

151 Mill St. · P.O. Box 218 · Amherst, WI 54406 · Tel. 715.824.5169

December 28, 2015

Ms. Haillie Passow Wisconsin Department of Natural Resources 1300 W. Clairemont Avenue Eau Claire, WI 54701

Re:

**Dun-Rite Cleaners** 1008 Union Street

Stevens Point, Wisconsin

WDNR BRRTS No. 02-50-000577

Subject: Groundwater, Soil, and Vapor Results

Dear Ms. Passow:

The purpose of this letter is to summarize the results of soil, groundwater, soil vapor, and ambient air samples collected at and near the above-referenced site between April 2014 and November 2015. The samples were collected as part of environmental investigations associated with the Dun-Rite Cleaners site (the Site/Dun-Rite). The investigation is focused on chlorinated volatile organic compounds (VOCs), specifically tetrachloroethene (PCE).

#### **BACKGROUND**

Dun-Rite is located on Union Street, about half a block north of Center Point Drive. The adjoining property to the west is the former Lullabye site. Lullabye manufactured children's toys and has been under investigation since the mid-1990s for PCE used in its painting operations. Lullabye has been out of business for many years, and its former property is now owned by the City of Stevens Point, and part of a redevelopment project. In 2013, soil samples collected on the south side of the Dun-Rite building had PCE concentrations higher than previously detected, and additional investigations were requested because of perceived "changed conditions." Information regarding the Lullabye and Dun-Rite properties is available in Wisconsin Department of Natural Resources (WDNR) files.

The site location is indicated on **Figure 1**; and an airphoto of the site and surrounding area is shown on **Figure 2**.

## **INVESTIGATIONS AND REMEDIAL ACTIONS**

Considerable investigation activities and remedial excavations have occurred at the adjacent Lullabye site during the past two years. The Lullabye and Dun-Rite sites are connected via contiguous occurrences of PCE in the soil and groundwater. Activities at the Lullabye site are the responsibility of the City of Stevens Point and have largely been completed by their consultant AECOM. The discussion below focuses on activities associated with the Dun-Rite site.

#### **Timeline**

The Dun-Rite investigations began with a sub-slab vapor sample collected from beneath the Dun-Rite building on April 8, 2014. The laboratory analysis results showed concentrations of PCE above sub-slab screening levels. The results were submitted to the WDNR in a letter dated May 13, 2014<sup>i</sup>.

On May 16, 2014, Lisa Gutknecht met with Ron Hanson (responsible party), Pete Arntsen (consultant), and Rick Lewandowski (attorney) regarding the significance of the sub-slab results and the need for further actions. It was agreed that additional sub-slab samples would be collected and analyzed, installation of a sub-slab mitigation system would be pursued, and a work plan for additional investigations developed. The results of the meeting are summarized in a letter dated May 20, 2014<sup>ii</sup>.

The next phase of investigation was described in a letter dated May 29, 2014<sup>iii</sup>, and the sampling was performed that same day. Two additional sub-slab vapor samples and three ambient air samples were collected from the Dun-Rite property and subsequently submitted to a laboratory for analysis of VOCs. Concentrations of PCE above sub-slab screening levels and indoor air action levels were detected. After reviewing the results and considering potential sensitive receptors, sub-slab vapor and ambient air samples were collected from the neighboring residence on July 18, 2014, and analyzed for VOCs. The concentrations of PCE in both samples were below screening/action levels.

On September 11, 2014, a meeting was held between Lisa Gutknecht, Ron Hanson, Jim Guzman (building owner), Pete Arntsen, and Rick Lewandowski regarding the collection of vapor, soil, and groundwater samples from the Guzman office building property. The meeting facilitated access to the property and helped the investigation to progress.

Additional investigations were described in a letter dated September 18, 2014<sup>iv</sup>. The proposed investigations included collecting vapor samples from the nearby Guzman office building, and using a Geoprobe to collect soil and groundwater samples south of the Dun-Rite building. The samples were collected on September 19, 2014, and submitted for laboratory analysis. The vapor samples showed PCE above sub-slab screening levels but not above non-residential indoor action levels. The soil samples documented PCE in the vadose zone beneath the parking lot south of Dun-Rite, and the groundwater samples indicated dissolved PCE extending south of the Guzman office building. The results were summarized in a letter dated December 29, 2014<sup>v</sup>. A work plan for further investigations was described in a letter dated February 13, 2015<sup>vi</sup>.

During late February and early March, soil, groundwater, and vapor samples were collected and analyzed for VOCs. The soil results revealed the presence of PCE above direct-contact and protective-of-groundwater levels beneath the Dun-Rite building; the groundwater results defined a plume of dissolved PCE extending more than 700 feet southeast of the Dun-Rite building; and the vapor results documented sub-slab vapor concentrations above screening levels and ambient air concentrations below action levels.

