



REI

CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING



February 9, 2024

WDNR

Attn: Carrie Stoltz
107 Sutliff Avenue
Rhineland, WI 54501

Subject:

Construction Documentation
Post Closure Modification
Bottled Bean, LLC (Former Northwoods Laundry)
Former 405 Front Street (518 Chippewa Street)
Minocqua, WI 54548
Closed BRRTS #02-44-000517
FID #744076960

Dear Ms. Stoltz:

This letter and enclosed information will summarize the environmental construction oversight during development of the Bottled Bean LLC facility, installation of the sub-slab depressurization system, as well as follow up sub-slab vapor sampling. The Post Closure Modification Request was submitted on August 25, 2022 and approved by the WDNR on September 29, 2022. The site location is shown on Figure 1.

BACKGROUND

The Subject Property was utilized as a dry cleaner from the 1970s through 1992. Chlorinated Volatile Organic Compounds (CVOCs) were detected at the site in 1993. The site was investigated in 1996 and following removal of the source area, the site was closed. Additional CVOC contamination detected at adjacent Leaking Underground Storage Tank (LUST) sites in 1998 prompted additional investigation. Additional investigation was conducted from 2017 through 2020 and the site was closed with Continuing Obligations for residual soil and groundwater contamination. The extent of soil and groundwater contamination on the GIS registry for the Subject Property is shown on Figure 2.

The site was purchased for redevelopment in 2022. REI Engineering, Inc. (REI) performed a Phase I Environmental Site Assessment, which determined that the residual contamination was considered a Controlled Recognized Environmental Condition (CREC). Analysis of the Vapor Screening Criteria determined that the vapor intrusion pathway could not be ruled out. Therefore REI recommended installation of a passive vapor mitigation system during construction.

In addition, REI determined that oversight by an environmental professional would be required during excavation to screen for the presence of contaminated soil. Sub-slab vapor sampling would be required following construction to determine if the vapor mitigation system was needed to protect indoor air. The Post Closure Modification Request was



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4080 N. 20th Avenue Wausau, WI 54401
715-675-9784 REIengineering.com

submitted August 25, 2022, and the Soil Management Plan was submitted September 21, 2022. The WDNR approved the Soil Management Plan in a letter dated October 17, 2022.

CONSTRUCTION

Construction at the site began on October 27, 2022. The water and sewer lines were connected to the municipal system. REI was on site to screen soils exposed during excavation of the trench with a RAE Plus Classic PhotoIonization Detector (PID) with an 11.7 eV lamp. Field Screening of soils encountered did not indicate the presence of VOCs. Screening locations are shown on Figure 3. Readings are summarized on Table 1. All soils excavated for the water and sewer line were returned to the trench. Photographs are included in Attachment A.

The initial construction plan included a slab on grade foundation for the building. This plan was amended to include a four (4) foot frost wall around the perimeter of the building. REI was on site to oversee the installation of test pits in the northwest corner of the building prior to footing excavation. Two (2) soil samples (LS1 and LS2) were collected at a depth of three (3) feet below land surface in the area where the footing intersected the soil plume delineated in the Continuing Obligation. Sample locations are shown on Figure 3. Field Screening of soils encountered did not indicate the presence of VOCs, and both soil samples were non-detect for VOCs. Sample results are summarized on summarized on Table 2. The complete analytical report is in Attachment B.

The footings were excavated on November 10 and 11, 2022. REI was on site to field screen soils from the footings, parking lot, stormwater infiltration basin, and landscaped areas. No elevated field screening was observed. Screening locations are on Figure 3 and field measurements are included on Table 1. Photographs are in Attachment A.

The footings were poured the week of November 14, 2022, and construction of the building began. Once the building was framed, SWAT Environmental of Milwaukee, WI installed a Vapor Mat network around the perimeter, and through the center of the foundation. Plans and Specifications are included in Attachment C. The Vapor Mat was connected to a vertical 3" PVC stack with in-line manometer. A vapor mitigation blower was installed above the ceiling, however the stack is capped beyond the blower, and the blower was not wired for operation. The system was installed in the event sub-slab vapor sampling determined it was necessary. Photographs are included in Attachment A.

SUB-SLAB VAPOR SAMPLING

Following completion and start-up of The Bottled Bean facility, VAPOR PIN sub-slab vapor probes were installed by REI in the northwest and southwest corners of the building on September 27, 2023. Probe locations are shown on Figure 2. Methods and procedures for sub-slab installation and sampling are included in Attachment D. The sub-slab vapor probe samples (SS1N & SS2S), were collected by REI the same day and analyzed by Synergy Environmental Lab, LLC for TO-15 using 1-liter Summa Cannisters. A second round was conducted on January 30, 2024 during "heating" season. The results from both sample points were below the Vapor Risk Screening Level for Residential, Small Commercial, and Large Commercial buildings during both events. The results are summarized on Table 3. The complete laboratory reports are in Attachment B.

CONCLUSIONS AND RECOMMENDATIONS

Soil and groundwater contamination likely remains at The Bottled Bean (Former Northwoods Laundry) site but was not encountered during construction. Residual soil contamination does not appear to intersect the building foundation. Groundwater contamination may be present below the current building however the vapor intrusion pathway has been ruled out via sub-slab vapor sampling and operation of the vapor mitigation system is not necessary. Based on the results of observation and sampling during and after construction, REI requests that the Continuing Obligation Modification be approved and a Closure Letter Addendum be prepared. The fees were previously submitted.

Thank you for your assistance with this project. Please contact me at 715-675-9784 or adelforge@REIengineering.com if you have questions or require further information.

