

Letter of Transmittal

Attention: Matt Thompson Date: February 21, 2017
Wisconsin Department of Natural Resources
Remediation and Redevelopment Program
1300 W. Clairemont Avenue

Former Kraft Cleaners
(SI & Interim Action)
303-305 S. 2nd Ave
Wausau, Wisconsin

Project reference: WDNR BRRTS No. 02-37-000294 Project number: AECOM 60299959

We are sending you the following:

Number of originals:	Number of copies:	Description:
hard copy	1	2016 SVE System OM&M Report (DNR Form 4400-194) with attachments for period 1/1/2016 thru 12/31/2016
CD copy	1	2016 SVE System OM&M Report (DNR Form 4400-194) with attachments for period 1/1/2016 thru 12/31/2016

The attached report is submitted on behalf of the Wausau Community Development Authority. The SVE system was shut off for the winter season on November 29, 2016. Confirmation soil borings to check remediation progress are scheduled for April 3, 2017.

the are scheduled Please contact me at (715) 342-3038 if you have any questions or need anything else.

Signature:  Kyle W. Wagoner, PG, CHMM

GENERAL INSTRUCTIONS, PURPOSE AND APPLICABILITY OF THIS FORM: Completion of this form is required under s. NR 724.13(3), Wis. Adm. Code. A narrative report or letter containing the equivalent information required in this form may be submitted in lieu of the actual form. Failure to submit this form as required is a violation of s. NR 724.13(3), Wis. Adm. Code, and is subject to the penalties in s. 292.99, Wis. Stats. This form must be submitted every six months for soil or groundwater remediation projects that report operation and maintenance progress in accordance with s. NR 724.13(3), Wis. Adm. Code.

Note: Long-term monitoring results submitted in accordance with s. NR 724.17(3), Wis. Adm. Code are required to be submitted within 10 business days of receiving sampling results and are not required to be submitted using this form. However, portions of this form require monitoring data summary information that may be based on information previously submitted in accordance with s. NR 724.17(3), Wis. Adm. Code.

Note: Responsible parties should check with the State Project Manager assigned to the site to determine if this form is required to be submitted at sites responded to under the Federal Comprehensive Environmental Response and Compensation Act (commonly known as Superfund) or an equivalent State lead Superfund response.

Note: Responsible parties should check with the State Project Manager assigned to the site to determine if any of the information required in this form may be omitted or changed and obtain prior written approval for any omissions or changes.

Submittal of this form is not a substitute for reporting required by Department programs such as Waste Water or Air Management. Personally identifiable information on this form is not intended to be used for any other purpose than tracking progress of the remediation by the Bureau for Remediation and Redevelopment.

Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31-19.39, Wis. Stats.). Unless otherwise noted, all citations refer to Wisconsin Administrative Code.

Note: There is a separate semi-annual report required under s. NR 700.11(1), Wis. Adm. Code. Reporting under that provision is through an internet-based form:

<http://dnr.wi.gov/topic/Brownfields/documents/regs/NR700progreport.pdf>

Section GI - General Site Information

A. General Information

1. Site name

Former Kraft Cleaners

2. Reporting period from: 01/01/2016 To: 12/31/2016 Days in period: 365

3. Regulatory agency (enter DNR, DATCP and/or other) 4. BRRTS ID No. (2 digit program-2 digit county-6 digit site specific)
 DNR 02-37-000294

5. Site location

Region	County	Address					
West Central Region	Marathon	303-305 S. 2nd Avenue					
Municipality name	<input type="radio"/> City <input type="radio"/> Town <input type="radio"/> Village	Township	Range	<input checked="" type="radio"/> E <input type="radio"/> W	Section	$\frac{1}{4}$	$\frac{1}{4}$
Wausau		29 N	7		26	SW	SE

6. Responsible party

Name
 Wausau Community Development Authority

Mailing address
 550 E. Thomas Street, Wausau, WI 54403

Phone number
 (715) 261-6686

7. Consultant

Select if the following information has changed since the last submittal

Company name
 AECOM

Mailing address
 200 Indiana Ave, Stevens Point, WI

Phone number
 (715) 342-3038

8. Contaminants

PCE

9. Soil types (USCS or USDA)

Silty fine to medium Sand (SP, USCS)

10. Hydraulic conductivity(cm/sec):

6.8 x 10⁻² cm/sec

11. Average linear velocity of groundwater (ft/yr)

137 ft/yr

12. If soil is treated ex situ, is the treatment location off site? Yes No

If yes, give location: Region

County

Municipality name	<input type="radio"/> City <input type="radio"/> Town <input type="radio"/> Village	Township	Range	<input type="radio"/> E <input type="radio"/> W	Section	$\frac{1}{4}$	$\frac{1}{4}$
		N					

Site name: Former Kraft Cleaners
Reporting period from: 01/01/2016 To: 12/31/2016
Days in period: 365

Remediation Site Operation, Maintenance, Monitoring & Optimization Report

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B. Remediation Method

Only submit sections that apply to an individual site. Check all that apply:

- Groundwater extraction (submit a completed Section GW-1).
- Free product recovery (submit a completed Section GW-1).
- In situ air sparging (submit a completed Section GW-2).
- Groundwater natural attenuation (submit a completed Section GW-3).
- Other groundwater remediation method (submit a completed Section GW-4).
- Soil venting (including soil vapor extraction building venting and bioventing submit a completed Section IS-1).
- Soil natural attenuation (submit a completed Section IS-2).
- Other in situ soil remediation method (submit a completed Section IS-3).
- Biopiles (submit a completed Section ES-1).
- Landspreading/thinspreading of petroleum contaminated soil (submit a completed Section ES-2).
- Other ex situ remediation method (submit a completed Section ES-3).
- Site is a landfill (submit a completed Section LF-1).

