

From: Kirk Kapfhammer <kirk@endpointcorporation.com>
Sent: Monday, February 08, 2016 4:19 PM
To: Hnat, John J - DNR
Subject: WDNR Case File 02-41-307576 - Hoffman's Valet Cleaners
Attachments: Endpoint WDNR File Review_Life Navigators 2-2-16.pdf

File 241083150

Docs 02-41-307576

Hello John,

I am currently helping Life Navigators – a 501c organization here in Wauwatosa that works with individuals with developmental and related disabilities in the potential acquisition of a property (7209 West Center Street, Wauwatosa – the “Site”), which is adjacent to the east of a DERF site that you are listed as the project manager for. At present, the Site in question is a single family residence that Life Navigators would demo and redevelop – possibly with a slab on grade building or possibly one with a basement, but due to the known issues at the dry cleaner, they asked me to review that file and advise them if it appears impacts from the dry cleaner have impacted the Site. I did complete a file review – summary attached and overall, based on the prior work for the Hoffman's site, there have been identified releases from the dry cleaning operations resulting in the presence of impacted soil, groundwater and vapors above regulatory levels on the dry cleaner site and beyond. No soil or groundwater samples have been collected from the Site, therefore, we could not confirm that impacts have migrated onto the Site. However, based on the collection of soil and groundwater samples in close proximity to the Site on the Hoffman's property, it is likely that some level of soil and groundwater at the Site at depth has been adversely impacted. Also, while one (1) sub-slab vapor sample was collected beneath the current Site structure which did not contain VOCs above regulatory levels, some impacts were identified.

Therefore, based on the information we reviewed, we concluded it is likely that limited impacts are present at the Site and further assessment would be required to confirm or deny the presence of such. In the most recent work scope submitted and approved by WDNR in 2014, EnviroForensics has proposed investigating utility corridors as preferential pathways for contaminant migration and also the installation of a sub-slab depressurization system under the Hoffman's building, however, no further discussion has been provided regarding the potential for the migration of impacts to have occurred from Hoffman's to the Site, even though the most recent groundwater sampling and historical soil sampling indicates the likely migration / presence of impacts to the Site. We understand that WDNR has essentially approved the next bit of proposed work, but the responsible party is awaiting a reimbursement from the DERF program prior to proceeding.

So, with all that as background, the questions have come up that at this point - 1. Why is the WDNR not requiring further assessment on the Site since it appears in our opinion (and also Pam Mylotta's September 2009 hand drawn map) based on the current data that the impacts have not been defined; and, 2. As part of their due diligence, if Life Navigators were to complete soil and groundwater sampling on the Site – as it should be done anyway, would it be possible to receive reimbursement for that work? Certainly an appropriate scope of work could be submitted to WDNR for approval, but at this point, if the RP for Hoffman's is waiting for reimbursement before they do anything further, that may be a problem from a timing perspective for Life Navigators as both their purchase contingency and development plans would be affected.

Thank you John, I will also give you a call to follow up, but did want to get you some of the background information in hand without you having to do a file review.

Your time and insight are appreciated.

Kirk

Kirk L. Kapfhammer

Principal Consultant

Endpoint Solutions

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Ms. Vicki Wachniak
Executive Director
Life Navigators
7203 West Center Street
Wauwatosa, WI 53210

February 3, 2016

Subject: Wisconsin Department of Natural Resources File Review

7209 West Center Street
Wauwatosa, Wisconsin

FID 241 083 150

Brts 02-41-307576

Dear Ms. Wachniak:

Endpoint Solutions Corp. (Endpoint) appreciates the opportunity to provide you with this summary of environmental conditions associated with the property located at 7209 West Center Street in the City of Wauwatosa, Milwaukee County, Wisconsin (the "Site" or "subject property"). We understand that Life Navigators is evaluating the acquisition of the Site in order to facilitate an expansion of your current property located at 7203 West Center Street. Based on information provided by you and our research into the Wisconsin Department of Natural Resources (WDNR) online records, we previously noted the west adjoining property to the Site, Hoffman's Valet Dry Cleaners (Hoffman's) at 7215 West Center Street, is a historic drycleaner with known environmental impacts to soil, groundwater and vapors.

Therefore, based on the close proximity of the Hoffman's parcel, adjoining to the west of the Site, there was a concern that adverse environmental conditions may exist on the Site. Subsequently, Endpoint was retained to review the WDNR files for Hoffman's to further assess the potential for impacts to the Site. A summary of our review is presented below.

BACKGROUND

The Hoffman's property is currently occupied by Wauwatosa Valet Cleaners and is listed as an "open" Emergency Repair Program (ERP) site with WDNR Bureau for Remediation and Redevelopment Tracking System (BRRTS) #02-41-307576. Environmental Assessment (EA) activities at Hoffman's are being completed in accordance with the Dry Cleaner Environmental Response Fund Program (DERF). DERF is a reimbursement program for dry cleaners for the investigation and cleanup costs of dry cleaning facilities. This program was developed by the dry cleaning industry to cover eligible costs associated with responding to, investigating and cleaning up contamination caused by releases of dry cleaning solvents.

WDNR FILE REVIEW

On January 14, 2016, Endpoint conducted an in-person WDNR file review to assess for the potential of adverse environmental conditions at the Site. During the review, key files for the Hoffman's EA

activities were noted in terms of their relevance to what impacts may be present on the subject property. Below is a summary of historical activities as reviewed.

According to the WDNR records, activities at Hoffman's began on October 29, 2001 when bids were obtained to complete subsurface investigation activities at the property. A Hazardous Substance Release Notification, indicating the confirmed presence of soil contamination at Hoffman's, was officially filed in February 2002. The notification indicates the consultant at the time, ARCADIS, found detectable levels of cis-1,2-Dichloroethene, methylene chloride and perchloroethylene (PCE) (a dry cleaning solvent) in soil samples taken from both inside and outside of the building footprint. Additional EA activities completed over time further assessed the extent of impacts to soil, groundwater and vapors at the Hoffman's property and beyond as discussed below. For reference, the most recent BRRTS summary for Hoffman's has been attached.

Overall, based on a review of the ARCADIS August 2, 2007 *Summary of Supplemental Investigation Activities and Revised Case Summary and Close Out Request*, a copy of which has been attached, chlorinated volatile organic compounds (CVOCs), primarily PCE, were released due to facility operations with impacts noted to soil, groundwater and vapor both on and off the Hoffman's property. During their EA activities, ARCADIS advanced soil borings and constructed monitoring wells along the eastern border of the Hoffman's property, however no sampling was conducted on the Site itself. Based on the results of these activities, groundwater was noted to be present at approximately fourteen to sixteen feet below ground surface (bgs) and flowing primarily in a southerly direction. Soil and groundwater impacts were identified to be present along this border. However, ARCADIS concluded that based on the EA activities completed to date, the extent of impacts was adequately evaluated, and that closure of the case be granted following the installation of a sub-slab venting system on the Hoffman's site to provide an engineering control to address the vapor risk. No actions were however recommended to be taken to address the soil or groundwater impacts, with the exception of the maintenance of a cap at Hoffman's and a notice that soil and groundwater impacts were present and would require proper handling and disposition if disturbed in the future.

Subsequently, in their September 19, 2007 response letter (attached), WDNR rejected the request for closure and noted that additional investigation was needed to further assess the extent of impacts, in particular to the east (the Site) and west. During the review, we also identified a soil boring and "Monitoring Well Locations" figure completed by ARCADIS (attached) as part of their closure request, but of note on this figure was an iso-contour hand-drawn by WNDR staff noting likely lateral migration of contamination extending to the east onto the Site. However, it is also noted that no sub-slab vapor samples were actually collected as access was denied on both adjoining properties at that time.

During the time period through 2013, further investigation of Hoffman's, which included assessing the potential for vapor intrusion offsite, was completed. Based on the results of these investigation activities, sub-slab vapor samples under the Hoffman's property indicated elevated levels of CVOCs, particularly PCE, above regulatory limits. Sub-slab sample were also collected from the adjoining to the west of Hoffman's parcel and the Site. Based on these sampling activities, while detectable constituents were noted to be present, the concentrations identified in the vapor samples collected

on the adjoining parcels were not above regulatory limits. Ongoing groundwater monitoring continued to indicate low level groundwater impacts along the border of the Site above Wisconsin Administrative Code Chapter NR 140 Preventive Action Limits (PALs), but below Enforcement Standards (ESs).

Following the completion of the additional ARCADIS EAs, Environmental Forensic Investigations, Inc. (EnviroForensics) was retained to complete additional EA activities. Overall, based on the results of these EA activities, it was concluded that a four (4) to six (6) foot thick sand layer, encountered approximately 7 feet below ground surface (bgs) is likely the preferential migration pathway for the contaminants due to its higher permeability in comparison with surrounding clay soils. Furthermore, based on the analytical results of groundwater samples collected from monitoring wells installed near the east property line of Hoffman's and the Site, CVOCs were also noted to be present above regulatory standards. The results of these assessment activities indicated a more southeasterly groundwater flow across Hoffman's toward the Site, which was contrary to the prior work completed by ARCADIS which indicated both a northwesterly and southern flow direction. For reference, a copy of the EnviroForensics report has been attached.

In the most recent work scope submitted and approved by WDNR in 2014, EnviroForensics has proposed investigating utility corridors as preferential pathways for contaminant migration and also the installation of a sub-slab depressurization system under the Hoffman's building. No further discussion has been provided regarding the potential for the migration of impacts to have occurred from Hoffman's to the Site, even though the most recent groundwater sampling indicates the likely migration of impacts to the Site and prior WDNR notations have indicated the migration to the Site is suspected. Note that while additional EA activities are needed and scope of work approved, the responsible party is awaiting a reimbursement from the DERF program prior to proceeding.

CONCLUSIONS

Prior EAs for the Hoffman's site have identified releases from dry cleaning operations at that parcel resulting in the presence of impacted soil, groundwater and vapors above regulatory levels. No soil or groundwater samples have been collected from the Site, therefore, it cannot be confirmed that impacts have migrated onto the Site. However, based on the collection of soil and groundwater samples in close proximity to the Site on the Hoffman's property, it is likely that some level of soil and groundwater at the Site at depth has been adversely impacted. Furthermore, while the most recent sub-slab vapor sampling beneath the current Site structure did not contain VOCs above regulatory levels, some impacts were identified and vapor results are known to vary over time.

Therefore, based on the information provided above, it is likely that limited impacts are present at the Site and further assessment would be required to confirm or deny the presence of such. However, it is important to note that, if present, the impacts would not preclude future development, but would likely require engineering controls or design to address any exposure pathways.

RECOMMENDATIONS

Based on the results of the sampling completed on the Hoffman's property, but in close proximity to the Site, we recommend that prior to development, soil, groundwater and vapor samples be collected in an attempt to confirm or deny the presence of impacts at the Site. The primary purpose of the sampling would be to identify potential issues related to future development as impacted materials may be encountered and building designs may need to be adjusted to accommodate residual impacts. Additionally, we recommend that following the completion of the sampling activities, if impacts are present, the WDNR should be petitioned for an offsite liability exemption to clarify whom the responsible party is for the impacts such that Life Navigators is not in the future identified as a responsible party for the impacts which may be present at the Site. A more detailed discussion of the offsite exemption process is provided below.

OFFSITE EXEMPTION PROCESS

When contamination has crossed a property line, the owner of property with contamination that originated on another neighboring property is not responsible for cleanup, but only if he or she can demonstrate that his or her property is not the source of any of the contamination. Generally, this happens when the person who is responsible completes their investigation of the contamination and shows where it originated and how far it spread. Sometimes, this is difficult and time-consuming and affected neighbors may need to refinance or sell their properties before the investigation into where the contaminate originated is completed. In those cases, owners of properties affected by contamination from other properties have the option to demonstrate that the contamination did not originate on their property and can obtain a written liability exemption from WDNR.

In order to obtain this liability exemption, a property owner must demonstrate that: 1) Contamination on their property originated somewhere else; 2) the owner did not possess or control the property where the contamination originated; and, 3) the owner did not possess or control the hazardous substance that contaminated the property where the contamination originated, and did not cause the discharge of this hazardous substance.

A property owner also must allow the person that is responsible for the contamination and the WDNR reasonable access to the property for investigation and clean up of the contamination; and, avoid actions that could worsen the contamination or interfere with actions taken in response to the contamination and comply with conditions that WDNR finds necessary.

If a property owner is eligible for a liability exemption for contamination from another property, the owner will be exempt from the following statutory requirements for that source of contamination:

- Taking environmental response actions, including investigation and cleanup of contamination and responding to state orders for environmental preventive measures;
- Reimbursing DNR for costs associated with any DNR response to that contamination; and,

- Emergency or special orders for protection of public health, safety or welfare.

Therefore, while the owner of a neighboring property may not be responsible for cleaning up the contamination, he or she may become responsible for a land use control and the requirements regarding land use controls apply even if the owner of another impacted property is protected by the off-site liability exemption. Land use controls which may be placed on a property include:

- The property owner must obtain prior approval from WDNR to construct or reconstruct a water supply well;
- If the residual contamination is disturbed, the property owner is responsible for proper sampling, handling and treatment or disposal of the contamination;
- If specified in the cleanup approval, the owner must periodically inspect the physical land use control, maintain it and record the maintenance activities. For example, this often means taking good care of pavement that covers contaminated soil; and,
- The owner must obtain prior written approval from the State before changing the physical conditions specified in the land use control.

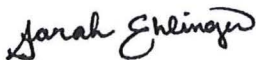
Finally, note that the exemption request may be made and granted without confirmation of impacts on your property. However, residual contamination may remain regardless of who is responsible for an approved cleanup and, if present, impacted materials that are encountered during future development activities will require proper handling and disposition.

CLOSING

Thank you for the opportunity to provide our services to you. If you have any questions, require additional information or need any clarifications related to the information contained herein, please do not hesitate to contact us.

Sincerely,

Endpoint Solutions



Sarah Ehlinger
Staff Consultant



Kirk Kapfhammer, P.G.
Principal

Attachments

- Hoffman's BRRTS Summary
- ARCADIS August 2, 2007 *Summary of Supplemental Investigation Activities and Revised Case Summary and Close Out Request*
- WDNR September 19, 2007 Denial of Closure Letter
- WDNR Modified Map
- EnviroForensics October 29, 2013 *Further Site Investigation 1 Report*

Wisconsin Department of Natural Resources

Environmental Cleanup & Brownfields Redevelopment

BRRTS on the Web

Click the Location Name below to view the Location Details page for this Activity. Other Activities, if present, may be viewed from that page.