REI Engineering, Inc.

Andrew R. Delforge, P.G.
Senior Hydrogeologist

Cc: Bottled Bean LLC (e-copy)

Attachments: NR 712 Certification
Attachment A – Photographs
Attachment B – Laboratory Analytical Reports
Attachment C – Vapor Mitigation System Plans and Specifications
Attachment D - Methods and Procedures – Sub-Slab Vapor Probe Installation & Sampling

CONSTRUCTION DOCUMENTATION POST-CLOSURE MODIFICATION REQUEST

WISCONSIN ADMINISTRATIVE CODE CHAPTER NR712 CERTIFICATIONS

The recommendations contained in this report are based on the information obtained from our study of the site and were arrived at in accordance with accepted hydrogeologic and engineering practices at this time and location.

"I, Andrew R. Delforge, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the 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."



Hydrogeologist

February 9, 2024

Date

"I, Brian J. Bailey, 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 of the 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."



Scientist

February 9, 2024

Date

"I, Eric L. Bradfish, 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; 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."



Environmental Engineer

February 9, 2024

Date

Table 1
Soil Screening Measurements
Bottled Bean
518 Chippewa Street
Minocqua, WI 54548



Date-->	10/27/22	10/27/22	10/27/22	10/27/22	10/27/22	10/27/22	10/27/22	10/27/22	10/27/22	10/27/22	10/27/22	10/27/22
Sample-->	S1	S1	S1	S1	S2	S2	S2	S2	S3	S3	S3	S3
USCS	SM	SP	SP	SP	SM	SP	SP	SP	SM	SP	SP	SP
Sample Depth--(Feet)>	0.5	2	5	7	0.5	2	5	7	0.5	2	5	7
PID--(Instrument Units)>	0.1	0.1	0	0	0	0	0	0	0	0	0.1	0
Date-->	10/27/22	10/27/22	10/27/22	10/27/22	10/27/22	10/27/22	10/27/22	10/27/22	11/9/22	11/9/22	11/9/22	11/9/22
Sample-->	S4	S4	S4	S4	S5	S5	S5	S5	S6	S6	S6	S7
USCS	SM	SP	SP	SP	SM	SP	SP	SP	SM	SP	SP	SM
Sample Depth--(Feet)>	0.5	2	5	7	0.5	2	5	7	0.5	2	4	0.5
PID--(Instrument Units)>	0	0	1.7	0.8	0	0	0	0	0	0.1	0.1	0
Date-->	11/9/22	11/9/22	11/9/22	11/9/22	11/9/22	11/9/22	11/9/22	11/9/22	11/9/22	11/9/22	11/9/22	11/9/22
Sample-->	S7	S7	S8	S8	S8	S9	S9	S9	S10	S10	S10	S11
USCS	SP	SP	SM	SP	SP	SM	SP	SM	SM	SP	SP	SM
Sample Depth--(Feet)>	2	4	0.5	2	4	0.5	2	4	0.5	2	4	0.5
PID--(Instrument Units)>	0	0	0	0.1	0	0	0	0	0	0.1	0.1	0
Date-->	11/10/23	11/10/23	11/10/23	11/10/23	11/10/23	11/10/23	11/10/23	11/10/23	11/10/23	11/10/23	11/10/23	11/10/23
Sample-->	S11	S11	S12	S12	S13	S13	S14	S14	S15	S15	S16	S16
USCS	SP	SP	SM	SP	SP	SM	SP	SM	SM	SP	SP	SP
Sample Depth--(Feet)>	2	4	0.5	1	0.5	0.1	0.5	1	0.5	1	0.5	1
PID--(Instrument Units)>	0.2	0.1	0	0.1	0	0	0	0	0	0.1	0	0

Table 2
Laboratory Analytical Results - Soil
Bottled Bean
518 Chippewa Street
Minocqua, WI 54548

