State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Remediation Site Operation, Maintenance, Monitoring & Optimization Report

Form 4400-194 (R 07/19)

GENERAL INSTRUCTIONS, PURPOSE AND APPLICABILITY OF THIS FORM:

Completion of the applicable portions of this form is required under Wis. Admin. Code § NR 724.13(3). Failure to submit this form as required is a violation of that rule section and is subject to the penalties in Wis. Stats. § 292.99. This form must be submitted every six months for remediation projects that report operation and maintenance progress, in accordance with Wis. Admin. Code §. NR 724.13(3). A narrative report or letter containing the equivalent information required in this form may be submitted in lieu of the actual form. Submittal of this form is not a substitute for reporting required by department programs such as Waste Water or Air Management.

Notes:

1. Long-term monitoring results submitted in accordance with Wis. Admin. Code § NR 724.17(3) 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 that section of code.
2. Responsible parties should check with the department 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 response.
3. Responsible parties should check with the department Project Manager assigned to the site to determine if any of the information required in this form may be omitted or changed and should obtain prior written approval for any omissions or changes.
4. Responsible parties are required to report separately on a semi-annual basis under Wis. Admin. Code § NR 700.11(1). Reporting under that provision is through an internet-based form. More information can be found at: http://dnr.wi.gov/topic/Brownfields/documents/regs/NR700progreport.pdf.
5. Personally identifiable information on this form is not intended to be used for any other purpose than tracking progress of the remediation by Remediation and Redevelopment Program. 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 (Wis. Stats. §§ 19.31–19.39).

Section GI - General Site Information

A. General Information

1. Site name: Martino's Master Dry Cleaners

2. Reporting period from:	To:	Days in period:
07/01/2019	12/31/2019	184

3. Regulatory agency (enter DNR, DATCP and/or other)	4. BRRTS ID No. (2 digit program-2 digit county-6 digit site specific)
DNR	02-30-552188

5. Site location

Region	County	Address
Southeast Region	Kenosha	7513 41st Avenue

Municipality name ○ City ○ Town ○ Village	Township	Range ◉E ○W	Section	¼	¼ ¼
Kenosha	01 N	22	11	NE	NE

6. Responsible party	7. Consultant
Name: Martino's Master Dry Cleaners	☐ Select if the following information has changed since the last submittal
Mailing address: 7513 41st Avenue, Kenosha, WI 53142	Company name: EnviroForensics, LLC
Phone number: (262) 694-7858	Mailing address: N16W23390 Stone Ridge Drive, Suite G, Waukesha, WI 53188 — Phone number: (262) 290-4001

8. Contaminants: Volatile Organic Compounds (Tetrachloroethene)

9. Soil types (USCS or USDA): SP, CL

10. Hydraulic conductivity(cm/sec):	11. Average linear velocity of groundwater (ft/yr)
0.010	186

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

If yes, give location: Region	County					
Municipality name ○ City ○ Town ○ Village	Township N	Range ○E ○W	Section	¼	¼ ¼

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 attentuation), 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:
   Improvements to the control components and configuration are warranted to prevent intermittent, avoidable system shutdowns.

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: $436,400.00
2. Implementation costs (design, capital and installation costs, excluding investigation costs: $171,800.00
3. Total costs during the previous reporting period: $24,600.00
4. Total costs during this reporting period: $10,000.00
5. Total anticipated costs for the next reporting period: $19,500.00
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:

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
Robert Fedorchak	Senior Engineer
Signature	Date
	01/21/2020

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
Brian Kappen	Project Manager
Signature	Date
	1/21/2020

Scientists:

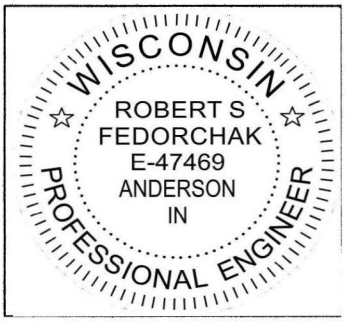
I hereby certify that I am a scientist as that term is defined in s. NR 712.03(3), Wis. Adm. Code, and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm.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

Print name	Title
Signature	Date

Other Persons:

Print name	Title
Signature	Date

Professional Seal(s), if applicable:



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: 2
2. Number of days of operation (only list the number of days the system actually operated, if unknown explain):
   29 days.
3. System utilization in percent (days of operation divided by reporting time period multiplied by 100). If < 80%, explain:
   16%. Downtime was apparently caused by malfunctioning controls causing alarms and cutting power to blower.
4. Average depth to groundwater: 11 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

