition of "purchaser" in s. 292 and receive Department approval for the response actions taken at the property undergoing cleanup. The Department will determine eligibility for this program on a case-by-case basis, prior to the "purchaser" developing a scope of work for conducting a ch. NR 716 site investigation at the property.

Financial Information:
Reimbursement from the Petroleum Environmental Cleanup Fund (PECFA) is available for the costs of cleaning up contamination from eligible petroleum storage tanks. The fund is administered by the Department of Industry, Labor, and Human Relations (DILHR). Please contact DILHR at (608) 266-2424 for more information on eligibility and regulations for this program.

Thank you for your cooperation.

Sincerely,

Michael G. Farley
Program Assistant
414-229-0808

cc: Rick Smith, McLaren-Hart; Mark Thimke, Foley & Lardner

Department of Natural Resources

BRRTS CASE TRACKING FORM

Type of Case: LUST__ ERP X 453M__ 453P__ SER Form #1 March 20, 1997

ACTIVITY NO.: 02-68-120075 **FID NO.:** 268252050

County: Waukesha
Site Name: Dry Clean USA
Address: 17680 W. Bluemound Road
Brookfield
Municipality:
Legal Desc.: ___ 1/4 ___ 1/4 Sec___ Tn___ Rng___E
Lat.: ___ Long.:

Initial Contact Date: 3/26/97
RP Letter ? YXN__ Date Mailed: 4/10/97
Closure Date: 7/13/00

Person/Firm Reporting: Mark Thimke
Foley + Lardner
Phone: (414) 297-5832

Priority:
___ High
___ Medium
___ Low
X Unknown

Funding Source:
X RP
___ LTF
___ EF
___ SF
___ None
___ Other (describe below)
___ EPA Emergency Response

Enforcement Authority:
___ Spill Law s. 292.11 Wis. Stats.
X Envir. Repair Law s. 292.31 Wis. Stats.
___ Solid Waste NR 500
___ CERCLA
___ Aband. Container s. 292.41 Wis. Stats.
___ Other: ___
___ Wastewater (lagoons)
___ Haz Waste NR600

New Folder? YX N__
Your Initials MK

PROGRAMS INVOLVED: (L = Lead, S = Support)

___ Abandoned Containers	___ NR 500 Solid Waste	___ Water Supply	___ DATCP
___ LUST	___ Spills	___ Water Resources	___ DCOM
___ NR 600 Hazardous Waste	___ Superfund	___ Environmental Repair	

RESPONSIBLE PARTY is a X Company or a Person
Company Name: Dry Clean USA / Spic & Span
Contact Person:
Address: 4301 N Richards St
53212
Phone: (414) 964 5050
CC: Mark Thimke
Foley & Lardner
777 E WI Av
53202-5367

CONSULTANT:
Company Name: McClaren-Hart
Contact Name: Rick Smith or Mark Thimke
Address: 790-1974
Phone: (414) 297-5832
CC: (EG: lab)

IMPACTS: (enter P for potential, K for known)
___ Fire/Explosion Threat
___ Contaminated Private Well(s) ___ No. of Wells
___ Contaminated Public Well
P Groundwater Contamination
K Soil Contamination
___ Surface Water Impacts
___ Free Product
___ Storm Sewer Contam.
___ Sanitary Sewer Contam.
___ Air Contamination
___ Direct Contact
___ Concrete/Asphalt
___ Contained/Recovered
___ Other: ___

SUBSTANCES: #Tanks/containers Size
___ Leaded Gas
___ Unleaded Gas
___ Diesel
___ Fuel Oil
___ Unknown Hydrocbn
___ Waste Oil
___ Metals ___
___ RCRA Haz. Waste
___ VOCs
X Chlorinated Solvent
___ PCBs
___ Foundry Sand
___ Misc. Fill ___
___ Pesticides
___ Leachate
___ PAHs/SVOCs
___ Oil & Grease
___ Other ___

FOLEY & LARDNER

ATTORNEYS AT LAW

CHICAGO
JACKSONVILLE
LOS ANGELES
MADISON
MILWAUKEE
ORLANDO

FIRSTAR CENTER
777 EAST WISCONSIN AVENUE
MILWAUKEE, WISCONSIN 53202-5367
TELEPHONE (414) 271-2400
FACSIMILE (414) 297-4900

WRITER'S DIRECT LINE

SACRAMENTO
SAN DIEGO
SAN FRANCISCO
TALLAHASSEE
TAMPA
WASHINGTON D.C.
WEST PALM BEACH

Rec. 3/26/97

414-297-5832

March 24, 1997

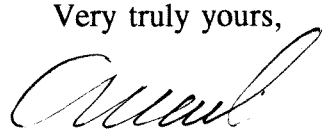
Mr. James Schmidt
Department of Natural Resources
4041 N. Richards Street
Milwaukee, WI 53212

Re: Brownstones Shopping Center - Bluemound Road;
Dry Clean USA: Notice of Discovery of Release

Dear Jim:

We represent Spic and Span, Inc. (Dry Clean USA is a division of Spic and Span). Dry Clean USA operates a dry cleaning facility in the Brownstones Shopping Center. The facility is leased from RREEF. As part of a routine review of environmental conditions on property owned by RREEF an investigation of the Dry Clean USA facility was performed which involved soil borrings. Spic and Span was recently informed by RREEF that the investigation revealed the presence of low levels of perchloroethylene in the soil underneath the concrete in the area near the dry cleaning machine. Spic and Span has retained Rick Smith at McClaren-Hart to review the data and address the environmental issues. Please feel free to call Rick Smith or me with any questions.