C. General Effectiveness Evaluation for All Active Systems

If the remediation is active (not natural attenuation), complete this subsection.

1. Is the system operating at design rates and specifications? Yes No

If the answer is no, explain whether or not modifications are necessary to achieve the goal that was previously established in design.

2. Are modifications to the system warranted to improve effectiveness Yes No

If yes, explain:

3. Is natural attenuation an effective low cost option at this time? Yes No

4. Is closure sampling warranted at this time? Yes No

5. Are there any modifications that can be made to the remediation to improve cost effectiveness? Yes No

If yes, explain:

D. Economic and Cost Data to Date

1. Total investigation cost: \$168,164.00

2. Implementation costs (design, capital and installation costs, excluding investigation costs): \$184,433.00

3. Total costs during the previous reporting period: \$39,963.00

4. Total costs during this reporting period: \$116,164.00

5. Total anticipated costs for the next reporting period: \$30,000.00

6. Are any unusual or one-time costs listed in the reporting periods covered by D.3., D.4. or D.5. above? Yes No

If yes, explain:

7. If closure is anticipated within 12 months, estimated costs for project closeout: _____

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Days in period: 365

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E. Name(s), Signature(s) and Date of Person(s) Submitting Form

Legibly print name, date and sign. Only persons qualified to submit reports under ch. NR 712 Wis. Adm. Code are to sign this form for sites with any ongoing active remediation, monitoring or an investigation. Other persons may sign this form for sites with no response activities during the six month reporting period.

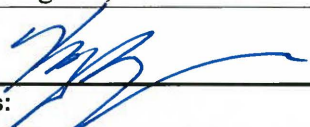
Registered Professional Engineers:

I hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Print name	Title
Signature	Date

Hydrogeologists:

I hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Print name	Title
Kyle W. Wagoner, WI P.G. #718-13	Project Manager
Signature 	Date
	2/20/2017

Scientists:

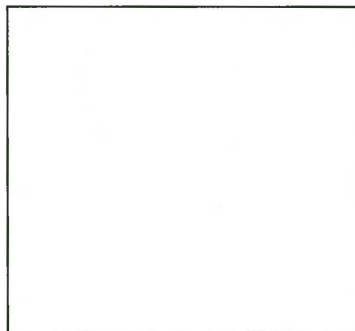
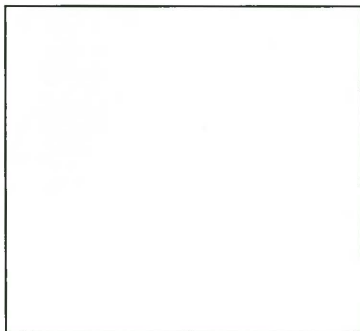
I hereby certify that I am a scientist as that term is defined in s. NR 712.03(3), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm.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

Print name	Title
Signature	Date

Other Persons:

Print name	Title
Signature	Date

Professional Seal(s), if applicable:



Site name: Former Kraft Cleaners
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Section IS-1, Soil Venting (Including Soil Vapor Extraction, Building Venting and Bioventing)

A. Soil Venting Operation

Note: This form is not required for building vapor mitigation systems that are installed proactively to protect building occupants/users and are not considered part of ongoing active soil remediation.

1. Number of air extraction wells available and number of wells actually in use during the period: 6
2. Number of days of operation (only list the number of days the system actually operated, if unknown explain):
224
3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If < 80%, explain:
Utilization was 61.4%. SVE system was off-line from January 1, 2016 until April 20, 2016, and from November 29, 2016 until December 31, 2016, due to water vapor freezing in the shallow SVE underground piping.

4. Average depth to groundwater: 18 gpm

B. Building Basement/Subslab Venting System Operation

1. Number of venting points available and number of points actually in use during the period: _____
2. Number of days of operation (only list the number of days the system actually operated, if unknown explain): _____
3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If < 80%, explain: _____

C. Effectiveness Evaluation

1. Average contaminant removal rate for the entire system: 0.004 pounds per day
2. Average contaminant removal rate per well or venting point: 0.001 pounds per day
3. If the average contaminant removal rate is less than one pound per day for the entire system, or if the average contaminant removal rate per well is less than one tenth of a pound per day, evaluate the following:
 - a. If contaminants are aerobically biodegradable and confirmation borings have not been drilled in the past year:
 - i. Oxygen levels in extracted air: _____ percent
 - ii. Methane levels in extracted air (ppmv) If over 10 ppmv, explain:
NA
 - iii. If methane is not present above 10 ppmv and if oxygen is greater than 20 percent in extracted air, you should either:
 - o Drill confirmation borings during the next reporting period, if the entire site should be considered for closure.
 - o Or, perform an in situ respirometry test in a zone of high contamination. Do not perform the test in an air extraction well, use a gas probe or water table well. If a zero order rate of decay based on oxygen depletion is less than 2 mg/kg per day, then you should drill confirmation borings, if the entire site should be considered for closure. If the rate of decay is between 2 and 10 mg/kg, operate for one more reporting period before evaluating further. If the zero order rate of decay is greater than 10 mg/kg total hydrocarbons, continue operating the system in a manner than maximizes aerobic biodegradation.
 - b. If contaminants are not aerobically biodegradable and confirmation borings have not been recently drilled during the past year, you should drill confirmation borings during the next reporting period if the entire site should be considered for closure.
 - c. If soil borings were drilled during the past year and soil contamination remains above acceptable levels, explain if the system effectiveness can be increased and/or if other options need to be considered to achieve cleanup criteria.

D. Additional Attachments

Attach the following to this form:

- Well and soil sample location map indicating all air extraction wells. If forced air injection wells are also in use, identify those wells.
- If water table monitoring wells are present at the site, a map of well locations.
- Time versus vapor phase contaminant concentration graph.
- Time versus cumulative contaminant removal graph.
- Groundwater elevations table, if water table wells are present at the site; also list screen lengths and elevations.
- Table of soil contaminant chemistry data.
- Soil gas data, if gas probes are used to monitor subsurface conditions in locations other than where air is extracted.
- System operational data table.