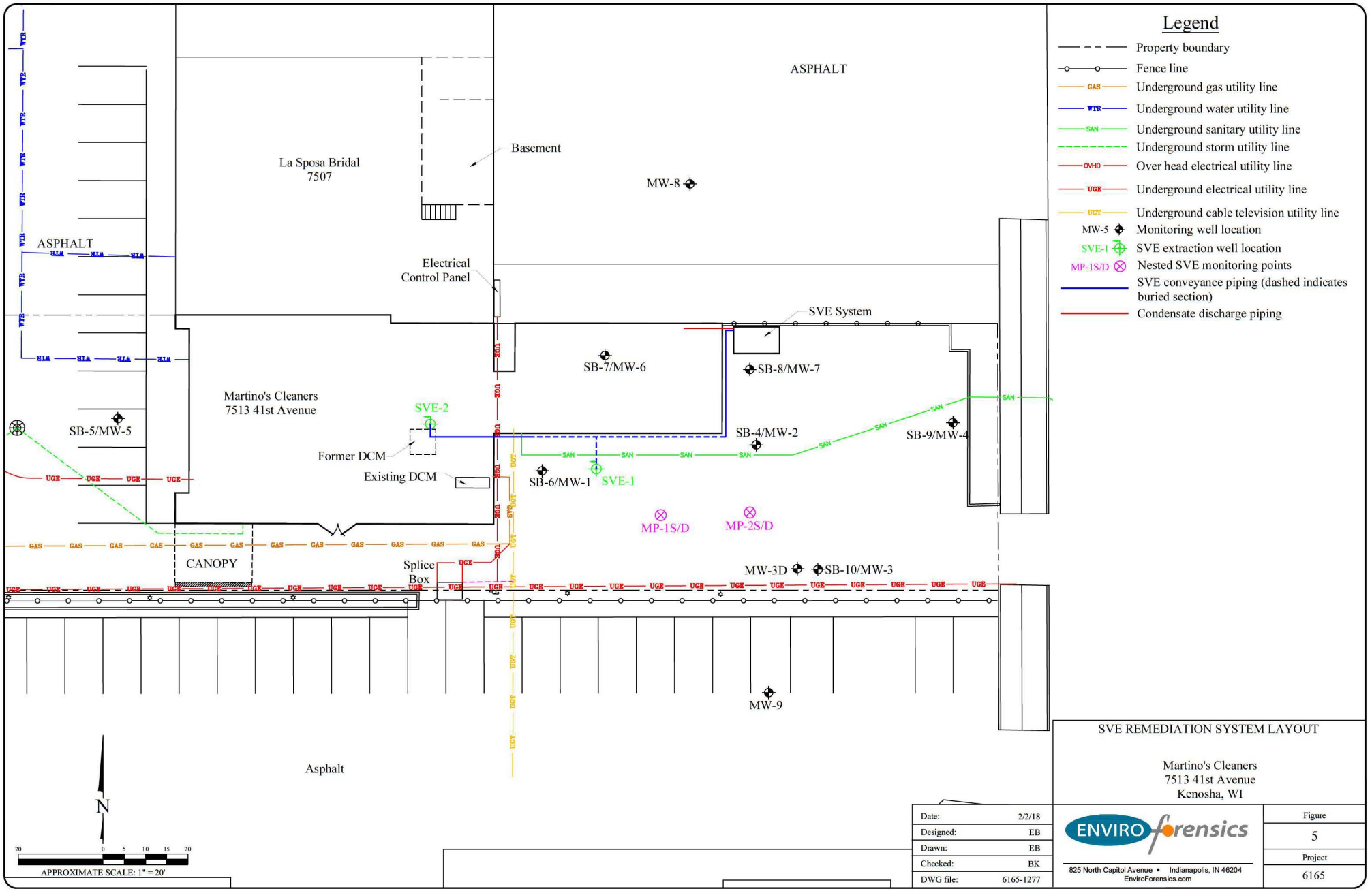
1. Average contaminant removal rate for the entire system: 0.06 pounds per day
2. Average contaminant removal rate per well or venting point: 0.03 pounds per day
3. If the average contaminant removal rate is less than one pound per day for the entire system, or if the average contaminant removal rate 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 (ppm_V) If over 10 ppm_V, explain:
      iii. If methane is not present above 10 ppm_V and if oxygen is greater than 20 percent in extracted air, you should either:
      - Drill confirmation borings during the next reporting period, if the entire site should be considered for closure.
      - 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.



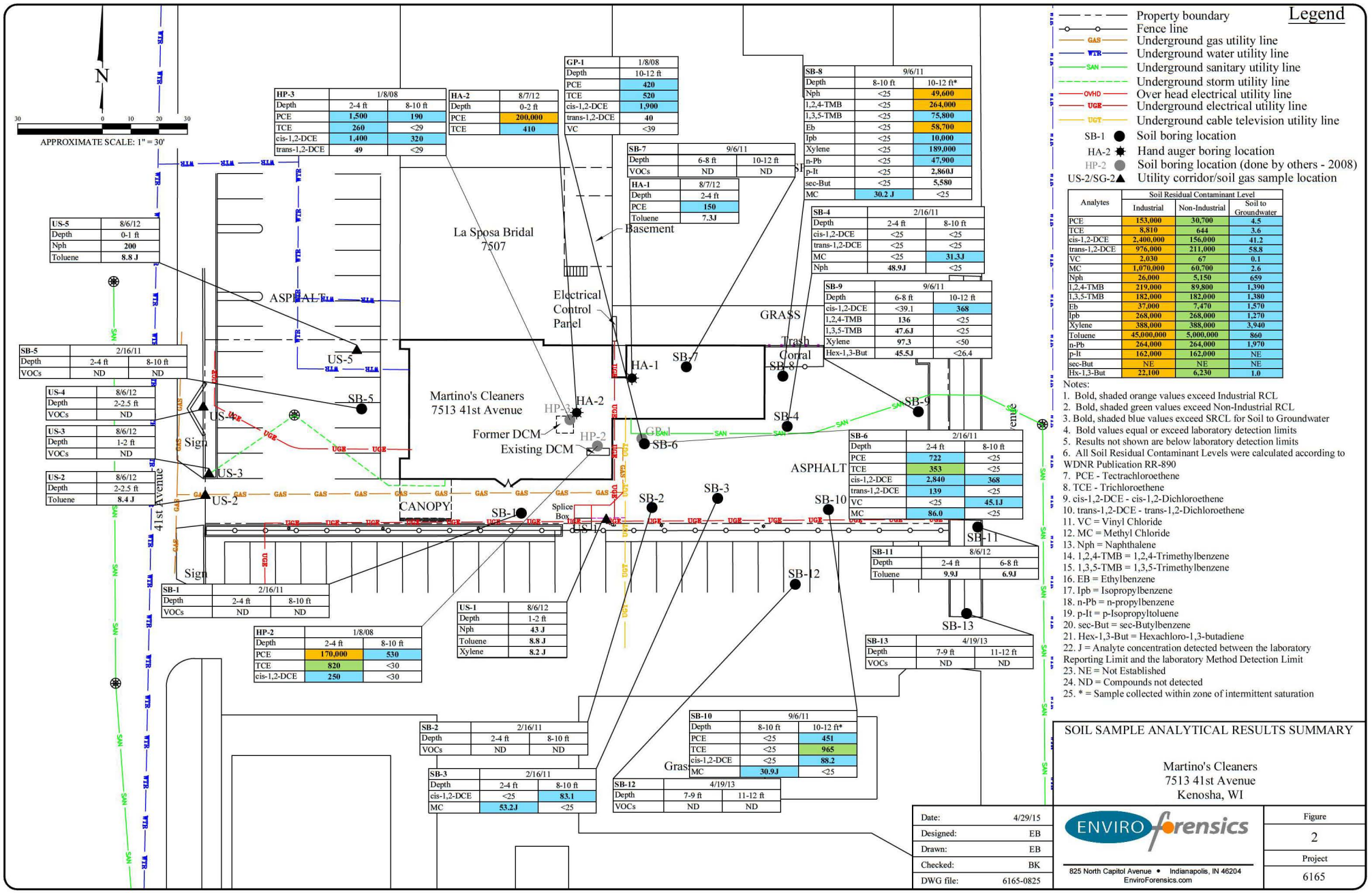
SVE REMEDIATION SYSTEM LAYOUT

Martino's Cleaners
7513 41st Avenue
Kenosha, WI

Date:	2/2/18
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6165-1277

ENVIRO forensics
825 North Capitol Avenue • Indianapolis, IN 46204
EnviroForensics.com