[BOTW Home](#) > [Basic Search](#) >> 02-41-307576 Activity Details

02-41-307576 HOFFMANS VALET CLEANERS INC						
OPEN ERP						
Location Name <small>(Click Location Name to View Location Details)</small>			County	WDNR Region		
HOFFMANS VALET CLEANERS INC			MILWAUKEE	SOUTHEAST		
Address			Municipality			
7215 W CENTER ST			WAUWATOSA			
Public Land Survey System		Latitude	Google Maps	RR Sites Map		
NE 1/4 of the SW 1/4 of Sec 15, T07N, R21E		43.0678523	CLICK TO VIEW	CLICK TO VIEW		
Additional Location Description		Longitude	Facility ID	Size (Acres)		
		-88.0023482	241083150	.5		
Jurisdiction	PECFA No.	EPA Cerclis ID	Start Date	End Date	Last Action	
DNR RR			2002-05-30		2016-01-05	
Characteristics						
PECFA Tracked?	EPA NPL Site?	Eligible for PECFA Funds?	Above Ground Storage Tank?	Drycleaner?	Co-Contamination?	On GIS Registry?
No	No	No	No	Yes	No	No
Actions						
<small>Place Cursor Over Action Code to View Description</small>						
Date	Code	Name	Comment			
2001-10-29	113	Receipt of Bid Review Requests - DERF	REC'D 3 SI BID PROPOSALS. GK.			
2001-10-29	99	Miscellaneous	ARCADIS LOW BID FOR SI AT \$12,145. GK.			
2002-05-30	1	Notification				
2002-06-13	2	RP Letter Sent				
2002-08-15	110	Date Potential Claim Form Approved - DERF				
2003-07-03	112	Receipt of Change Orders - DERF	COND'L APP'L FOR ADD'L SI WORK UP TO \$11,402, BUT NEED TO SEE CHANGES. GK.			
2004-01-13	112	Receipt of Change Orders - DERF	FINAL APPR'L OF ADD'L SI IS FOR \$13,706, NOT \$11,000. GK.			
2005-05-03	79	Closure Review Request Received	REC'D CK# 030792 \$750.00 REC'D GIS PKT GIVEN TO MW 05/05/05-COMLETE			
2005-05-05	710	Database Fee Paid for Soil	REC'D CK# 030792 \$200.00			
2005-05-05	50	GIS Registry Site	AUTOPOPULATED FROM 700/710 ACTION ENTRY ON 20-OCT-05			
2005-05-05	56	Continuing Obligation(s) Required - GIS Registry Site	*** AUTO POPULATED BY 710 ACTION ENTRY ***			
2005-07-28	80	Closure Not Approved	MORE SI REQ'D			
2005-09-21	112	Receipt of Change Orders - DERF	PM - FOR MORE INVESTIGATION - \$10,890 APPROVED			
2005-09-21	217	Application for Cost Reimbursement Received - DERF	PM - INTERIM SI - \$\$23,611.64; TO CO 01/03/06			
2005-10-03	219	Application for Cost Reimbursement Denied - DERF	NOT ALL LICENSE FEES WERE PAID, PER DEPART OF REVENUE SO DENIAL MANDATED AT THIS TIME			
2005-12-16	36	Site Investigation Workplan Approved	CHANGE ORDER CONDITIONAL OK			
2006-02-28	218	Application for Cost Reimbursement Approved - DERF				
2007-08-06	179	Closure Review Request Received (no fee required)				
2007-09-19	80	Closure Not Approved	P.M. - SI-DE			
2007-12-11	112	Receipt of Change Orders - DERF	SCOPE OF WORKAND COST ESTIMATE FOR SUPPLEMENTAL INVESTIGATION			
2008-01-17	81	Site Investigation Workplan Not Approved	REQUEST REVISION TO WORKPLAN			
2008-02-26	112	Receipt of Change Orders - DERF	SI INV			
2008-04-23	36	Site Investigation Workplan Approved	ADDTNL DERF COSTS APPROVED= \$11,121			
2008-08-30	99	Miscellaneous	SECOND SITE PCN RCVD IN MADISON TODAY, FROM NATALYA BERDNIKOVA			
2009-02-12	112	Receipt of Change Orders - DERF	SITE INVESTIGATION			
2009-04-01	36	Site Investigation Workplan Approved	REVISED COSTS FOR SI PHASE: \$9119; TOTAL SI: \$45860			

2009-04-22	99	Miscellaneous	APPROVAL OF SECOND PCN FROM NATALYA BERDIKOVA, LETTER SENT TODAY
2009-08-27	37	SI Report Received (w/out Fee)	
2009-09-10	217	Application for Cost Reimbursement Received - DERF	SITE INVESTIGATION - PARTIAL #2
2009-10-08	99	Miscellaneous	LETTER SENT TO EAST NEIGHBOR REGARDING DENIAL OF ACCESS
2009-10-08	140	Site Investigation Report Not Approved	ACCESS TO WEST NEIGHBOR OBTAINED FOR SUBSLAB SAMPLES - TO BE DONE END OF OCTOBER
2009-10-20	99	Miscellaneous	ACCESS OBTAINED FROM EAST NEIGHBOR - SAMPLING TO BE ARRANGED
2009-11-17	99	Miscellaneous	DNR REQUESTS DERP CLAIM REVISIONS
2009-11-19	99	Miscellaneous	CLAIM REVISION REC'D; CLAIM FORWARDED TO MADISON CF/2
2009-12-01	218	Application for Cost Reimbursement Approved - DERF	SECOND SI CLAIM APPROVED, CHECK WILL BE SENT ASAP.
2010-02-12	213	Interim Action Workplan Received - DERF	SUBSLAB DEPRESSURIZATION SYSTEM
2010-02-12	112	Receipt of Change Orders - DERF	INTERIM ACTION + CLOSURE REQUEST
2010-02-12	43	Status Report Received	SUBSLAB VAPOR RESULTS
2010-04-01	215	Interim Action Workplan Denied - DERF	REQUEST SCOPE MODIFICATIONS
2010-04-08	213	Interim Action Workplan Received - DERF	REVISED PLAN SSDS AND SAMPLING
2010-04-21	215	Interim Action Workplan Denied - DERF	REQUEST REVISED INDOOR AIR SAMPLING PLAN
2010-04-22	213	Interim Action Workplan Received - DERF	RESPONSE TO DNR EMAIL REC'D
2010-04-26	214	Interim Action Workplan Approved - DERF	\$22,463.00 APPROVED FOR SSDS INSTALLATION AND OFFSITE AIR SAMPLING
2011-08-24	99	Miscellaneous	CONSULTANT QUESTION RE DERP REQUIREMENTS
2011-08-25	99	Miscellaneous	DERF REQ CLARIFIED FOR CONSULTANT
2011-09-07	130	DNR Regulatory Reminder Sent	Vapor Intrusion (VI) Assessment Notification Ltr Sent
Linked to Code 130: 0241307576 VI Letter.pdf Click to Download or Open			
2012-09-10	99	Miscellaneous	UPDATE CALL FROM CONSULTANT RE POSSIBLE VARIANCE REQ'T
2013-01-04	99	Miscellaneous	REC'D NR 169 VARIANCE REQUEST
2013-07-10	35	Site Investigation Workplan Received (w/out Fee)	VI SCOPING PLAN + GW MONITORING
2013-07-26	36	Site Investigation Workplan Approved	DERF APPROVAL LTR SENT
2013-10-31	37	SI Report Received (w/out Fee)	REC'D ADD'L VI & GW SI REPORT
2014-01-30	130	DNR Regulatory Reminder Sent	DERF FUNDING STATUS LTR
2014-03-18	43	Status Report Received	REC'D ENVIRONMENTAL SAMPLING RESULTS
2014-03-18	43	Status Report Received	REC'D ENVIRONMENTAL (SUB-SLAB) SAMPLING RESULTS
2014-04-25	217	Application for Cost Reimbursement Received - DERF	
2014-07-24	218	Application for Cost Reimbursement Approved - DERF	PAYMENT MADE 12/16/2014
2014-08-22	195	Semi-Annual/PECFA Cost Reporting Requirement Met	Period: 1/1/2014 - 6/30/2014
Click 195 Action Name above to view the NR700 report			
2014-11-06	35	Site Investigation Workplan Received (w/out Fee)	SCOPE OF WORK 2 SITE INVESTIGATION
2014-11-20	36	Site Investigation Workplan Approved	EMAIL APPROVAL
2015-01-06	195	Semi-Annual/PECFA Cost Reporting Requirement Met	Period: 7/1/2014 - 12/31/2014
Click 195 Action Name above to view the NR700 report			
2015-07-06	195	Semi-Annual/PECFA Cost Reporting Requirement Met	Period: 1/1/2015 - 6/30/2015
Click 195 Action Name above to view the NR700 report			
2016-01-05	195	Semi-Annual/PECFA Cost Reporting Requirement Met	Period: 7/1/2015 - 12/31/2015
Click 195 Action Name above to view the NR700 report			
Financial ?			
Grants, Loans, DERF Expenditures, State-Funded and Spill Response			
Category		Fiscal Year	Amount
DERF Reimbursements : Grant		2005	\$13,595
DERF Reimbursements : Grant		2010	\$15,444
DERF Reimbursements : Grant		2015	\$23,685
Impacts			
Type	Comment		
Off-Site Contamination	VAPOR CONFIRMED		
Soil Contamination	-		
Vapor Intrusion Pathway	ON & OFF-SITE CONFIRMED		
Substances			

Substance	Type	Amount Released	Units
Perchloroethylene	VOC		
Who			
Role	Name/Address		
Responsible Party	HOFFMAN'S VALET CLEANERS 2010 W WOODBURY LANE GLENDALE, WI 53209		
Project Manager	JOHN HNAT 2300 N ML KING, JR DRIVE MILWAUKEE, WI 53212		

BRRTS data comes from various sources, both internal and external to DNR. There may be omissions and errors in the data and delays in updating new information. Please see the [disclaimers page](#) for more information.

The Official Internet site for the Wisconsin Department of Natural Resources
 101 S. Webster Street . PO Box 7921 . Madison, Wisconsin 53707-7921 . 608.266.2621

Release 2.4.10 | 01/09/2016 | [Release Notes](#)



PO 24103315D
ACTION 179
Received WDNR-SER
08/06/07

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Wisconsin 53202
Tel 414 276 7742
Fax 414 276 7603
www.arcadis-us.com

Pam Mylotta
Wisconsin Department of Natural Resources
2300 North Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-0436

Subject:
Summary of Supplemental Investigation Activities and Revised Case Summary and
Close Out Request, Former Hoffman's Valet Cleaners Property, 7215 West Center
Street, Wauwatosa, Wisconsin.
BRRTS#02-41-307576

ENVIRONMENT

Dear Ms. Mylotta:

Date:
August 2, 2007

On behalf of Ralph Hoffman, ARCADIS is providing this letter summarizing the
supplemental investigation activities that have been completed at the former
Hoffman's Valet Cleaners facility, located at 7215 West Center Street, Wauwatosa,
Wisconsin (the "Site"). ARCADIS submitted a request for site closure in May 2005.
In a letter dated July 28, 2005, you denied the request for closure and requested
supplemental investigation. ARCADIS subsequently prepared a work plan for
addressing the additional activities, dated September 19, 2005. You approved the
work plan on December 16, 2005.

Contact:
Brian Maillet
Ed Buc

Phone:
414.276.7742

Email:
bmaillet@arcadis-us.com
ebuc@arcadis-us.com

ARCADIS has completed the requested supplemental investigation activities. Based
on the results of the investigation, ARCADIS recommends that this project be closed.
Contamination has been adequately evaluated and low to non-detectable
concentrations of constituents are present in groundwater. Detectable
concentrations of constituents were detected in a sub-slab vapor sample collected
from beneath the dry cleaners. Because the building houses an active dry cleaner,
collection of indoor air samples would provide little information on the relationship
between sub-slab conditions and indoor air quality. As a condition of closure,
ARCADIS recommends the installation of a sub-slab venting system to capture soil
vapor and provide an engineering control in the event dry cleaning operations cease
and the building is converted into another use.

Our ref:
WI000943.0003

This letter presents an overview of the supplemental investigation activities and
recommendations for Site closure. An amended "Case Summary and Close Out
Request" is enclosed. Fees associated with closure were previously paid to the
Wisconsin Department of Natural Resources (WDNR).

Overview of Supplemental Investigation

As outlined in the ARCADIS work plan and the WDNR approval letter, the following supplemental investigation activities were conducted:

- Collection of additional soil samples from beneath the building to further evaluate constituent concentrations in soil beneath the building.
- Collection of sub-slab vapor samples from beneath the dry cleaner building and evaluation of the potential for vapor intrusion at the adjacent residence to the east.
- Collection of groundwater samples from the monitoring wells at the Site.

Additional Soil Samples – Limited concentrations of volatile organic compounds (VOCs) were detected in the soil samples collected during the first two phases of investigation at the Site. During the third phase of investigation, soil samples were collected from the borings advanced for installation of monitoring wells. Soil samples from two of the three well locations (MW-1 and MW-2) contained VOCs at concentrations higher than previously detected. The soil samples were collected from a sand layer. The purpose of the soil sampling completed during the supplemental investigation was to evaluate conditions within this layer beneath the building and potential sources.

As shown on attached Figure 1, a basement underlies the northern half of the facility at a depth ranging from 7 to 8 ft bls, with the dry cleaning machine located in the southern half of the facility (at ground level). ARCADIS installed one soil boring (GP-3) in the basement, at a location north of the dry cleaning machine. Two soil samples were collected at 8 to 10 feet below land surface (ft bls) and 10 to 12 ft bls from GP-3 and submitted for laboratory analysis of VOCs. These sample intervals were comparable to the samples from MW-1 and MW-2. The soil analytical results are summarized in attached Table 1 and shown on attached Figure 2. A copy of the laboratory analytical results for the soil samples is attached in Appendix A.

As shown on attached Figure 2, the primary constituent detected in the soil samples from GP-3 was tetrachloroethene (PCE). The PCE concentrations at GP-3 exceeded the calculated soil screening levels for groundwater, inhalation, and ingestion. The PCE concentrations at GP-3, which is closer to potential sources, were not significantly different from the previously detected PCE concentrations to the east at MW-1 and MW-2.

The north/south geologic cross section has been revised to include GP-3 (Figure 3). A copy of the soil boring log for GP-3 is attached in Appendix B. PCE concentrations detected in soils are shown on the north/south (Figure 4) and west/east (Figure 5) geologic cross-sections and indicate that PCE-impact soils are limited to a clay unit encountered from approximately 0 to 7 ft bls and a underlying sand unit encountered from approximately 7 to 12 ft bls. A second clay unit underlies the sand unit and contains the groundwater table. Soil samples collected from the second clay unit contained VOC concentrations below laboratory detection limits.

Figure 2 depicts the lateral extent of VOCs in soil. It is noted that several soil samples collected from the sand layer (GP-102, GP-105, GP-101, and MW-3) contained relatively low concentrations of VOCs. It is also noted that the soil sample collected at GP-103 at a depth of 8 to 12 ft bls contained PCE at a concentration one order of magnitude less than the detected concentration in the sample collected at 10 to 12 ft bls at MW-2. Those two sample locations were advanced within 1 foot of each other. The soil analytical results indicate that impacts within the clay layer are limited, and that the impacts in the sand layer occur sporadically.

Vapor Intrusion Assessment – ARCADIS installed one sub-slab vapor probe (SG-1) in the basement flooring of the building on July 25, 2006 to assess the potential for vapor migration and intrusion associated with the VOC-impacted soils. Vapor Probe SG-1 consisted of a stainless steel sample port installed according to the United States Environmental Protection Agency (U.S. EPA) document entitled *Standard Operating Procedure (SOP) for Installation of Sub-Slab Vapor Probes and Sampling Using EPA Method TO-15 to Support Vapor Intrusion Investigations*, dated 2002. ARCADIS also placed plastic over the basement sump to form a "sampling tent" to collect a vapor sample from this location. The locations of the sub-slab vapor probe and basement sump are shown on Figure 1.

On July 26 and 28, 2006, the basement sump sampling tent and SG-1 were sampled with summa canisters in accordance with the U.S. EPA SOP. The canisters were submitted to a laboratory for analysis of VOCs using U.S. EPA Method TO-15. A copy of the laboratory analytical results for the vapor samples is attached in Appendix C.

The air analytical results, summarized in attached Table 2, indicated that chlorinated VOC vapors beneath the building slab are at concentrations that exceed regulatory levels. Collection of indoor air samples would be needed to determine whether or not vapors from beneath the slab are migrating into the building at concentrations that exceed regulatory levels. However, it is likely that sample bias would be encountered, since the building is occupied by a dry cleaner. Rather than conducting additional vapor sampling, ARCADIS recommends the installation of a vapor

mitigation system in the facility basement to address the potential for vapor migration.

Following a review of the air analytical results, ARCADIS conducted a survey of vapor migration routes within the basement of the residence adjacent to the east of the Site. The survey was completed on July 10, 2007. ARCADIS observed neither a basement sump nor cracks in the basement floors and walls; therefore, there are no potential vapor migration routes in the adjacent building basement.