Collected By-->					REI Engineering, Inc.	
Date-->					11/3/23	11/3/23
Sample-->					LS1	LS2
Sample Depth (Feet)-->					3	3
PID (ppm)-->					0.1	0.2
Percent Moisture (%)-->					5.7%	16.3%
Saturated (S) vs Unsaturated (U)-->					U	U
VOC's (mg/kg)	CAS Number	Non-Industrial Not-to-Exceed DC RCL	Industrial Not-to-Exceed DC RCL	Groundwater Pathway Protection RCL		
Benzene	71-43-2	1.6	7.07	0.0051	<13.3	<16.5
Bromobenzene	108-86-1	342	679	--	<21.9	<27.1
Bromochloromethane	74-97-5	216	906	--	<15.4	<19.0
Bromodichloromethane	75-27-4	0.418	1.83	--	<13.3	<16.5
Bromoform	75-25-2	25.4	113	0.0023	<247	<306
Bromomethane	74-83-9	9.6	43	0.0051	<78.6	<97.4
n-Butylbenzene	104-51-8	108	108	--	<23.7	<31.8
sec-Butylbenzene	135-98-8	145	145	--	<13.7	<17.0
tert-Butylbenzene	98-06-6	183	183	--	<17.6	<21.8
Carbon tetrachloride	56-23-5	0.916	4.03	0.0039	<12.3	<15.3
Chlorobenzene	108-90-7	370	761	--	<6.7	<8.3
Chloroethane	75-00-3	--	--	0.2266	<23.7	<29.3
Chloroform	67-66-3	0.454	1.98	0.0033	<40.1	<49.8
Chloromethane	74-87-3	159	669	0.0155	<21.3	<26.4
2-Chlorotoluene	95-49-8	907	907	--	<18.2	<22.5
4-Chlorotoluene	106-43-4	253	253	--	<21.3	<26.4
1,2-Dibromo-3-chloropropane	96-12-8	0.008	0.092	0.00002	<43.5	<53.9
Dibromochloromethane	124-48-1	8.28	38.9	0.032	<192	<238
1,2-Dibromoethane (EDB)	106-93-4	0.05	0.221	2.82x10 ⁻³	<15.4	<19.0
Dibromomethane	74-95-3	34	143	--	<16.6	<20.6
1,2-Dichlorobenzene	95-50-1	376	376	1.168	<17.4	<21.5
1,3-Dichlorobenzene	541-73-1	297	297	1.1928	<15.4	<19.0
1,4-Dichlorobenzene	106-46-7	3.74	16.4	0.144	<15.4	<19.0
Dichlorodifluoromethane	75-71-8	126	530	3.0863	<24.1	<29.9
1,1-Dichloroethane	75-34-3	5.06	22.2	0.4834	<14.4	<17.8
1,2-Dichloroethane	107-06-2	0.652	2.87	0.0028	<12.9	<16.0
1,1-Dichloroethene	75-35-4	320	1190	0.005	<18.6	<23.1
cis-1,2-Dichloroethene	156-59-2	156	2340	0.0412	<12.0	<14.9
trans-1,2-Dichloroethene	156-60-5	1560	1850	0.0626	<12.1	<15.0
1,2-Dichloropropane	78-87-5	3.4	15	0.0033	<13.3	<16.5
1,3-Dichloropropane	142-28-9	1,490	1,490	--	<12.2	<15.2
2,2-Dichloropropane	594-20-7	191	191	--	<15.1	<18.8
1,1-Dichloropropene	563-58-6	--	--	--	<18.2	<22.5
cis-1,3-Dichloropropene	10061-01-5	1,210	1,210	0.0003	<37.0	<45.9
trans-1,3-Dichloropropene	10061-02-6	1,510	1,510	0.0003	<160	<199
Diisopropyl ether	108-20-3	2,260	2,260	--	<13.9	<17.2
Ethylbenzene	100-41-4	8.02	35.4	1.57	<13.3	<16.5
Hexachloro-1,3-butadiene	87-68-3	--	--	--	<111	<138
Isopropylbenzene (cumene)	98-82-8	268	268	--	<15.1	<18.8
p-Isopropyltoluene	99-87-6	162	162	--	<17.0	<21.1
Methylene Chloride	75-09-2	61.8	1,150	0.0026	<15.6	<19.3
Methyl-tert-butyl ether (MTBE)	1634-04-4	63.8	282	0.027	<16.5	<20.4
Naphthalene	91-20-3	5.52	24.1	0.6582	<17.5	<21.7
n-Propylbenzene	103-65-1	--	--	--	<13.5	<16.7
Styrene	100-42-5	867	867	0.22	<14.4	<17.8
1,1,1,2-Tetrachloroethane	630-20-6	2.78	12.3	0.0534	<13.5	<16.7
1,1,1,2-Tetrachloroethene	79-34-5	0.81	3.6	0.0002	<20.3	<25.2
Tetrachloroethene (PCE)	127-18-4	33	145	0.0045	<21.8	<27.0
Toluene	108-88-3	818	818	1.1072	<14.1	<17.5
1,2,3-Trichlorobenzene	87-61-6	62.6	934	--	<62.5	<77.4
1,2,4-Trichlorobenzene	120-82-1	24	113	0.408	<46.2	<57.3
1,1,1-Trichloroethane	71-55-6	640	640	0.1402	<14.4	<17.8
1,1,2-Trichloroethane	79-00-56	1.59	7.01	0.0032	<20.4	<25.3
Trichloroethene (TCE)	79-01-6	1.3	8.41	0.0036	<21.0	<26.0
Trichlorofluoromethane	75-69-4	1,230	1,230	--	<16.3	<20.2
1,2,3-Trichloropropane	96-18-4	0.005	0.109	0.0519	<27.3	<33.8
1,2,4-Trimethylbenzene (TMB)	95-63-6	219	219	1.3787	<16.7	<20.7
1,3,5-Trimethylbenzene (TMB)	108-67-8	182	182	--	<18.1	<22.4
Vinyl chloride	75-01-4	0.067	2.08	0.0001	<11.3	<14.0
m&p-Xylene	1330-20-7	260	260	3.96	<23.7	<29.3
o-Xylene					<16.8	<20.8

Notes:
 NR 720 Standards Obtained From WDNR RR Program's Soil RCL Spreadsheet
 This site is assessed as **Non-Industrial**
 Cumulative RCL Calculated on:
 RCL = Residual Contaminant Level
 DC = Direct Contact
 mg/kg = Parts Per Million (ppm)
 < = Concentration Below Laboratory Detection Limit
 - = Not Sampled/Collected
 -- = No Standard/Not Applicable
 J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ)

<i>Italic</i>	= Exceeds NR720 Groundwater Pathway Protection
Bold	= Exceeds NR720 Non-Industrial Not-To-Exceed DC RCL
<u>Underlined</u>	= Exceeds NR720 Industrial Not-To-Exceed DC RCL

Table 3
Sub-Slab Vapor Analytical Results
Bottled Bean
518 Chippewa Street
Minocqua, WI 54548



