

From: Ken Ebbott
To: [DuFresne, Kristin I - DNR](#); [Jim Mohr \(jmohr5@new.rr.com\)](#)
Cc: [Ken Ebbott](#); [Dillon Plamann](#)
Subject: Tidy Cleaners Update
Date: Friday, August 25, 2017 2:21:00 PM
Attachments: [TBL 1 8.23.17 Water Table Elevation.pdf](#)
[TBL 3 8.23.17 GW VOC Results.pdf](#)
[Tidy Cleaners 9 21 11 Initial Soil GW Chem.pdf](#)

Kristin,

You requested an update on the status for Tidy. We agreed to get a sample from the site monitoring wells, and complete that in August.

The results are back, and we have tabulated (attached) but not yet mapped the results. I've attached a map showing the soil and groundwater results from previous submittals.

The results are encouraging, and we'll work up a data report with a recommendation in the next few weeks.

Here are some highlights -

- Groundwater flow still from west to east, toward the river.
- Water level at the piezometer rose about 13 feet since 2011, from 27' below grade all the way up to about 14 feet below grade. This shows that the deeper formation is very tight- the water levels in the piezometer that were obtained over a time span of 2.5 months in 2011 were still not likely stable, now that we know the water level rises as high as very slow for water levels to stabilize - at least months. Still have downward vertical gradients from MW-6 (4' to water) to PZ-5 (14 feet to water).
- Groundwater chemistry from piezometer still clean- no downward vertical migration apparent at that well nest.
- Groundwater chemistry at the upgradient well dropped about 10X - from 83 to 9 ppb for PCE. Likely shows extent defined to the west (upgradient) direction, and don't need a well to the west of MW-6.
- Groundwater chemistry at well MW-8 same as previous, and only 0.83 ug/l, so call it defined in groundwater to the northwest.
- Source area is from Drycleaning Machine and under building east of the DCM - soil and groundwater levels highest there.
- Downgradient GW chemistry dropped a little from 2011 to 2017 - from about 40 ppb to 35 ppb.

More later, but progress is being made.

Thanks,

Ken

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TABLE 1
GROUNDWATER ELEVATION DATA
Tidy Cleaners, 818 S. Broadway, Green Bay, WI

Well Identification	PZ-5	MW-6	MW-7	MW-8
Top of Casing Elevation (ft. MSL)	585.33	585.67	585.79	586.48
Ground Surface Elevation (ft. MSL)	585.72	585.93	586.18	586.77
Stickup (feet)	-0.39	-0.26	-0.39	-0.29
Screened Interval (ft. MSL)	555.40 - 560.40	571.45 - 581.45	571.87 - 581.87	572.46 - 582.46
Total Depth (feet below grade)	-30.3	-14.5	-14.3	-14.3

Sample Date	PZ-5			MW-6			MW-7		
	Depth to Water (ft below TOC)	Depth to Water (ft below grade)	Groundwater Elev. (ft. MSL)	Depth to Water (ft below TOC)	Depth to Water (ft below grade)	Groundwater Elev. (ft. MSL)	Depth to Water (ft below TOC)	Depth to Water (ft below grade)	Groundwater Elev. (ft. MSL)
8/2/2011	29.35	29.74	555.98	3.29	3.55	582.38	3.16	3.55	582.63
10/17/2011	26.73	27.12	558.60	3.56	3.82	582.11	4.90	5.29	580.89
8/10/2017	14.20	14.59	571.13	3.46	3.72	582.21	5.00	5.39	580.79

Sample Date	MW-8		
	Depth to Water (ft below TOC)	Depth to Water (ft below grade)	Groundwater Elev. (ft. MSL)
8/2/2011	4.57	4.86	581.91
10/17/2011	4.76	5.05	581.72
8/10/2017	5.00	5.29	581.48