A soil vapor extraction system was installed at the site during early March 2015 and started on March 13, 2015. Vapor samples collected and analyzed during system startup revealed the presence of

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high concentrations of PCE in the extracted vapors but low concentrations in the system exhaust (having passed through canisters of activated carbon).

On April 7 soil and groundwater samples were collected from the northwest portion of the Dun-Rite property. Analysis results showed the presence of PCE at levels above protective-of-groundwater levels in the soil, but PCE was not detected in the groundwater.

A letter dated April 17, 2015<sup>vii</sup>, summarized the results of the spring 2015 activities.

Vapor samples were collected on September 4, 2015; and soil and groundwater samples were collected on October 9, 2015. Because of quality assurance/quality control concerns regarding the results of the latest vapor samples, confirmatory vapor samples were collected on November 9, 2015.

#### **Results**

Vapor sample results are summarized on **Table 1**; sample locations are shown on **Figure 3**. Soil sample results are summarized on **Table 2**; sample locations are shown on **Figure 4**. Groundwater sample results are summarized on **Table 3**; sample locations are shown on **Figure 5**.

## Summary

The PCE results of vapor, soil, and groundwater samples collected from beneath and adjacent to the Dun-Rite property were sufficient to warrant investigatory and remedial actions. The results of actions taken to date have:

- Assessed the threat of vapor intrusion.
- Defined the degree and extent of PCE-impacted vadose zone soils.
- Defined the degree and extent of dissolved PCE present at concentrations above the calculated groundwater-to-indoor air screening level.
- Reduced the mass of PCE at and near the Dun-Rite property, and provided for on-going PCE removal.

As such, the site investigation is essentially done and the remedial action is implemented. Therefore, future site activities will focus on documenting the effectiveness of the remedial action and the decreasing concentrations in the environment.

## **GOING FORWARD**

A Site Investigation Report will be prepared and submitted to the WDNR for their review and files.

Vapor monitoring will continue on a semiannual basis. Supplemental sampling may be performed if warranted.

Groundwater monitoring will be performed to document that PCE concentrations in the environment are decreasing. This will be achieved by collecting groundwater samples from the existing monitoring wells installed south of the Dun-Rite building.

#### **MEETING**

We are scheduled to meet on Tuesday, December 29, 2015. The purpose of the meeting is to discuss the project history, current status, and path forward. If you have any questions or would like clarification prior to the meeting, please contact me at 715.824.5969 or <a href="mailto:pete.arntsen@sand-creek.com">pete.arntsen@sand-creek.com</a>.

My thanks to you for your time and willingness to meet and discuss the Dun-Rite project.

Sincerely,

SAND CREEK CONSULTANTS, INC.

Pete Arntsen, MS, PH

Project Manager/Senior Hydrologist

Enclosures: Figures 1 through 5

Tables 1 through 3

cc/enc: Mr. Ron Hanson/Dun-Rite Cleaners, via email only

Mr. Richard Lewandowski/Whyte Hirschboeck Dudek S.C., via email only

## Referenced Correspondence

Letter dated May 13, 2014, to Lisa Gutknecht/WDNR from Pete Arntsen/Sand Creek, Subject: Sub-Slab Vapor Sample Results

Letter dated May 20, 2014, to Ron Hanson from Lisa Gutknecht/WDNR, Subject: Meeting Summary Regarding Additional Site investigation Activities, Dun-Rite Cleaners (Ron Hansen Property), 1008 Union Street, Stevens Point, Wisconsin

Letter dated May 29, 2014, to Lisa Gutknecht/WDNR from Pete Arntsen/Sand Creek, Subject: Work Plan for Sub-Slab Vapor and In-Door Air Sample Collection

Letter dated September 18, 2014, to Lisa Gutknecht/WDNR from Pete Arntsen/Sand Creek, Subject: Work Plan for Geoprobe Investigation and Sub-Slab Vapor and Ambient Air Sample Collection