Additional Groundwater Monitoring – ARCADIS completed three additional quarterly groundwater sampling events. Static groundwater levels were measured prior to collecting samples from the monitoring wells and are presented in attached Table 3. The depth to groundwater beneath the Site has ranged from 13.72 to 16.53 ft bls. Groundwater flow data for the April 2007 and July 2007 events is presented on attached Figures 6 and 7. The direction of groundwater flow at the site during the sampling events was to the south, away from MW-1 and MW-2 and the east adjacent residence. In general, groundwater flows toward the Menomonee River, located approximately 1.3 miles south of the site.

The groundwater analytical results are summarized in attached Table 4. As shown on attached Figure 8, VOC concentrations have been below the ch. NR 140 Enforcement Standards (ESs) in all wells, with one exception. The April 2007 groundwater sample collected from MW-2 contained 5.5 micrograms per liter ($\mu\text{g/L}$) PCE, which slightly exceeded the ch. NR 140 ES of 5.0 $\mu\text{g/L}$. The groundwater sample collected from MW-2 in July 2007 contained 1.7 $\mu\text{g/L}$ PCE, which is consistent with previous results for groundwater at the Site. Copies of the laboratory analytical results for the last three groundwater sampling events are attached in Appendix D.

Of particular note are the groundwater analytical results from MW-1 and MW-2. As indicated earlier, soil samples collected from these well locations contained higher-than-expected concentrations of VOCs. As shown on the cross-sections, both of these wells are screened within the sand layer where the soil samples were collected. The groundwater samples from these wells have consistently contained low to non-detectable concentrations of VOCs. These results confirm that the VOCs in the sand layer are not partitioning to groundwater.

Conclusions and Recommendations

Based on the results of the previous work completed at the Site and the results of the supplemental investigation, no additional work is warranted. The investigation activities have determined the following:

- Extent of VOC impacts in soil is adequately defined.
- Chlorinated VOC vapors beneath the building slab are at concentrations that exceed regulatory levels.
- The VOC concentrations in groundwater are stable and relatively low.

Existing building and pavement will serve as a cap to minimize direct contact with the underlying impacted soil and infiltration of surface water through the impacted sand layer, and natural attenuation will continue to reduce constituent concentrations. ARCADIS is requesting closure for the Site. A revised Case Summary and Close Out Request, and GIS Registry package (Form 4400-202) are attached. Checks for the \$750 closure review fee and the \$450 groundwater and soil GIS Registry maintenance fees were previously submitted to the WDNR.

Engineering controls will be used as part of the remedy. A cap maintenance and soil management plan has been prepared and is enclosed with the closure documents. ARCADIS also recommends that a sub-slab vapor mitigation system be installed.

Following approval of project closure, ARCADIS will complete the following activities:

- Abandon the three monitoring wells in accordance with ch. NR 141 requirements.
- Install the vapor mitigation system.
- Submit documentation regarding well abandonment and vapor mitigation system construction to the WDNR.

Installation of the vapor mitigation system will consist of the following tasks:

- Sealing the basement sump and cracks in the basement floor and walls.
- Installation of a sump within the southeastern corner of the basement.
- Placing polyvinyl chloride (PVC) piping just below the bottom of the concrete slab into the sump.
- Sealing the sump around the PVC piping and extending the PVC piping to an elevation above the tallest portion of the facility.
- Attaching a wind turbine to the top of the PVC piping.

ARCADIS

Pam Mylotta
August 2, 2007

This system will act as a sub-slab depressurization system to prevent the potential migration of vapors from the underlying soils to ambient air.

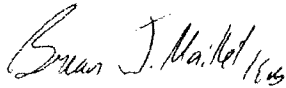
Closing

ARCADIS will conduct the closure activities for an estimated cost of \$7,719. Table 5 includes a breakdown of the project costs for the proposed work and the unit rates and estimates of hours to be worked by ARCADIS. Since costs associated with these activities are eligible for reimbursement under the Dry Cleaner Environmental Response Program, a reimbursement claim will be prepared once the final closure letter is received. ARCADIS will not proceed with the recommended work without prior written approval from the WDNR.

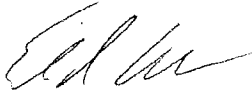
We appreciate your continued assistance with this project. If you have any questions or require additional information, please contact us at your convenience.

Sincerely,

ARCADIS U.S., Inc.



Brian J. Maillet
Staff Scientist



Edmund A. Buc, P.E.
Principal Engineer

Copies:

Ralph Hoffman

ARCADIS

Table 4. Groundwater Analytical Results, Hoffman's Valet Cleaners, 7215 W. Center Street, Wauwatosa, Wisconsin.

Sample ID	NR 140	NR 140	GP-102	GP-103	GP-105	MW-1	MW-99*	MW-1	MW-99*	MW-1	
Sample Date	ES	PAL	09/12/02	09/12/02	09/12/02	01/28/05	01/08/07	01/08/07	04/05/07	04/05/07	07/03/07
VOCs											
Methylene Chloride	5	0.5	<0.43	<0.43	<0.43	<1.0	<0.43	<0.43	<0.43	<0.43	<0.43
Tetrachloroethene	5	0.5	<0.63	2.9	<0.63	<0.50	1.1	1.1	1.4 Q	1.4 Q	1.0 Q
Trichloroethene	5	0.5	<0.48	<0.48	<0.48	<0.20	<0.48	<0.48	<0.48	<0.48	0.81 Q

Constituent concentrations are reported in micrograms per liter ($\mu\text{g/L}$).

Concentration exceeds the NR 140 PAL.

BOLD Concentration exceeds the NR 140 ES.

ID Identification.

ES NR 140 Enforcement Standard.

PAL NR 140 Preventive Action Limit.

ARCADIS

Table 4. Groundwater Analytical Results, Hoffman's Valet Cleaners, 7215 W. Center Street, Wauwatosa, Wisconsin.

Sample ID	NR 140		MW-99* (continued)	MW-2				MW-3			
	ES	PAL	07/03/07	01/28/05	01/08/07	04/05/07	07/03/07	01/28/05	01/08/07	04/05/07	07/03/07
VOCs											
Methylene Chloride	5	0.5	0.73 Q	<1.0	<1.0	<0.43	<0.43	<1.0	<1.0	<0.43	<0.43
Tetrachloroethene	5	0.5	1.2 Q	<0.50	<0.50	5.5	1.7	<0.50	<0.50	<0.45	<0.45
Trichloroethene	5	0.5	1.4 Q	<0.20	<0.20	<0.48	0.95 Q	<0.20	<0.20	<0.48	<0.48

Constituent concentrations are reported in micrograms per liter ($\mu\text{g/L}$).

 Concentration exceeds the NR 140 PAL.

BOLD Concentration exceeds the NR 140 ES.

ID Identification.

ES NR 140 Enforcement Standard.

PAL NR 140 Preventive Action Limit.

ARCADIS

Table 4. Groundwater Analytical Results, Hoffman's Valet Cleaners, 7215 W. Center Street, Wauwatosa, Wisconsin.

Sample ID	Trip Blank			
Sample Date	01/28/05	01/08/07	04/05/07	07/03/07
VOCs				
Methylene Chloride	<1.0	<1.0	<0.43	1.3 Q
Tetrachloroethene	<0.50	<0.50	<0.45	<0.45
Trichloroethene	<0.20	<0.20	<0.48	0.95 Q

Constituent concentrations are reported in micrograms per liter ($\mu\text{g/L}$).

Concentration exceeds the NR 140 PAL.

BOLD Concentration exceeds the NR 140 ES.

ID Identification.

ES NR 140 Enforcement Standard.

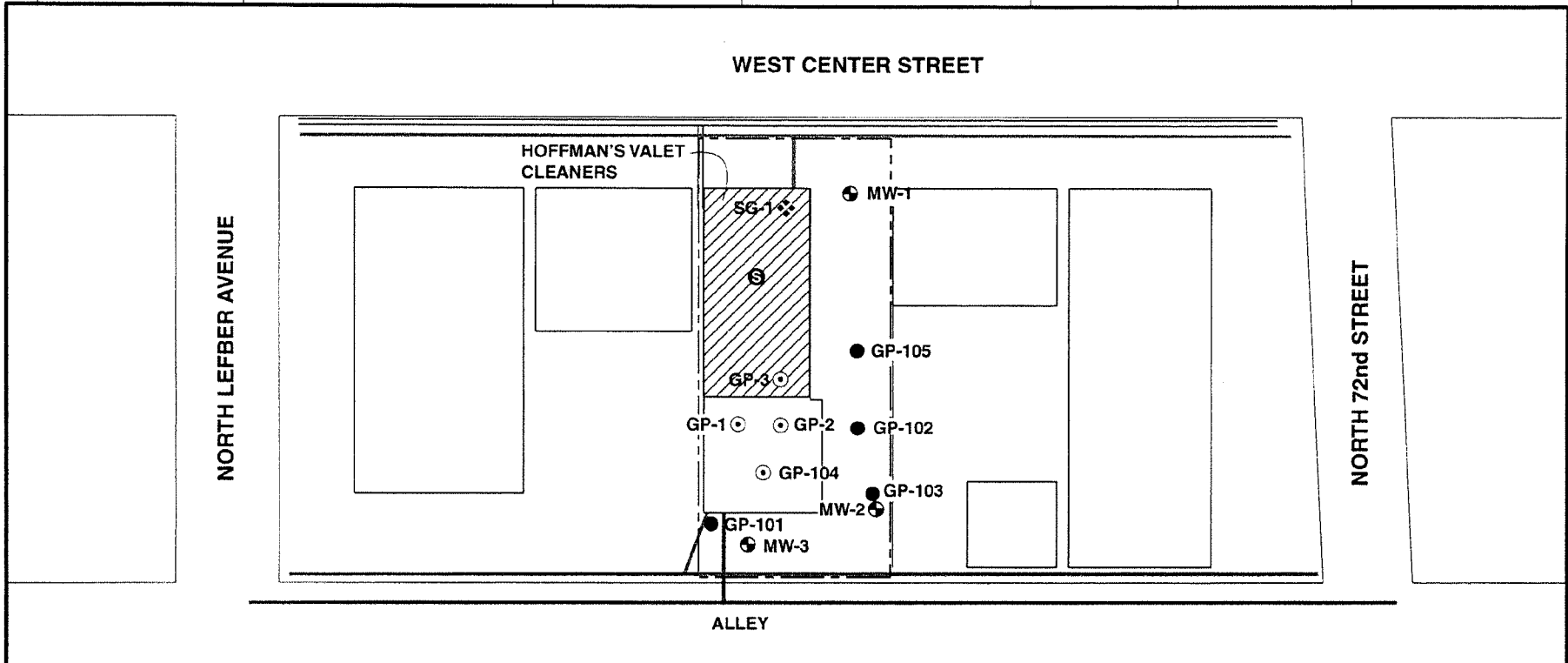
PAL NR 140 Preventive Action Limit.

ARCADIS

Table 5. Cost Estimate for Closure Activities, Hoffman's Valet Cleaners, 7215 W. Center Street, Wauwatosa, Wisconsin.

	Number	Unit	Rate	Unit	Totals
<u>Abandonment of Monitoring Wells</u>					
Contractor Mobilization		Lump sum		\$350	\$350
Well Abandonment	60	ft	@	\$1.5 /ft	\$90
Surface Repairs	3	each	@	\$150 /each	\$450
Staff Scientist/Engineer II	10	Hrs	@	\$80 /Hr	\$800
Project Staff I	3	Hrs	@	\$92 /Hr	\$276
Subtotal for Building Occupant Survey and Sump Identification					\$1,966
<u>Vapor Mitigation System</u>					
Contractor Construction of System		Lump sum		\$2,100	\$2,100
Staff Scientist/Engineer II	8	Hrs	@	\$80 /Hr	\$640
Project Staff I	4	Hrs	@	\$92 /Hr	\$368
Senior Project Staff I	1	Hrs	@	\$127 /Hr	\$127
Sealant Supplies		Lump sum		\$200	\$200
Subtotal for Indoor Air Quality Evaluation					\$3,435
<u>Letter Report and Final Closure Submittal</u>					
Project Staff I	18	Hrs	@	\$92 /Hr	\$1,656
Senior Project Staff I	2	Hrs	@	\$127 /Hr	\$254
Project Assistant	2	Hrs	@	\$68 /Hr	\$136
Senior Designer	4	Hrs	@	\$68 /Hr	\$272
Subtotal Letter Report and Closure Re-Submittal					\$2,318
Total Estimated Costs					\$7,719

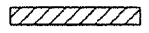
FIGURES



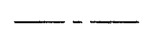
RESIDENTIAL

LEGEND

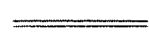
- ⊕ MONITORING WELL LOCATION
- GEOPROBE BORING LOCATION
- ⊙ INTERIOR BORING LOCATION
- ⊗ SUMP LOCATION
- ❖ SOIL/GAS PROBE



EXTENT OF BASEMENT (7-8' in depth)



PROPERTY BOUNDARY/EXTENT OF CAP



NATURAL GAS



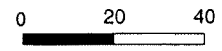
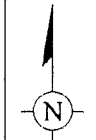
OVERHEAD LINES



WATER



SEWER



APPROXIMATE SCALE IN FEET



SAMPLE LOCATIONS WITH EXTENT OF CAP

HOFFMAN'S VALET CLEANERS
WAUWATOSA, WISCONSIN

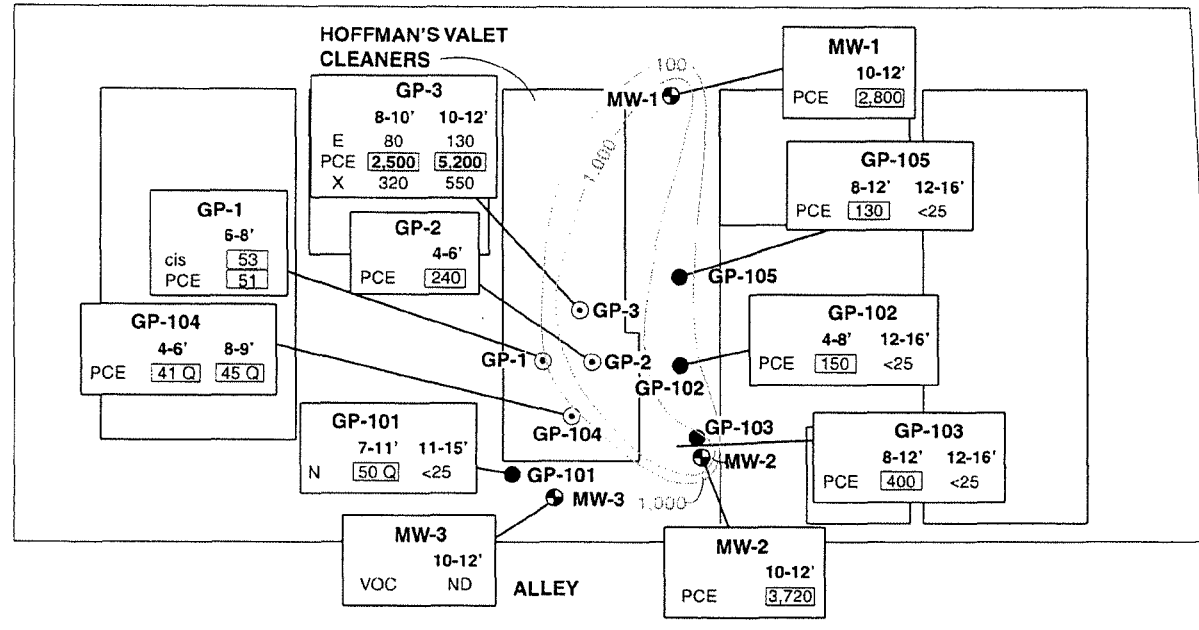
FIGURE

1

WEST CENTER STREET

NORTH LEFBER AVENUE

NORTH 72nd STREET

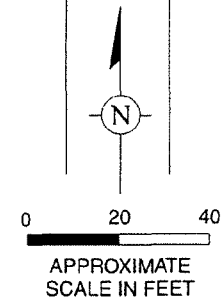


RESIDENTIAL

LEGEND

- ⊕ MONITORING WELL LOCATION
- GEOPROBE BORING LOCATION
- ⊙ INTERIOR BORING LOCATION
- ESTIMATED ISOCONCENTRATION CONTOUR FOR PCE
- ▭ CONCENTRATION EXCEEDS GROUNDWATER SSLs

- BOLD** CONCENTRATION EXCEEDS GROUNDWATER, INHALATION, & INGESTION SSLs
 - cis cis-1,2-Dichloroethene
 - E Ethylbenzene
 - PCE Tetrachloroethene
 - N Naphthalene
 - VOC Volatile Organic Compounds
 - X Xylenes, total
 - ND Not Detected
 - Q Detected at a concentration between the limit detection and limit of quantitation.
- Concentrations are expressed as micrograms per kilogram.