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Section GW-3, Natural Attenuation (Passive Bioremediation) in Groundwater

A. Effectiveness Evaluation

1. If free product is not present, determine the single contaminant that requires the greatest percent reduction to achieve ch. NR 140 ES and PAL. Perform this calculation for all contaminants that were present at the site that have ch. NR 140 standards. Use the highest contaminant concentration measured in any sampling points during reporting period. If free product is present, write "FREE PRODUCT" in A.1.a

a. Contaminant: PCE

b. Percent reduction necessary to reach ch. NR 140 ES and PAL: 96 %

c. Maximum contaminant concentration level in any monitoring well of that contaminant: 128 $\mu\text{g/L}$

2. Aquifer parameters:

a. Hydraulic conductivity: 6.8×10^{-2} cm/sec

b. Groundwater average linear velocity: 1,540 ft/yr

3. Is there a downgradient monitoring well that meets ch. NR 140 standards? Yes No

4. Based on water chemistry results, is the plume: Expanding Stabalized Contracting ?

5. If the answer in 4. (above) is "expanding," is natural attenuation still the best option? Yes No

If yes, explain:

6. Biodegradation parameters:

a. Upgradient (or other site specific background) DO level: 6.95 $\mu\text{g/L}$

b. DO levels in the part of the plume that is most heavily contaminated 2.81 $\mu\text{g/L}$

7. Is site closure a viable option within 12 months from the date of this form? Yes No

8. Are there any modifications that can improve cost effectiveness? Yes No

If yes, explain:

9. Have groundwater table fluctuations changed the contaminant level trends over time? Yes No

If yes, explain:

10. Has the direction of groundwater flow changed during the reporting period? Yes No

If yes, approximate change in degrees: _____

B. Additional Attachments

Attach the following:

- Groundwater contour map.
- Groundwater contaminant distribution map (may be combined with contour map).
- When contaminants are aerobically biodegradable, attach a dissolved oxygen in groundwater map (dissolved oxygen may be combined with the contaminant data on a single map).
- Graph of contaminant concentrations versus time for the contaminant listed in A.1.a. (above) for the monitoring point with the greatest level of contamination.
Note: This is the minimum required graph; however, it is recommended that multiple time versus contamination concentration graphs as described in the instructions on page 24 for Natural Attenuation of Groundwater be submitted.
- Graph of contaminant concentrations versus distance.
- Groundwater contaminant chemistry table.
- Groundwater biological parameters.
- Groundwater elevations table.

LEGEND

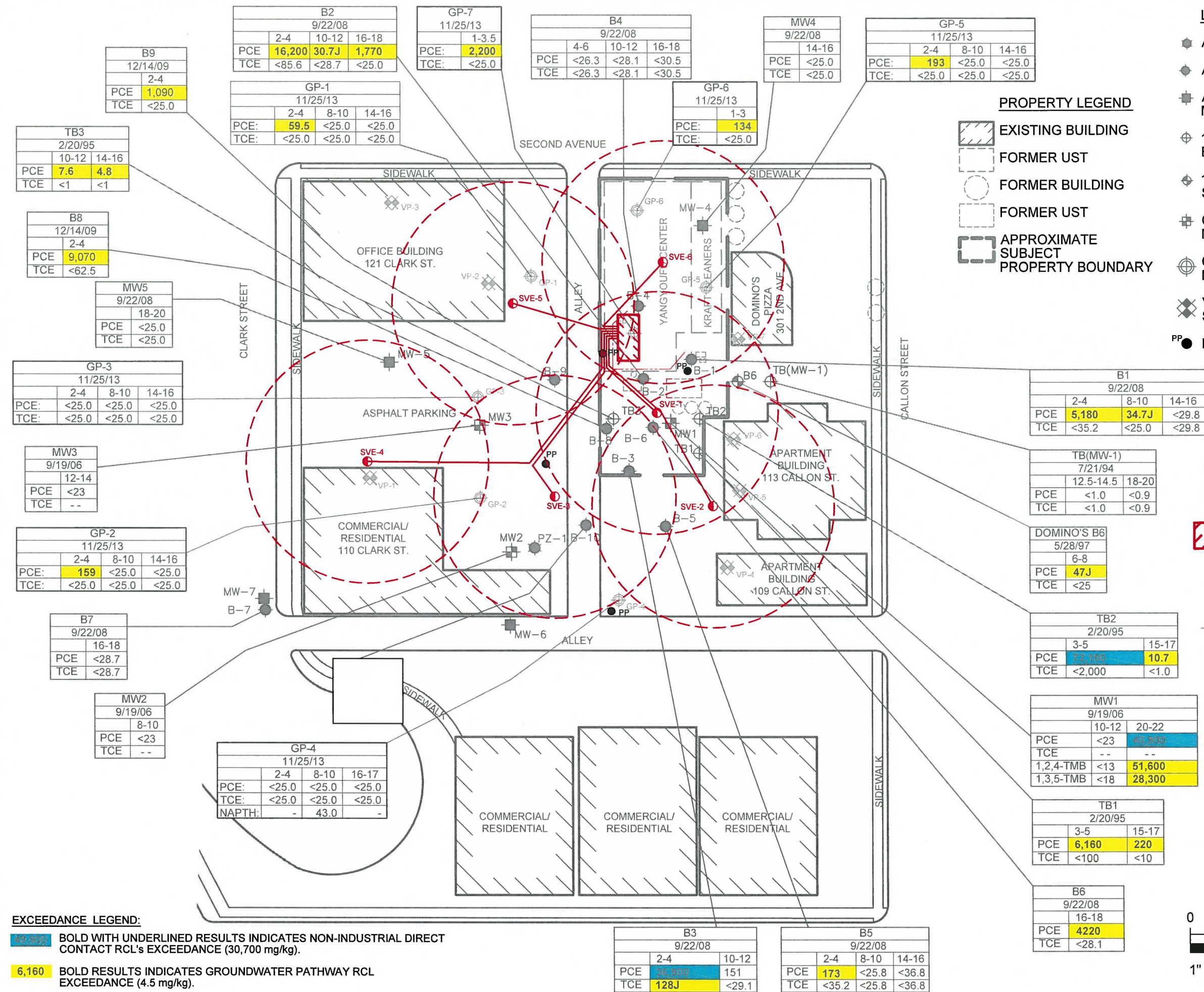
- AECOM PIEZOMETER
- AECOM SOIL BORING
- AECOM GROUNDWATER MONITORING WELL
- ⊕ 1994 & 1995 CWE SOIL BORING
- ⊕ 1997 DOMINO'S PIZZA SOIL BORING
- ⊕ CWE GROUNDWATER MONITORING WELL
- ⊕ GP-1 SOIL BORING NOV. 25, 2013
- ⊕ VP-1 SUB-SLAB VAPOR SAMPLE LOCATIONS
- PP POWER POLE

