

From: Brian Youngwirth <byoungwirth@generalengineering.net>
Sent: Sunday, August 4, 2019 10:56 AM
To: Krueger, Sarah E - DNR
Subject: Susie's Restaurant
Attachments: Groundwater Analytical Table.xls; Vapor Testing.xls; Boring Logs.pdf; Preliminary Locations.pdf

Sarah attached are the groundwater tables, vapor testing tables, borings logs, and a map with the preliminary test locations.

I have done what I can on the estimate, below are the questions that I have thus far.

1. In the restaurant, I will look for a sump and sample it if present. I can take some pictures but will have to get a price from a subcontractor for sealing it at a later date.
2. You did not request another sub-slab sample from the restaurant where the exceedance was, do we want another sub-slab at the restaurant too?
3. Do I need to abandon any of the sub-slab points or should they all remain after the second sampling round?
4. Since additional work may happen out here (borings, wells, vapor tests, etc) do you want CAD costs to do an actual CAD map of all these properties, streets, etc?
5. Since we are going to perform 24 hour ambient air tests at the residence, could we also perform 24 hour (instead of 8 hour) tests at the restaurant, otherwise I will have to make multiple separate trips back to the site, which I am not sure that I can do on Tuesday. I could still perform all of the testing by Thursday either way.

Please contact me Monday morning to discuss these and I will finish the estimate and get it to you.

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Project Name: Susie's Restaurant

Project No: 2-0519-258

Logged By: By

Address: 1020 S. 26th Street

City: Manitowoc County: Manitowoc

Boring No: GP-1/MW-1

Drilling Comp.: On-Site Environmental Services

Drillers: Gage Karpus

Date Started: 7/17/19

Date Ended: 7/17/19

Diameter: 2

Type: Probe/ITSA

Sample NO	Blow Counts	PID	odor	depth	Description	Lab Sample
					Gravel	
1		0	N	0-1	Dark Brown Silt, trace gravel (Fill), moist	
		0	N	1-5	Light Brown Sand, trace silt & gravel, moist	
2		0	N	5-7	Same	A
2		0	N	7-7.5	Light Brown Sand with gravel, wet	
2		0	N	7.5-10	Reddish Brown Silty Clay, wet	
3		0	N	10-14	Same	
3		0	N	14-15	Grayish Brown Silt, wet	
Augers Advanced From Surface To 14 Feet						

Boring Depth 14
Fine sand —

Filter Pack 3 #40 Red Flint
Top of screen 4

Well bottom 14
Manufacturer Johnson

Material 3/8" chips
Slot size 10

Project Name: Susie's Restaurant

Project No: 2-0519-258

Logged By: BY

Address: 1020 S. 26th Street

City: Manitowoc County: Manitowoc

Boring No: GP-2/MW-2

Drilling Comp.: On-Site Environmental Services

Drillers: Gage Kopusi

Date Started: 7/17/19

Date Ended: 7/17/19

Diameter: 2

Type: Probe/HSA

Sample NO	Blow Counts	PID	odor	depth	Description	Lab Sample
					Gravel	
1		0	N	0-1	Brown and orangish Brown Sand w/ Gravel (Fill); moist	
		0	N	1-5	Orangish Brown Sand, Trace silt & Gravel, moist	
2		0	N	5-7	Same	★
2		0	N	7-8	Orangish Brown Sand with Gravel, moist to wet	
2		0	N	8-10	Reddish Brown Silty Clay, wet	
3		0	N	10-14	Same	
3		0	N	14-15	Grayish Brown Clayey Silt, wet	
Augers Advanced From Surface to 14 Foot						

Boring Depth 14
Fine sand —

Filter Pack 3 #40 Red Flint
Top of screen 4

Well bottom 14
Manufacturer Johnson

Material 3/8" chips
Slot size 10

TABLE 1
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
SUSIE'S RESTAURANT
GEC PROJECT #2-0519-258

Monitoring Well	NR 140		MW-1	MW-2
Sampling Date	ES	PAL	7/17/2019	7/17/2019
<i>VOLATILE ORGANIC COMPOUNDS (VOC) (µg/L)</i>				
Benzene	5	0.5	<0.22	<0.22
1,2 Dichloroethane	5	0.5	<0.25	<0.25
cis 1,2 Dichloroethene	70	7	<0.37	<0.37
trans 1,2 Dichloroethene	100	20	<0.34	<0.34
Ethylbenzene	700	140	<0.26	<0.26
Methyl tert-butyl ether	60	12	<0.28	<0.28
Tetrachloroethene	5	0.5	<0.38	<0.38
Toluene	800	160	<0.19	<0.19
Trichloroethene	5	0.5	<0.3	<0.3
1,2,4-Trimethylbenzene	480	96	<0.8	<0.8
1,3,5-Trimethylbenzene			<0.63	<0.63
Vinyl Chloride	0.2	0.02	<0.2	<0.2
Xylenes, o	2000	400	<0.43	<0.43
Xylenes, -m, -p			<0.29	<0.29

NE = NR 140 ES not established

J = Analyte detected above laboratory limit of detection but below limit of quantitation.