SOIL ANALYTICAL RESULTS

HOFFMAN'S VALET CLEANERS
WAWWATOSA, WISCONSIN

FIGURE
2

Layout Job: Layout2
 Path Name: G:\Project\Hoffman\W0943\Wauwatosa\Code\Title_map2.dwg

Plot Setup: 5100-83X11
 Plot Table: A-TEST-BLACKGRAY.ctb

Current Plotter: PkColor
 Date/Time: Wed, 01 Aug 2007 - 1:55pm

User Name: cnc@arcadis-us.com
 Acad Version: RT7.0a (LUS Tech)

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Area Manager
M. MAIERLE
 Project Director
E. BUC
 Task Manager
B. MAILLET
 Technical Review
A. MUMPY



126 North Jefferson Street, Suite 400
 Milwaukee, Wisconsin 53202
 Tel: 414-276-7742 Fax: 414-276-7603
 www.arcadis-us.com

CROSS-SECTION LOCATIONS

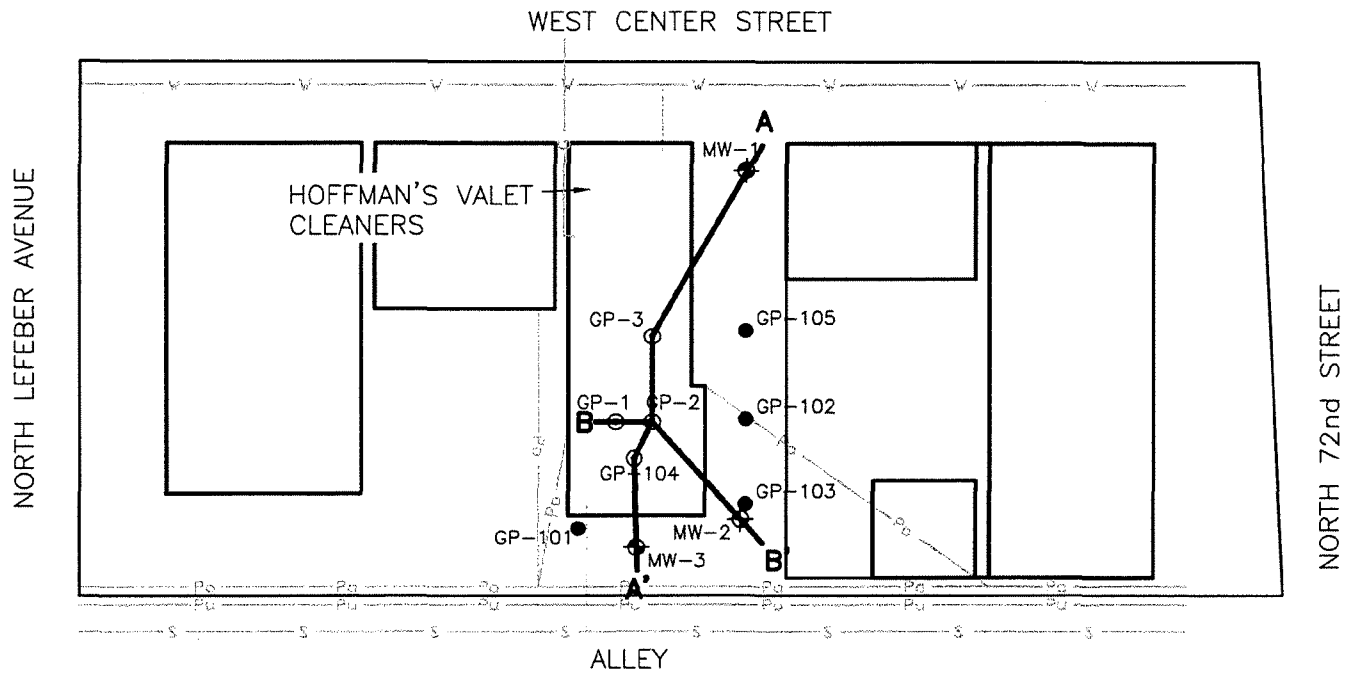
HOFFMAN'S VALET CLEANERS
 WAUWATOSA, WISCONSIN

Project Number
WI000943.0002

Drawing Date
 3/11/05

Figure

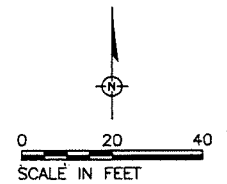
3



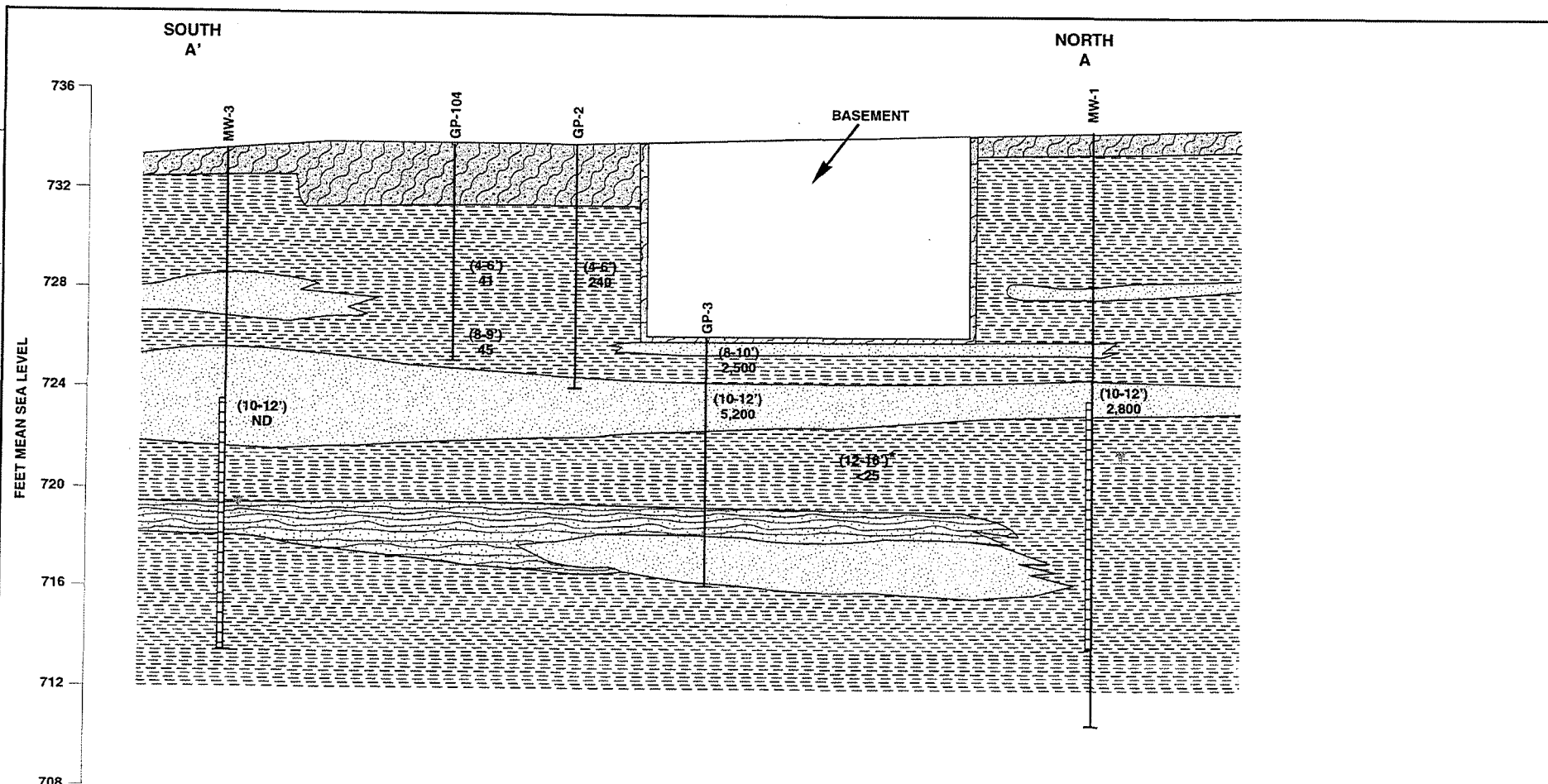
RESIDENTIAL

LEGEND

- GEOPROBE BORING LOCATION
- ⊙ INTERIOR BORING LOCATION
- ⊕ MONITORING WELL LOCATION
- G— GAS UTILITY LINE
- P_O— POWER OVERHEAD LINE
- P_U— POWER UNDERGROUND LINE
- S— STORM SEWER LINE
- W— WATER MAIN LINE
- A—A' GEOLOGIC CROSS-SECTION LOCATION



[DWG DATE: 27 JUL 07] [PI: HOFFMAN\WBH\3\WUWATOSA] FILE NO.: GRAPHICS DRAWING: XSEC_AA.A1 [CHECKED: BAJ] [APPROVED:] [DRAFTER: LMB]



EXPLANATION

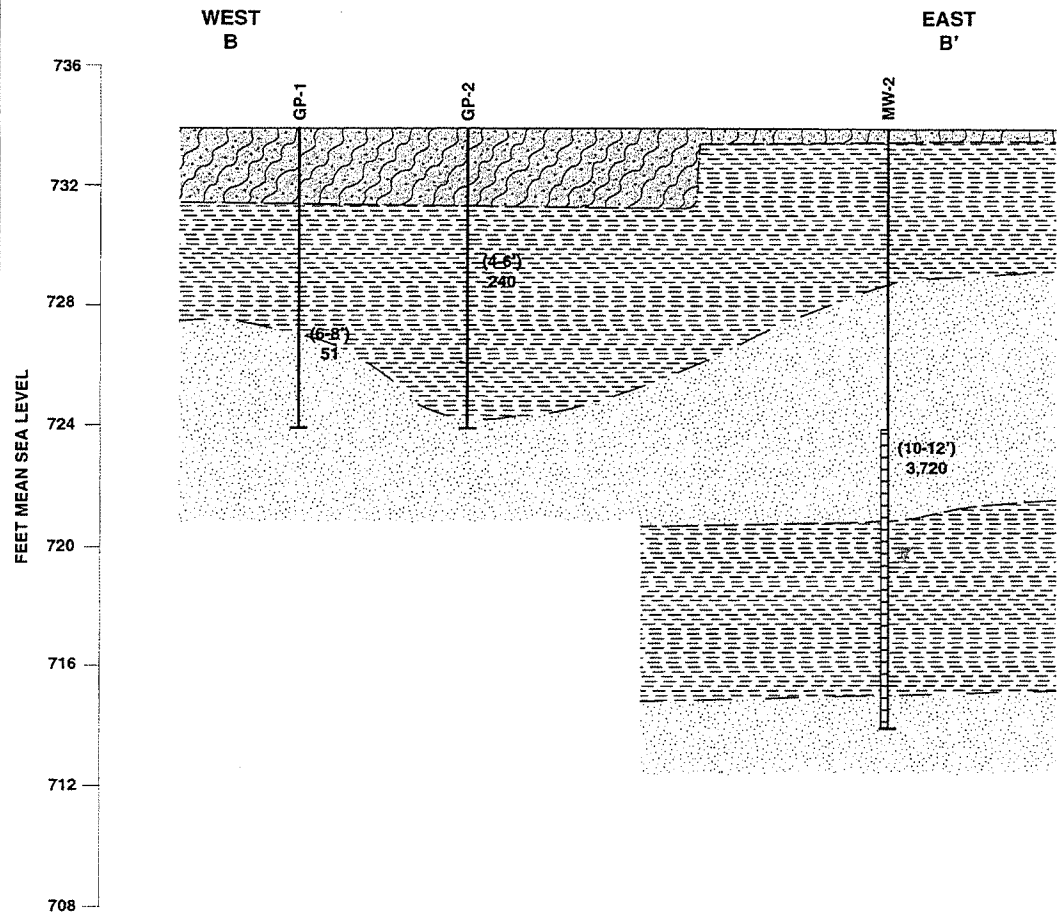
- CLAY - with variable silt content, traces of sand.
- SAND - (predominantly fine) silty in places.
- FILL/CONCRETE
- SANDY SILT
- WELL/BORING LOCATION
- (10-12') SOIL SAMPLE DEPTH WITH PCE CONCENTRATION (µg/kg)
45
- GROUNDWATER TABLE (7/3/07)
- * CLAY SAMPLE CONCENTRATIONS (from GP-102, GP-103, & GP-105)

0 8 16
 APPROXIMATE SCALE IN FEET
 VERTICAL EXAGGERATION = 2x








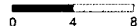
NORTH/SOUTH GEOLOGIC CROSS-SECTION
 HOFFMAN'S VALET CLEANERS
 WAUWATOSA, WISCONSIN
FIGURE 4

DWG DATE: 27JUL07 | PH: HOFFMAN/W0543/WAUWATOSA | FILE NO.: GRAPHICS | DRAWING: XSEC_BB.AI | CHECKED: BAJ | APPROVED: | DRAFTER: LMB




EXPLANATION

- | | | | |
|---|--|---|--|
|  | CLAY - with variable silt content, traces of sand. |  | WELL/BORING LOCATION |
|  | SAND - (predominantly fine) silty in places. | (6-8') 51 | SOIL SAMPLE DEPTH WITH PCE CONCENTRATION (µg/kg) |
|  | FILL/CONCRETE |  | GROUNDWATER TABLE (7/3/07) |