Figure	5
Project	6165



Legend

- Property boundary
- Fence line
- GAS — Underground gas utility line
- WTR — Underground water utility line
- SAN — Underground sanitary utility line
- Underground storm utility line
- OVHD — Over head electrical utility line
- UGE — Underground electrical utility line
- UGT — Underground cable television utility line
- SB-1 — Soil boring location
- HA-2 — Hand auger boring location
- HP-2 — Soil boring location (done by others - 2008)
- US-2/SG-2 — Utility corridor/soil gas sample location

Analytes	Soil Residual Contaminant Level		
	Industrial	Non-Industrial	Soil to Groundwater
PCE	153,000	30,700	4.5
TCE	8,810	644	3.6
cis-1,2-DCE	2,400,000	156,000	41.2
trans-1,2-DCE	976,000	211,000	58.8
VC	2,030	67	0.1
MC	1,070,000	60,700	2.6
Nph	26,000	5,150	659
1,2,4-TMB	219,000	89,800	1,390
1,3,5-TMB	182,000	182,000	1,380
Eb	37,000	7,470	1,570
Ipb	268,000	268,000	1,270
Xylene	388,000	388,000	3,940
Toluene	45,000,000	5,000,000	860
n-Pb	264,000	264,000	1,970
p-It	162,000	162,000	NE
sec-But	NE	NE	NE
Hx-1,3-But	22,100	6,230	1.0

Notes:
1. Bold, shaded orange values exceed Industrial RCL
2. Bold, shaded green values exceed Non-Industrial RCL
3. Bold, shaded blue values exceed SRCL for Soil to Groundwater
4. Bold values equal or exceed laboratory detection limits
5. Results not shown are below laboratory detection limits
6. All Soil Residual Contaminant Levels were calculated according to WDNR Publication RR-890
7. PCE - Tectrachloroethene
8. TCE - Trichloroethene
9. cis-1,2-DCE - cis-1,2-Dichloroethene
10. trans-1,2-DCE - trans-1,2-Dichloroethene
11. VC = Vinyl Chloride
12. MC = Methyl Chloride
13. Nph = Naphthalene
14. 1,2,4-TMB = 1,2,4-Trimethylbenzene
15. 1,3,5-TMB = 1,3,5-Trimethylbenzene
16. EB = Ethylbenzene
17. Ipb = Isopropylbenzene
18. n-Pb = n-propylbenzene
19. p-It = p-Isopropyltoluene
20. sec-But = sec-Butylbenzene
21. Hex-1,3-But = Hexachloro-1,3-butadiene
22. J = Analyte concentration detected between the laboratory Reporting Limit and the laboratory Method Detection Limit
23. NE = Not Established
24. ND = Compounds not detected
25. * = Sample collected within zone of intermittent saturation