Italics indicated analytical results above NR 140 PAL

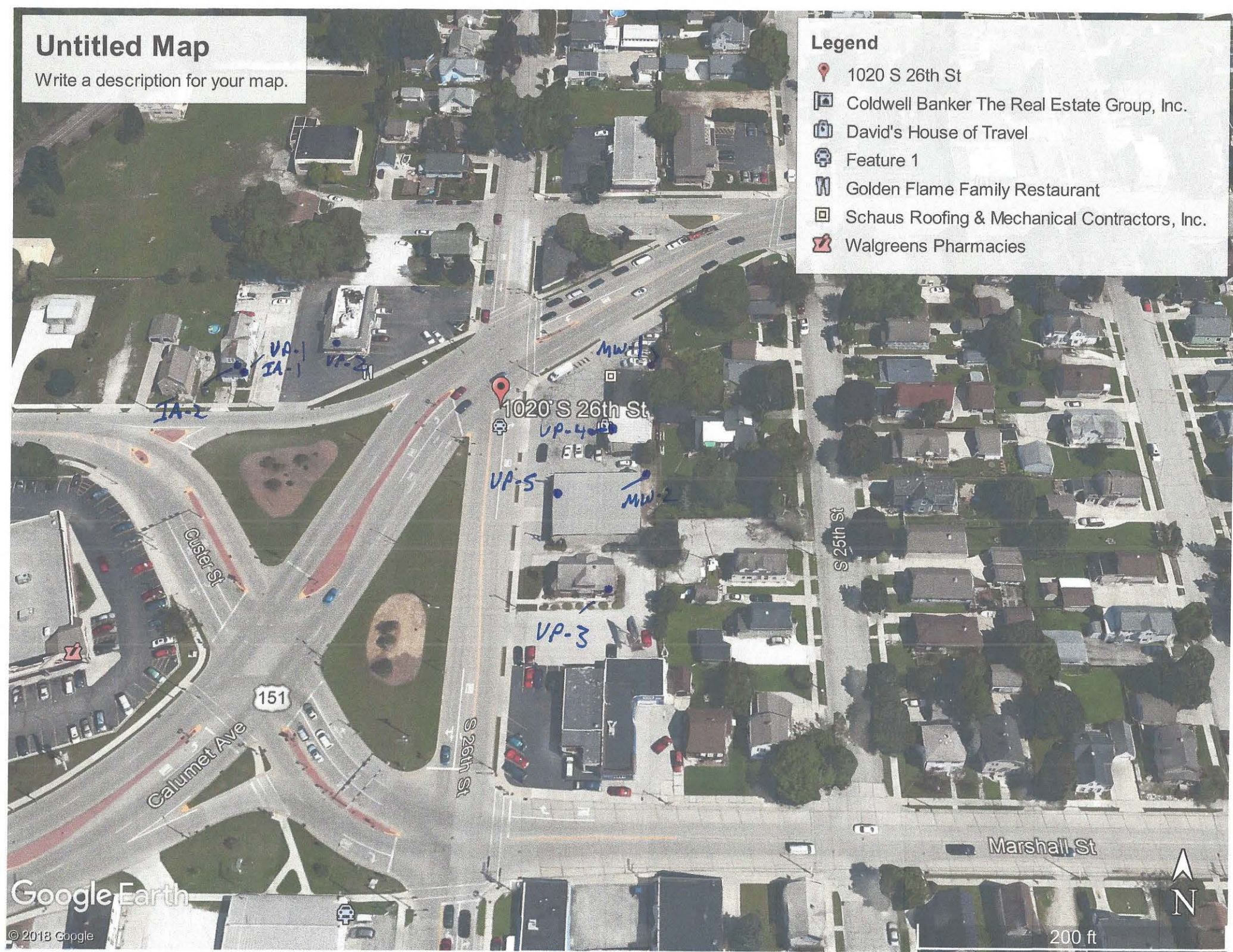
Bold indicates analytical results above NR 140 ES

Untitled Map

Write a description for your map.

Legend

-  1020 S 26th St
-  Coldwell Banker The Real Estate Group, Inc.
-  David's House of Travel
-  Feature 1
-  Golden Flame Family Restaurant
-  Schaus Roofing & Mechanical Contractors, Inc.
-  Walgreens Pharmacies