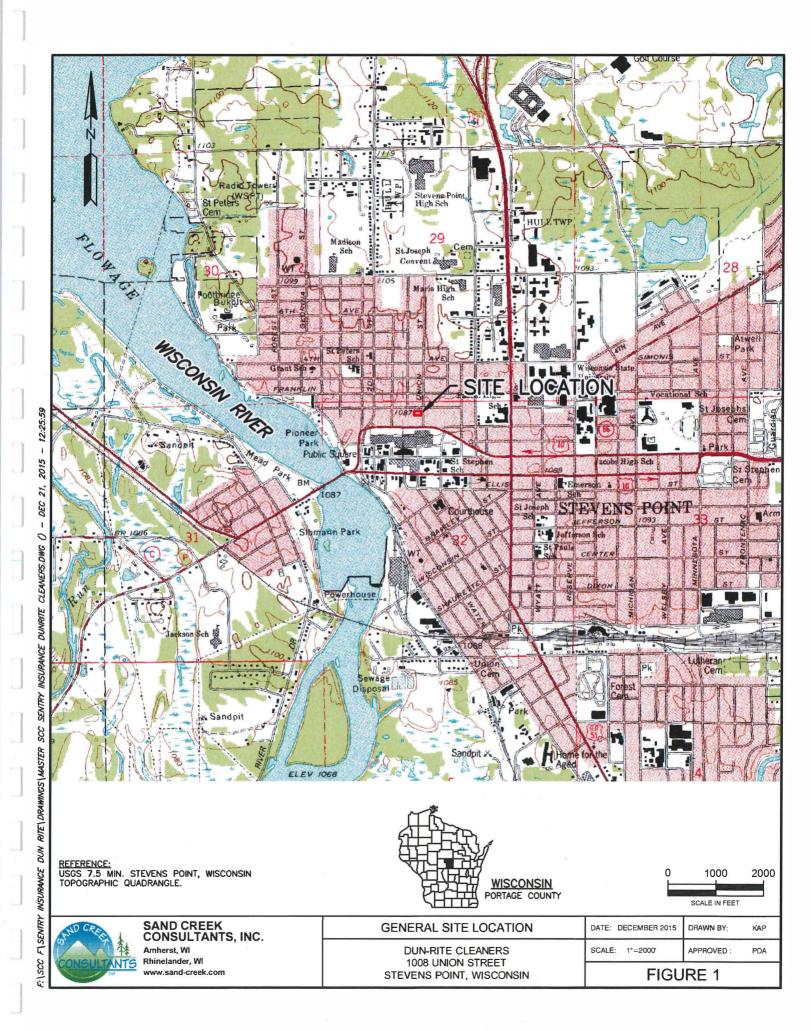
Letter dated December 29, 2014, to Lisa Gutknecht/WDNR from Pete Arntsen/Sand Creek, Subject: Soil, Groundwater, and Vapor Results

vi Letter dated February 13, 2015, to Lisa Gutknecht/WDNR from Pete Arntsen/Sand Creek, Subject: Work Plan for Soil, Groundwater, Sub-Slab Vapor, and Ambient Air Sample Collection

vii Letter dated April 17, 2015, to Lisa Gutknecht/WDNR from Pete Arntsen/Sand Creek, Subject: Soil, Groundwater, and Vapor Results

# **Figures**

- Figure 1 Site Location Map
- Figure 2 Site Layout and Sample Locations
- Figure 3 Vapor Sample Locations
- Figure 4 Soil Sample Locations
- Figure 5 Groundwater Sample Locations