SOIL SAMPLE ANALYTICAL RESULTS SUMMARY

Martino's Cleaners
7513 41st Avenue
Kenosha, WI

Date:	4/29/15
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6165-0825

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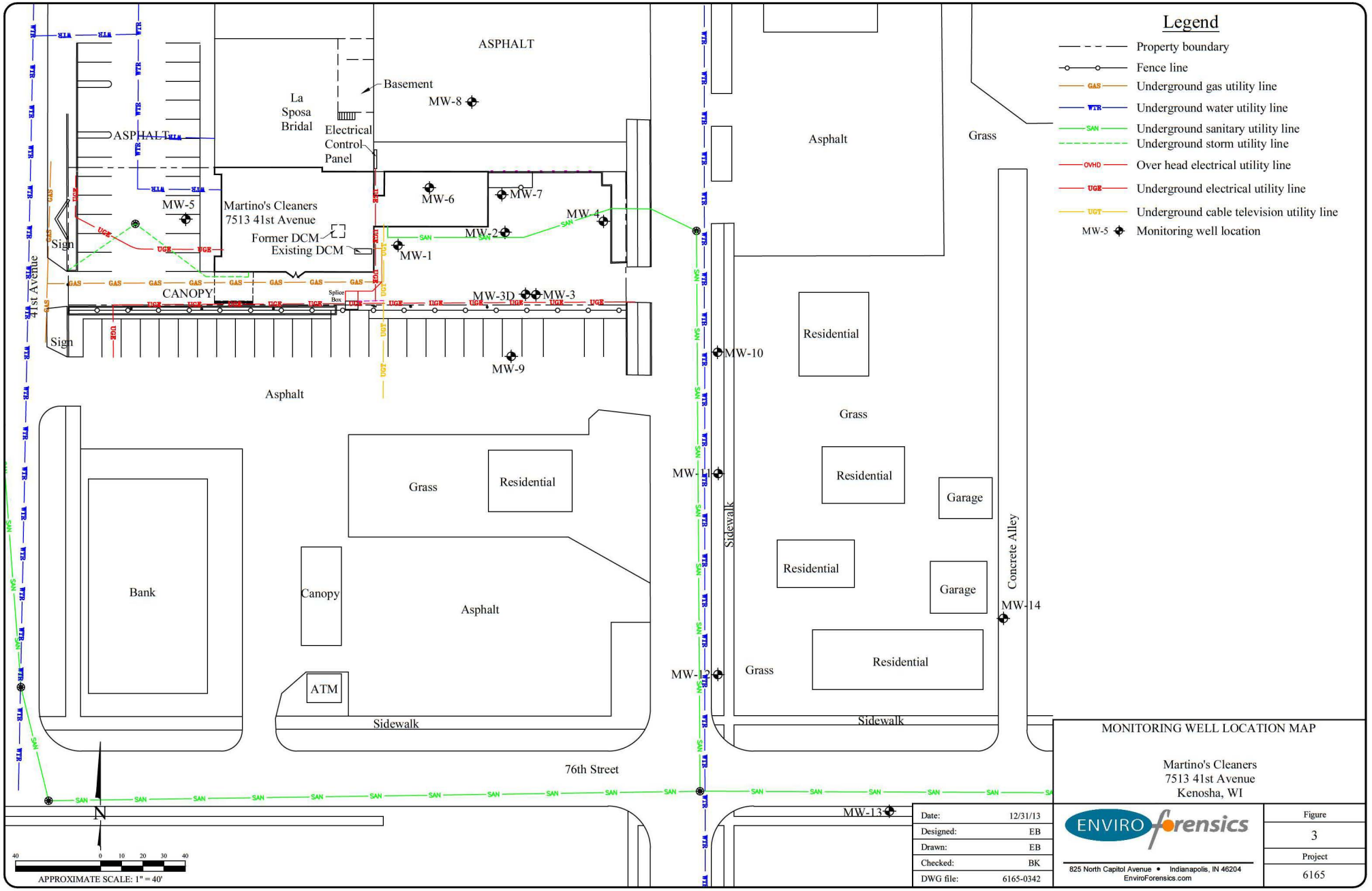
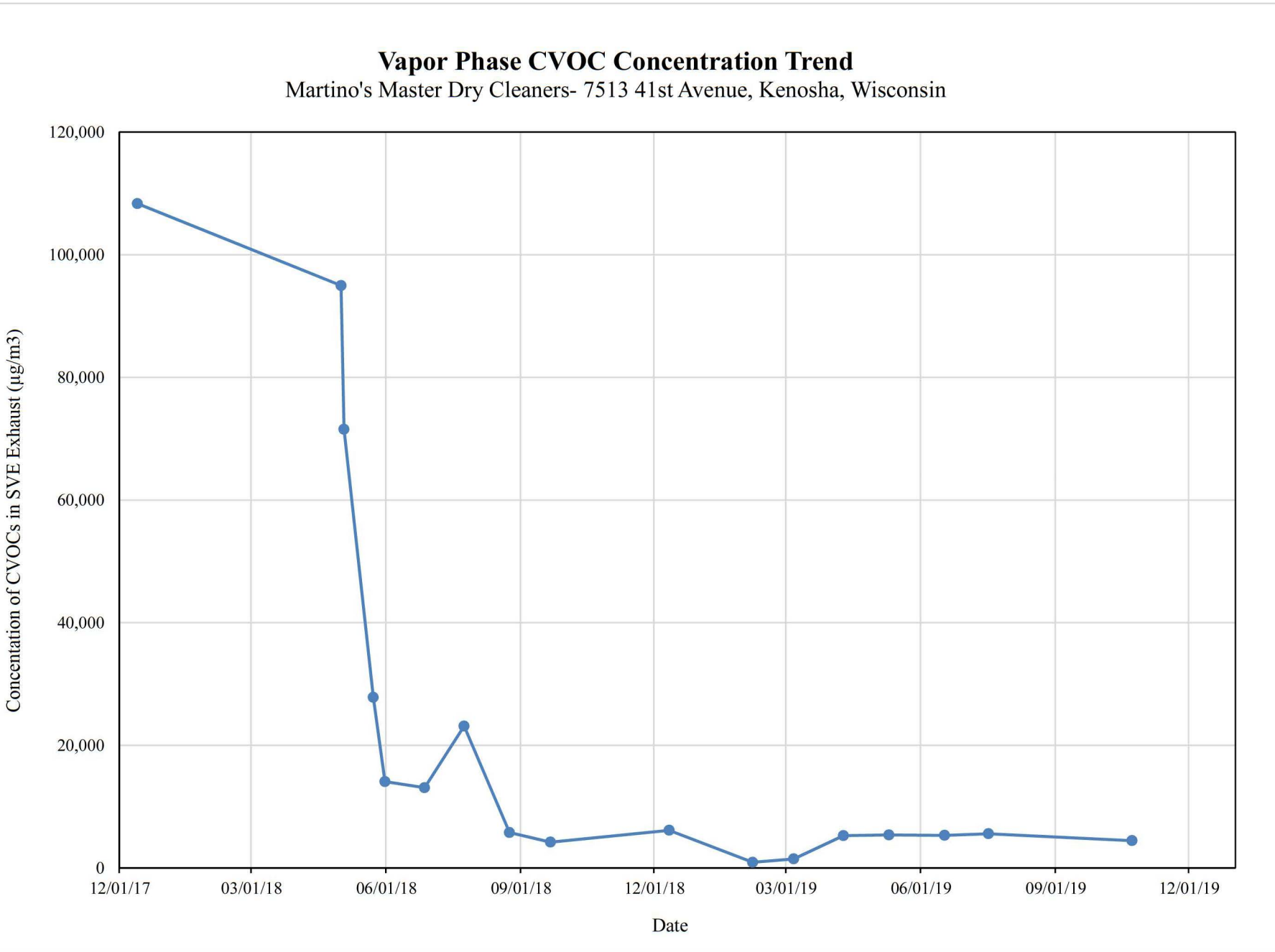
Figure
2
Project
6165


Legend
Property boundary
Fence line
Underground gas utility line
Underground water utility line
Underground sanitary utility line
Underground storm utility line
Over head electrical utility line
Underground electrical utility line
Underground cable television utility line
MW-5 Monitoring well location
ASPHALT
Basement
La Sposa Bridal
MW-8
Electrical Control Panel
ASPHALT
MW-5
Martino's Cleaners
7513 41st Avenue
Former DCM
Existing DCM
MW-6
MW-7
MW-4
MW-2
MW-1
Sign
CANOPY
Splice Box
MW-3D
MW-3
Sign
41st Avenue
MW-9
Asphalt
Asphalt
Grass
Residential
MW-10
Grass
Residential
Garage
Sidewalk
Residential
Garage
Concrete Alley
MW-14
Grass
Residential
Sidewalk
Grass
Residential
Bank
Canopy
Asphalt
ATM
Sidewalk
76th Street
MW-13
N
APPROXIMATE SCALE: 1" = 40'
MONITORING WELL LOCATION MAP
Martino's Cleaners
7513 41st Avenue
Kenosha, WI
Date: 12/31/13
Designed: EB
Drawn: EB
Checked: BK
DWG file: 6165-0342
ENVIRO forensics
825 North Capitol Avenue • Indianapolis, IN 46204
EnviroForensics.com
Figure
3
Project
6165


Vapor Phase CVOC Concentration Trend
Martino's Master Dry Cleaners- 7513 41st Avenue, Kenosha, Wisconsin
Concentation of CVOCs in SVE Exhaust (µg/m3)
120,000
100,000
80,000
60,000
40,000
20,000
0
12/01/17
03/01/18
06/01/18
09/01/18
12/01/18
03/01/19
06/01/19
09/01/19
12/01/19
Date