		Collected By-->			AD-REI		AD-REI		
		Sample Location-->			SS-1N		SS-2S		
		Sample Date-->			9/27/2023	1/30/2024	9/27/2023	1/30/2024	
Attenuation Factor		0.03	0.03	0.01					
TO-15 VOC's (µg/m³)	CAS Number	carcinogen	Sub-Slab VRSL						
			Residential [R]	Small Commercial [SC]	Large Commercial/Industrial [LC/I]				
Acetone	67-64-1	n	--	--	--	730	145	680	470
Benzene	71-43-2	c	120	520	1,600	23.1	12.1	12.9	7.6
Benzyl chloride	100-44-7	c	19	83	250	<0.209	<0.209	<0.209	<0.209
Bromodichloromethane	75-27-4	c	25	110	330	<0.374	<0.374	<0.374	<0.374
Bromoform	75-25-2	c	850	3,700	11,000	<0.414	<0.414	<0.414	<0.414
Bromomethane	74-83-9	n	84	730	2,200	<0.2	<0.2	<0.2	<0.2
1,3-Butadiene	106-99-0	c	31	140	410	<0.143	<0.143	<0.143	<0.143
Carbon disulfide	75-15-0	c	24,000	100,000	310,000	39	9.4	10.1	3.05
Carbon tetrachloride	56-23-5	c	160	680	2,000	0.57j	<0.307	0.44j	<0.307
Chlorobenzene	108-90-7	c	1,700	7,300	22,000	0.55j	<0.251	0.55j	<0.251
Chloroethane [Ethyl Chloride]	75-00-3	n	140,000	580,000	1,800,000	<0.159	<0.159	<0.159	<0.159
Chloroform	67-66-3	c	41	180	530	0.39j	<0.3	<0.3	<0.3
Chloromethane	74-87-3	n	3,100	13,000	39,000	<0.831	1.11j	<0.831	<0.831
Cyclohexane	110-82-7	n	210,000	880,000	2,600,000	8.0	3.5	5.4	2.41
Dibromochloromethane	124-48-1	--	--	--	--	<0.376	<0.376	<0.376	<0.376
1,4-Dichlorobenzene	106-46-7	c	85	370	1,100	<0.302	<0.302	<0.302	<0.302
1,3-Dichlorobenzene	541-73-1	--	--	--	--	<0.302	<0.302	<0.302	<0.302
1,2-Dichlorobenzene	95-50-1	n	7,000	29,000	88,000	<0.235	<0.235	<0.235	<0.235
Dichlorodifluoromethane	75-71-8	n	3,500	15,000	44,000	<0.263	3.2	<0.263	2.92
1,2-Dichloroethane	107-06-2	c	36	160	470	0.45j	<0.24	0.243j	<0.24
1,1-Dichloroethane	75-34-3	c	580	2,600	7,700	<0.187	<0.187	<0.187	<0.187
1,1-Dichloroethene	75-35-4	n	7,000	29,000	88,000	<0.21	<0.21	<0.21	<0.21
cis-1,2-Dichloroethene	156-59-2	--	1,400	5,800	18,000	<0.197	<0.197	<0.197	<0.197
trans-1,2-Dichloroethene	156-60-5	c	1,400	5,800	18,000	<0.231	<0.231	<0.231	<0.231
1,2-Dichloropropane	78-87-5	n	140	580	1,800	1.43	0.46j	0.92	0.37j
trans-1,3-Dichloropropene	10061-02-6	--	--	--	--	<0.198	<0.198	<0.198	<0.198
cis-1,3-Dichloropropene	10061-01-5	--	--	--	--	<0.234	<0.234	<0.234	<0.234
(1,2) Dichlorotetrafluoroethane	76-14-2	--	--	--	--	1.390	0.98j	2.300	2.31
1,4-Dioxane	123-91-1	c	190	820	2,500	<0.157	<0.157	<0.157	<0.157
1,2-Dibromoethane (EDB)	106-93-4	c	1.6	6.8	20	<0.342	<0.342	<0.342	<0.342
Ethanol	64-17-5	--	--	--	--	1180	710	1660	1080
Ethyl acetate	141-78-6	n	2,400	10,000	31,000	<0.176	<0.176	<0.176	0.86
Ethylbenzene	100-41-4	c	370	1,600	4,900	29.6	16.3	33	15.3
4-Ethyltoluene	622-96-8	--	--	--	--	6.0	3.5	5.6	3.4
(n-)Heptane	142-82-5	n	14,000	58,000	180,000	45	16.3	33	12.1
Hexachloro(-1,3-)butadiene	87-68-3	c	43	190	560	<0.489	<0.489	<0.489	<0.489
(n-)Hexane	110-54-3	n	24,000	100,000	310,000	26.3	<15	16.3	<15
2-Hexanone	591-78-6	n	1,000	4,400	13,000	<0.222	<0.222	<0.222	<0.222
2-Propanol [Isopropanol] (Isopropyl Alcohol)	67-63-0	n	7,000	29,000	88,000	60	18.2	32	18.4
2-Butanone [Methyl Ethyl Ketone] (MEK)	78-93-3	n	180,000	730,000	2,200,000	24.4	5.7	19.5	5.2
4-Methyl-2-pentanone (MIBK)	108-11-2	n	100,000	440,000	1,300,000	38	13.9	31.4	12
Methyl Methacrylate	80-62-6	n	24,000	100,000	310,000	12.4	3.6	9.8	2.82
Methylene Chloride	75-09-2	n	21,000	88,000	260,000	<15	<15	<15	<15
Methyl-tert-butyl ether (MTBE)	1634-04-4	c	3,600	16,000	47,000	36	10.9	18.4	7.3
Naphthalene	91-20-3	n	28	120	360	<0.675	<0.675	<0.675	<0.675
Propylene [Propene]	115-07-1	n	100,000	440,000	1,300,000	<0.079	<0.079	<0.079	<0.079
Styrene	100-42-5	n	35,000	150,000	440,000	11.8	4.3	19.2	6.1
1,1,2,2-Tetrachloroethane	79-34-5	c	16	70	210	<0.325	<0.325	<0.325	<0.325
Tetrachloroethene (PCE)	127-18-4	n	1,400	5,800	18,000	9.9	3.4	7.3	2.38
Tetrahydrofuran	109-99-9	n	70,000	290,000	880,000	<0.131	<0.131	<0.131	<0.131
Toluene	108-88-3	n	170,000	730,000	2,200,000	400	304	302	244
1,2,4-Trichlorobenzene	120-82-1	n	70	290	880	<0.657	<0.657	<0.657	<0.657
1,1,1-Trichloroethane	71-55-6	n	170,000	730,000	2,200,000	<0.249	<0.249	<0.249	<0.249
1,1,2-Trichloroethane	79-00-5	n	7.0	29	88	<0.258	<0.258	<0.258	<0.258
Trichloroethene (TCE)	79-01-6	n	70	290	880	0.96	<0.237	0.70j	<0.237
Trichlorofluoromethane	75-69-4	n	--	--	--	1.4	2.13	1.12	1.85
(1,1,2-)Trichlorotrifluoroethane	76-13-1	n	170,000	730,000	2,200,000	0.92j	<0.402	0.77j	<0.402
1,2,4-Trimethylbenzene (TMB)	95-63-6	n	2,100	8,800	26,000	17.2	9.2	15.9	8.9
1,3,5-Trimethylbenzene (TMB)	108-67-8	c	2,100	8,800	26,000	5.9	3.14	5.3	3.09
Vinyl acetate	108-05-4	n	7,000	29,000	88,000	<0.203	<0.203	<0.203	<0.203
Vinyl chloride	75-01-4	n	56	930	2,800	<0.148	<0.148	<0.148	<0.148
Xylene, m,p-						76	46	71	43
Xylene, o-	1330-20-7	n	3,500	15,000	44,000	29.8	18.8	28.7	17.7