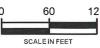




Environmental and Geologica Scientists and Engineers



SITE LAYOUT **AND SAMPLE LOCATIONS** 



**DUN-RITE CLEANERS** 1008 UNION STREET STEVENS POINT WISCONSIN

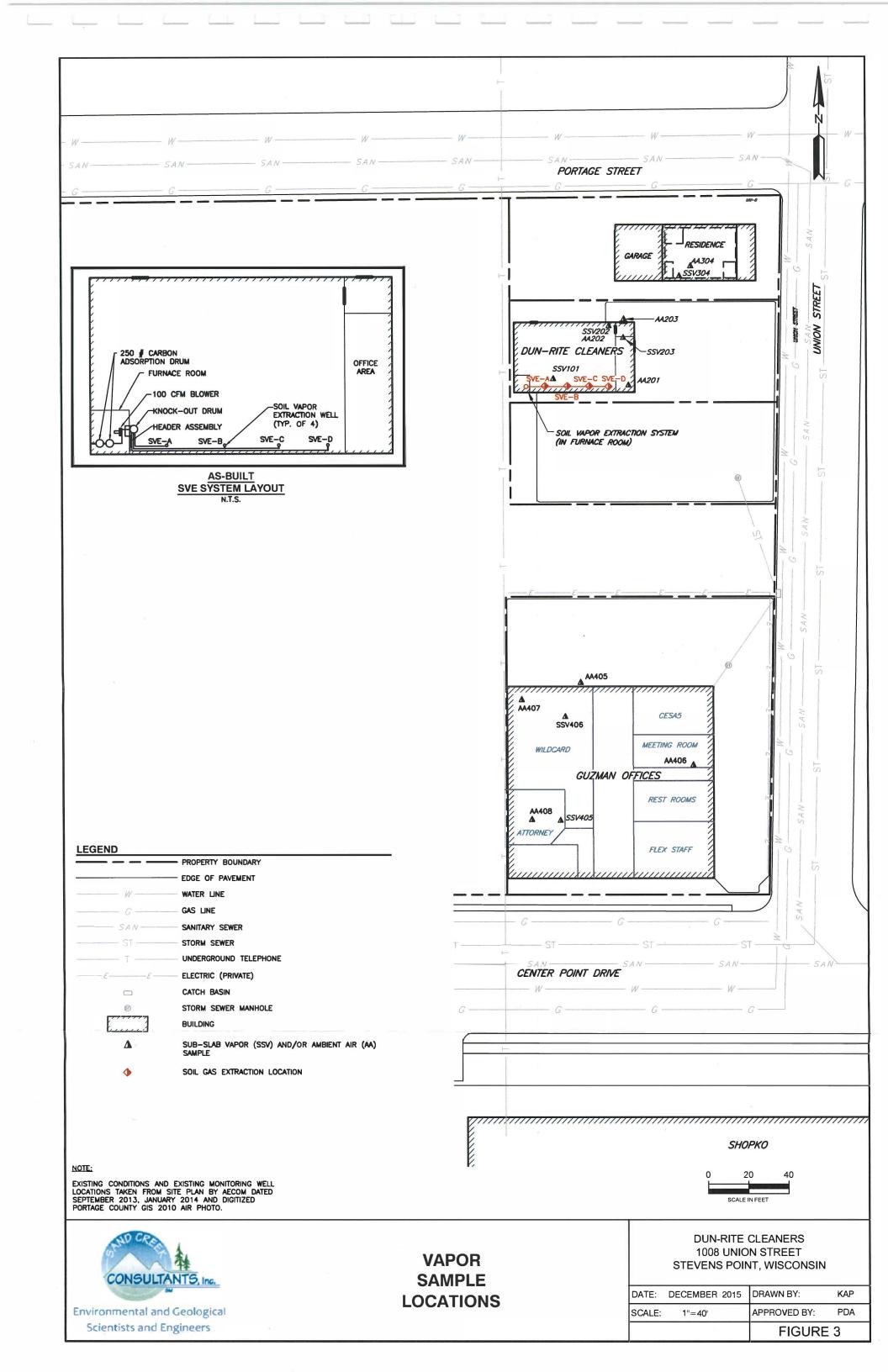