PROPERTY LEGEND

- ▨ EXISTING BUILDING
- ▭ FORMER UST
- FORMER BUILDING
- ▭ FORMER UST
- ▭ APPROXIMATE SUBJECT PROPERTY BOUNDARY

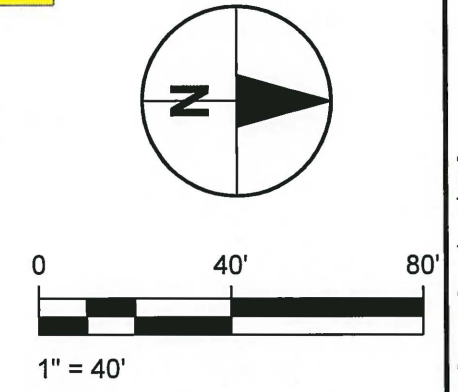
SVE SYSTEM LEGEND

- SVE ● SVE WELL
- SVE PIPE
- ▨ SVE TRAILER
- ESTIMATED 50' RADIUS OF INFLUENCE
- ELECTRIC



EXCEEDANCE LEGEND:

<u>30,700</u>	BOLD WITH UNDERLINED RESULTS INDICATES NON-INDUSTRIAL DIRECT CONTACT RCL's EXCEEDANCE (30,700 mg/kg).
6,160	BOLD RESULTS INDICATES GROUNDWATER PATHWAY RCL EXCEEDANCE (4.5 mg/kg).



SVE SYSTEM LAYOUT
FORMER KRAFT CLEANERS
303-305 SOUTH SECOND AVENUE
WAUSAU, WISCONSIN

Drawn :	DMA 08/2014
Checked:	DWF 08/2014
Approved:	DSS 08/2014
PROJECT NUMBER	60299959
FIGURE NUMBER	1

P:\60299959-WorkingDocs-CAD\910-CAD\20-SHEETS\60299959_SOIL-BORINGS_2015.dwg: 6/28/2015 12:31:25 PM: ARMITAGE, DALE: STS.sib

Table 1
SVE System Information and Discharge Results
Former Kraft Cleaners Site
Wausau Community Development Authority
Wausau, Wisconsin
WDNR BRRTS No. 02-37-000294
AECOM Project No. 60299959

Date	6/16/2014	PPH	6/17/2014	PPH	6/18/2014	PPH	6/25/2014	PPH	7/2/2014	PPH	7/9/2014	PPH	8/7/2014	PPH	9/18/2014	PPH	11/21/2014	PPH	12/12/2014	PPH
Hour Meter	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vacuum #	1.2	NA	1.2	NA	1.2	NA	1.2	NA	1.2	NA	1.2	NA	1.2	NA	2.9	NA	3	NA	3	NA
Discharge (SCFM)	38.0	NA	38.0	NA	38.0	NA	38.0	NA	38.0	NA	38.0	NA	38.0	NA	38.0	NA	38.0	NA	38.0	NA

CVOCs (µg)	Emission Thresholds ¹																				
Tetrachloroethene (PCE)	9.1 ²	197.0	5.6E-03	70	2.0E-03	74	2.1E-03	53	1.5E-03	56	1.6E-03	62.0	1.8E-03	32	9.1E-04	16.2	4.6E-04	3.5	1.0E-04	2.98	8.5E-05
Trichloroethene (TCE)	14.4 ²	2.25 ^J	6.4E-05	<1.875	NA	<1.875	NA	<1.875	NA	<1.875	NA	<1.875	NA	0.27 ^J	7.7E-06	0.225 ^J	7.7E-06	<0.1875	7.7E-06	<0.1875	7.7E-06
1,2-dichloroethene (1,2-DCE) ⁴	42.6 ²	<4.125	NA	<4.125	NA	<4.125	NA	<4.125	NA	<4.125	NA	<4.125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA
Vinyl Chloride	202 ³	<1.05	NA	<1.05	NA	<1.05	NA	<1.05	NA	<1.05	NA	<1.05	NA	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA

Date	2/19/2015	PPH	4/16/2015	PPH	5/4/2015	PPH	5/5/2015	PPH	5/6/2015	PPH	5/18/2015	PPH	5/27/2015	PPH	6/5/2015	PPH	7/23/2015	PPH	8/28/2015	PPH
Hour Meter	NA #	NA	399	NA	450	NA	461	NA	471	NA	596	NA	679	NA	762	NA	1,250	NA	1,594	NA
Vacuum #	1.5	NA	1.5	NA	0.8	NA	0.8	NA	0.8	NA	0.5	NA	0.5	NA	0.5	NA	0.5	NA	0.8	NA
Discharge (SCFM)	120	NA	120	NA	360	NA	360	NA	360	NA	360	NA	360	NA	358	NA	352	NA	390	NA