 APPROXIMATE SCALE IN FEET

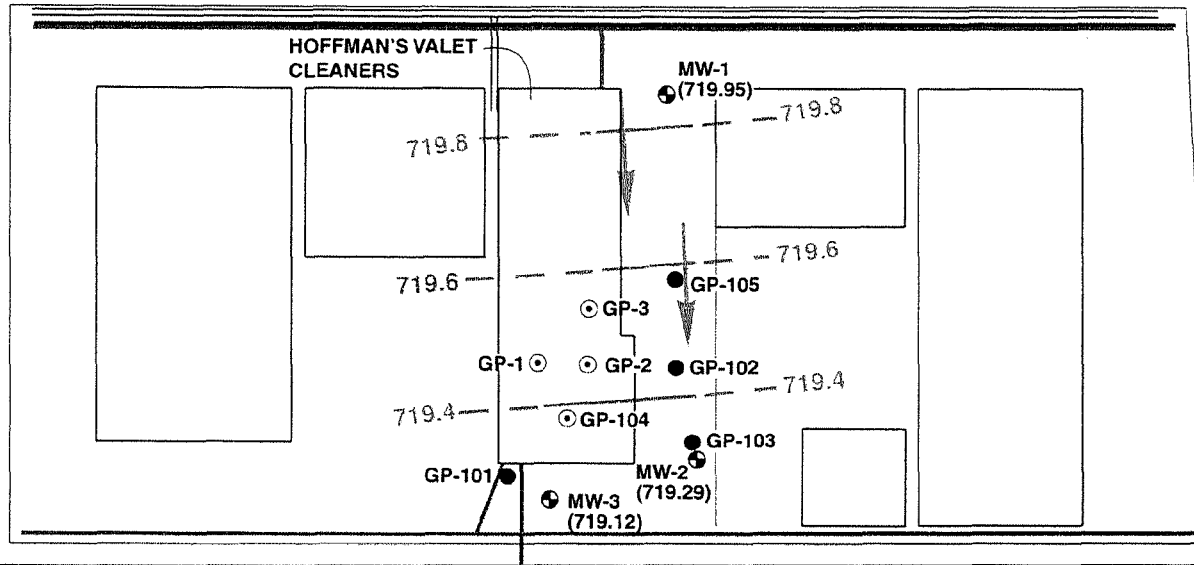
 VERTICAL EXAGGERATION = 2x

	WEST/EAST GEOLOGIC CROSS-SECTION	FIGURE 5
HOFFMAN'S VALET CLEANERS WAUWATOSA, WISCONSIN		

WEST CENTER STREET

NORTH LEFBER AVENUE

NORTH 72nd STREET

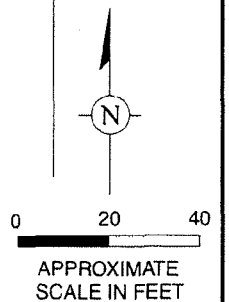


ALLEY

RESIDENTIAL

LEGEND

- ⊕ MONITORING WELL LOCATION
- GEOPROBE BORING LOCATION
- ⊙ INTERIOR BORING LOCATION
- ==== NATURAL GAS
- OVERHEAD LINES
- WATER
- SEWER
- (718.52) DEPTH TO GROUNDWATER (ft msl)
- ft msl FEET ABOVE MEAN SEA LEVEL
- 719.8 — GROUNDWATER ELEVATION CONTOUR

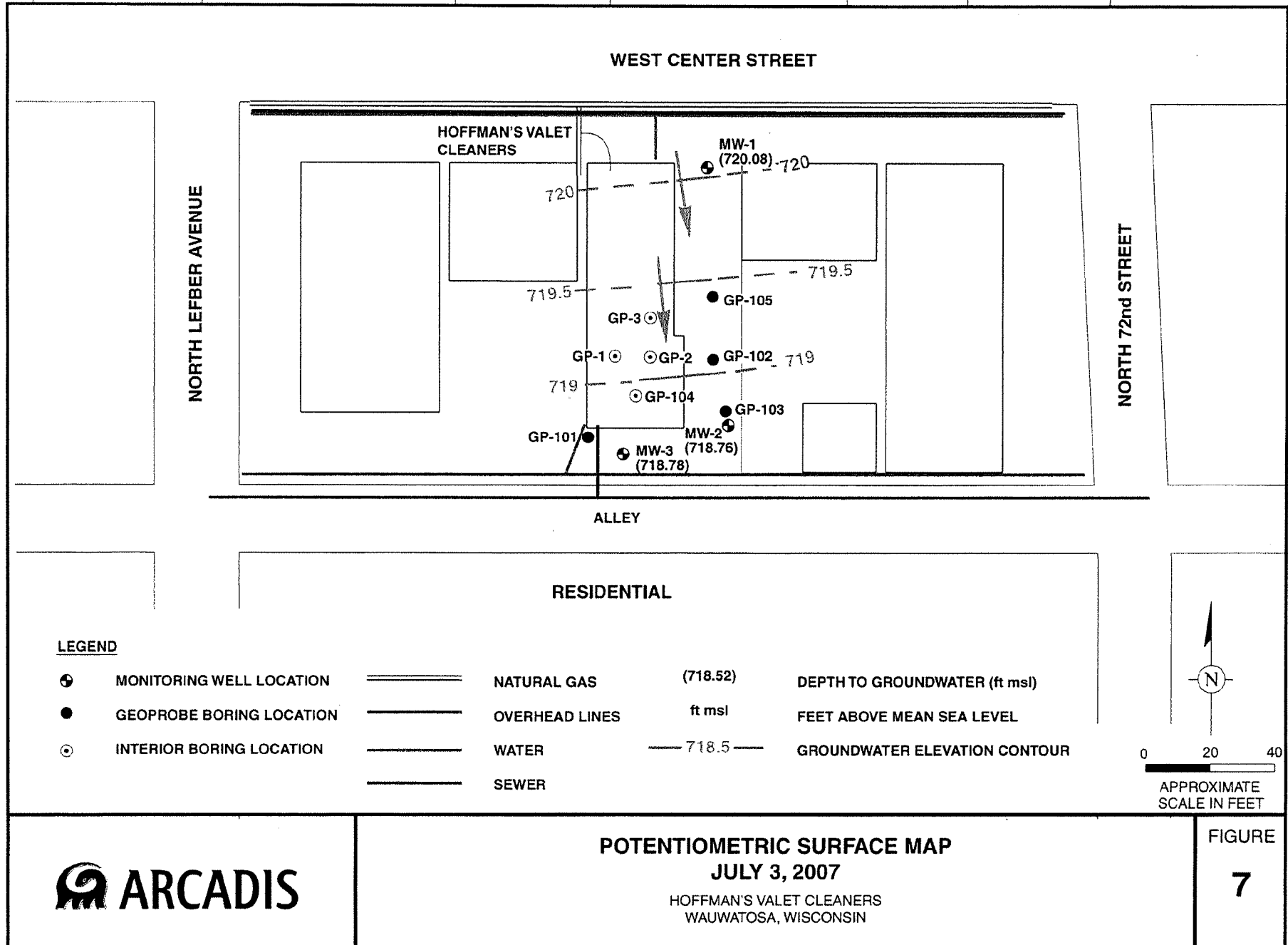


POTENTIOMETRIC SURFACE MAP
APRIL 5, 2007

HOFFMAN'S VALET CLEANERS
WAUWATOSA, WISCONSIN

FIGURE

6





State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Matthew J. Frank, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Region Headquarters
2300 N. Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-0436
Telephone 414-263-8500
FAX 414-263-8716
TTY 414-263-8713

September 19, 2007

Mr. Ralph Hoffman
2010 W. Woodbury Lane
Glendale, WI 53209

File Ref: FID# 241083150
BRRTs# 02-41-307576

Subject: Denial of Closure for Hoffman's Valet Cleaners
7215 W. Center Street, Wauwatosa

Dear Mr. Hoffman:

The Department of Natural Resources has reviewed your request for closure of the case described above. A report titled "Summary of Supplemental Site Investigation Activities and Revised Case Summary and Close Out Request" was received by the Department August 6, 2007. The Department had previously (May 2005) received your \$750 closure fee and \$200 Soil GIS Registry fee. Since the last closure report submittal, your consultant and conducted additional site investigation activities, through the DERF approval process, to address issues raised in the Department's August 2005 review letter. The revised case closure request recommends installation of a sub-slab vapor mitigation system at the dry cleaner property. Based on the information submitted, the Department is denying case closure, because additional investigation is needed and the proposed sub-slab vapor mitigation system must be in-place and operating correctly before case closure can be requested.

The following comments are provided to assist you in completion of your project:

1. Additional site investigation is needed.
 - a. The specific source for the release of this contamination is still not defined, although the latest data from the site does show higher levels under the basement than under the building addition area. Potential sources need to be researched and identified, to determine what, if any, additional sampling would be needed to assess the degree of soil contamination and make decisions about remediation.
 - b. The lateral extent of the soil contamination in the sand layer at 8 to 12 feet below the ground is not defined. Soil borings are needed to the east and west to accomplish this definition.
 - c. The vapor intrusion potential for the buildings immediately adjacent to the east and west of the subject property needs to be assessed. Sub-slab samples will be needed from beneath each of these buildings.
2. A workplan should be submitted to address the site investigation comments provided above. To maintain eligibility for reimbursement of your costs through the Drycleaner Environmental Response Fund (DERF), please have your consultant provide a cost estimate for the above needed work, and also a status of completion for the previous cost estimates that have been approved. Await Department approval of your consultant's work plan and cost estimate prior to proceeding with any additional work.
3. A cost estimate for installation of a vapor mitigation system beneath the subject property building was provided in the latest submittal. The Department cannot approve this cost estimate at this time. We anticipate that these actions will ultimately be conducted, but not until the site investigation has been completed.

We appreciate your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me at (414) 263-8758.

Sincerely,

A handwritten signature in black ink, appearing to read "Pamela A. Mylotta". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

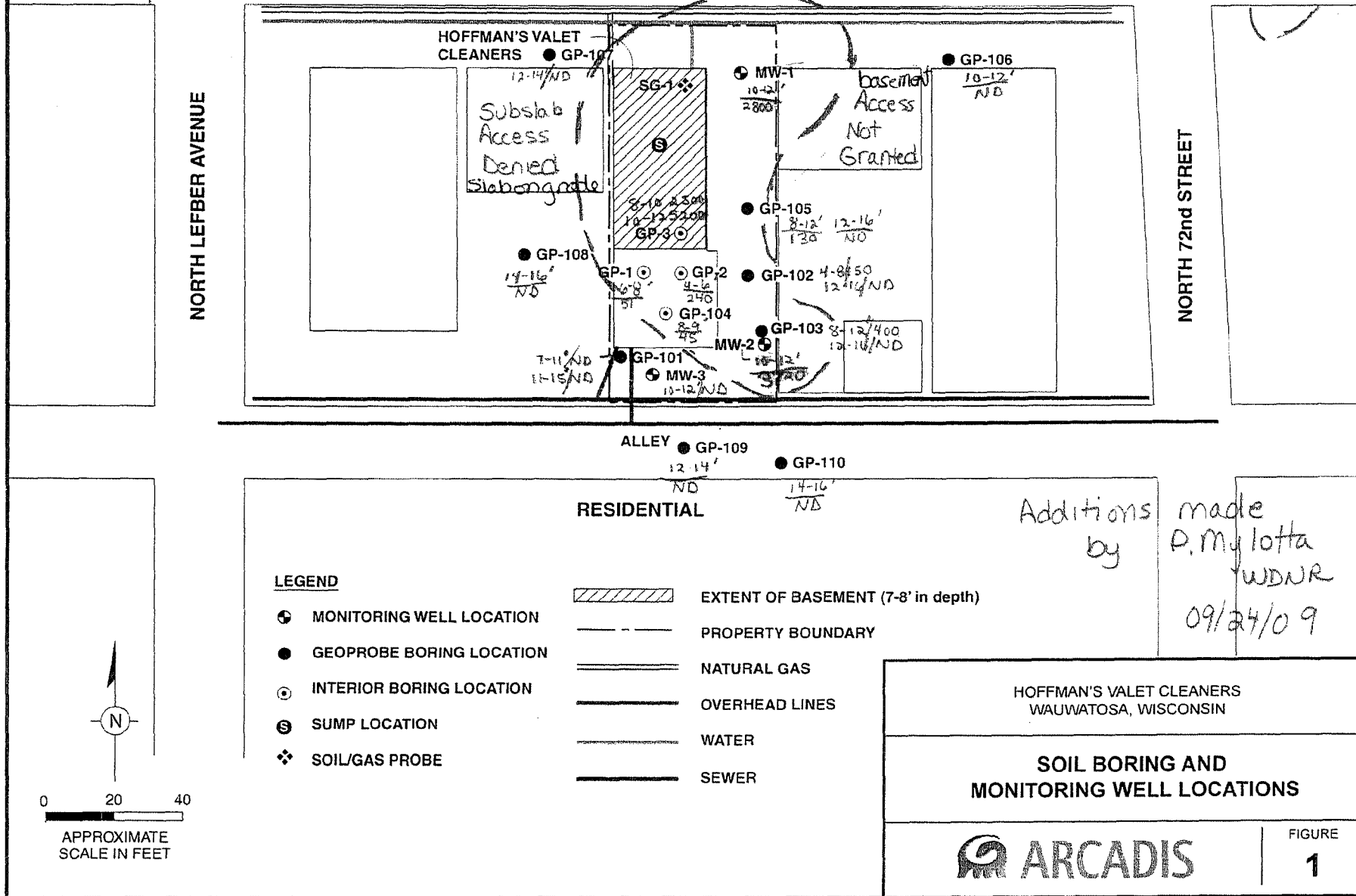
Pamela A. Mylotta, Hydrogeologist
Remediation & Redevelopment Program
Southeast Region, Milwaukee Service Center

cc: Brian Maillet – Arcadis G&M
SER Casefile

⊕ GP-105 8-12' soil sample depth
130 = PCE concentration ug/kg

Air Samples
SG-1: Soil Gas - subslab - 20,000 ug/m³ PCE
S: Sump air - 5,100 ug/m³ PCE, 54 ug/m³ TCE

Estimated Extent of PCE soil contamination → ()





October 29, 2013

Ralph Hoffman
14000 North 94th Street
Unit 3092
Scottsdale, AZ 85260

**RE: Further Site Investigation 1 Report
Former Hoffman Valet Cleaners
7215 West Center Street
Wauwatosa, Wisconsin
FID # 241083150
BRRTS # 02-41-307576**

Dear Mr. Hoffman:

Environmental Forensic Investigations, Inc. (EnviroForensics) is pleased to provide this Further Site Investigation (FSI) Report for activities conducted at the former Hoffman Valet Cleaners (Hoffman's) property located at 7215 W. Center Street, Wauwatosa, Wisconsin (Site).

EnviroForensics has completed the FSI activities to continue compliance with Chapter NR 716 of the Wisconsin Administrative Code (WAC), and in response to the July 26, 2013 Wisconsin Department of Natural Resources (WDNR) letter, *Scoping Document Approval for the Former Hoffman Valet Cleaners, 7215 West Center Street Wauwatosa, WI*.

BACKGROUND AND SITE CONDITIONS

The Site is located at 7215 W. Center Street in Wauwatosa, Wisconsin approximately seven (7) miles west of Lake Michigan. The Site is occupied by a two-story building, housing a dry cleaning business on the ground floor and a residential unit on the second floor. The building is constructed with a partial basement. A concrete parking area is present on the south side of the building. The Site is bound by Center Street to the north, a commercial property to the west, a residential property to the east, and an alley to the south. The Site is situated in an area of mixed commercial and residential land use.

The Site is currently occupied by an operating dry cleaning facility that uses tetrachloroethylene (PCE) in the cleaning process. The Site investigation has been ongoing since 2002.

Document: 6200-0169
Environmental Forensic Investigations, Inc.
N16 W23390 Stone Ridge Drive, Suite G, Waukesha, WI 53188
Phone: 414-982-3988 • Fax 317-972-7875

Site soil, as described by a previous consultant (ARCADIS), consists of clay to a depth of 7 feet below ground surface (bgs), followed by a 4 to 6-foot thick sand layer. A second clay layer is encountered beneath the sand layer and extends to a depth of at least 20 feet bgs. ARCADIS also reports encountering discontinuous seams of sand and silty sand within the clay units. The water table is encountered at a depth of 14 to 16 feet bgs, within the lower clay unit.

According to Wisconsin Geological and Natural History Survey Open-File Reports 2004-14A and 2004-14C, dolomite bedrock of the Niagara Formation is encountered at depths between 100 and 150 feet bgs in the vicinity of the Site. According to the WNDR Drinking Water System database, there are no public or private water supply wells within one mile of the Site.

FURTHER SITE INVESTIGATION ACTIVITIES

The FSI activities were conducted by EnviroForensics personnel according to the *Scoping Document and Cost Estimate for Further Site Investigation*, dated July 2, 2013. Field data collection activities were performed on September 4-5, 2013, and included:

- Further assessment of potential vapor intrusion (VI) issues at 7219 W Center Street; and
- An assessment of current groundwater conditions using the three (3) existing water table monitoring wells.