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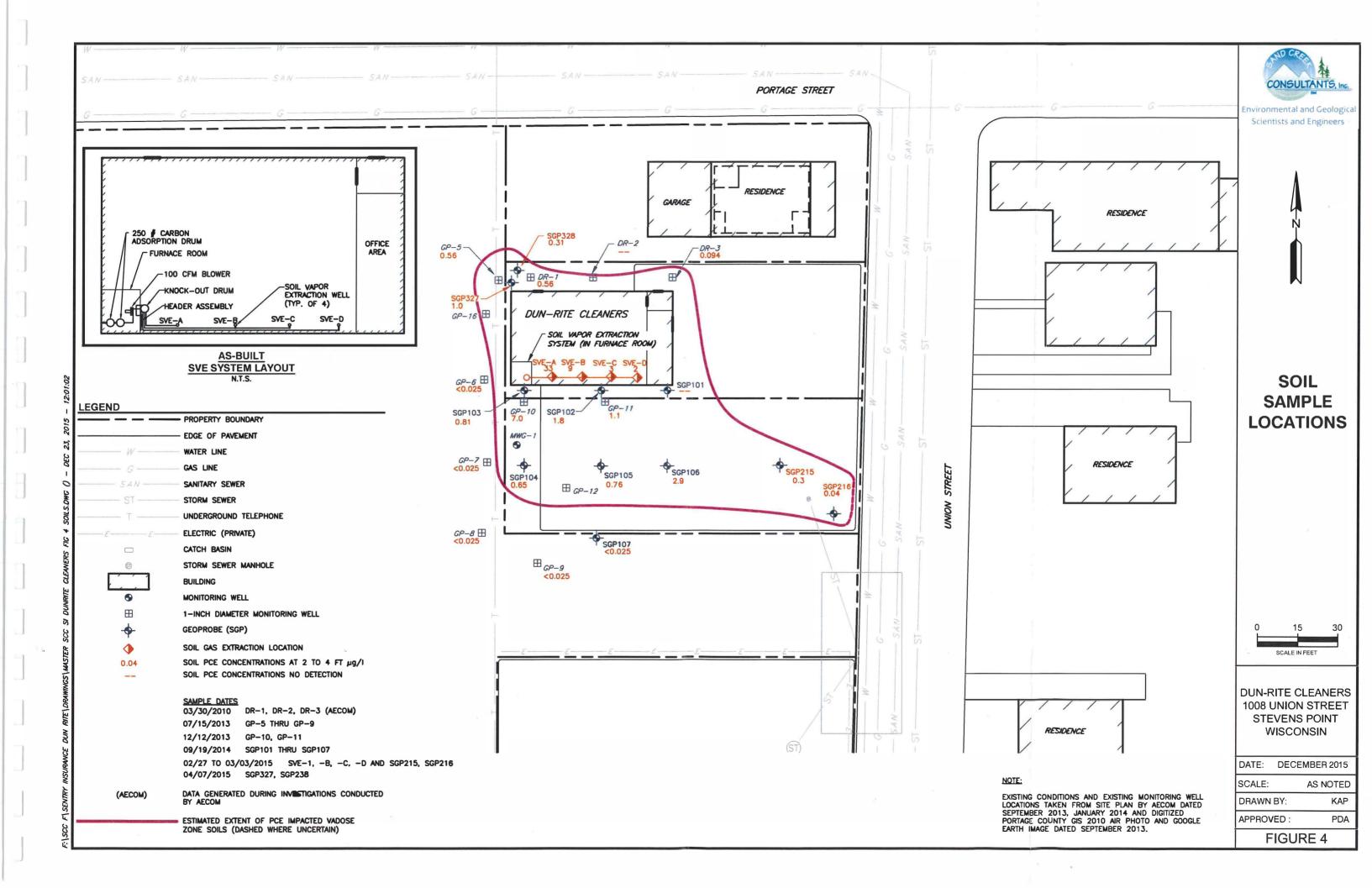
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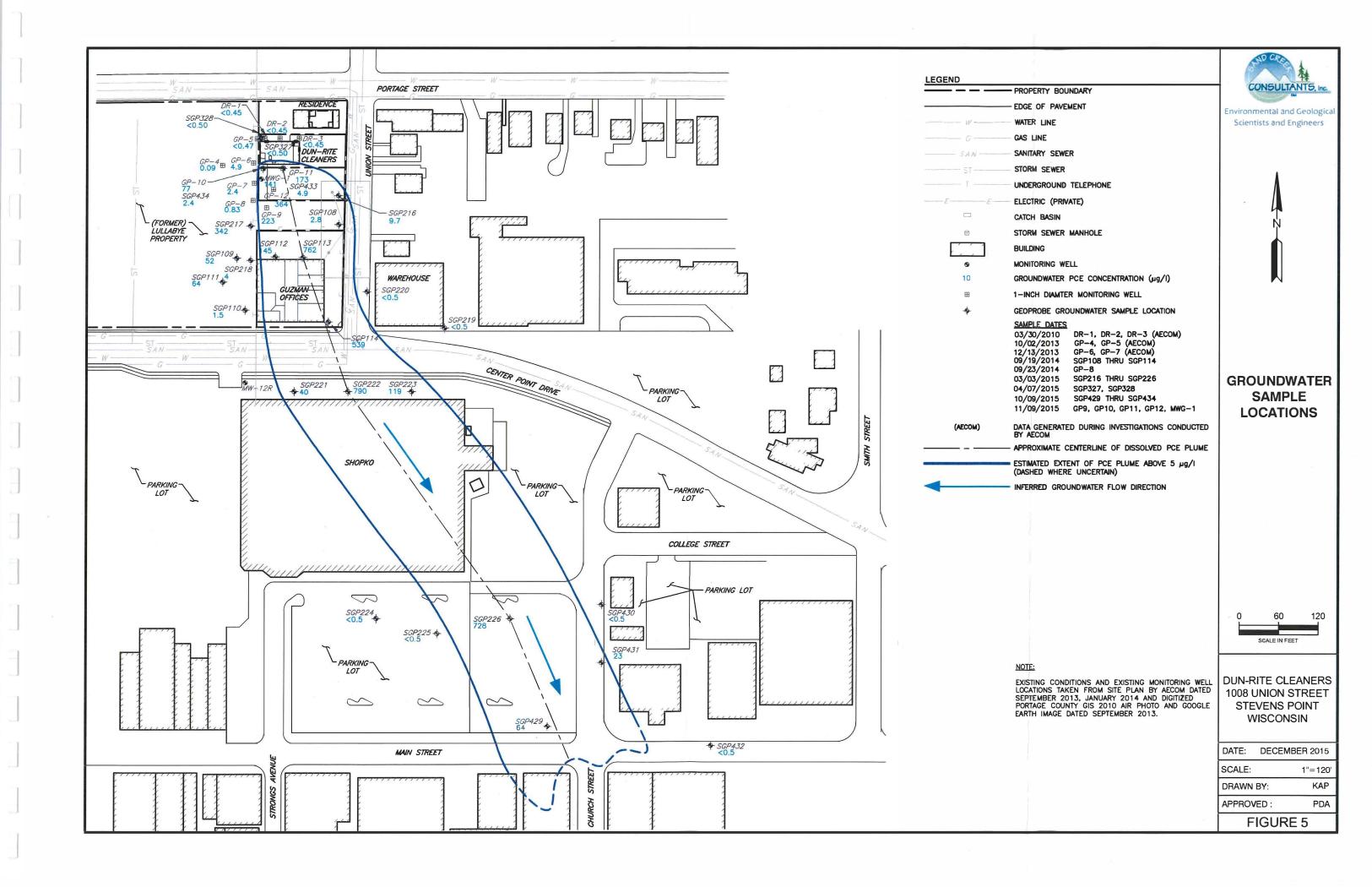
SCALE: 1"=120' DRAWN BY:

APPROVED:

FIGURE 2







## **Tables**

Table 1 Vapor Chemistry Results
Table 2 Soil Chemistry Results

Table 3 Groundwater Chemistry Results

Table 1: Vapor Chemistry Results Dun-Rite Cleaners, Stevens Point, WI

Ambient Air Samples (μg/m³)					
				Trichloro-	
Sample ID	Location	Date	ethene (PCE)	ethene (TCE)	
Indoor Air Vano	r Action Leve	olc <sup>1</sup>			
Illudol All Vapo	Indoor Air Vapor Action Levels <sup>1</sup> Non-Residential 180 8.8				
Residential		42	2.1		
AA201	Dun-Rite	5/29/2014		63	
AA201	Dull-kite	9/4/2015	2,780	73	
AA202	Dun-Rite	5/29/2014	1,990	66	
AA202 AA203	Outdoor	5/29/2014		<0.076	
AA304	Residence	7/18/2014		<0.076	
AA304	Residence	3/2/2015	2.5 35	<0.85	
		1	22	3.0	
		9/4/2015			
A A 40F	Outdoor	11/9/2015	2.4 <1.2	<0.41 <0.92	
AA405	Outdoor	9/19/2014			
		2/27/2015	21	<0.38	
AA406	United - 1 14/	9/4/2015	2.3	<0.40	
AA406	United Way			1.3	
		2/27/2015	74	3.0	
11107	) A (")	9/4/2015	4.7	2.0	
AA407	Wildcard	9/19/2014		<1.2	
		2/27/2015	83	1.5	
	<u> </u>	9/4/2015	10	1.1	
AA408	Attorney	9/19/2014	9.9	1.5	
		2/23/2015	22	2.1	
Sub-Slab Vapor	Samples (us	9/4/2015	7.0	0.77	
Sub-Siab Vapoi	Jampies (µg	/ III <i>)</i>			
		<b>.</b> .	Tetrachloro-	Trichloro-	
Sample ID	Location	Date	ethene (PCE)	ethene (TCE)	
Sub-Slab Vapor :	Screening Lev	vels <sup>2</sup>			
	Non-Reside	ntial	5,994	293	
	Residential		1,399	70	
SSV101	Dun-Rite	4/8/2014	2,550,000	527	
		9/4/2015	141,000	1780	
SSV202	Dun-Rite	5/29/2014	1,700	113	
		9/4/2015	2,280	145	
SSV203	Dun-Rite	5/29/2014	27,600	<20	
<u> </u>		11/4/2015	288	12	
SSV304	Residence	7/18/2014	13	<1.2	
		3/2/2015	11	<0.31	
		9/4/2015	137	21	
		11/9/2015	319	14	
SSV405	Attorney	9/19/2014	7,470	139	
		2/24/2015	17,800	183	
SSV406	Wildcard	9/19/2014	11,300	<28	
		2/27/2015	7,180	<24	
		9/4/2015	68,200	16	
	·————		· · · · · · · · · · · · · · · · · · ·		

Table 1: Vapor Chemistry Results
Dun-Rite Cleaners, Stevens Point, WI

Soil Vapor Extraction System (μg/m³)					
Sample ID	Location	Date	Tetrachloro- ethene (PCE)	Trichloro- ethene (TCE)	
Blwr A	SVE	3/13/2015	224,000	<1700	
Blwr B	SVE	3/14/2015	134,000	<410	
Blwr C	SVE	3/17/2015	43,800	77	
Blwr Dschrg 1	SVE	9/3/2015	2,580	113	
Blwr Dschrg 2	SVE	9/8/2015	12,900	265	
Can 2-A	SVE	3/13/2015	11,800	17	
Can 1-D	SVE	3/18/2015	1,600	0.76 J	

#### Notes:

μg/m<sup>3</sup>: micrograms per cubic meter.