Very truly yours,



Mark A. Thimke

cc: Robert Miller

FID 268389770

January 14, 1997

Mr. John Fennimore
RREEF Funds
250 East Wisconsin Avenue
Suite 925
Milwaukee, WI 53202

Re: Soil Analytical Results From the Hand Augers and Monitoring Well Installation at the Brownstones Shopping Center in Brookfield, Wisconsin -- STS Project No. 85134XA

Dear Mr. Fennimore:

This correspondence has been prepared to present the results of the soil analysis from the hand augers and groundwater monitoring well installation at the Dryclean USA facility located at Brownstones Shopping Center at 17430-17680 West Bluemound Road in Brookfield, Wisconsin. The Dryclean USA facility is located within the 17680 West Bluemound Road building. STS completed three hand augers and installed one monitoring well at the aforementioned site. Soil samples from each of the hand augers, plus the monitoring well, were analyzed for chlorinated volatile organic compounds (CVOCs).

Installation/Sampling of Groundwater Monitoring Well

One monitoring wells, MW-1, was installed at the subject site on December 12, 1996. The well was installed north of the 17680 building near where the sewer line serving Dryclean USA exits from the building. The well was installed in accordance with NR140 of the Wisconsin Administrative Code (WAC). The well location is indicated on the attached Figure 1.

The well was installed to a depth of 15 feet below ground surface (bgs). The boring was drilled using 4-1/4-inch diameter continuous flight hollow stem augers. The well was screened to intersect the groundwater table, with the screen interval from 5 to 15 feet below ground surface. The well was constructed of Schedule 40 PVC well screen and riser. A flush-mounted protector pipe was installed. The well is secured with a flushmount cover that requires a special tool to remove and the cap of the well pipe also has a lock to secure it. Soil sampling was performed every 2 feet while drilling for in-field screening, soil classification and laboratory analytical purposes. The soils were classified visually according to the Unified Soil Classification System (USCS). Soil cuttings generated during the drilling procedure were containerized in WDOT-approved 55-gallon drums and will be stored on-site until proper disposal is arranged.

STS Consultants Ltd.
Consulting Engineers

11425 West Lake Park Drive
Milwaukee, Wisconsin 53224
414.359.3030/Fax 414.359.0822

Soil samples were field screened with a 10.6 eV Photoionization Detector (PID) using the WDNR headspace method to evaluate the presence and degree of impacts, if any. Two soil samples from the well boring were submitted for laboratory analysis. One of the two was from the apparent water table surface. The second sample was from 5 to 7 feet below the ground surface (bgs) at the approximate elevation of the backfill for the sanitary sewer line.

The monitoring well has not yet been sampled because water has not yet collected in the well. STS checked the monitoring well for water on December 19, 1996 and January 3, 1997. STS continues to check for water at the monitoring well approximately once every two weeks. Groundwater elevations are expected to rise in the spring at which time, a water sample will collected from the well once water has collected and the well has been properly developed in accordance with NR140, WAC.

Hand Auger Sampling Procedures

Three hand augers were conducted on the subject property. One hand auger (HA-1) was performed north of the Dry Clean USA facility's rear exit door to determine if any spills of dry cleaning materials had occurred outside of the building. The other two hand augers (HA-2 and HA-3) were located to the north and the south of the dry cleaning machine at Dryclean USA to provide information of possible impacts from the dry cleaning practices at the facility. The locations of these hand augers are indicated on the attached Figure 1.

Coring through the tile and concrete for the interior hand augers and the asphalt pavement for the exterior hand auger was required to perform the hand augers. After the coring was completed a split-spoon soil sample was taken. The soil sample was taken at 0.2-1.5 feet bgs at HA-1. The soil sample was taken at 1.3-1.8 feet bgs at HA-2 and from 1.4-2.0 feet bgs at HA-3. All three of these soil samples were taken from the soils located below the base course.

Samples were split into two samples. One sample was used for field screening soil classification purposes. The second sample was place directly into the laboratory sample jars for analytical testing. Soil samples were field screened using WDNR headspace methods.

The hand auger equipment was decontaminated between boring locations using Alconox^{TM} and a distilled water rinse to prevent cross-contamination between soil sampling locations.

After the hand augers were completed, the boreholes were abandoned with bentonite chips to the bottom of the concrete or asphalt and filled with a concrete patch to the ground surface. The borehole abandonment forms are attached.

Laboratory Analysis

Soil samples were submitted to En Chem, Inc. Laboratory in Green Bay, Wisconsin for the analysis of select CVOCs. The CVOCs included were tetrachloroethene (PCE), 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), trans-1,2-dichloroethene, 1,1,2-trichloroethene, 1,1-Dichloroethane, 1,2-dichloroethene and vinyl chloride. These CVOCs were analyzed by EPA Method 8240. The analytical results and the chain-of-custody form are attached.