CVOCs (µg)	Emission Thresholds ¹																				
Tetrachloroethene (PCE)	9.1 ²	0.55 ^J	4.9E-05	0.50 ^J	4.5E-05	2.4	6.5E-04	2.64	7.1E-04	2.36	6.4E-04	2.23	6.0E-04	2.09	6.0E-04	4.00	1.1E-03	4.8	1.3E-03	2.78	8.1E-04
Trichloroethene (TCE)	14.4 ²	<0.1875	2.4E-05	<0.1875	NA	<0.1875	NA	<0.1875	NA	<0.1875	NA	<0.1875	NA	<0.1875	NA	<0.1875	NA	<0.1875	NA	<0.1875	NA
1,2-dichloroethene (1,2-DCE) ⁴	42.6 ²	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA
Vinyl Chloride	202 ³	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA

Date	9/28/2015	PPH	10/28/2015	PPH	12/7/2015	PPH	1/6/2016	PPH	5/11/2016	PPH	6/23/2016	PPH	7/29/2016	PPH	8/23/2016	PPH	9/22/2016	PPH	10/21/2016	PPH	11/18/2016	PPH
Hour Meter	1,901	NA	2,153	NA	2,386	NA	2,677	NA	2,996	NA	3,424	NA	--	NA	4,037	NA	4,337	NA	4,626	NA	4,907	NA
Vacuum #	0.8	NA	1.0	NA	2.6	NA	4	NA	1.8	NA	1	NA	NA	NA	3.5	NA	4.0	NA	4.0	NA	4.2	NA
Discharge (SCFM)	390	NA	381	NA	100	NA	158	NA	273	NA	204	NA	273	NA	232	NA	232	NA	232	NA	213	NA

CVOCs (µg)	Emission Thresholds ¹																						
Tetrachloroethene (PCE)	9.1 ²	2.03	5.9E-04	0.97	2.8E-04	0.73	5.5E-05	0.51 ^J	6.0E-05	0.33 ^J	6.7E-05	1.63	2.5E-04	1.84	3.8E-04	2.09	3.6E-04	1.45	2.5E-04	1.9	3.3E-04	4.7	7.5E-04
Trichloroethene (TCE)	14.4 ²	<0.1875	NA	<0.1875	NA	<0.1875	NA	<0.1875	NA	<0.1875	NA	<0.185	NA	<0.1875	NA	<0.1875	NA	<0.1875	NA	<0.1875	NA	<0.1875	NA
1,2-dichloroethene (1,2-DCE) ⁴	42.6 ²	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA	<0.4125	NA
Vinyl Chloride	202 ³	<0.0105	NA	<0.0105	NA	<0.0105	NA	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA	<0.105	NA

Notes:

The SVE system was expanded from two to six SVE wells in April/May 2015. Operation of the expanded SVE system started on May 4, 2015.

SCFM means Standard Cubic Feet per Minute.

¹ Emission Thresholds for Hazardous Air Contaminants as listed in Table A, Ch. NR 445.07, March 2012. Value is for emissions from stacks less than 25 feet tall.

² Value in pounds per hour based on a 24 hour average.

³ Value in pounds per year based on the Lowest Achievable Emission Rate (LAER), which means the most stringent emission limitation of a hazardous air contaminant in the air pollution regulatory program of any state for this class or category of source.

⁴ Reported value is the combination of *cis* and *trans* 1,2-DCE isomers.

PPH means Pounds per Hour.

means interim SVE system vacuum measured in inches of mercury, permanent SVE system will also be measured in inches of mercury.

Results based on 5 liter sample volume.

^J means estimated value between the Limit of Detection and the Limit of Quantitation.

One pound equals 453,592,370 micrograms.

One cubic foot equals 28.32 liters.

NA means Not Applicable.

NSC means no sample collected.

means a new system was installed in February 2015 and flow and vacuum devices had not been installed. System was run temporarily due to cold.

Table 2
Subslab Pressure Differential Results
Field Documentation
Former Kraft Cleaners Site
Wausau Community Development Authority
Wausau, Wisconsin
WDNR BRRTS No. 02-37-000294
AECOM Project No. 60299959