<0.076 = Substance not detected above indicated detection limit.

**Bold** indicate concentration exceeds Vapor Action Level or Vapor Screening Level for Non-Residential Conditions.

*Italics* indicate concentration exceeds Vapor Action Level or Vapor Screening Level for Residential Conditions.

[http://dnr.wi.gov/topic/Brownfields/documents/vapor/vapor-quick.pdf].

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<sup>&</sup>lt;sup>1</sup> Vapor Action Levels obtained from the Indoor Air Vapor Action Levels for Various VOCs Quick Look-up Table Based on June 2015 Regional Screening Level Summary Table.

<sup>&</sup>lt;sup>2</sup> Screening level for Residential/Small Commercial Buildings (dilution factor of 33.3).

Table 2: Soil Chemistry Results Dun-Rite Cleaners, Stevens Point, WI

Sample	Sample	Sample	Tetrachloroethene	Trichloroethene
Location	Date	Depth (ft)	(mg/kg)	(mg/kg)
Protective of Groundwater RCLs <sup>1</sup>		0.0045	0.0036	
Non-Industri	al Direct Contact RC	CLs <sup>1</sup>	30.7	1.26
DR-1 <sup>A</sup>	3/30/2010	3-4	0.56	
DR-2 <sup>A</sup>	3/30/2010	6-7	<0.025	
DR-3 <sup>A</sup>	3/30/2010	2-3	0.094	
GP-4 <sup>A</sup>	7/15/2013	2	<0.025	
	77 137 2013	4	0.038 J	
		6	<0.025	
GP-5 <sup>A</sup>	7/15/2013	2	0.18	
	.,,	4	<0.025	
		6	0.24	
GP-6 <sup>A</sup>	7/15/2013	2	<0.025	
		4	<0.025	
		6	<0.025	
GP-7 <sup>A</sup>	7/15/2013	. 2	<0.025	
		4	<0.025	
		6	<0.025	
GP-8 <sup>A</sup>	7/15/2013	2	<0.025	
		4	<0.025	
		6	<0.025	
GP-9 <sup>A</sup>	7/15/2013	2	<0.025	
		4	<0.025	
		66	<0.025	
GP-10 <sup>A</sup>	12/12/2013	3-4	7.0	
GP-11 <sup>A</sup>	12/12/2013	3-4	1.1	
SGP101	9/19/2014	4	<0.025	<0.025
		7	<0.025	<0.025
SGP102	9/19/2014	1	0.11	<0.025
		3	1.8	<0.025
		5	<0.025	<0.025
		7	<0.025	<0.025
SGP103	9/19/2014	3	0.81	<0.025
		5	0.12	<0.025
SGP104	9/19/2014	4	0.65 J	<0.025
	0/40/	7	<0.025	<0.025
SGP105	9/19/2014	3	0.76	<0.025
500405	0/40/222	7	<0.025	<0.025
SGP106	9/19/2014	3	2.9	<0.025
CCD107	0/10/2014	7	<0.025	<0.025
SGP107	9/19/2014	44	<0.025	<0.025

Table 2: Soil Chemistry Results Dun-Rite Cleaners, Stevens Point, WI

Sample	Sample	Sample	Tetrachloroethene	Trichloroethene
Location	Date	Depth (ft)	(mg/kg)	(mg/kg)
Protective of Groundwater RCLs <sup>1</sup>			0.0045	0.0036
Non-Industria	al Direct Contact RC	CLs <sup>1</sup>	30.7	1.26
SVE-A	3/2/2015	3	33	<0.20
		7	3.7	<0.025
SVE-B	2/27/2015	1	6.1	<0.025
		3	9.0	<0.026
SVE-C	2/27/2015	1	1.6	<0.025
		3	3.0	<0.025
S <b>V</b> E-D	3/2/2015	2.5	0.51	<0.027
	2/27/2015	3	2.0	<0.025
	3/2/2015	7	0.038 J	<0.025
SGP215	3/3/2015	3	0.30	<0.025
SGP216	3/3/2015	3	0.036 J	<0.025
		6	<0.025	<0.025
SGP327	4/7/2015	1	0.088	<0.025
		3	1.0	<0.025
		6	<0.025	<0.025
SGP328	4/7/2015	3	0.31	<0.025
		6	<0.025	<0.025
SGP433	10/9/2015	3	0.35	<0.025
		6	<0.025	<0.025
		7.5	<0.025	<0.025
SGP434	10/9/2015	3	<0.025	<0.025
		7.5	<0.025	<0.025

## Notes:

mg/kg = milligrams per kilogram, which is equivalent to parts per million.

Italics indicate exceedance of Protective of Groundwater RCL.

J = Analyte was detected but is below the reporting limit. The concentration is estimated.