Soil Description

A silty clay topsoil fill was encountered at the monitoring well, from 0-1 foot bgs. A silty sand and clay fill was present below the topsoil fill to 3 feet bgs. Buried topsoil consisting of a silty clay was present from 3 to 5 feet bgs. A silty clay was present from 5 feet to the terminal depth of the boring, 17 feet bgs. The soil collected at the hand auger locations was a silty clay and sand. The boring logs are attached.

Field Screening Results

Soil samples were screened at 2 foot intervals at the monitoring well location and the sample collected just below the base course at each hand auger location was screened with a PID meter. None of the samples collected had elevated PID readings (readings greater than 1 instrument unit).

Soil Quality

No CVOCs were detected in the soil samples collected from MW-1 or from HA-1, located outside the building. The soil samples collected at HA-2 and HA-3 both had significant concentrations of PCE. At HA-2 the sample had a PCE concentration of 1200 ug/kg approximately equivalent to parts per billion. The sample from HA-3 had a PCE concentration of 2100 ug/kg.

Recommendations

The investigation indicates that a release of PCE has occurred and that PCE is present under the floor slab of the Dryclean USA facility. The notification of this release should be reported to the WDNR. After the release is reported the WDNR will likely recommend an investigation to determine the extent of the affected soils.

The monitoring well will be monitored, developed and sampled as soon as water collects in the well. The groundwater collected from the well will be analyzed for the same parameters as the soils from the well.

General Qualifications

The results, conclusions and recommendations presented in this report are based upon the data obtained from the specific sampling locations and under the conditions stated in the report. Variations in the soil and groundwater conditions typically exist at most sites between sampling locations and at different times. This report has been prepared to aid our client in the evaluation of the groundwater conditions. This report should not be utilized for any purpose other than specifically stated.

We appreciate the opportunity to be of service to you. Please do not hesitate to contact us at (414)359-3030 if you have any questions or comments.