Sub-Slab Pressure Differential Sampling Point Results and Ambient Air Pressure Readings																											
Address		Test Well		Test Well		110 Clark St.		120 Clark St.				109 Callon St.		113 Callon St.				301 2nd Ave.		109 Callon St.		113 Callon St.		312 First Ave.		308 First Ave.	
Date	Vacuum #	SVE-1	Air	SVE-2	Air	VP-1	Air	VP-2	Air	VP-3	Air	VP-4	Air	VP-5	Air	VP-6	Air	VP-7	Air	VP-8	Air	VP-9	Air	VP-10	Air	VP-11	Air
6/18/20104 *	0.0	-0.025	0.0	-0.018	0.0	-0.005	0.0	0.000	0.0	0.000	0.0	-0.009	0.0	-0.234	0.0	-0.025	0.0	0.000	0.0	0.000	0.0	-0.069	0.0	NRT	NRT	NRT	NRT
6/18/2014	1.5	-1.063	0.0	-1.090	0.0	0.000	0.0	-0.006	0.0	0.000	0.0	-0.055	0.0	-0.271	0.0	-0.042	0.0	-0.008	0.0	0.000	0.0	-0.062	0.0	NRT	NRT	NRT	NRT
6/25/2014	1.2	-1.238	0.0	-1.182	0.0	-0.010	0.0	-0.005	0.0	0.000	0.0	-0.053	0.0	-0.279	0.0	-0.037	0.0	0.000	0.0	0.000	0.0	-0.066	0.0	0.000	0.0	0.000	0.0
7/2/2014	1.2	-1.308	0.0	-1.292	0.0	0.000	0.0	0.000	0.0	0.000	0.0	-0.052	0.0	-0.289	0.0	-0.038	0.0	0.000	0.0	-0.006	0.0	-0.075	0.0	0.000	0.0	0.000	0.0
8/8/2014	1.2	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	-0.283	0.0	-0.032	0.0	NRT	NRT	NRT	NRT	-0.078	0.0	NRT	NRT	NRT	NRT
9/18/2014	2.9	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	-0.339	0.0	-0.050	0.0	NRT	NRT	NRT	NRT	-0.073	0.0	NRT	NRT	NRT	NRT
11/21/2014	3.0	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	-0.259	0.0	-0.041	0.0	NRT	NRT	NRT	NRT	-0.051	0.0	NRT	NRT	NRT	NRT
12/12/2014	3.0	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	-0.268	0.0	-0.041	0.0	NRT	NRT	NRT	NRT	-0.049	0.0	NRT	NRT	NRT	NRT
2/17/2015**		NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	-0.150	0.0	-0.015	0.0	NRT	NRT	NRT	NRT	-0.036	0.0	NRT	NRT	NRT	NRT
4/16/2015	1.5	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	-0.304	0.0	-0.056	0.0	NRT	NRT	NRT	NRT	-0.053	0.0	NRT	NRT	NRT	NRT
5/27/2015	0.5	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	-0.410	0.0	-0.104	0.0	NRT	NRT	NRT	NRT	-0.062	0.0	NRT	NRT	NRT	NRT
6/25/2015	0.5	NRT	NRT	NRT	NRT	-0.259	0.0	-0.365	0.0	-0.042	0.0	-0.219	0.0	NRT	NRT	NRT	NRT	-0.012	0.0	0.000	0.0	NRT	NRT	NRT	NRT	NRT	NRT
7/23/2015	0.5	NRT	NRT	NRT	NRT	-0.259	0.0	-0.361	0.0	-0.061	0.0	-0.232	0.0	-0.427	0.0	-0.077	0.0	-0.189	0.0	0.000	0.0	-0.078	0.0	NRT	NRT	NRT	NRT
8/28/2015	0.8	NRT	NRT	NRT	NRT	-0.275	0.0	-0.351	0.0	-0.054	0.0	-0.237	0.0	-0.421	0.0	-0.078	0.0	-0.047	0.0	0.000	0.0	-0.065	0.0	NRT	NRT	NRT	NRT
9/28/2015	0.8	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	-0.434	0.0	-0.089	0.0	NRT	NRT	NRT	NRT	-0.068	0.0	NRT	NRT	NRT	NRT
12/7/2015	2.6	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	-0.319	0.0	-0.072	0.0	NRT	NRT	NRT	NRT	-0.057	0.0	NRT	NRT	NRT	NRT
3/4/2016	0.0	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	NRT	-0.143	0.0	-0.023	0.0	NRT	NRT	NRT	NRT	-0.045	0.0	NRT	NRT	NRT	NRT

Notes:

Operation of the Vapor Mitigation System at 113 Callon Street started on June 3, 2014.

Operation of the Soil Vapor Extraction system started on June 16, 2014.

Readings obtained using a Test Products International (TPI) digital manometer.

Readings are in inches of water column.

* Reading taken at manifold just before vacuum pump (inches of mercury).

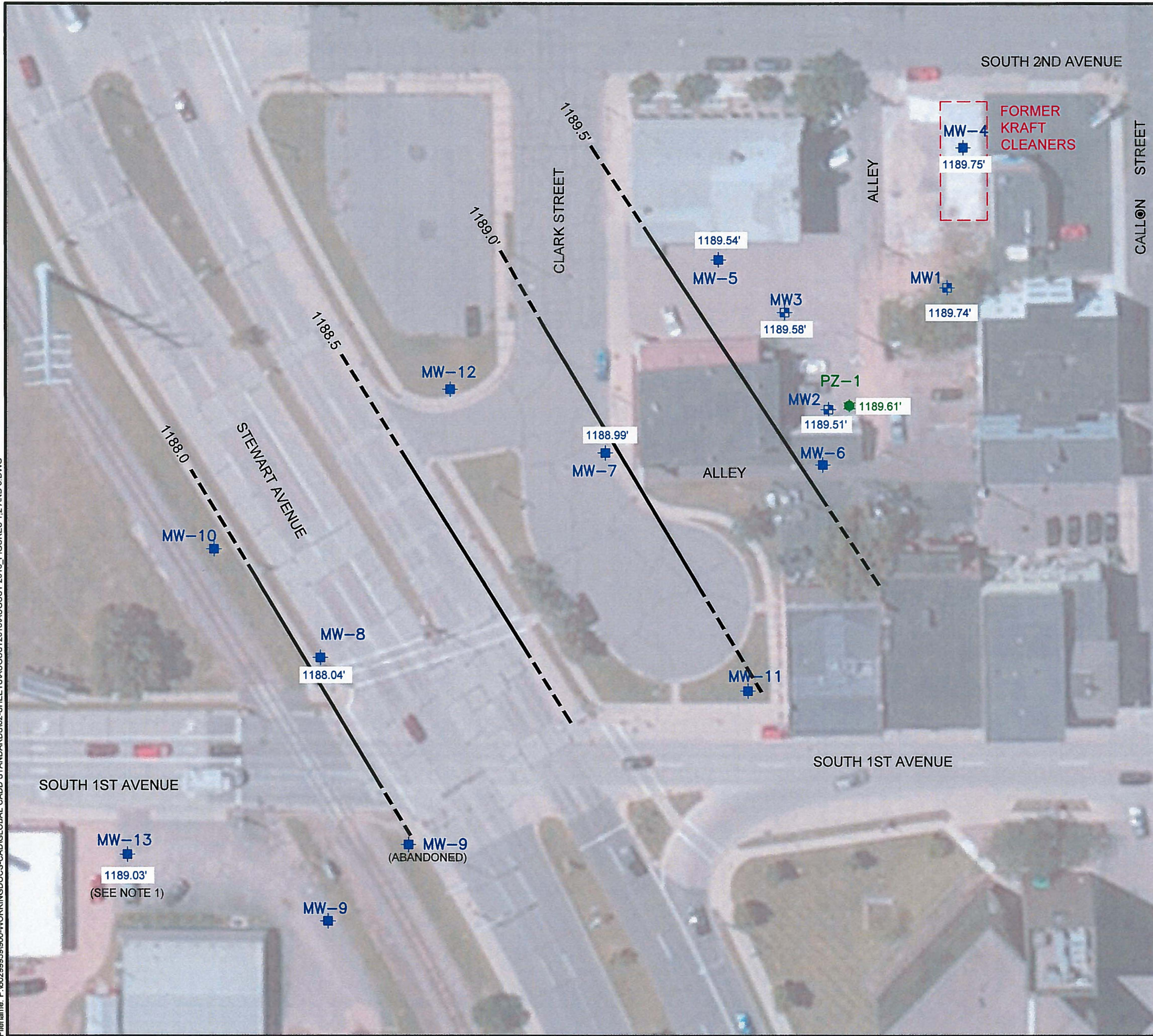
* Readings taken with interrim SVE system off.