<sup>&</sup>lt;0.025 = Substance not detected above indicated detection limit.

<sup>-- =</sup> Data unavailable

<sup>&</sup>lt;sup>1</sup>Residual Contaminant Levels (RCLs) determined using a spreadsheet based on the US EPA Regional Screening Level Web Calculator and included on WDNR web page (http://dnr.wi.gov/topic/Brownfields/Professionals.html).

<sup>&</sup>lt;sup>A</sup> = Data generated during investigations conducted by AECOM.

Table 3: Groundwater Chemistry Results
Dun-Rite Cleaners, Stevens Point, WI

Sample	Sample	Tetrachloroethene	Trichloroethene
Location	Date	(μg/l)	(μg/l)
PAL		0.5	0.5
ES		5.0	5.0
DR-1 <sup>A</sup>	3/30/2010	<0.45	
DR-2 <sup>A</sup>	3/30/2010	<0.45	
DR-3 <sup>A</sup>	3/30/2010	<0.45	
GP-4 <sup>A</sup>	7/19/2013	2.0	<0.43
	10/2/2013	0.9	<0.36
GP-5 <sup>A</sup>	7/19/2013	<0.47	<0.43
	10/2/2013	<0.47	<0.36
GP-6 <sup>A</sup>	7/19/2013	3.7	<0.43
	10/2/2013	2.2	<0.36
	12/13/2013	4.9	<0.36
GP-7 <sup>A</sup>	7/19/2013	8.0	<0.43
	10/2/2013	3.6	<0.36
	12/13/2013	2.4	<0.36
GP-8 <sup>A</sup>	7/19/2013	<0.47	<0.43
	10/2/2013	4.2	<0.36
	12/13/2013	3.7	<0.36
	9/23/2014	0.83 J	<0.33
GP-9 <sup>A</sup>	7/19/2013	295	7.4
	10/2/2013	655	12
	12/13/2013	745	14
	9/23/2014	279	7.4
	11/9/2015	223	6.4
GP-10 <sup>A</sup>	12/13/2013	331	1.9
	11/9/2015	77	2.7
GP-11 <sup>A</sup>	12/13/2013	2570	<18.2
	11/9/2015	173	<1.3
GP-12 <sup>A</sup>	12/13/2013	254	<1.8
	9/23/2014	487	2.2 J
	11/9/2015	364	1.8 J
MWG-1	11/9/2015	141	6.9
SGP108	9/19/2014	2.8	<.33
SGP109	9/19/2014	52	1.3
SGP110	9/19/2014	1.5	<.33
SGP111	9/19/2014	64	0.88 J
SGP112	9/19/2014	145	1.2 J
SGP113	9/19/2014	762	<3.3
SGP114	9/19/2014	539 	3.4 J

Table 3: Groundwater Chemistry Results
Dun-Rite Cleaners, Stevens Point, WI

Sample	Sample	Tetrachloroethene	Trichloroethene
Location	Date	(μg/I)	(μg/l)
PAL		0.5	0.5
ES		5.0	5.0
SGP216	3/3/2015	9.7	<0.33
SGP217	3/3/2015	342	3.1 J
SGP218	3/3/2015	4.0	<0.33
SGP219	3/3/2015	<0.50	<0.33
SGP220	3/3/2015	<0.50	<0.33
SGP221	3/3/2015	40	<0.33
SGP222	3/3/2015	790	10.7
SGP223	3/3/2015	119	7.4
SGP224	3/3/2015	<0.50	<0.33
SGP225	3/3/2015	<0.50	<0.33
SGP226	3/3/2015	728	8.7 J
SGP327	4/7/2015	<0.50	<0.33
SGP328	4/7/2015	<0.50	<0.33
SGP429	10/9/2015	64.4	1.3
SGP430	10/9/2015	<0.50	<0.33
SGP431	10/9/2015	23.4	2.8
SGP432	10/9/2015	<0.50	<0.33
SGP433	10/9/2015	4.9	<0.33
SGP434	10/9/2015	2.4	<0.33

## Notes:

- 12 Italics indicate exceedance of NR 140 Preventive Action Limit.
- 4.4 Bold indicates exceedance of NR 140 Enforcement Standard.
- < 0.45 = Substance not detected above indicated detection limit.
- -- = Data unavailable
- ${\sf J}$  = Analyte was detected but is below the reporting limit. The concentration is estimated.
- ${\sf ES}$  Enforcement Standard listed in Chapter NR 140, Wisconsin Administrative Code, January 2012.
- PAL Preventive Action Limit listed in Chapter NR 140, Table 1, Wisconsin Administrative Code, January 2012.
- <sup>A</sup> = Data preceding 2014 generated during investigations conducted by AECOM.