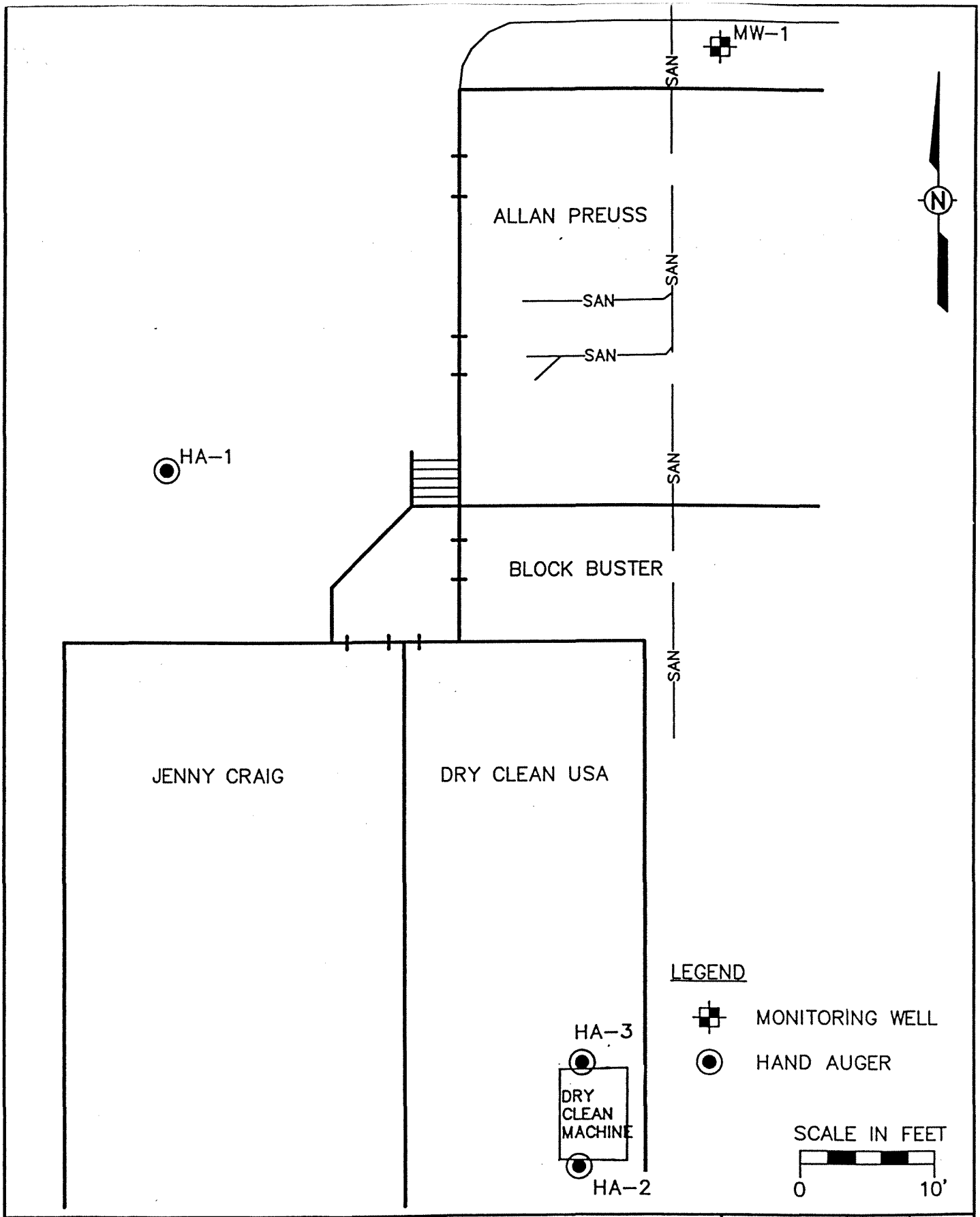
Respectfully,

STS CONSULTANTS, LTD

Mary L. Siegan, E.I.T.
Assistant Project Engineer

Thomas W. Kroeger/mls
Thomas W. Kroeger
Principal Hydrogeologist

Attachments



STS Consultants Ltd.
Consulting Engineers

MONITORING WELL AND HAND AUGER LOCATION MAP BROWNSTONES SHOPPING CENTER 17680 WEST BLUEMOUND ROAD BROOKFIELD, WISCONSIN

DRAWN BY	JMI.	1-6-97
CHECKED BY	MLS	1-6-97
APPROVED BY	TWK	1-6-97
CADFILE G534A001	SCALE AS SHOWN	
STS PROJECT NO. 85134XA	FIGURE NO. 1	

State of Wisconsin
Department of Natural Resources

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

SOIL BORING LOG INFORMATION

Form 4400-122 7-91

85134XA

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
17680 West Bluemound Road		*MW-1*

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
Wisconsin Soil Testing *Andrew Guenther*	*12/12/96*	*12/12/96*	*Solid Stem Auger*

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Water Level	Surface Elevation	Borehole Diameter
		MW-1			*4.25 inches*

Boring Location State Plane	Lat Long	Local Grid Location (if applicable)
SW 1/4 of SW 1/4 of Section 28, T 7 N, R 20 E		*Feet S* *Feet W*

County	DNR County Code	Civil Town/City/ or Village
Waukesha County	*68*	*City of Brookfield, Wisconsin*

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
			0	Fill: Topsoil-silty clay, trace fine to coarse sand-brown-moist	CL									
1	8	7	2.5	Fill: Silty sand and clay, some fine to coarse gravel-brown-moist	CL/SM			<1						
2	4	8	5	Topsoil: Silty clay, trace fine to coarse gravel-brown-moist	CL			<1	0.5					
3	17	6		Silty clay, trace silt seams and fine sand seams-brown to gray-moist				<1	0.5					
4	24	15	7.5					<1	4.5+					
5	24	19	10		CL			<1	4.5					
6	24	31	12.5					<1	4.5+					
7	24	27						<1	4.5+					
8	24	26	15					<1	3.75					
			17.5	END OF BORING Groundwater monitoring well installed to 16.0 feet on 12-12-96.										
			20											
			22.5											
			25											
			27.5											

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

Signature	Firm
Mary Stegan	STS Consultants, Ltd

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.

State of Wisconsin
Department of Natural Resources

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

SOIL BORING LOG INFORMATION

Form 4400-122 7-91

85134XA

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
17680 West Bluemound Road		*HA-1*

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
STS Consultants Ltd. *DLM*	*12/12/96*	*12/12/96*	*Hand Auger*

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Water Level	Surface Elevation	Borehole Diameter
					3.0 inches

Boring Location State Plane	Lat · Long ·	Local Grid Location (if applicable)
SW 1/4 of SW 1/4 of Section 28, T 7 N, R 20 E		*Feet S* *Feet W*

County	DNR County Code	Civil Town/City/ or Village
Waukesha County	*68*	*City of Brookfield, Wisconsin*

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
1	8		0	Asphalt pavement	CL/SP			<1						
				Silty clay and fine to coarse sand-brown-moist										
			2.5	END OF BORING Backfilled with bentonite chips and concrete patch at surface.										
			5											
			7.5											
			10											
			12.5											
			15											
			17.5											
			20											
			22.5											
			25											
			27.5											

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

Signature: Mary J Morgan Firm: STS Consultants, Ltd.

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State of Wisconsin
Department of Natural Resources

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

SOIL BORING LOG INFORMATION

Form 4400-122 7-91

85134XA

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
17680 West Bluemound Road		*HA-2*

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
STS Consultants Ltd. *DLM*	*12/12/96*	*12/12/96*	*Hand Auger*

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Water Level	Surface Elevation	Borehole Diameter
					3.0 inches

Boring Location State Plane	Lat Long	Local Grid Location (if applicable)
SW 1/4 of SW 1/4 of Section 28, T 7 N, R 20 E		*Feet S* *Feet W*

County	DNR County Code	Civil Town/City/ or Village
Waukesha County	*68*	*City of Brookfield, Wisconsin*

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	(PID) FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				Concrete under tile	GP									
1	4		2.5	Base coarse	CL			<1						
			5	Fill: Silty clay with fine to coarse sand and gravel-brown-moist										
			7.5	END OF BORING Backfilled with bentonite chips and concrete patch.										
			10											
			12.5											
			15											
			17.5											
			20											
			22.5											
			25											
			27.5											

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

Signature	Firm
Mary Logan	STS Consultants, Ltd

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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
85134XA

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
17680 West Bluemound Road		*HA-3*