Notes:

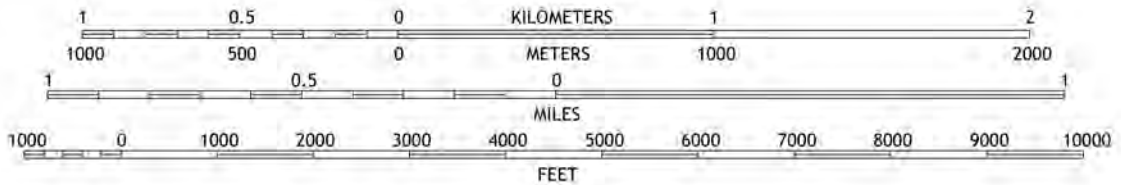
- Indoor Air Standards based on US EPA Vapor Intrusion Screening Levels online calculator.
- VRSL Calculated on Date: 3/24/2023
- VAL = Vapor Action Level
- VRSL = Vapor Risk Screening Level
- < = Concentration Below Laboratory Detection Limit
- = Not Sampled/Collected
- = No Standard/Not Applicable
- j = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ)
- c = carcinogen
- n = non-carcinogen
- Target Risk for Carcinogens = 1.00E-05
- Target Hazard Quotient for Non-Carcinogens = 1

<i>Italics</i>	= Exceeds US EPA Residential VRSL
Bold	= Exceeds US EPA Small Commercial VRSL
<u>Underlined</u>	= Exceeds US EPA Large Commercial/Industrial VRSL

DRAWING FILE: Q:\10500-10599\10587A - KNOBECK PROPERTY - PCMA.DWG\10587A-VICN.DWG LAYOUT: VICIN PLOTTED: FEB 09, 2024 - 12:57PM PLOTTED BY: CHASEK



SCALE 1:24 000



CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

MN
 GN
 2°52'
 51 MILS
 1°56'
 34 MILS

HAZELHURST QUADRANGLE
WISCONSIN - ONEIDA COUNTY
7.5-MINUTE SERIES



UTM GRID AND 2019 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

REI ENGINEERING, INC.