Cumulative CVOC Mass Removed

Martino's Master Dry Cleaners- 7513 41st Avenue, Kenosha, Wisconsin

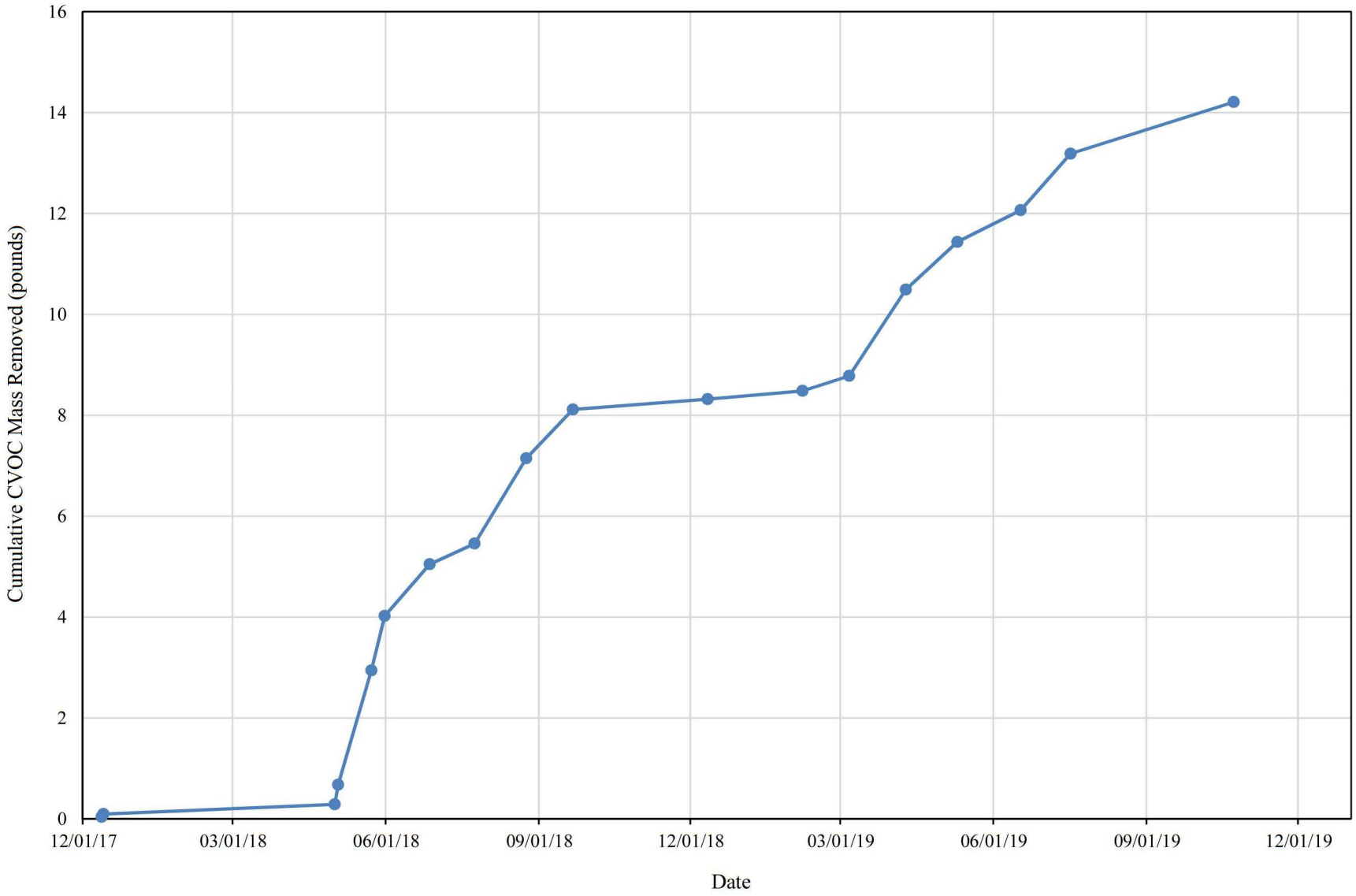


TABLE 1
GROUNDWATER ELEVATION SUMMARY
Martino's Master Drycleaners
7513 41st Avenue, Kenosha, Wisconsin

Well ID	Screened Interval (feet AMSL)	TOC Elevation (feet AMSL)	Date	DTW (feet below TOC)	Groundwater Elevation (feet AMSL)
MW-1	623.9 - 633.9	640.70	9/7/2011	11.28	629.42
			8/8/2012	11.29	629.41
			12/16/2013	11.44	629.26
			3/12/2014	11.33	629.37
			5/28/2014	10.78	629.92
			9/23/2014	11.01	629.69
			11/12/2014	11.21	629.49
			3/18/2015	10.95	629.75
			6/22/2015	10.79	629.91
			9/16/2015	11.19	629.51
			11/30/2015	10.53	630.17
			3/9/2016	10.94	629.76
			6/2/2016	10.80	629.90
			9/27/2016	10.96	629.74
			7/25/2018	10.83	629.87
			2/20/2019	10.61	630.09
			Min	***10.53***	***629.26***
			Max	***11.44***	***630.17***
			Avg	***11.00***	***629.70***
MW-2	623.3 - 633.3	640.06	9/7/2011	10.81	629.25
			8/8/2012	10.82	629.24
			12/16/2013	10.99	629.07
			3/12/2014	10.86	629.20
			5/28/2014	10.37	629.69
			9/23/2014	10.51	629.55
			11/12/2014	10.72	629.34
			3/18/2015	10.50	629.56
			6/22/2015	10.30	629.76
			9/16/2015	10.71	629.35
			11/30/2015	10.09	629.97
			3/9/2016	10.51	629.55
			6/2/2016	10.33	629.73
			9/27/2016	10.53	629.53
			7/25/2018	10.34	629.72
			2/20/2019	10.13	629.93
			Min	***10.09***	***629.07***
			Max	***10.99***	***629.97***
			Avg	***10.53***	***629.53***
MW-3	624.4 - 634.4	640.21	9/7/2011	11.02	629.19
			8/8/2012	11.04	629.17
			12/16/2013	11.24	628.97
			3/12/2014	11.21	629.00
			5/28/2014	10.71	629.50
			9/23/2014	10.82	629.39
			11/12/2014	11.02	629.19
			3/18/2015	10.87	629.34
			6/22/2015	10.66	629.55
			9/16/2015	11.04	629.17
			11/30/2015	10.45	629.76
			3/9/2016	10.88	629.33
			6/2/2016	10.68	629.53
			9/27/2016	10.90	629.31
			7/25/2018	10.70	629.51
			2/20/2019	10.42	629.79
			Min	***10.42***	***628.97***
			Max	***11.24***	***629.79***
			Avg	***10.85***	***629.36***
MW-3D	606.1 - 611.1	640.37	12/16/2013	11.08	629.29
			3/12/2014	11.40	628.97
			5/28/2014	10.94	629.43
			9/23/2014	11.02	629.35
			11/12/2014	11.16	629.21
			3/18/2015	11.31	629.06
			6/22/2015	10.84	629.53
			9/16/2015	11.23	629.14
			11/30/2015	10.76	629.61
			3/9/2016	11.18	629.19
			6/2/2016	10.73	629.64
			9/27/2016	11.00	629.37
			7/25/2018	10.82	629.55
			2/20/2019	10.80	629.57
			Min	***10.73***	***628.97***
			Max	***11.40***	***629.64***
			Avg	***11.02***	***629.33***