Deviations from Scope

The approved scope of work included a VI assessment of the building located at 7229 W Center Street. However, access was not granted by the property owner, Mr. Larry Olm.

Groundwater Monitoring

EnviroForensics personnel conducted groundwater monitoring activities on the three (3) existing monitoring wells at the Site (MW-1 through MW-3). The monitoring well locations are depicted on **Figure 1**.

The depth to water in each well was measured using an electronic sounding device. Upon uncapping the wells on September 4, 2013, EnviroForensics personnel observed that the water table in monitoring wells MW-2 and MW-3 rose steadily for more than one hour. Based on this behavior, the wells were left with a loose seal overnight to equilibrate. On September 5, 2013, the final depth to water measurements were collected and recorded on sampling forms prior to sample collection activities.

Groundwater recharge to the monitoring wells was not sufficient for low-flow sampling. Therefore, groundwater purging and sample collection was conducted using standard bailer methods. Field parameters including pH, specific conductivity, and turbidity were collected during purging. Samples were collected after three (3) well volumes of water had been removed from each well. Groundwater purging and sampling information was recorded on groundwater field sampling data forms, included in **Attachment 1**.

One (1) duplicate sample, one (1) field blank sample, and one (1) trip blank sample were collected and analyzed for quality assurance/quality control (QA/QC) purposes. A total of three (3) groundwater samples and the QA/QC samples were submitted to Synergy Environmental Lab, Inc. of Appleton, Wisconsin and analyzed for volatile organic compounds (VOCs) according to US Environmental Protection Agency (EPA) SW-846 Method 8260.

Purge water generated during groundwater monitoring activities was containerized in a 55-gallon drum. A non-hazardous waste profile will be prepared and a licensed subcontractor will be retained to properly manage transport and off-Site disposal of the purge water.

Vapor Intrusion Assessment (7219 W Center Street)

EnviroForensics assessed the VI exposure pathway at the 7219 W Center by collecting sub-slab vapor samples and indoor/outdoor air samples at the locations depicted on **Figure 2**. The following samples were collected:

- Two (2) sub-slab vapor samples (7219-SSV-1 and 7219-SSV-2) from the basement and one (1) indoor air sample (7219-IA) from the first floor of the building; and
- One (1) outdoor background air sample (7219-OA) to evaluate background conditions.

Sampling activities were performed in consideration of the applicable methods in WDNR Publication RR-800: *Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin*; December 2010.

Background Conditions Screening

A visual inspection was conducted for cracks or other penetrations in the concrete basement floor (i.e. floor drains, sumps, etc.) that could act as direct conduits for impacted vapors to migrate into the occupied space, or conversely, could act as “short circuits” allowing indoor air to enter canisters during sub-slab sampling. Basement walls were also visually inspected for cracks and penetrations of subsurface utilities that may be conduits for vapors to migrate into the buildings. This information was incorporated into the sample port placement strategy to avoid damage to

sub-slab utilities and reduce the possibility of “short circuiting”, which could have biased sample results.

Building and room dimensions were measured and a scaled hand drawing of the layout with sample locations and other observed conditions was prepared in the field. The results of all pre-sampling inspection activities were recorded on the Indoor Air Building Survey and field sampling forms found in Attachment 1.

Sub-Slab Vapor Sampling

The basement of the building is divided into two sections. One (1) permanent Vapor Pin™ sub-slab vapor sampling port was installed in each basement space. The ports were capped during installation until sampling was initiated and left in place after sample collection for future use.

To ensure representative sub-slab vapor samples, leak testing was performed per methods presented in the *Standard Practice for Active Soil Gas Sampling in the Vadose Zone for Vapor Intrusion Evaluation*, ASTM Standard D7663-11 and in accordance with WDNR Publication RR-800. Testing the integrity of the sample ports was conducted utilizing helium tracer gas and the integrity of the sampling train was confirmed via a negative pressure test.

One (1) sample of sub-slab vapor was collected from each of the two (2) sub-slab vapor sampling port using batch-certified 1-Liter vacuum canisters connected to the ports using compression fittings and Teflon-lined polyethylene tubing. Vacuum canisters were fitted with regulators to restrict flow rates to less than 200 ml/minute. Initial and final pressure readings were collected from the vacuum canisters and recorded on sub-slab vapor field sampling forms (**Attachment 1**), along with all other required information.

Following the completion of sub-slab vapor sampling activities, a total of two (2) vacuum canisters were submitted to EnvisionAir Laboratories, Inc. of Indianapolis, Indiana (EnvisionAir) for analysis of select chlorinated volatile organic compounds (CVOCs) according to US EPA Method TO-15. All samples were shipped under the appropriate chain-of-custody procedures.

Indoor/Outdoor Air Sampling

The indoor air sample was collected prior to sub-slab vapor sampling to eliminate the possibility of sub-slab vapors from entering the building and influencing the indoor air sample results. The indoor air sample was collected from the breathable space (3-5 feet above the floor) using a 6-Liter vacuum canister, regulated to withdraw a time-integrated sample. The outdoor air sample was collected from the southwest corner the building, which was up-wind at the start of sampling and represented the most secure location on the property. Both air samples were collected over

an 8-hour time period. The vacuum canisters were individually-certified clean by the analytical laboratory for QA/QC purposes.

Weather data, including temperature, wind speed, wind direction, humidity, barometric pressure, and rainfall was acquired from the nearest fixed weather station throughout the 8-hour sampling period to evaluate potential effects on the samples.

Initial and final pressure readings were collected from the vacuum canisters and recorded on indoor/outdoor field sampling forms provided in **Attachment 1**, along with all other pertinent information. Following the completion of the indoor/outdoor air sampling activities, a total of two (2) vacuum canisters were submitted to EnvisionAir under appropriate chain-of-custody procedures, for analysis of select CVOCs according US EPA Method TO-15.

FURTHER SITE INVESTIGATION RESULTS

Groundwater Monitoring Results

Groundwater elevation data, including historic data reported by ARCADIS, are summarized in **Table 1**, and a water table elevation contour map is presented as **Figure 3**. The groundwater elevation observed at MW-1 was within the range of historical elevations. The groundwater elevations observed at MW-2 and MW-3 were approximately one foot lower than all historical elevations. However, the data indicate a south-southeast groundwater flow direction, which is consistent with previous findings.

The groundwater analytical results are summarized in **Table 2** and the complete laboratory report is provided in **Attachment 2**. Historical concentrations reported by ARCADIS are included in **Table 2** for reference. The results are compared to public health criteria listed in WAC Chapter NR 140.

Compounds detected during the September 5, 2013 monitoring event were PCE, cis-1,2-dichloroethylene (cis-1,2-DCE), and chloroform. PCE was detected in monitoring well MW-1 (located near the northeast corner of the Site building) at a concentration of 5.2 micrograms per liter (ug/L), exceeding the enforcement standard (ES) of 5 ug/L. PCE was also detected in MW-2 (located near the southeast corner of the Site building) at a concentration of 3.9 ug/L, which exceeds the preventive action limit (PAL) of 0.5 ug/L. No other compounds were detected at concentrations exceeding the public health criteria.

Vapor Intrusion Assessment Results

The results of the two (2) sub-slab vapor samples (7219-SSV-1 and 7219-SSV-2) are summarized in **Table 3** along with historical sub-slab vapor and soil gas sample results. The

complete laboratory report is presented in **Attachment 3**. The sub-slab vapor concentrations are compared to non-residential Vapor Risk Screening Levels (VRSLs) calculated in accordance with the procedures described in WDNR Publication RR-800.

Samples 7219-SSV-1 and 7219-SSV-2 contained PCE at concentrations of 298 micrograms per cubic meter (ug/m^3) and $36.6 \text{ ug}/\text{m}^3$, respectively. Sample 7219-SSV-1 also contained trichloroethylene (TCE) at a concentration of $8.54 \text{ ug}/\text{m}^3$. The concentrations of all analyzed compounds were below the applicable VRSLs.

The results of the indoor air and outdoor air samples (7219-IA and 7219-OA) are summarized in **Table 4**. The complete laboratory report is presented in **Attachment 3**. The indoor air concentrations are compared to non-residential Vapor Action Levels (VALs) calculated in accordance with the procedures described in WDNR Publication RR-800.

The indoor air sample contained PCE at a concentration of $9.16 \text{ ug}/\text{m}^3$, which is less than the VAL of $180 \text{ ug}/\text{m}^3$. No other analyzed compounds were detected in the indoor air sample. PCE and TCE were detected in the outdoor air sample, suggesting potential ambient air influence on the indoor air sample.

CONCLUSIONS

Site soil consists of clay with a 4 to 6-foot thick sand layer encountered at approximately 7 feet bgs. This sand layer may exist in contact with the basement slab of the dry cleaning building and may be in contact with floor drains, sanitary sewer connections, and other utilities associated with the dry cleaning building. The sand layer likely has a much higher permeability than the clay soil and may act as a preferential migration pathway for PCE and PCE vapors. Discontinuous seams of sand and silty sand are present within the clay and could also act as preferential migration pathways if PCE has entered them. The water table is encountered at a depth of 14 to 16 feet bgs, below the 4 to 6-foot thick sand layer. Dolomite bedrock of the Niagara Formation is encountered at depths between 100 and 150 feet bgs in the vicinity of the Site.

Consistent with historical results, the primary compound detected in groundwater at the Site is PCE at relatively low concentrations. PCE was present in one of the three groundwater samples at a concentration just above the ES. Because the groundwater concentrations have not increased since the previous sampling event in 2007, it appears that PCE impacts are stable, but there is not enough data to suggest that the PCE is undergoing significant decomposition due to the action of naturally occurring soil microbes.

The PCE concentrations detected in the sub-slab vapor samples collected from 7219 West Center Street were several orders of magnitude less than the PCE concentration detected in a vapor

sample collected in 2009. This significant discrepancy may be due to a change in groundwater conditions or seasonal/ climate effects.

RECOMMENDATIONS

EnviroForensics recommends that the following FSI activities be implemented to further define the nature and extent of impacts:

- Conduct additional sub-slab vapor and indoor air sampling at the 7219 West Center Street building to determine if seasonal weather conditions affect subsurface vapor concentrations;
- Collect additional soil and grab groundwater samples from City of Wauwatosa right-of-way areas northeast of MW-1 and southeast of MW-2 to delineate the extent of groundwater impacts;
- Conduct additional groundwater monitoring events to identify potential trends in contaminant concentrations; and
- Accurately identify the locations and depths of Site utilities (especially the sanitary sewer lateral which may exist within the 4 to 6-foot sand layer) and collect soil and soil gas samples to investigate impacts within the utility corridors. Based on an evaluation of historical site investigation maps and data, utility corridors have not been specifically investigated as preferential pathways for contaminant migration.

We thank you for the opportunity to work with you on this project. If you have any questions regarding this FSI Report, please do not hesitate to call us at (414) 982-3988.

Sincerely,
Environmental Forensic Investigations, Inc.

Handwritten signature of Brian Kappen in blue ink.

Brian Kappen, PG
Project Manager

Handwritten signature of Wayne Fassbender in blue ink.

Wayne Fassbender, PG, PMP
Senior Project Manager

Attachments

cc: John Hnat, WDNR Project Manager

TABLES

TABLE 1
SUMMARY OF GROUNDWATER ELEVATION DATA

Former Hoffman's Valet Cleaners
Wauwatosa, Wisconsin

Well ID	Date	TOC Elevation (feet AMSL)	Depth to Water (feet below TOC)	Groundwater Elevation (feet AMSL)
MW-1	1/28/2005	733.91	16.53	717.38
	1/8/2007		13.91	720.00
	4/5/2007		13.96	719.95
	7/3/2007		13.83	720.08
	9/5/2013		13.97	719.94
MW-2	1/28/2005	733.01	14.42	718.59
	1/8/2007		14.12	718.89
	4/5/2007		13.72	719.29
	7/3/2007		14.25	718.76
	9/5/2013		15.46	717.55
MW-3	1/28/2005	733.13	14.61	718.52
	1/8/2007		14.20	718.93
	4/5/2007		14.01	719.12
	7/3/2007		14.35	718.78
	9/5/2013		15.54	717.59

Notes:

2005 and 2007 data collected by ARCADIS

All values are in feet

AMSL = above mean sea level

NA = Not Available

TOC = Top of Casing

TABLE 3
SUMMARY OF SOIL GAS AND SUB-SLAB VAPOR SAMPLE ANALYTICAL RESULTS

Former Hoffman's Valet Cleaners
Wauwatosa, Wisconsin

Sample Identification	Sample Date	Property Address (W. Center St)	Tetrachloroethylene	Trichloroethylene	cis-1,2-Dichloroethylene	Acetone	Carbon Disulfide	Cyclohexane	1,2-Dichloroethene	n-Hexane	Isopropyl Alcohol	Methyl Ethyl Ketone	Toluene
SS-2	11/16/2009	7209	81	<2.7	<1.7	NA	2.6	<1.7	<1.7	3.42	NA	NA	2.4
Basement Sump	7/26/2006	7215	5,100	54	28	550	120	180	28	110	980	53	49
SG-1	7/28/2006	7215	20,000	<110	<79	<1,200	<160	<69	<79	<180	<1,200	<150	<75
SS-1	10/21/2009	7219	244,000	<110	<79	<43	<64	<69	<79	<70	<1,200	<150	<75
7219-SSV-1	9/4/2013	7219	298	8.54	<19.8	NA	NA	NA	NA	NA	NA	NA	NA
7219-SSV-2	9/4/2013	7219	36.6	<1.07	<19.8	NA	NA	NA	NA	NA	NA	NA	NA
Vapor Risk Screening Level ¹			1,800	88	NE	1,400,000	31,000	260,000	47	31,000	310,000	220,000	220,000

Notes:

¹ The Vapor Risk Screening Levels are based on U.S. EPA Regional Screening Levels for non-residential indoor air with an attenuation factor of 0.1 and a 0.1 adjustment for 1 x 10⁻⁵ excess cancer risk for carcinogens.

2006 and 2009 data collected by ARCADIS

All concentrations reported in units of micrograms per cubic meter (ug/m³)

Bolded and orange shaded values exceed the Vapor Risk Screening Level

Bolded values are above detection limits

NA = Not Analyzed

NE = Not Established

TABLE 2
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS

Former Hoffman's Valet Cleaners
Wauwatosa, Wisconsin

Sample Identification	Date Sampled	Tetrachloroethylene	Trichloroethylene	cis-1,2-Dichloroethylene	Methylene Chloride	Chloroform
GP-102	9/12/2002	<0.63	<0.48	ND	<0.43	ND
GP-103	9/12/2002	2.9	<0.48	ND	<0.43	ND
GP-105	9/12/2002	<0.63	<0.48	ND	<0.43	ND
MW-1	1/28/2005	<0.50	<0.48	<0.50	<1.0	<0.20
	1/8/2007 *	1.1	<0.48	ND	<0.43	ND
	4/5/2007 *	1.4 Q	<0.48	ND	<0.43	ND
	7/3/2007 *	1.0 Q	0.81 Q	ND	0.73 Q	ND
	9/5/2013	5.2	<0.33	<0.38	<0.5	<0.28
MW-2	1/28/2005	<0.50	<0.20	<0.50	<1.0	<0.20
	1/8/2007	<0.50	<0.20	ND	<1.0	ND
	4/5/2007	5.5	<0.48	ND	<0.43	ND
	7/3/2007	1.7	0.95 Q	ND	<0.43	ND
	9/5/2013 *	3.9	<0.33	0.44 J	<0.5	0.30 J
MW-3	1/28/2005	<0.50	<0.20	<0.50	<1.0	<0.20
	1/8/2007	<0.50	<0.20	ND	<1.0	ND
	4/5/2007	<0.45	<0.48	ND	<0.43	ND
	7/3/2007	<0.45	<0.48	ND	<0.43	ND
	9/5/2013	<0.33	<0.33	<0.38	<0.5	<0.28
Enforcement Standard		5	5	70	5	6
Preventive Action Limit		0.5	0.5	7.0	0.5	0.6

Notes:

All concentrations reported in units of micrograms per liter (ug/L)

2005 and 2007 data collected by ARCADIS

Samples analyzed using EPA SW-846 Method 8260

Bolded values are above detection limits

Bolded and orange shaded values are above NR 140 Public Health Enforcement Standards

Bolded and blue shaded values are above NR 140 Public Health Preventive Action Limits

* Indicates result is the highest concentration detected in duplicate samples

J = Concentration is greater than the method detection limit but less than the reporting limit

ND = Compound not detected; detection limit unknown

Q = One or more quality control criteria failed.