BOTTLED BEAN
518 CHIPPEWA STREET
MINOCQUA, WI 54548



FIGURE 1 : VICINITY MAP

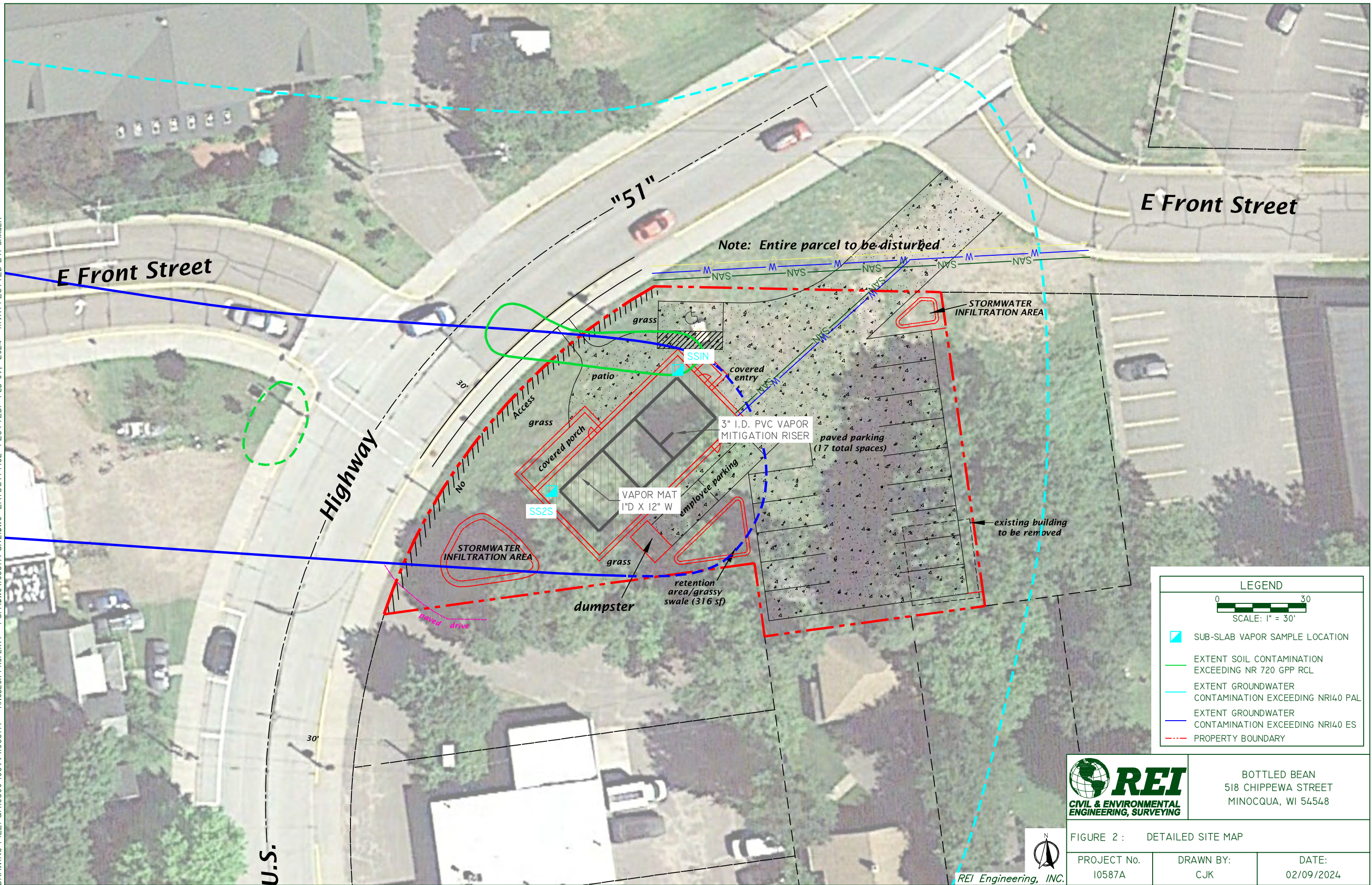
PROJECT NO.

10587A

DRAWN BY:
CJK

DATE:
02/09/2024

DRAWING FILE: G:\10500-10599\10587A - KNOBECK PROPERTY - PCM\DWG\10587A-SITE.DWG LAYOUT: FIG2 PLOTTED: FEB 09, 2024 - 1:19PM PLOTTED BY: CHASEK



LEGEND

0 30
SCALE: 1" = 30'

- SUB-SLAB VAPOR SAMPLE LOCATION
- EXTENT SOIL CONTAMINATION EXCEEDING NR 720 GPP RCL
- EXTENT GROUNDWATER CONTAMINATION EXCEEDING NRI40 PAL
- EXTENT GROUNDWATER CONTAMINATION EXCEEDING NRI40 ES
- - - PROPERTY BOUNDARY



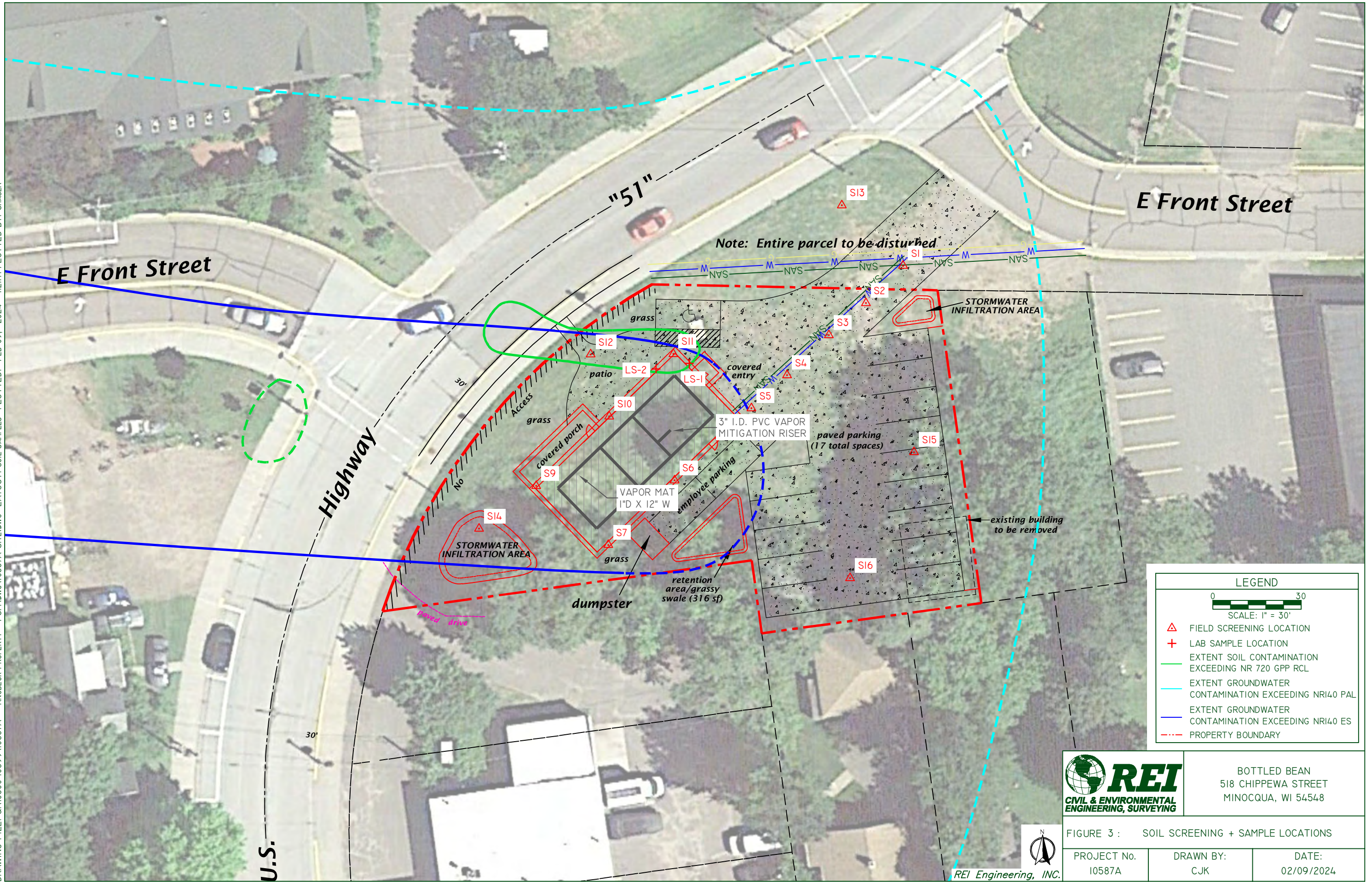
BOTTLED BEAN
518 CHIPPEWA STREET
MINOCQUA, WI 54548