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TABLE 1
GROUNDWATER ELEVATION SUMMARY
Martino's Master Drycleaners
7513 41st Avenue, Kenosha, Wisconsin

Well ID	Screened Interval (feet AMSL)	TOC Elevation (feet AMSL)	Date	DTW (feet below TOC)	Groundwater Elevation (feet AMSL)
MW-4	622.7 - 632.7	640.07	9/7/2011	10.98	629.09
			8/8/2012	10.91	629.16
			12/16/2013	11.03	629.04
			3/12/2014	10.93	629.14
			5/28/2014	10.46	629.61
			9/23/2014	10.57	629.50
			11/12/2014	10.79	629.28
			3/18/2015	10.58	629.49
			6/22/2015	10.41	629.66
			9/16/2015	10.78	629.29
			11/30/2015	10.18	629.89
			3/9/2016	10.63	629.44
			6/2/2016	10.24	629.83
			9/27/2016	10.63	629.44
			7/25/2018	10.42	629.65
			2/20/2019	10.22	629.85
			Min	***10.18***	***629.04***
			Max	***11.03***	***629.89***
			Avg	***10.61***	***629.46***
MW-5	623.8 - 633.8	640.33	9/7/2011	10.45	629.88
			8/8/2012	10.38	629.95
			12/16/2013	10.63	629.70
			3/12/2014	10.45	629.88
			5/28/2014	9.82	630.51
			9/23/2014	10.12	630.21
			11/12/2014	10.40	629.93
			3/18/2015	10.06	630.27
			6/22/2015	9.90	630.43
			9/16/2015	10.35	629.98
			11/30/2015	9.56	630.77
			3/9/2016	10.02	630.31
			6/2/2016	9.95	630.38
			9/27/2016	10.16	630.17
			7/25/2018	10.06	630.27
			2/20/2019	9.90	630.43
			Min	***9.56***	***629.70***
			Max	***10.63***	***630.77***
			Avg	***10.14***	***630.19***
MW-6	NA	NA	9/7/2011	11.60	NA
			8/8/2012	11.60	NA
			12/16/2013	11.79	NA
			3/12/2014	11.61	NA
			5/28/2014	11.12	NA
			9/23/2014	11.32	NA
			11/12/2014	11.56	NA
			3/18/2015	11.24	NA
			6/22/2015	11.13	NA
			9/16/2015	11.52	NA
			11/30/2015	10.88	NA
			3/9/2016	11.35	NA
			6/2/2016	11.14	NA
			9/27/2016	11.33	NA
			7/25/2018	11.19	NA
			2/20/2019	10.71	NA
			Min	***10.71***	***NA***
			Max	***11.79***	***NA***
			Avg	***11.32***	***NA***
MW-7	624.1 - 634.1	640.66	9/7/2011	11.40	629.26
			8/8/2012	10.78	629.88
			12/16/2013	11.54	629.12
			3/12/2014	11.41	629.25
			5/28/2014	10.94	629.72
			9/23/2014	10.97	629.69
			11/12/2014	11.30	629.36
			3/18/2015	11.04	629.62
			6/22/2015	10.91	629.75
			9/16/2015	11.28	629.38
			11/30/2016	10.65	630.01
			3/9/2016	11.05	629.61
			6/2/2016	10.93	629.73
			9/27/2016	11.11	629.55
			7/25/2018	10.92	629.74
			2/20/2019	10.72	629.94
			Min	***10.65***	***629.12***
			Max	***11.54***	***630.01***
			Avg	***11.06***	***629.60***

ENVIROforensics®

TABLE 1
GROUNDWATER ELEVATION SUMMARY
Martino's Master Drycleaners
7513 41st Avenue, Kenosha, Wisconsin

Well ID	Screened Interval (feet AMSL)	TOC Elevation (feet AMSL)	Date	DTW (feet below TOC)	Groundwater Elevation (feet AMSL)
MW-8	621.3 - 631.3	638.99	12/16/2013	9.72	629.27
			3/12/2014	9.61	629.38
			5/28/2014	9.17	629.82
			9/23/2014	9.30	629.69
			11/12/2014	9.53	629.46
			3/18/2015	9.25	629.74
			6/22/2015	9.20	629.79
			9/16/2015	9.52	629.47
			11/30/2015	8.93	630.06
			3/9/2016	9.28	629.71
			6/2/2016	9.25	629.74
			9/27/2016	9.39	629.60
			7/25/2018	9.31	629.68
			Min	***8.93***	***629.27***
			Max	***9.72***	***630.06***
			Avg	***9.34***	***629.65***
MW-9	621.9 - 631.9	641.09	12/16/2013	12.16	628.93
			3/12/2014	12.11	628.98
			5/28/2014	11.59	629.50
			9/23/2014	11.73	629.36
			11/12/2014	11.90	629.19
			3/18/2015	11.81	629.28
			6/22/2015	11.59	629.50
			9/16/2015	11.92	629.17
			11/30/2015	11.38	629.71
			3/9/2016	NM	NM
			6/2/2016	11.54	629.55
			9/27/2016	11.79	629.30
			7/25/2018	NM	NM
			Min	***11.38***	***628.93***
			Max	***12.16***	***629.71***
			Avg	***11.77***	***629.32***
MW-10	620.0 - 630.0	640.26	9/23/2014	11.00	629.26
			11/12/2014	11.19	629.07
			3/18/2015	11.12	629.14
			6/22/2015	10.82	629.44
			9/16/2015	11.19	629.07
			11/30/2015	10.63	629.63
			3/9/2016	11.06	629.20
			6/2/2016	10.83	629.43
			9/27/2016	11.07	629.19
			7/25/2018	10.80	629.46
			Min	***10.63***	***629.07***
			Max	***11.19***	***629.63***
			Avg	***10.97***	***629.29***
MW-11	621.3 - 631.3	641.51	9/23/2014	12.37	629.14
			11/12/2014	12.54	628.97
			3/18/2015	12.52	628.99
			6/22/2015	12.20	629.31
			9/16/2015	12.50	629.01
			11/30/2015	12.04	629.47
			3/9/2016	12.46	629.05
			6/2/2016	12.18	629.33
			9/27/2016	12.41	629.10
			7/25/2018	12.18	629.33
			2/20/2019	11.91	629.60
			Min	***11.91***	***628.97***
			Max	***12.54***	***629.60***
			Avg	***12.30***	***629.21***
MW-12	623.1 - 633.1	643.18	9/23/2014	9.36	633.82
			11/12/2014	14.41	628.77
			3/18/2015	14.45	628.73
			6/22/2015	14.15	629.03
			9/16/2015	14.46	628.72
			11/30/2015	14.06	629.12
			3/9/2016	14.38	628.80
			6/2/2016	14.08	629.10
			9/27/2016	14.31	628.87
			7/25/2018	14.29	628.89
			2/20/2019	13.97	629.21
			Min	***13.97***	***628.72***
			Max	***14.46***	***629.21***
			Avg	***14.26***	***628.92***