TABLE 4
SUMMARY OF INDOOR/OUTDOOR AIR SAMPLE ANALYTICAL RESULTS
7219 WEST CENTER STREET
Former Hoffman's Valet Cleaners
Wauwatosa, Wisconsin

Sample Identification	Sample Date	Tetrachloroethylene	Trichloroethylene
7219-IA	9/4/2013	9.16	<1.07
7219-OA	9/4/2013	22.4	1.07
Vapor Action Level		180	8.8

Notes:

Units in micrograms per cubic meter = ug/m³

Bolded values are above the method detection limit.

Bolded and orange shaded values exceed the non-residential Vapor Action Level defined in WDNR publication RR-800.

FIGURES

W. CENTER STREET

Legend

- Property boundary
- MW-1 Monitoring Well
- ▨ Basement
- Ⓢ Sump

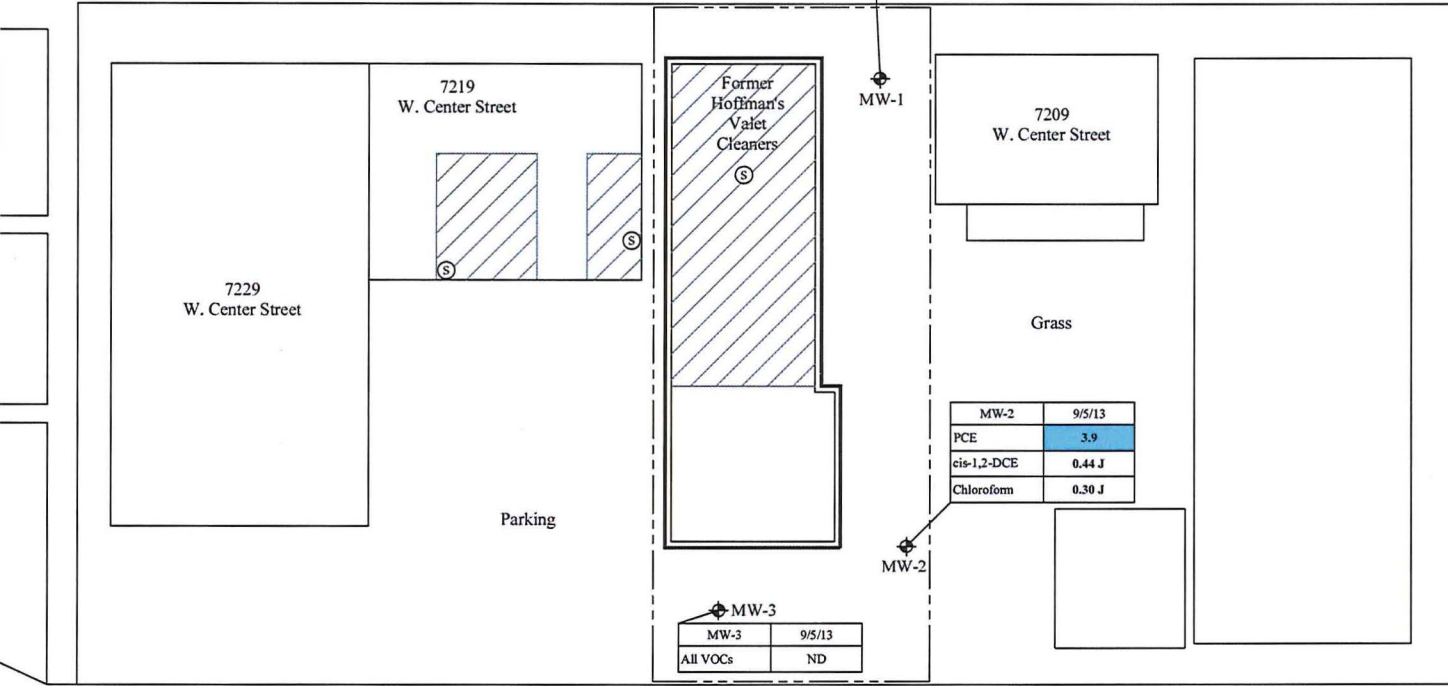


MW-1	9/5/13
PCE	5.2

Analyte (ug/L)	Public Health Preventive Action Limit	Public Health Enforcement Standard
PCE	0.5	5
cis-1,2-DCE	7	70
Chloroform	0.6	6

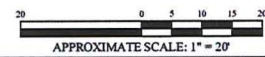
Note:

1. Bolded and orange shaded values exceed the Public Health Enforcement Standard
2. Bolded and blue shaded values exceed the Public Health Preventive Action Limit
3. Bolded values are above detection limits
4. J = Analyte concentration less than laboratory detection limits
5. Samples analyzed using EPA SW-846 Method 8260
6. All results reported in units of micrograms per liter (ug/L)
7. PCE = Tetrachloroethylene
8. cis-1,2-DCE = cis-1,2-Dichloroethylene
9. ND = Not detected



MW-2	9/5/13
PCE	3.9
cis-1,2-DCE	0.44 J
Chloroform	0.30 J

MW-3	9/5/13
All VOCs	ND



GROUNDWATER ANALYTICAL RESULTS MAP
 9/5/2013
 Former Hoffman's Valet Cleaners
 7215 W. Center Street
 Wauwatosa, WI

Date:	10/7/13
Designed:	xx
Drawn:	EB
Checked:	JJ
DWG file:	6200-0166

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 EnviroForensics.com

Figure	1
Project	6200

W. CENTER STREET

7219-IA	9/4/13
PCE	9.16
TCE	<1.07

7219-SSV-1	9/4/13
PCE	298
TCE	8.54

7219-SSV-1	9/4/13
PCE	298
TCE	8.54

7219-OA	9/4/13
PCE	22.4
TCE	1.07

7219-SSV-2	9/4/13
PCE	36.6
TCE	<1.07

Legend

- Property boundary
- SSV-1 ⊙ Sub-slab vapor sample location
- 7219-IA ▲ Indoor air sample location
- 7219-OA ■ Outdoor air sample
- ▨ Basement
- Ⓢ Sump



Sub-slab vapor	
Analyte (ug/m ³)	Non-Residential Vapor Risk Screening Level
PCE	1,800
TCE	88

Note:

1. Bolded and shaded values exceed Non-Residential Vapor Risk Screening Levels
2. All results reported in micrograms per cubic meter (ug/m³)
3. NE = Not established
4. 1 = Vapor risk screening level = US EPA Regional Screening Levels with an attenuation factor of 0.1 for sub-slab vapor to indoor air, and a 0.1 adjustment for carcinogens as described in WDNR Publication RR-800
5. PCE = Tetrachloroethylene
6. TCE = Trichloroethylene

Indoor Air	
Analyte (ug/m ³)	Non-Residential Vapor Action Level
PCE	180
TCE	8.8

Notes:

1. Bold and shaded values exceed the Vapor Action level.
2. Bold values equal or exceed laboratory detection limits.
3. Results reported in micrograms per cubic meter (ug/m³)
4. PCE = Tetrachloroethene
5. TCE = Trichloroethylene
6. NE = Not Established



INDOOR AIR AND SUB-SLAB VAPOR RESULTS MAP

Former Hoffman's Valet Cleaners
7215 W. Center Street
Wauwatosa, WI

Date:	10/7/13
Designed:	xx
Drawn:	EB
Checked:	JJ
DWG file:	6200-0164

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Figure	2
Project	6200

Alley

Grass

Former Hoffman's Valet Cleaners

Parking





7229 W. Center Street

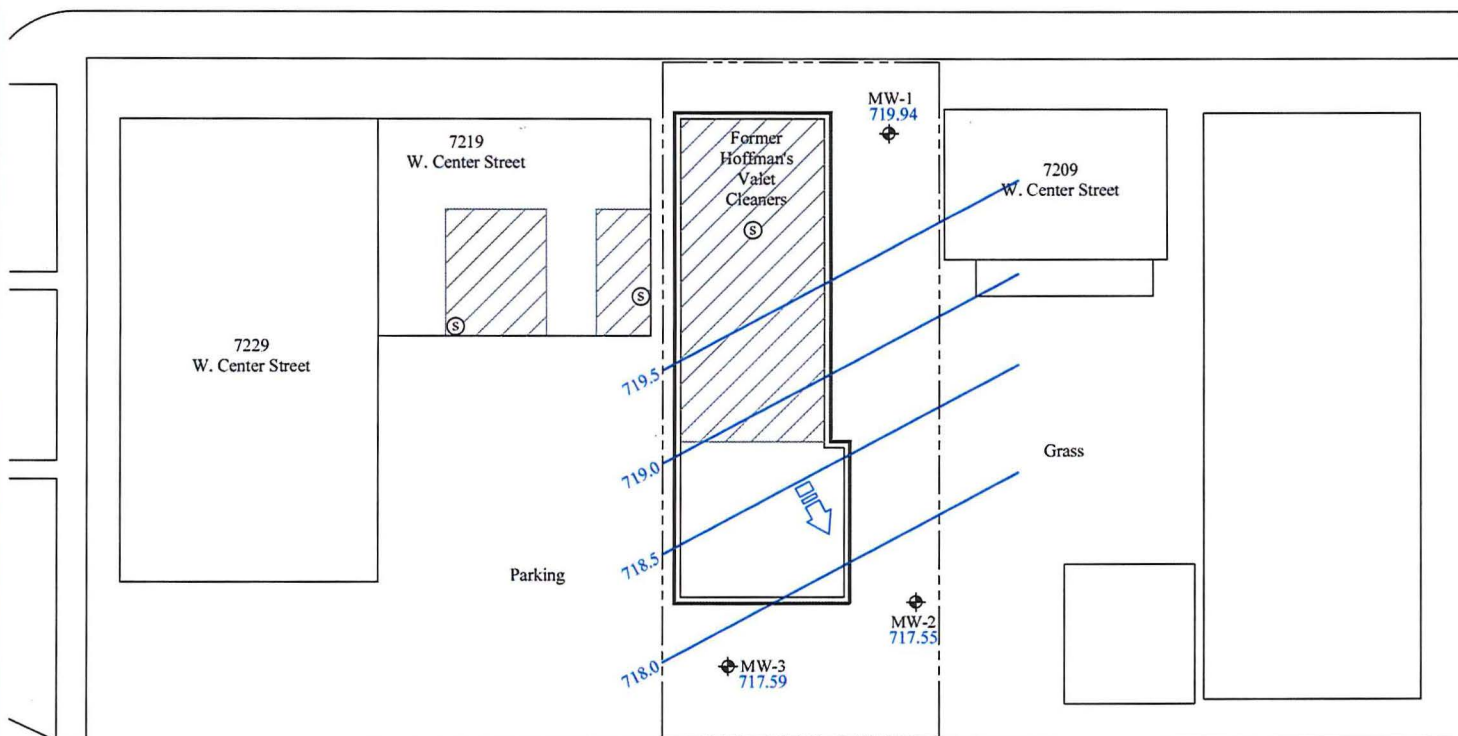
7209 W. Center Street

7219 W. Center Street

W. CENTER STREET

Legend

- Property boundary
- MW-1  Monitoring Well
-  Basement
-  Sump
- Groundwater elevation contour
- 717.55 Groundwater elevation (ft above mean sea level)
-  Inferred groundwater flow direction



WATER TABLE CONTOUR MAP
 9/5/2013
 Former Hoffman's Valet Cleaners
 7215 W. Center Street
 Wauwatosa, WI

Date:	10/7/13
Designed:	xx
Drawn:	EB
Checked:	JJ
DWG file:	6200-0165

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Figure	3
Project	6200



ATTACHMENT 1

Field Sampling Forms



GROUNDWATER SAMPLING FORM

602 N. Capital Ave
Indianapolis, IN 46204
T: 317-972-7870 F: 317-972-7875

PROJECT NAME Hoffmanns Well/Surface Station I.D. Mw-1

LOCATION/ADDRESS 7215 W Center St Sample Designation 6200-mw-1

PROJECT NO. 6200 Date 9/5/2013

CLIENT/CONTACT _____ Personnel J-Zorda

WATER LEVEL MEASUREMENTS:

Well Depth 19.47 feet
 Depth to Water 13.97 feet
 Well Diameter 2 inches
 Casing Volume 1 gallons
 Volume Removed 3 gallons
 Total No. of Casing Volumes Removed 3

Factor * Water Column Height Equals Gallons	
Factor	Diameter
0.163	2" Well
0.653	4" Well
1.469	6" Well
Conversions	
1 mL	= 0.0003 gal
1 gal	= 3,785 mL

SAMPLING METHOD:

Low-Flow _____
 Grab/No-purge _____
 Bailer _____
 Peristaltic pump _____
 Submersible Pump _____
 Other _____

Was drawdown greater than 0.3 ft? (y/n) _____

Stability Parameter Readings: Readings every three minutes for at least three readings to achieve stability for ALL parameters except as noted.

Start Time	Temperature (Celsius)	pH	Oxidation-Reduction Potential (mV)	Specific Conductance (umhos/cm)	Turbidity (NTU)	-Dissolved Oxygen (mg/L)	DTW (ft)	Flow Rate (ml/min)	gal Removed
			+/- 10mV*	+/- 3%	+/- 10%*	+/- 10%*	<0.3ft		
<u>10:50</u>	<u>16.09</u>	<u>7.00</u>	<u>88</u>	<u>7.24</u>	<u>375</u>	<u>10.06</u>	<u>14.67</u>	<u>250</u>	<u>1</u>
<u>11:10</u>	<u>15.56</u>	<u>7.16</u>	<u>100</u>	<u>7.29</u>	<u>201</u>	<u>7.24</u>	<u>16.21</u>		<u>1</u>
<u>11:30</u>	<u>14.92</u>	<u>7.04</u>	<u>100</u>	<u>7.34</u>	<u>200</u>	<u>6.68</u>	<u>18.80</u>		<u>1</u>

* Only one (1) of these need to reach stability.

SAMPLING: Date 9/5/2013 Time 11:30

Sample Analysis	Volume	Type	Number of Containers	Preservative Type	Reaction (y/n)	Filter Type	Duplicate	MS/MSD
<u>VOCs</u>	<u>40ml</u>	<u>Uoa</u>	<u>3</u>	<u>HCl</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>

EQUIPMENT DECONTAMINATION PROCEDURES:

DECONTAMINATION METHOD: Non Phosphatic detergent wash/distilled water rinse
 Methanol rinse

NOTES: Significant Drawdown

Sampler Signature: [Signature]

602 N. Capital Ave
 Indianapolis, IN 46204
 T: 317-972-7870 F: 317-972-7875

PROJECT NAME P Hoffmanns Well/Surface Station I.D. MW-2
 LOCATION/ADDRESS 7215 W. Center St Sample Designation 6200-MW-2
Wauwatosa WI
 PROJECT NO. 6200 Date 9/5/2013
 CLIENT/CONTACT _____ Personnel J. Jordan

WATER LEVEL MEASUREMENTS:

Well Depth 19.48 feet
 Depth to Water 15.46 feet
 Well Diameter 2 inches
 Casing Volume 0.66 gallons
 Volume Removed 2 gallons
 Total No. of Casing Volumes Removed 3

Factor * Water Column Height Equals Gallons	
Factor	Diameter
0.163	2" Well
0.653	4" Well
1.469	6" Well
Conversions	
1 mL	= 0.0003 gal
1 gal	= 3,785 mL

SAMPLING METHOD:

Low-Flow _____
 Grab/No-purge _____
 Bailer 7 _____
 Peristaltic pump _____
 Submersible Pump _____
 Other _____
 Was drawdown greater than 0.3 ft? (y/n) _____

Stability Parameter Readings:

Readings every three minutes for at least three readings to achieve stability for ALL parameters except as noted.