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
STS Consultants Ltd. *DLM*	*12/12/96*	*12/12/96*	*Hand Auger*

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Water Level	Surface Elevation	Borehole Diameter
					3.0 inches

Boring Location State Plane	Lat Long	Local Grid Location (if applicable)
SW 1/4 of SW 1/4 of Section 28, T 7 N, R 20 E		*Feet S* *Feet W*

County	DNR County Code	Civil Town/City/ or Village
Waukesha County	*68*	*City of Brookfield, Wisconsin*

Sample Number	Sample Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
				Concrete under tile floor	GP									
1	5		2.5	Base coarse	CL/SP			<1						
				Fill: Silty clay and fine to coarse sand and gravel-brown-moist										
			5	END OF BORING Backfilled with bentonite chips and concrete patch.										
			7.5											
			10											
			12.5											
			15											
			17.5											
			20											
			22.5											
			25											
			27.5											

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

Signature: Mary Logan Firm: STS Consultants

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State of Wisconsin
Department of Natural Resources

Route to: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☐ Underground Tanks ☐ Other ☐ ______

MONITORING WELL CONSTRUCTIO
Form 4400-113A Rev. 4-9

Facility/Project Name Brownstone REEF	Local Grid Location of Well ______ ft. ☐N. ☐S. ______ ft. ☐E. ☐W.	Well Name MW-1
Facility License, Permit or Monitoring Number _ _ _ _ _ _ _ _	Grid Origin Location Lat. ______ Long. ______ or	Wis. Unique Well Number DNR Well Numbe
Type of Well Water Table Observation Well ■ 11 Piezometer ☐ 12	St. Plane ______ ft. N, ______ ft. E.	Date Well Installed 12/12/96 (mm dd yy)
Distance Well Is From Waste/Source Boundary ft.	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) Andrew Guenther
Is Well A Point of Enforcement Std. Application? ☐ Yes ☐ No	Location of Well Relative to Waste/Source u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Wisconsin Soil Testing

A. Protective pipe, top elevation _ _ _ _ . _ _ ft. MSL
B. Well casing, top elevation _ _ _ _ . _ _ ft. MSL
C. Land surface elevation _ _ _ _ . _ _ ft. MSL
D. Surface seal, bottom _ _ _ _ . _ _ ft. MSL or 1.0 ft.

12. USCS 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 ☐ 5 0
Hollow Stem Auger ■ 4 1
Other ☐

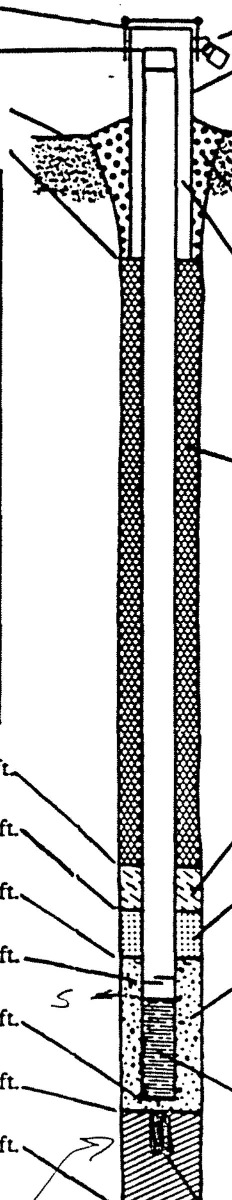
15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1
Drilling Mud ☐ 0 3 None ■ 9 9

16. Drilling additives used? ☐ Yes ■ No

Describe N/A

17. Source of water (attach analysis):
N/A

E. Bentonite seal, top _ _ _ _ . _ _ ft. MSL or 3.0 ft.
F. Fine sand, top _ _ _ _ . _ _ ft. MSL or 3.5 ft.
G. Filter pack, top _ _ _ _ . _ _ ft. MSL or 4.0 ft.
H. Screen joint, top _ _ _ _ . _ _ ft. MSL or 4.5 ft.
I. Well bottom _ _ _ _ . _ _ ft. MSL or 15.0 ft.
J. Filter pack, bottom _ _ _ _ . _ _ ft. MSL or 16.0 ft.
K. Borehole, bottom _ _ _ _ . _ _ ft. MSL or 17.0 ft.
L. Borehole, diameter 8.0 in.
M. O.D. well casing 2.37 in.
N. I.D. well casing 2.06 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
Aluminum Other ☒
d. Additional protection? ☐ Yes ☐ No
If yes, describe: Expandable Cap
3. Surface seal: Bentonite ☐ 30
Concrete ■ 01
Other ☐
4. Material between well casing and protective pipe:
Bentonite ☐ 30
Annular space seal ☐
none 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. 0.88 Ft^3 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. ______ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint 35/45
b. Volume added 0.22 ft^3
8. Filter pack material: Manufacturer, product name and mesh siz
a. Red Flint 35/45
b. Volume added 5.28 ft^3
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 Bedrock Enterprises
c. Slot size: 0.006 in.
d. Slotted length: 9.8 ft.
11. Backfill material (below filter pack): None ■ 14
Red Flint Sand Other ☐