TABLE 1
GROUNDWATER ELEVATION SUMMARY
Martino's Master Drycleaners
7513 41st Avenue, Kenosha, Wisconsin

Well ID	Screened Interval (feet AMSL)	TOC Elevation (feet AMSL)	Date	DTW (feet below TOC)	Groundwater Elevation (feet AMSL)
MW-13	621.5 - 631.5	642.03	9/23/2014	13.88	628.15
			11/12/2014	13.91	628.12
			3/18/2015	13.96	628.07
			6/22/2015	13.79	628.24
			9/16/2015	13.97	628.06
			11/30/2015	13.80	628.23
			3/9/2016	13.91	628.12
			6/2/2016	13.78	628.25
			9/27/2016	13.87	628.16
			7/25/2018	13.72	628.31
			2/20/2019	13.69	628.34
			Min	***13.69***	***628.06***
			Max	***13.97***	***628.34***
			Avg	***13.84***	***628.19***
MW-14	620.7 - 630.7	640.98	9/23/2014	12.10	628.88
			11/12/2014	12.25	628.73
			3/18/2015	12.24	628.74
			6/22/2015	11.90	629.08
			9/16/2015	12.24	628.74
			11/30/2015	11.79	629.19
			3/9/2016	12.18	628.80
			6/2/2016	11.93	629.05
			9/27/2016	12.11	628.87
			7/25/2018	11.83	629.15
			2/20/2019	11.83	629.15
			Min	***11.79***	***628.73***
			Max	***12.25***	***629.19***
			Avg	***12.04***	***628.94***

Notes:
All values are in feet
AMSL = above mean sea level
DTW = Depth to water
NA = Survey data not available
NM = Not measured
TOC = Top of Casing
Shaded values are anomolous and excluded from statistics

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
Martino's Master Drycleaners
7513 41st Avenue, Kenosha, Wisconsin

Boring Identification	Sample Depth (feet)	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	Benzene	sec-Butylbenzene	n-Butylbenzene	Ethylbenzene	Hexachloro-1, 3-butadiene	Isopropylbenzene (Cumene)	p-Isopropyltoluene	Methylene Chloride	Naphthalene	n-propylbenzene	1,2,4- Trimethylbenzene	1,3,5 - Trimethylbenzene	Xylenes (total)	Toluene
Industrial RCL [1]			**145,000**	**8,410**	**2,340,000**	**1,850,000**	**2,080**	**7,070**	**145,000**	**108,000**	**35,400**	**7,190**	**268,000**	**162,000**	**1,150,000**	**24,100**	**264,000**	**219,000**	**182,000**	**260,000**	**818,000**
Non-Industrial RCL [1]			**33,000**	**1,300**	**156,000**	**1,560,000**	**67**	**1,600**	**145,000**	**108,000**	**8,020**	**1,630**	**268,000**	**162,000**	**61,800**	**5,520**	**264,000**	**219,000**	**182,000**	**260,000**	**818,000**
Soil to Goundwater RCL [1]			**4.5**	**3.6**	**41.2**	**62.6**	**0.1**	**5.1**	**N.E.**	**N.E.**	**1,570**	**N.E.**	**N.E.**	**N.E.**	**2.6**	**658.2**	**N.E.**	**1,382**	**1,382**	**3,960**	**1,107**
GP-1	10-12	1/8/2008	**420**	**520**	**1,900**	**40**	<39	ND	<28	ND	<28	<39	<28	<28	<56	<56	<28	<28	<28	<96	ND
HA-1	2-4	8/7/2012	**150**	<11	<7	<14	<5.9	ND	<8.8	ND	<7.2	<20	<14	<11	<39	<28	<10	<12	<12	<3.9	**7.3 J**
HA-2	0-2	8/7/2012	**200,000**	**410**	<26	<53	<22	ND	<33	ND	<27	<74	<53	<39	<150	<110	<37	<45	<44	<15	<24
HP-2	2-4	1/8/2008	**170,000**	**820**	**250**	<28	<39	ND	<28	ND	<28	<39	<28	<28	<56	<56	<28	<28	<28	<96	ND
	8-10		**530**	<30	<30	<30	<42	ND	<30	ND	<30	<42	<30	<30	<61	<61	<30	<30	<30	<100	ND
HP-3	2-4	1/8/2008	**1,500**	**260**	**1,400**	**49**	<38	ND	<27	ND	<27	<38	<27	<27	<54	<54	<27	<27	<27	<92	ND
	8-10		**190**	<29	**320**	<29	<40	ND	<29	ND	<29	<40	<29	<29	<58	<58	<29	<29	<29	<98	ND
SB-1	2-4	2/16/2011	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
	8-10		< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
SB-2	2-4	2/16/2011	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
	8-10		< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
SB-3	2-4	2/16/2011	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	**53.2 J**	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
	8-10		< 25.0	< 25.0	**83.1**	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
SB-4	2-4	2/16/2011	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	< 25.0	**48.9 J**	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
	8-10		< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	**31.3 J**	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
SB-5	2-4	2/16/2011	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
	8-10		< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
SB-6	2-4	2/16/2011	**722**	**353**	**2,840**	**139**	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	**86.0**	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
	8-10		< 25.0	< 25.0	**368**	< 25.0	**45.1 J**	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
SB-7	6-8	9/6/2011	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
	10-12		< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
SB-8	8-10	9/6/2011	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	**30.2 J**	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
	10-12		<2000	<2000	<2000	<2000	<2000	<2000	**5,580**	<3230	**58,700**	<26.4	**10,000**	**2,860 J**	<2000	**49,600**	**47,900**	**264,000**	**75,800**	**189,000**	<2,000
SB-9	6-8	9/6/2011	<39.1	<39.1	<39.1	<39.1	<39.1	<39.1	<39.1	<63.1	<39.1	**45.5 J**	<39.1	<39.1	<39.1	<39.1	<39.1	**136**	**47.6 J**	**97.3**	<39.1
	10-12		< 25.0	< 25.0	**368**	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	<26.4	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
SB-10	8-10	9/6/2011	<26.0	<26.0	<26.0	<26.0	<26.0	<26.0	<26.0	<42.1	<26.0	< 27.5	<26.0	<26.0	**30.9 J**	<26.0	<26.0	<26.0	<26.0	< 52.1	< 26.0
	10-12		**451**	**965**	**88.2**	< 25.0	< 25.0	<25.0	< 25.0	<40.4	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 50.0	< 25.0
SB-11	2-4	8/6/2012	<9.7	<11	<7.1	<14	<6	<4.3	<8.9	<7.5	<7.3	<20	<15	<11	<40	<29	<10	<12	<12	<4	**9.9 J**
	6-8		<8.3	<9.3	<6.1	<12	<3.4	<3.7	<7.7	<6.4	<6.3	<17	<13	<9.2	<34	<25	<8.7	<11	<10	<3.4	**6.9 J**
SB-12	7-9	4/19/2013	<10	<12	<7.7	<16	<6.5	<4.6	<9.6	<8.1	<7.9	<22	<16	<12	<43	<31	<11	<13	<13	<4.3	<7.2
	11-12		<12	<13	<8.5	<17	<7.2	<5.1	<11	<8.9	<8.7	<24	<17	<13	<47	<34	<12	<15	<14	<4.7	<7.9
SB-13	7-9	4/19/2013	<13	<15	<9.7	<20	<8.2	<5.8	<12	<10	<9.9	<27	<20	<15	<54	<39	<14	<17	<16	<5.4	<9.0
	11-12		<11	<12	<7.8	<16	<6.6	<4.7	<9.8	<8.2	<8.0	<22	<16	<12	<44	<31	<11	<13	<13	<4.4	<7.3
MW-8	7	12/2/2013	<49	<28	<24	<29	<21	**390**	**153**	**410**	**760**	<95	**570**	**62 J**	<57	<114	**2,200**	**8,600**	**3,010**	**43 J**	**9,234**