FIGURE 2 : DETAILED SITE MAP

PROJECT No. 10587A	DRAWN BY: CJK	DATE: 02/09/2024
-----------------------	------------------	---------------------



DRAWING FILE: G:\10500-10599\10587A - KNOBECK PROPERTY - PCM\DWG\10587A-SITE.DWG LAYOUT: SOIL SAMPLES PLOTTED: FEB 09, 2024 - 1:21PM PLOTTED BY: CHASEK



APPENDIX A

PHOTOGRAPHS





Stripping topsoil for water/sewer trench



Trenching under gas line



Laying sewer and water pipe



Connection at water main



Former building foundation encountered during footing excavation



Water and sewer riser, footing excavation



Footing excavation, view to north



Completed footing excavation, sewer and water and cleanout risers

Bottled Bean, LLC – Construction Documentation	Photographs
518 Chippewa Street, Minocqua, WI 54548	REI No. 10587a



Footings poured



Gas Mat being installed



Riser connection to Gas Mat



Riser and Gas Mat

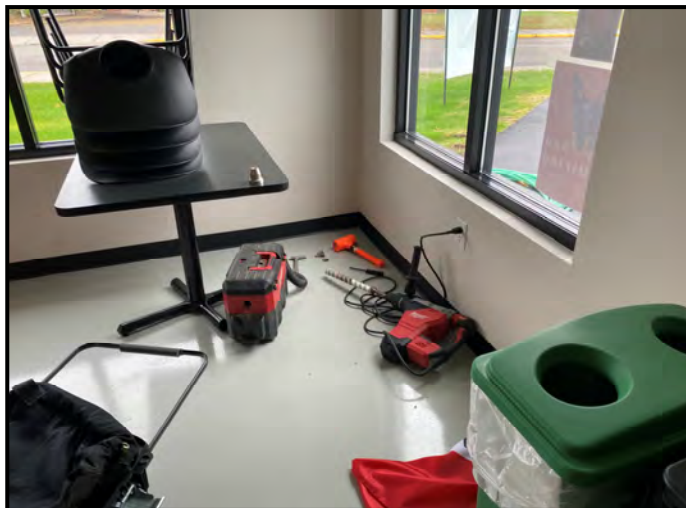
Bottled Bean, LLC – Construction Documentation 518 Chippewa Street, Minocqua, WI 54548	Photographs REI No. 10587a
-------------------------------------------------------------------------------------------	-------------------------------



Riser capped and blower above drop ceiling



Manometer on riser



SS1N Installation



SS1 Installed



Sampling SS1N 9/27/23



Sampling SS2S 9/27/23



SS1N purging and field measurements
1/30/24



Sampling SS1N 1/30/24



Purging SS2S, Meter Readings 1/30/24



Sampling SS2S 1/30/24

Bottled Bean, LLC – Construction Documentation	Photographs
518 Chippewa Street, Minocqua, WI 54548	REI No. 10587a

APPENDIX B

LABORATORY ANALYTICAL REPORTS

SOIL & VAPOR



November 11, 2022

Andy Delforge
REI
4080 North 20th Avenue
Wausau, WI 54401

RE: Project: 10587A BOTTLE & BEAN
Pace Project No.: 40254293

Dear Andy Delforge:

Enclosed are the analytical results for sample(s) received by the laboratory on November 05, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Kaylin Felix, REI



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 10587A BOTTLE & BEAN

Pace Project No.: 40254293

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-21-8

Virginia VELAP Certification ID: 11873

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-21-00008

Federal Fish & Wildlife Permit #: 51774A

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 10587A BOTTLE & BEAN

Pace Project No.: 40254293

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40254293001	SS1	Solid	11/03/22 10:30	11/05/22 08:25
40254293002	SS2	Solid	11/03/22 11:00	11/05/22 08:25