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

Signature David J. Martin Firm STS Consultants

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

Department of Natural Resources | Form 3300-5B | Rev. 8-89

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

) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: Waukesha

SW 1/4 of SW 1/4 of Sec. 20 ; 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: 17680 W Bluemound Rd

City, Village: City

(2) FACILITY NAME

Original Well Owner (If Known): RREEF Funds

Present Well Owner:

Street or Route: 250 E Wisconsin

City, State, Zip Code: Milwaukee, WI 53202

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

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: Soil Samples

Date of Abandonment: 12/12/96

ELL/DRILLHOLE/BOREHOLE INFORMATION

Original Well/Drillhole/Borehole Construction Completed On (Date): 12/12/96

☐ Monitoring Well
☐ Water Well
☐ Drillhole
■ Borehole

Construction Report Available? ■ Yes ☐ No

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
■ Other (Specify) Hand Auger

Formation Type:
■ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (ft.) _____

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

(4) Depth to Water (Feet) _____

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
Did Sealing Material Rise to Surface?	☐ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☐ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing 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
☐ Bentonite - Cement Grout

Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Concrete	Surface	0.2		
Bentonite chips	0.2	1.5		

Comments: _____

Name of Person or Firm Doing Sealing Work: David Markel / STS consultants

Signature of Person Doing Work: David J Markel — Date Signed: 12/12/96

Street or Route: 125 W Lake Park Dr — Telephone Number: (414) 359-3030

City, State, Zip Code: Milwaukee WI 53224

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

Department of Natural Resources | Form 3300-5B | Rev. 8-89

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

GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: Waukesha

SW 1/4 of SW 1/4 of Sec. 28 ; 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: 17690 W Bluemound Rd

City, Village: City

(2) FACILITY NAME

Original Well Owner (If Known): KREEF Funds

Present Well Owner:

Street or Route: 250 E. Wisconsin

City, State, Zip Code: Milwaukee, WI 53202

Facility Well No. and/or Name (If Applicable): HA-2

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: Soil Samples

Date of Abandonment: 12/12/96

ELL/DRILLHOLE/BOREHOLE INFORMATION

Original Well/Drillhole/Borehole Construction Completed On

(Date) 12/12/96

☐ Monitoring Well
☐ Water Well
☐ Drillhole
☒ Borehole

Construction Report Available? ☒ Yes ☐ No

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

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) _____ Casing Diameter (ins.) _____
(From groundsurface)

Casing Depth (ft.) _____

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

(4) Depth to Water (Feet) _____

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
Did Sealing Material Rise to Surface?	☐ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☐ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing 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
☐ Bentonite - Cement Grout

Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Concrete	Surface	0.3		
Bentonite	0.3	1.8		

Comments: _____

Name of Person or Firm Doing Sealing Work: STS Consultants

Signature of Person Doing Work: David J Mark — Date Signed: 12/12/96

Street or Route: 11425 W Lake Park Dr — Telephone Number: (414) 359-3030

City, State, Zip Code: Milwaukee WI 53224

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

Department of Natural Resources | Form 3300-5B | Rev. 8-89

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

GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: Waukesha

SW 1/4 of SW 1/4 of Sec. 28 ; 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: 17630 W Bluemound Rd

City, Village: City

(2) FACILITY NAME

Original Well Owner (If Known): RREEF Funds

Present Well Owner:

Street or Route: 250 E Wisconsin

City, State, Zip Code: Milwaukee, WI 53202

Facility Well No. and/or Name (If Applicable): MA-3

WI Unique Well No.: _ _ _ _ _ _

Reason For Abandonment: Soil Samples

Date of Abandonment: 12/12/96

ELL/DRILLHOLE/BOREHOLE INFORMATION

Original Well/Drillhole/Borehole Construction Completed On (Date): 12/12/96

☐ Monitoring Well
☐ Water Well
☐ Drillhole
■ Borehole

Construction Report Available? ☒ Yes ☐ No

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

Formation Type:
■ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) _____ Casing Diameter (ins.) _____ (From groundsurface)

Casing Depth (ft.) _____

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

(4) Depth to Water (Feet) _____

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
Did Sealing Material Rise to Surface?	☐ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	☐ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing 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
☐ Bentonite - Cement Grout

Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Concrete	Surface	0.3		
Bentonite	0.3	2.0		

Comments: _____

Name of Person or Firm Doing Sealing Work: STS Consultants

Signature of Person Doing Work: David Markuz — Date Signed: 12/12/96

Street or Route: 1425 W. Lake Park Dr — Telephone Number: (414) 359-3030

City, State, Zip Code: Milwaukee WI 53224

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

EN CHEM INC.