NRT means No Reading Taken.

Interim action SVE system started on June 15, 2014.

Interim action SVE system upgraded with silencer on September 5, 2014.

SVE remediation system started on May 4, 2015.



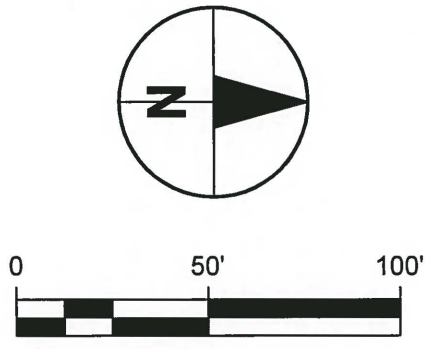
LEGEND

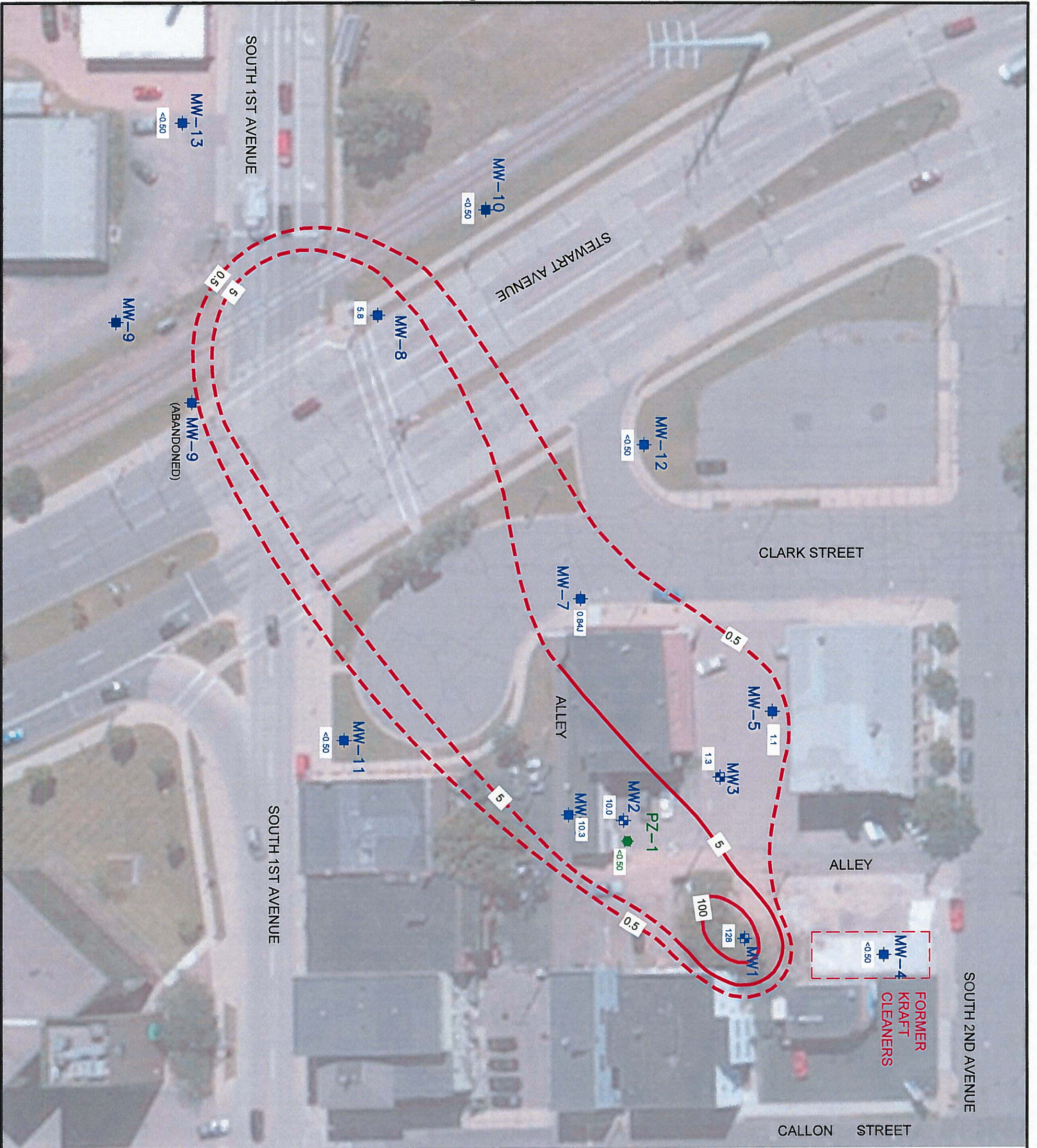
- PIEZOMETER
- GROUNDWATER MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR AND DIRECTION OF FLOW

ELEVATIONS ARE IN FEET

NOTES:

- GROUNDWATER ELEVATIONS APPEAR ANOMALYIS AND WAS NOT USED IN PREPARATION OF THIS FIGURE.