Google Earth

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200 ft

TABLE 2
SUMMARY OF SUB-SLAB/AMBIENT VAPOR ANALYTICAL RESULTS
SUSIE'S RESTAURANT
2-0519-258

TABLE 1 REGIONAL SCREENING LEVEL SUMMARY

Sample No.	Residential Indoor Air VAL	Residential Sub-Slab Vapor VAL	Small Commercial Sub-Slab Vapor VRSL	IA-1 2614 CUSTER (INDOOR AIR BASEMENT)	IA-2 2614 CUSTER (INDOOR AIR 1ST FLOOR)	VP-1 2614 CUSTER (SUB-SLAB BASEMENT)	VP-2 2604 CUSTER (SUB-SLAB BASEMENT)	VP-3 1029 S. 26TH (SUB-SLAB BASEMENT)
				07/17/19	07/17/19	07/18/19	07/18/19	07/18/19
Sampling Date	ug/m3	ug/m3	ug/m3	ug/m3				
VOLATILE ORGANIC COMPOUNDS (VOC) (ug/m3)								
Benzene	3.6	120	530	0.96	0.57	8.4	4J	3.6
Carbon Tetrachloride	4.7	160	670	0.44J	0.5J	<0.307	<7.675	<0.307
Chloroform	1.2	40	180	0.44J	3.9	0.63J	<7.5	0.54J
Chloromethane	94	3100	13000	1.3J	1.73J	<0.831	<20.775	<0.831
Dichlorodifluoromethane	100	3300	15000	2.67	2.62	3.02	<6.575	6.9
1,1 Dichloroethane	18	600	2600	<0.187	<0.187	<0.187	<4.675	<0.187
1,2-Dichloroethane	1.1	37	160	<0.24	<0.24	<0.24	<6	<0.24
1,1 Dichloroethene	210	7000	29000	<0.21	<0.21	<0.21	<5.25	<0.21
1,2 Dichloroethene Cis	NE	NE	NE	<0.197	<0.197	0.40J	2360	<0.197
1,2 Dichloroethene Trans	NE	NE	NE	<0.231	<0.231	0.238J	135	<0.231
Ethylbenzene	11	370	1600	1	0.78	8.5	7.6J	7.8
Methyl-Tert_Butyl-Ether	110	3700	16000	<0.16	<0.16	<0.16	<4	<0.16
Methylene Chloride	630	21000	87000	<15	<15	<15	<375	<15
Naphthalene	0.83	28	120	<0.675	0.89J	2.56	<16.875	3.9
Tetrachloroethylene	42	1400	6000	<0.278	<0.278	8.5	117	1.97
Toluene	5200	170000	730000	2.22	2.56	38	24.5	53
1,1,1-Trichloroethane	5200	17000	730000	<0.249	<0.249	0.65J	<6.225	<0.249
Trichloroethylene	2.1	70	290	<0.237	0.37J	5.5	1160	<0.237
Trichlorofluoromethane	NE	NE	NE	1.46	2.47	1.24	<8.425	2.02
1,2,4-Trimethylbenzene	63	2100	8700	1.52	0.83J	12.5	13.5J	11.9
1,3,5-Trimethylbenzene	63	2100	8700	0.44J	0.245J	3.09	<5.8	2.7
Vinyl chloride	1.7	57	930	<0.148	<0.148	<0.148	10.2J	0.33J
m&p-Xylene	100	3300	15000	2.21	1.78	23.8	19.5J	26.2
o-Xylene	100	3300	15000	0.43J	0.52J	9.9	8.7J	10.5

UG/M³ Micrograms per Cubic Meter of Air

Bold indicates analytical results exceed sub-slab screening level

NE= Not Established

TABLE 2
SUMMARY OF SUB-SLAB/AMBIENT VAPOR ANALYTICAL RESULTS
SUSIE'S RESTAURANT
2-0519-258

TABLE 1 REGIONAL SCREENING LEVEL SUMMARY				
Sample No.	Small Commercial Sub-Slab Vapor VRSL	VP-4 1015 S. 26TH (SUB-SLAB 1ST FLOOR OF SHOP)	VP-5 1025 S. 26TH (SUB-SLAB 1ST FLOOR OF SHOP)	VP-6 1037 S. 26TH (SUB-SLAB 1ST FLOOR OF SHOP)
Sampling Date		07/18/19	07/18/19	08/06/19
	ug/m3	ug/m3		
VOLATILE ORGANIC COMPOUNDS (VOC) (ug/m3)				
Benzene	530	14.5	13.7	
Carbon Tetrachloride	670	<0.307	<0.307	
Chloroform	180	0.34J	<0.3	
Chloromethane	13000	<0.831	<0.831	
Dichlorodifluoromethane	15000	4900	4.5	
1,1 Dichloroethane	2600	<0.187	<0.187	
1,2-Dichloroethane	160	<0.24	<0.24	
1,1 Dichloroethene	29000	<0.21	<0.21	
1,2 Dichloroethene Cis	NE	3.01	<0.197	
1,2 Dichloroethene Trans	NE	<0.231	<0.231	
Ethylbenzene	1600	20.3	18.9	
Methyl-Tert_Butyl-Ether	16000	<0.16	<0.16	
Methylene Chloride	87000	<15	<15	
Naphthalene	120	15.7	6.9	
Tetrachloroethylene	6000	187	33	
Toluene	730000	70	71	
1,1,1-Trichloroethane	730000	1.14	<0.249	
Trichloroethylene	290	3.6	<0.237	
Trichlorofluoromethane	NE	1.46	1.4	
1,2,4-Trimethylbenzene	8700	51	43	
1,3,5-Trimethylbenzene	8700	12.3	12	
Vinyl chloride	930	0.49	0.41J	
m&p-Xylene	15000	66	50	
o-Xylene	15000	26.7	21	

UG/M³ - Micrograms per Cubic Meter of Air

Bold indicates analytical results exceed sub-slab screening level

NE= Not Established