Start Time	Temperature (Celsius)	pH	Oxidation-Reduction Potential (mV)	Specific Conductance (umhos/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	DTW (ft)	Flow Rate (ml/min)	gal removed
	+/- 3%	+/- 0.1	+/- 10mV*	+/- 3%	+/- 10%*	+/- 10%*	<0.3ft	<250	
9:50									
10:00	15.40	7.35	-90	0.876	NA	8.75	16.23		0.66
10:10	14.69	7.25	-72	0.881	NA	7.22	18.16		0.66
10:20	14.45	7.33	-72	0.966	NA	6.03	19.21		0.66

* Only one (1) of these need to reach stability.

SAMPLING: Date 9/5/2013 Time 10:30

Sample Analysis	Volume	Type	Number of Containers	Preservative Type	Reaction (y/n)	Filter Type	Duplicate	MS/MSD
<u>DOCs</u>	<u>40ml</u>	<u>Van</u>	<u>3</u>	<u>HCl</u>	<u>N</u>	<u>N</u>	<u>4</u>	<u>N</u>

EQUIPMENT DECONTAMINATION PROCEDURES:

DECONTAMINATION METHOD: Non Phosphatic detergent wash/distilled water rinse
 Methanol rinse

NOTES: DUP Collected Here
 Sampler Signature: [Signature]

602 N. Capital Ave
Indianapolis, IN 46204
T: 317-972-7870 F: 317-972-7875

PROJECT NAME Hoffman Cleaners Well/Surface Station I.D. 20 MW-3
 LOCATION/ADDRESS 7215 W. Center St Sample Designation 6200-MW-3
Wauwatosa WI
 PROJECT NO. 6200 Date 9/5/2013
 CLIENT/CONTACT ? Personnel J. Jordan

WATER LEVEL MEASUREMENTS:

Well Depth 18.54 feet
 Depth to Water 16.53 feet
 Well Diameter 2 inches
 Casing Volume 0.49 gallons
 Volume Removed 1.5 gallons
 Total No. of Casing Volumes Removed 3

Factor * Water Column Height Equals Gallons	
Factor	Diameter
0.163	2" Well
0.653	4" Well
1.469	6" Well
Conversions	
1 mL	= 0.0003 gal
1 gal	= 3,785 mL

SAMPLING METHOD:

Low-Flow _____
 Grab/No-purge _____
 Bailer Y
 Peristaltic pump _____
 Submersible Pump _____
 Other _____
 Was drawdown greater than 0.3 ft? (y/n) _____

Stability Parameter Readings:

Readings every three minutes for at least three readings to achieve stability for ALL parameters except as noted.

Start Time	Temperature (Celsius)	pH	Oxidation- Reduction Potential (mV)	Specific Conductance (unhos/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	DTW (ft)	Flow Rate (gpm)	mL Removed
<u>9:00</u>									
<u>9:25</u>	<u>15.77</u>	<u>6.75</u>	<u>32</u>	<u>1.69</u>	<u>250</u>	<u>3.33</u>	<u>16.53</u>	<u>1.57</u>	<u>0.5 gal</u>
<u>9:30</u>	<u>16.51</u>	<u>7.38</u>	<u>45</u>	<u>1.67</u>	<u>355</u>	<u>9.59</u>	<u>18.17</u>		<u>0.5</u>
<u>9:30</u>	<u>16.99</u>	<u>7.18</u>	<u>79</u>	<u>1.70</u>	<u>380</u>	<u>7.08</u>	<u>19.01</u>		<u>0.5</u>

* Only one (1) of these need to reach stability.

SAMPLING: Date 9/5/2013 Time 9:40

Sample Analysis	Volume	Type	Number of Containers	Preservative Type	Reaction (y/n)	Filter Type	Duplicate	MS/MSI
<u>VOCs</u>	<u>40ml</u>	<u>Voa</u>	<u>3</u>	<u>HCl</u>	<u>N</u>	<u>?</u>	<u>N</u>	<u>N</u>

EQUIPMENT DECONTAMINATION PROCEDURES:

DECONTAMINATION METHOD: Non Phosphatic detergent wash/distilled water rinse
 Methanol rinse

NOTES: Scope said to use bailer. Drawdown not significant
 Sampler Signature: [Signature] Switch to peristaltic pump



INDOOR AIR BUILDING SURVEY FORM

Larry OLM

414-771-4767

IDEM Site # _____
Site Name Hoffman Cleaners
Address 7215 W Center St
Wauwatosa WI

Occupant Information

Name Not Occupied
Address _____

Telephone No () _____ Home/Work/Mobile
() _____ Home/Work/Mobile

Number and Age of Occupants _____

Does anyone smoke inside the building?

Building Characteristics

Type of building: (circle) Residential/Industrial/School/Commercial/Multi-use/Other? _____

If residential, what type (circle) Single family/Condo/Multi-family/Other? _____

If the property is commercial, indicate the business? Vacant - Offices

How many floors does the building have? 2

Does the building have a (circle) Basement/Crawl space/Slab-on-grade/Other? _____

Is the basement used as a living/work space area? No

What type of foundation does the building have (circle) Field stone/Poured concrete/Concrete block Other? _____

Describe the heating system and type of fuel used? Gas - Forced Air

Is there an attached garage? No



Spill/Contaminant Source Information

Type of petroleum ~~VOC~~ release? VOC

When did the release occur? ?

What areas of the building have been impacted by the release? ?

Are there any odors? No If so describe the odors: _____

Where can release odors be detected? No

Sampling Information

Sample Date 9/4/2013

Sampler Type Sorbent (SUMMA) (Please circle one)

Analysis Method Mass APH (TO-15Standard) TO-15LL TO-15-SIM Other: (Please circle one)

IDEM program or Consulting Firm WDNR

Contact Person _____

Telephone No () _____

Laboratory _____

Telephone No () _____



Pre-Sampling Background Screening and Inspection Information

List products or items which may be considered potential sources of VOCs such as paint cans, gasoline cans, gasoline powered equipment, cleaning solvents, furniture polish, moth balls, fuel tank, woodstove, fireplace, etc.

Date and time of pre-sampling inspection 9/4/2013

Table 3: Sampling Inspection Product Inventory

Potential VOC source	Present (Y/N)	Location	Field screening Results (ppm)	Product Description and Condition	Removal Date and Time
Paints or paint thinners	N				
Gas powered equipment	Y				
Gasoline storage cans					
Cleaning solvents					
Furniture polish					
Moth balls					
Fuel tank					
Wood stove					
Fireplace					
Perfumes/colognes					
Glues					
Other:					
Other:					

Table 4: Potential vapor migration entry point information

Potential Vapor entry points	Present (Y/N)	Field screening results (ppm)	Comments
Foundation penetrations in floor or walls	N Y		
Cracks in foundation floor or walls	Y		
Sump	Y		
Floor drain	Y		
Other			
Other			



Sampling Information

Table 1: Sorbent Tube Sampler Information

Sample ID#	Floor	Room	Tube ID#	Pump ID#	Volume (liters)	Duration (minutes)	Comments

Check Refer to Indoor Air Sampling forms

Table 2: Canister Sampler Information

Sample ID#	Floor	Room	Canister ID#	Initial On-site Pressure*	Pressure* On-site Following Sample Collection	Pressure Received at the Laboratory

*Indicate pressure in units of inches of mercury.
Please provide a sketch of spill area and location of sampler unit(s) on following page.

Was the building ventilated prior to sample collection? No

How long was the ventilation process? _____

Were vapor control methods in effect while the samples were being collected?

Windows open? Yes No Ventilation fans? Yes No Vapor barriers? Yes No

Vapor phase carbon treatment system? Yes No SSDS? Yes No Other site control measures _____

Weather Conditions during Sampling

Outside temperature (°F) 71 Inside temperature (°F) 70

Prevailing wind speed and direction _____

Describe the general weather conditions (e.g. sunny, cloudy, rain) _____

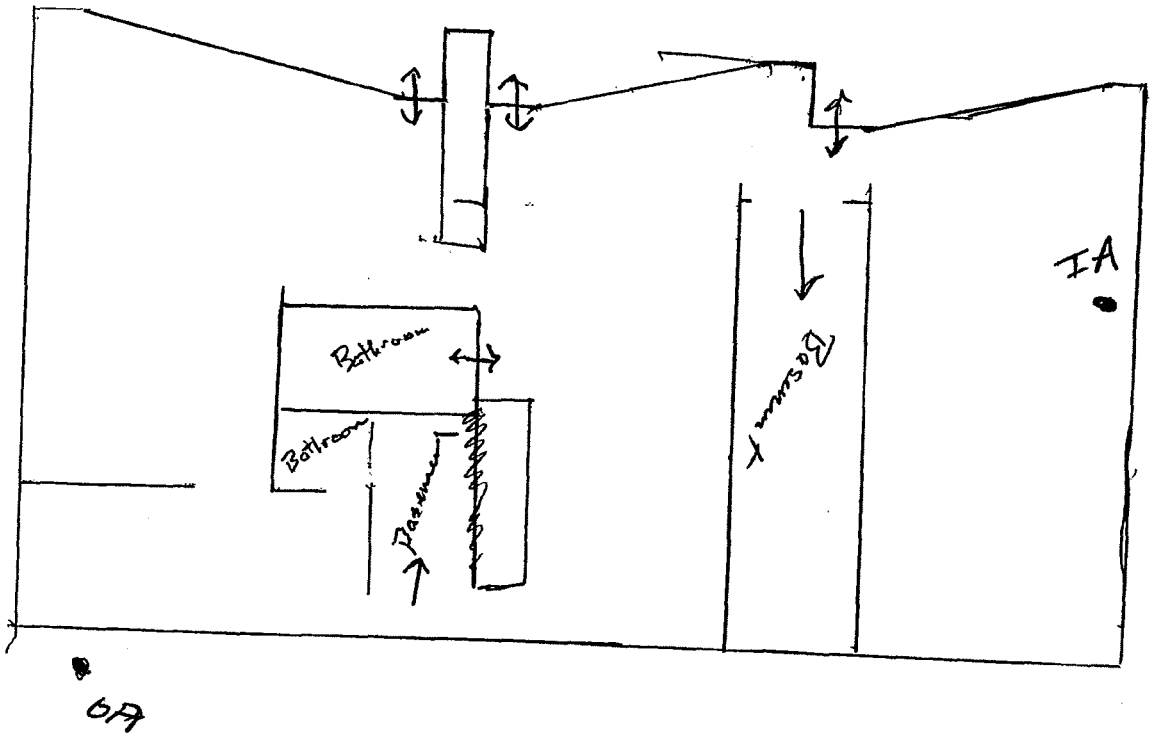
Significant precipitation (0.1 inches or more) within 12 hours of the sampling event? _____

General Comments and Sketch Area

Is there any information you feel is important related to this site and the samples collected which would facilitate an accurate interpretation of the indoor air quality? Sketch floor plan, sample locations, location of background sources.

Comments: Vacant commercial unit
3 front doors - Drafty - single pane
old school windows

Sketch:





Sub-Slab Vapor/ Soil Gas Field Sampling Form

200 S. Executive Dr, Suite 101
 Brookfield, WI 53005
 T: 414-982-3988 F: 262-789-6699

SAMPLER NAME	<u>J. Jordan</u>	SAMPLE ID	<u>0200-7219-SAV-2</u>
LOCATION/ADDRESS	<u>1219 N Center St</u>	SAMPLE TIME	<u>12:45</u>
PROJECT NO./NAME	<u>C200 Hoffmanns</u>	CANISTER ID	<u>83921</u>
CLIENT/CONTACT		FLOW CONTROL ID	<u>—</u>
DATA COLLECTION: START DATE	<u>9/5/2013</u>	END DATE	<u>9/5/2013</u>

Time hh:mm	Vacuum Reading In. of Hg	Wind Direction	Wind Speed mph	Temperature °F	Barometer Hg	Relative Humidity %
<u>12:40</u>	<u>-29</u>	<u>ENE</u>	<u>9.2</u>	<u>66.9</u>	<u>30.30</u>	<u>52</u>
<u>12:45</u>	<u>-10</u>	<u>ENE</u>	<u>9.2</u>	<u>66.9</u>	<u>30.30</u>	<u>52</u>

Helium Leak Test		Pressure Test	
Date/Time performed:	<u>12:25 9/5/2013</u>	Date/Time performed:	<u> / / </u>
Background He concentration (ppm):	<u>0</u>	Negative pressure of at least -15 in. Hg induced on sampling train?	<u> </u>
Shroud He concentration (%):	<u>39.7%</u>	(circle one):	<u>yes</u> no
Sub-slab vapor/soil-gas He concentration (post helium insertion):	<u>0</u>	Did pressure hold?	<u>yes</u> no
Helium Leak Test Passed:	<u>yes</u> no		

Notes:



Sub-Slab Vapor/ Soil Gas Field Sampling Form

200 S. Executive Dr, Suite 101
 Brookfield, WI 53005
 T: 414-982-3988 F: 262-789-6699

SAMPLER NAME	<u>J. Jordan</u>	SAMPLE ID	<u>62007219-SSU-1</u>
LOCATION/ADDRESS	<u>7019 W Center St</u>	SAMPLE TIME	<u>12:10</u>
PROJECT NO./ NAME	<u>4200 Hoffmanns</u>	CANISTER ID	<u>88727</u>
CLIENT/CONTACT		FLOW CONTROL ID	<u>NA</u>
DATA COLLECTION: START DATE	<u>9/4/12 → 9/5/2013</u>	END DATE	<u>9/5/2013</u>

Time hh:mm	Vacuum Reading In. of Hg	Wind Direction	Wind Speed mph	Temperature °F	Barometer Hg	Relative Humidity %
12:05	-27	ENE	11.5	66.9	30.30	51
12:10	-6.5	ENE	11.5	66.9	30.30	51

Helium Leak Test		Pressure Test	
Date/Time performed:	<u>11:50 9/5/2013 1</u>	Date/Time performed:	<u>9/5/2013 1</u>
Background He concentration (ppm):	<u>0</u>	Negative pressure of at least -15 in. Hg induced on sampling train?	
Shroud He concentration (%):	<u>46.2</u>	(circle one):	<u>yes</u> no
Sub-slab vapor/soil-gas He concentration (post helium insertion):	<u>0</u>	Did pressure hold?	<u>yes</u> no
Helium Leak Test Passed:	<u>yes</u> no		

Notes:



Indoor Air Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F:317-972-7875

PROJECT NAME Hoffman Cleaners SAMPLE DATE 9/4/2013
 LOCATION/ADDRESS 7215 W Center St SAMPLE ID 6200-7015-IA-
 PROJECT NO. 6200 SAMPLE TIME 19:20
 CLIENT/CONTACT ? CANISTER ID 10332
 DATA COLLECTION: START DATE 9/4/2013 END DATE 0930

Time hh:mm	Vacuum Reading in. of H2O	Wind Direction	Wind Speed mph	Temperature °F	Barometer Hg	Relative Humidity %
11:20	??	West	9.2	75	30.08	51
19:20	-30	NorthEast	9.2	70	30.09	81

Notes: Regulator Not working properly
-22 = 0 pressure