Notes:

[1] Residual Contaminant Levels calculated according to the procedures described in WDNR Publication RR-890

All concentrations reported in micrograms per kilogram µg/kg

Bolded values are above Laboratory Detection Limits

Bolded and Orange Shaded value indicates an exceedance of the Industrial Residual Contaminant Level

Bolded and Green Shaded value indicates an exceedance of the Non-Industrial Residual Contaminant Level

Bolded and Blue Shaded value indicates an exceedance of the Soil to Groundwater Residual Contaminant Level

Samples analyzed using EPA SW-846 Method 8260

J = Estimated concentration between the Method Detection Limit and the Reporting Limit

N.E. = Not Established

RCL = Residual Contaminant Level

ND = Compound not detected. Data not available to EnviroForensics.

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TABLE 3
SOIL VAPOR EXTRACTION SYSTEM OPERATIONAL DATA
Martino's Master Dry Cleaners
7513 41st Ave, Kenosha, Wisconsin

Date	Time	System Runtime	VFD Setting	System Vacuum	Influent Flow Rate	Flow Rate	Effluent CVOC Concentration	Pre-Filter Vacuum	Post-Filter Vacuum	Exhaust Temperature	Dilution	Flow Meter Reading *	Water Volume Discharged
		Hours	Hertz	inHg	fpm	scfm	µg/m^3	inHg		°F	(%)	Gallons	Gallons
12/13/2017	1819	2	48	-14.0	3,015	71	108,343	-16.0	-17.0	135	0	--	0
5/1/2018	1625	6	40	-11.0	4,920	136	94,974	-16.0	-15.0	145	10	--	0
5/2/2018	1455	7	40	-11.0	4,780	134	NS	-15.0	-12.0	135	25	--	0
5/3/2018	1110	15	40	-8.0	4,910	161	71,549	--	--	130	25	--	0
5/16/2018	1538	15	38	-8.0	4,710	164	NS	-9.0	-9.0	95	25	--	0
5/17/2018	1400	36	30	-6.0	4,140	152	NS	-7.0	-7.0	115	50	--	0
5/18/2018	1040	56	30	-5.0	3,950	150	NS	-5.3	-5.0	120	50	--	0
5/23/2018	845	175	30	-5.5	3,690	136	27,820	-5.5	-5.5	124	50	--	0
5/31/2018	835	367	30	-5.0	2,790	107	14,095	-5.0	-5.0	115	50	--	0
6/4/2018	1346	367	30	-5.0	4,060	155	NS	--	--	115	50	--	0
6/27/2018	1353	553	30	-6.0	3,140	112	13,097	-7.0	-7.0	130	50	--	0
7/24/2018	1610	610	30	-8.0	2,530	83	23,147	-6.0	-6.0	130	15	--	0
8/24/2018	815	1,343	30	-8.0	3,220	106	5,791	3.5	3.0	125	30	--	0
9/4/2018	1120	1,354	30	-6.0	3,054	114	NS	-8.0	-7.0	105	40	--	0
9/21/2018	1325	1,764	30	-6.0	4,068	145	4,226	-6.0	-6.0	130	50	--	0
11/30/2018	1732	1,764	32	-8.5	4,160	148	NS	-8.5	-8.5	70	35	--	185
12/6/2018	1007	1,802	32	-8.0	3,570	123	NS	-9.0	-8.0	100	40	--	130
12/11/2018	754	1,831	32	-8.0	3,670	132	6,154	-8.0	-8.0	75	50	--	140
1/7/2019	1316	1,997	32	-7.5	5,057	182	NS	-9.5	-9.0	90	45	--	0
1/24/2019	1135	2,001	32	-9.0	4,886	162	NS	-9.0	-9.5	95	20	--	0
2/6/2019	955	2,174	32	-8.2	4,030	136	937	-8.8	-8.6	109	35	--	270
3/6/2019	1217	2,582	32	-7.5	3,830	130	1,490	-9.5	-9.0	120	55	--	0
4/9/2019	1534	3,095	32	-6.0	4,681	169	5,282	-9.0	-8.5	125	50	--	260
5/10/2019	1210	3,670	40	-12.0	3,140	81	5,396	-15.0	-15.5	150	30	4,977	4,977
6/17/2019	1215	4,004	40	-11.0	3,332	94	5,332	-14.0	-14.0	130	25	8,020	3,043
7/1/2019	1510	4,343	40	-12.0	--	--	NS	--	--	--	25	1,082	3,062
7/17/2019	1114	4,586	40	-11.0	3,376	92	5,589	-12.0	-12.0	152	25	3,118	2,036
8/16/2019	1340	4,653	40	-11.0	--	166	NS	-12.5	-12.7	150	25	3,609	491
10/23/2019	1533	4,955	45	-8.0	5,147	166	4,468	-9.8	-10.0	140	25	4,749	1,140
11/14/2019	1220	5,043	45	-9.2	5,410	170	NS	-9.8	-10.2	121	50	5,115	366

Notes:
-- = Reading not recorded
* Flow meter resets at 9,999 gallons
inHg = inches of mercury
scfm = standard cubic feet per minute
µg/m^3 = micrograms per cubic meter
NS = No sample collected

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