LEGEND

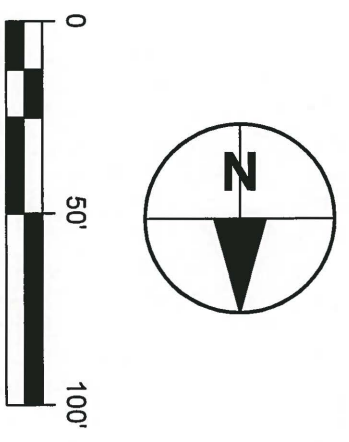
- ◆ PIEZOMETER
- ◆ GROUNDWATER MONITORING WELL
- KNOWN OR INFERRED EXTENT OF PLUME

NOTE:

1. PCE CONCENTRATIONS IN µg/L
2. NR 140 PAL IS 0.5 µg/L
3. NR140 ES IS 5.0 µg/L

ABBREVIATIONS:

J - ESTIMATED CONCENTRATION AT OR ABOVE THE LOD AND BELOW THE LOQ.



PCE ISOCONCENTRATION MAP
 AUGUST 17, 2016

FORMER KRAFT CLEANERS
 303 - 305 SOUTH SECOND AVENUE
 WAUSAU, WISCONSIN

Table 1
Soil Sample Analytical Results
Supplemental Site Investigation - Direct Push Borings
Former Kraft Cleaners
Wausau, Wisconsin
BRRTS # 02-37-000294

Sample ID:			GP-1			GP-2			GP-3			GP-4			GP-5			GP-6	GP-7
Sample Depth (feet):			2.0-4.0	8.0-10.0	14.0-16.0	2.0-4.0	8.0-10.0	14.0-16.0	2.0-4.0	8.0-10.0	14.0-16.0	2.0-4.0	8.0-10.0	16.0-17.0	2.0-4.0	8.0-10.0	14.0-16.0	1.0-3.0	1.0-3.5
Sample Date:			11/25/2013			11/25/2013			11/25/2013			11/25/2013			11/25/2013			11/25/2013	11/25/2013
PID (i.u):			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Analyte	Non-Industrial D-C RCL	RCL-gw	Results																
VOCs (µg/kg)																			
Naphthalene	5,150	658.7	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	43.0 ^J	<25.0	<25.0	<25.0	<25.0	<25.0
Tetrachloroethene (PCE)	30,700	4.5	59.5^J	<25.0	<25.0	159	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	193	<25.0	134
Trichloroethene (TCE)	1,260	3.6	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0

Sample ID:			GP-8	GP-9	GP-10	GP-11	GP-12	GP-13	GP-14			GP-15			GP-16		GP-17	
Sample Depth (feet):			2.0	2.0	2.0	2.5	2.0	2.0	1.5	11.0	18.5	2.0	11.0	19.0	1-2	3-4	1-2	3-4
Sample Date:			2/24/2015	2/24/2015	2/24/2015	2/24/2015	2/24/2015	2/24/2015	2/24/2015			2/24/2015			4/8/2015		4/8/2015	
PID (i.u):			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Analyte	Non-Industrial D-C RCL	RCL-gw	Results															
VOCs (µg/kg)																		
Naphthalene	5,150	658.7	<40.0	<40.0	<40.0	<40.0	66.0 ^J	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0
Tetrachloroethene (PCE)	30,700	4.5	103	<25.0	53.6^J	<25.0	<25.0	<25.0	57.5^J	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Trichloroethene (TCE)	1,260	3.6	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0

Sample ID:			GP-18		GP-19*		GP-20*			GP-21*		MW-10	MW-11	MW-12	MW-13
Sample Depth (feet):			1-2	3-4	1-2	3-4	1-2	3-4	7-8	1-2	3-4	18	15	17.5	20.5
Sample Date:			4/8/2015		4/8/2015		4/8/2015			4/8/2015		1/28/2016	1/28/2016	1/28/2016	1/28/2016
PID (i.u):			0	0	0	0	0	0	0	0	0	0	0	0	0
Analyte	Non-Industrial D-C RCL	RCL-gw	Results												
VOCs (µg/kg)															
Naphthalene	5,150	658.7	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0
Tetrachloroethene (PCE)	30,700	4.5	29.0^J	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Trichloroethene (TCE)	1,260	3.6	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0

Notes:
 Operation of the Vapor Mitigation System at 113 Callon Street started on June 3, 2014.
 Operation of the Soil Vapor Extraction system started on June 16, 2014.
 Analytes listed are those reported above the Limit of Detection (LOD) by the laboratory.
 Non-Industrial D-C RCL refers to the Not-To-Exceed, non-industrial Direct-Contact Residual Contaminant Levels taken from the WDNR's RCLs spreadsheet, updated January 2015.
 RCL-gw refers to the Soil-to-Groundwater Residual Contaminant Level, DF = 2, taken from the WDNR's RCLs spreadsheet, updated January 2015.
Bold result indicates RCL exceedence.
^J means "Estimated concentration below laboratory quantitation level."
 * Soil borings GP-19, GP-20, and GP-21 were sampled for the City of Wausau's S. 2nd Avenue construction project.