Hydrant NW Corner 4th and Broadway, Tag Bolt on Flange

Notes: ft. MSL = elevation in relation to mean sea level

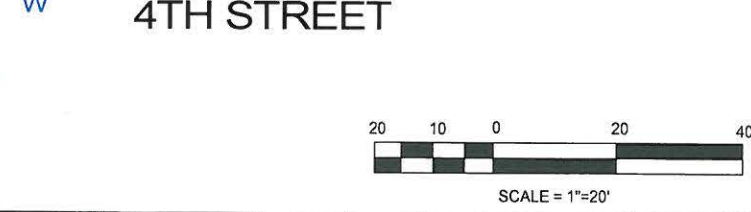
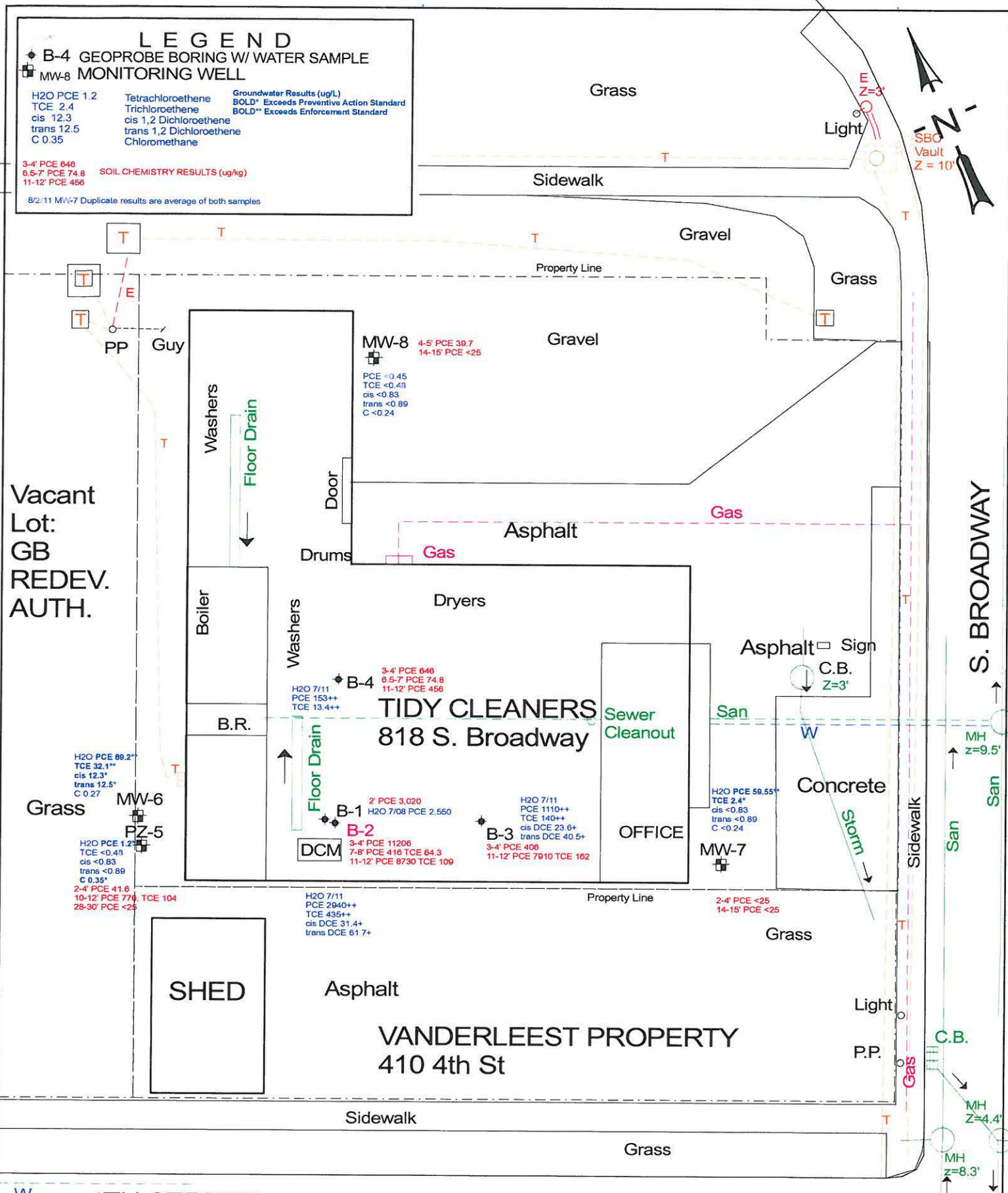
TABLE 3
GROUNDWATER ANALYTICAL RESULTS - DETECTED VOC PARAMETERS
Tidy Cleaners, 818 S. Broadway, Green Bay, WI