. . . *chemistry for the environment*

1795 Industrial Drive
Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
FAX: 414-469-8827

Lab Certification No. 405132750
Location : BROWNSTONE RREEF/ #85134XA
Your Sample ID: HA-1 S-1
Sample Desc. : SOIL 0.2' TO 1.5' BGS
Sample Matrix : SOIL Date Collected: 12/12/1996
En Chem Proj# : 9612250 Date Received : 12/13/1996
En Chem Lab # : 209645 Date Reported : 12/17/1996

Report to: STS
11425 WEST LAKE DRIVE
MILWAUKEE, WI 53224

Bill to: STS CONSULTANTS

nalysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
DTSOLID	Total Solids	91	percent				SM2540G	12/16/1996	PHS
260+-S-ME	1,1-Dichloroethane	ND	ug/kg	25	SW846 5030	12/16/1996	SW846 8260	12/16/1996	RJN
	1,2-Dichloroethane	ND	ug/kg	25					
	1,1-Dichloroethene	ND	ug/kg	25					
	trans-1,2-Dichloroethene	ND	ug/kg	25					
	Tetrachloroethene	ND	ug/kg	25					
	1,1,1-Trichloroethane	ND	ug/kg	25					
	1,1,2-Trichloroethane	ND	ug/kg	25					
	Trichloroethene	ND	ug/kg	25					
	Vinyl chloride	ND	ug/kg	25					
	Dibromofluoromethane (SS)	92	%Recov	1					
	Toluene-d8 (SS)	98	%Recov	1					
	4-Bromofluorobenzene (SS)	88	%Recov	1					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

Jp. Duraceau

EN CHEM INC.

. . . chemistry for the environment

1795 Industrial Drive
Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
FAX: 414-469-8827

Lab Certification No. 405132750
Location : BROWNSTONE RREEF/ #85134XA
Your Sample ID: MW-1 S-3
Sample Desc. : SOIL 5-7'
Sample Matrix : SOIL Date Collected: 12/12/1996
En Chem Proj# : 9612250 Date Received : 12/13/1996
En Chem Lab # : 209646 Date Reported : 12/17/1996

Report to: STS
11425 WEST LAKE DRIVE
MILWAUKEE, WI 53224

Bill to: STS CONSULTANTS

alysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TSOLID	Total Solids	88	percent				SM2540G	12/16/1996	PHS
60+-S-ME	1,1-Dichloroethane	ND	ug/kg	25	SW846 5030	12/16/1996	SW846 8260	12/16/1996	RJN
	1,2-Dichloroethane	ND	ug/kg	25					
	1,1-Dichloroethene	ND	ug/kg	25					
	trans-1,2-Dichloroethene	ND	ug/kg	25					
	Tetrachloroethene	ND	ug/kg	25					
	1,1,1-Trichloroethane	ND	ug/kg	25					
	1,1,2-Trichloroethane	ND	ug/kg	25					
	Trichloroethene	ND	ug/kg	25					
	Vinyl chloride	ND	ug/kg	25					
	Dibromofluoromethane (SS)	96	%Recov	1					
	Toluene-d8 (SS)	102	%Recov	1					
	4-Bromofluorobenzene (SS)	91	%Recov	1					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

EN CHEM INC.

. . . chemistry for the environment

1795 Industrial Drive
Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
FAX: 414-469-8827

Lab Certification No. 405132750
Location : BROWNSTONE RREEF/ #85134XA
Your Sample ID: MW-1 S-5
Sample Desc. : SOIL 9-11'
Sample Matrix : SOIL Date Collected: 12/12/1996
En Chem Proj# : 9612250 Date Received : 12/13/1996
En Chem Lab # : 209647 Date Reported : 12/17/1996

Report to: STS
11425 WEST LAKE DRIVE
MILWAUKEE, WI 53224

Bill to: STS CONSULTANTS

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID	Total Solids	84	percent				SM2540G	12/16/1996	PHS
8260+-S-ME	1,1-Dichloroethane	ND	ug/kg	25	SW846 5030	12/16/1996	SW846 8260	12/16/1996	RJN
	1,2-Dichloroethane	ND	ug/kg	25					
	1,1-Dichloroethene	ND	ug/kg	25					
	trans-1,2-Dichloroethene	ND	ug/kg	25					
	Tetrachloroethene	ND	ug/kg	25					
	1,1,1-Trichloroethane	ND	ug/kg	25					
	1,1,2-Trichloroethane	ND	ug/kg	25					
	Trichloroethene	ND	ug/kg	25					
	Vinyl chloride	ND	ug/kg	25					
	Dibromofluoromethane (SS)	94	%Recov	1					
	Toluene-d8 (SS)	101	%Recov	1					
	4-Bromofluorobenzene (SS)	88	%Recov	1					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

Jo Duncan

EN CHEM INC.

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Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
FAX: 414-469-8827

Lab Certification No. 405132750
Location : BROWNSTONE RREEF/ #85134XA
Your Sample ID: HA-2 S-1
Sample Desc. : SOIL 1.3' TO 1.8' BGS
Sample Matrix : SOIL Date Collected: 12/12/1996
En Chem Proj# : 9612250 Date Received : 12/13/1996
En Chem Lab # : 209648 Date Reported : 12/17/1996

Report to: STS
11425 WEST LAKE DRIVE
MILWAUKEE, WI 53224

Bill to: STS CONSULTANTS

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
TOTSOLID	Total Solids	94	percent				SM2540G	12/16/1996	PHS
8260+-S-ME	1,1-Dichloroethane	ND	ug/kg	25	SW846 5030	12/16/1996	SW846 8260	12/16/1996	RJN
	1,2-Dichloroethane	ND	ug/kg	25					
	1,1-Dichloroethene	ND	ug/kg	25					
	trans-1,2-Dichloroethene	ND	ug/kg	25					
	Tetrachloroethene	1200	ug/kg	26					
	1,1,1-Trichloroethane	ND	ug/kg	25					
	1,1,2-Trichloroethane	ND	ug/kg	25					
	Trichloroethene	ND	ug/kg	25					
	Vinyl chloride	ND	ug/kg	25					
	Dibromofluoromethane (SS)	94	%Recov	1					
	Toluene-d8 (SS)	100	%Recov	1					
	4-Bromofluorobenzene (SS)	89	%Recov	1					