Sample ID	Sample Date	Water Elevation (ft msl)	Methylene Chloride (ug/l)	Chloro methane (ug/l)	PCE (ug/l)	TCE (ug/l)	cis 1,2 DCE (ug/l)	trans 1,2 DCE (ug/l)	VC (ug/l)
B-1	07/01/08				2,550				
B-2	7/14/2011		<8.6	<4.8	2,940	435	31.4	61.7	<3.6
B-3	7/14/2011		<2.2	<1.2	1,110	140	23.6	40.5	<0.90
B-4	7/13/2011		1.2J	<0.48	153	13.4	<1.7	<1.8	<0.36
PZ-5	8/2/2011	555.98	<0.43	0.35J	1.2	<0.48	<0.83	<0.89	<0.18
PZ-5	10/17/2011	558.60	<0.43	<0.24	<0.45	<0.48	<0.83	<0.89	<0.18
PZ-5	8/10/2017	571.13	<0.23	<0.50	<0.50	<0.33	<0.26	<0.26	<0.18
MW-6	8/2/2011	582.38	<0.43	0.27J	89.2	32.1	12.3	12.5	<0.18
MW-6	10/17/2011	582.11	<0.43	<0.24	83.4	16.8	9.0	7.1	<0.18
MW-6	8/10/2017	582.21	<0.23	<0.50	9.2	3.6	2.7	1.8	<0.18
MW-7	8/2/2011	582.63	<0.43	<0.24	60.7	2.4	<0.83	<0.89	<0.18
MW-7 Dup	8/2/2011		<0.43	<0.24	58.4	2.4	<0.83	<0.89	<0.18
MW-7	10/17/2011	580.89	<0.43	<0.24	39.0	1.0	<0.83	<0.89	<0.18
MW-7	8/10/2017	580.79	<0.23	<0.50	35.4	0.96 J	<0.26	<0.26	<0.18
MW-8	8/2/2011	581.91	<0.43	<0.24	<0.45	<0.48	<0.83	<0.89	<0.18
MW-8	10/17/2011	581.72	<0.43	<0.24	0.67 J	<0.48	<0.83	<0.89	<0.18
MW-8 Dup	10/17/2011		<0.43	<0.24	0.89J	<0.48	<0.83	<0.89	<0.18
MW-8	8/10/2017	581.48	<0.23	<0.50	0.83 J	<0.33	<0.26	<0.26	<0.18
Trip Blank	7/13/2011		0.86J	<0.24	<0.45	<0.48	<0.83	<0.89	<0.18
Trip Blank	10/17/2011		2.1	<0.24	<0.45	<0.48	<0.83	<0.89	<0.18
Trip Blank	8/10/2017		<0.23	<0.50	<0.50	<0.33	<0.26	<0.26	<0.18
NR 140.10 Preventive Action Limit			0.5	3.0	0.5	0.5	7	20	0.02
NR 140.10 Enforcement Standard			5	30	5	5	70	100	0.2

Notes: PCE = Tetrachloroethene
TCE= Trichloroethene
DCE = Dichloroethene
VC = Vinyl Chloride
NA= Not analyzed for parameter
BOLD value exceeds NR 140 Preventive Action Limit (PAL)
BOLD and Boxed value indicates exceedance of NR 140.10 Enforcement Standard (ES)
J = Estimated concentration above

LEGEND

- ◆ B-4 GEOPROBE BORING W/ WATER SAMPLE
 - ⊕ MW-8 MONITORING WELL
- | | | |
|-------------|--------------------------|--|
| H2O PCE 1.2 | Tetrachloroethene | Groundwater Results (ug/L) |
| TCE 2.4 | Trichloroethene | BOLD* Exceeds Preventive Action Standard |
| cis 12.3 | cis 1,2 Dichloroethene | BOLD** Exceeds Enforcement Standard |
| trans 12.5 | trans 1,2 Dichloroethene | |
| C 0.35 | Chloromethane | |
-
- | | |
|-----------------|--------------------------------|
| 3-4' PCE 646 | SOIL CHEMISTRY RESULTS (ug/kg) |
| 6.5-7' PCE 74.8 | |
| 11-12' PCE 456 | |
- 8/2/11 MW-7 Duplicate results are average of both samples



TITLE: Chemistry Results August 2, 2011		 ALPHA TERRA SCIENCE	
SITE: Tidy Cleaners			
SCALE: 1"=20'	DESCRIPTION: Green Bay, WI	DATE: 9/21/11	FILE CODE: base map.skf
DRAWN BY: KAE		FIGURE 2	