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J. Duncan

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Green Bay, WI 54302
414-469-2436
800-7-ENCHEM
FAX: 414-469-8827

Lab Certification No. 405132750
Location : BROWNSTONE RREEF/ #85134XA
Your Sample ID: HA-3 S-1
Sample Desc. : SOIL 1.4' TO 2.0' BGS
Sample Matrix : SOIL Date Collected: 12/12/1996
En Chem Proj# : 9612250 Date Received : 12/13/1996
En Chem Lab # : 209649 Date Reported : 12/17/1996

Report to: STS
11425 WEST LAKE DRIVE
MILWAUKEE, WI 53224

Bill to: STS CONSULTANTS

Analysis	Parameter	Result	Units	Detection Limit	Prep Method	Prep Date	Analysis Method	Analysis Date	Analyzed By
OTSOLID	Total Solids	94	percent				SM2540G	12/16/1996	PHS
260+-S-ME	1,1-Dichloroethane	ND	ug/kg	25	SW846 5030	12/16/1996	SW846 8260	12/16/1996	RJN
	1,2-Dichloroethane	ND	ug/kg	25					
	1,1-Dichloroethene	ND	ug/kg	25					
	trans-1,2-Dichloroethene	ND	ug/kg	25					
	Tetrachloroethene	2100	ug/kg	27					
	1,1,1-Trichloroethane	ND	ug/kg	25					
	1,1,2-Trichloroethane	ND	ug/kg	25					
	Trichloroethene	ND	ug/kg	25					
	Vinyl chloride	ND	ug/kg	25					
	Dibromofluoromethane (SS)	92	%Recov	1					
	Toluene-d8 (SS)	99	%Recov	1					
	4-Bromofluorobenzene (SS)	87	%Recov	1					

"ND" Indicates no detectable analyte at or above the listed detection limit. All results reported on a dry weight basis. All subcontracted analyses are performed by Wisconsin DNR certified laboratories.

These results have been reviewed and their authenticity verified by:

Company Name: STS Consultants
Branch or Location: Milwaukee
Project Contact: Mary Siegan
Telephone: 414 359-3030
Project Number: 85134XA
Project Name: Brownstone Reef
Project Location:
Sampled By (Print): David Markelz

Regulatory Program *(circle)*: UST RCRA CLP SDWA
NPDES/WPDES CAA NR_____ Other_____

EN CHEM INC. CHAIN OF CUSTODY

1241 Bellevue St., Suite 9
Green Bay, WI 54302
414-469-2436 • 1-800-736-2436
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2231 Catlin Ave., Suite 420
Superior, WI 54880
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FAX 715-392-5843

802 Deming Way
Madison, WI 53717
608-827-5501 • 1-888-5 ENCHEM
Fax: 608-827-5503

Due Dec. 20th

P.O. # _____ Quote # COTA-1654 Page 1 of 1

Mail Report To: Mary Siegan
Company: STS Consultants
Address: 11425 W Lake Park Dr
Milwaukee WI 53224

Invoice To: Same
Company:
Address:

Mail Invoice To:

NR720 Confirmation Analysis Required?
(En Chem will confirm unless otherwise instructed.)

Field ID	Sample Description	Collection Date	Collection Time	Field Screen	Matrix	Filt'd Y/N	Preserv*	Analysis Requested	SHADED AREA FOR LABORATORY USE ONLY: Good Cond.	Total Bottles	Comments	Laboratory Number
HA-1 S-1	Soil, 0.2' to 1.5' BGS	12/12/06	8:35	0.0	Soil	N/A	F	1,1-DCA, 1,2-DCA	X	1-502 1-202/M		209645
MW-1 S-3	Soil 5-7' BGS	12/11/06	9:30	0.0	Soil	N/A	F	1,1-DCE, Trans-1,2-DCE,				209646
MW-1 S-5	Soil 9-11' BGS	12/11/06	10:00	0.0	Soil	N/A	F	TCE, 1,1,1-TCA, 1,1,2-TCA				209647
HA2 S-1	Soil 1.3-1.8'	12/12/06	11:48	0.0	Soil	N/A	F	PCE Vinyl Clorida				209648
HA-3 S-1	Soil 1.4-2.0'	12/12/06	12:15	0.0	Soil	N/A	F		✓	✓		209649

* no meoh blank
RA

*Preservation Code
A=None B=HCL C=H2SO4
D=HN03 E=EnCore F=Methanol**
G=NaOH O=Other (Indicate)

**If not using En Chem's methanol, indicate volume of methanol added and mark the appropriate samples.

Relinquished By:	Date/Time:	Received By:
[signature]	12/13/06 10:30	[signature]
[signature]	12/13/06 1:00	[signature] 12/13/06 1305
[signature]	12/13/06 1700	[signature]

En Chem Project No. 9612250

Sample Receipt Temp. *(Must be rec'd at 4°C)* ROT