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 10587A BOTTLE & BEAN

Pace Project No.: 40254293

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40254293001	SS1	EPA 8260	ALD	64	PASI-G
		ASTM D2974-87	MJV	1	PASI-G
40254293002	SS2	EPA 8260	ALD	64	PASI-G
		ASTM D2974-87	MJV	1	PASI-G

PASI-G = Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 10587A BOTTLE & BEAN

Pace Project No.: 40254293

Sample: SS1 **Lab ID: 40254293001** Collected: 11/03/22 10:30 Received: 11/05/22 08:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Pace Analytical Services - Green Bay									
Benzene	<13.3	ug/kg	22.4	13.3	1	11/07/22 09:30	11/07/22 14:32	71-43-2	
Bromobenzene	<21.9	ug/kg	56.1	21.9	1	11/07/22 09:30	11/07/22 14:32	108-86-1	
Bromochloromethane	<15.4	ug/kg	56.1	15.4	1	11/07/22 09:30	11/07/22 14:32	74-97-5	
Bromodichloromethane	<13.3	ug/kg	56.1	13.3	1	11/07/22 09:30	11/07/22 14:32	75-27-4	
Bromoform	<247	ug/kg	280	247	1	11/07/22 09:30	11/07/22 14:32	75-25-2	
Bromomethane	<78.6	ug/kg	280	78.6	1	11/07/22 09:30	11/07/22 14:32	74-83-9	
n-Butylbenzene	<25.7	ug/kg	56.1	25.7	1	11/07/22 09:30	11/07/22 14:32	104-51-8	
sec-Butylbenzene	<13.7	ug/kg	56.1	13.7	1	11/07/22 09:30	11/07/22 14:32	135-98-8	
tert-Butylbenzene	<17.6	ug/kg	56.1	17.6	1	11/07/22 09:30	11/07/22 14:32	98-06-6	
Carbon tetrachloride	<12.3	ug/kg	56.1	12.3	1	11/07/22 09:30	11/07/22 14:32	56-23-5	
Chlorobenzene	<6.7	ug/kg	56.1	6.7	1	11/07/22 09:30	11/07/22 14:32	108-90-7	
Chloroethane	<23.7	ug/kg	280	23.7	1	11/07/22 09:30	11/07/22 14:32	75-00-3	
Chloroform	<40.1	ug/kg	280	40.1	1	11/07/22 09:30	11/07/22 14:32	67-66-3	
Chloromethane	<21.3	ug/kg	56.1	21.3	1	11/07/22 09:30	11/07/22 14:32	74-87-3	
2-Chlorotoluene	<18.2	ug/kg	56.1	18.2	1	11/07/22 09:30	11/07/22 14:32	95-49-8	
4-Chlorotoluene	<21.3	ug/kg	56.1	21.3	1	11/07/22 09:30	11/07/22 14:32	106-43-4	
1,2-Dibromo-3-chloropropane	<43.5	ug/kg	280	43.5	1	11/07/22 09:30	11/07/22 14:32	96-12-8	
Dibromochloromethane	<192	ug/kg	280	192	1	11/07/22 09:30	11/07/22 14:32	124-48-1	
1,2-Dibromoethane (EDB)	<15.4	ug/kg	56.1	15.4	1	11/07/22 09:30	11/07/22 14:32	106-93-4	
Dibromomethane	<16.6	ug/kg	56.1	16.6	1	11/07/22 09:30	11/07/22 14:32	74-95-3	
1,2-Dichlorobenzene	<17.4	ug/kg	56.1	17.4	1	11/07/22 09:30	11/07/22 14:32	95-50-1	
1,3-Dichlorobenzene	<15.4	ug/kg	56.1	15.4	1	11/07/22 09:30	11/07/22 14:32	541-73-1	
1,4-Dichlorobenzene	<15.4	ug/kg	56.1	15.4	1	11/07/22 09:30	11/07/22 14:32	106-46-7	
Dichlorodifluoromethane	<24.1	ug/kg	56.1	24.1	1	11/07/22 09:30	11/07/22 14:32	75-71-8	
1,1-Dichloroethane	<14.4	ug/kg	56.1	14.4	1	11/07/22 09:30	11/07/22 14:32	75-34-3	
1,2-Dichloroethane	<12.9	ug/kg	56.1	12.9	1	11/07/22 09:30	11/07/22 14:32	107-06-2	
1,1-Dichloroethene	<18.6	ug/kg	56.1	18.6	1	11/07/22 09:30	11/07/22 14:32	75-35-4	
cis-1,2-Dichloroethene	<12.0	ug/kg	56.1	12.0	1	11/07/22 09:30	11/07/22 14:32	156-59-2	
trans-1,2-Dichloroethene	<12.1	ug/kg	56.1	12.1	1	11/07/22 09:30	11/07/22 14:32	156-60-5	
1,2-Dichloropropane	<13.3	ug/kg	56.1	13.3	1	11/07/22 09:30	11/07/22 14:32	78-87-5	
1,3-Dichloropropane	<12.2	ug/kg	56.1	12.2	1	11/07/22 09:30	11/07/22 14:32	142-28-9	
2,2-Dichloropropane	<15.1	ug/kg	56.1	15.1	1	11/07/22 09:30	11/07/22 14:32	594-20-7	
1,1-Dichloropropene	<18.2	ug/kg	56.1	18.2	1	11/07/22 09:30	11/07/22 14:32	563-58-6	
cis-1,3-Dichloropropene	<37.0	ug/kg	280	37.0	1	11/07/22 09:30	11/07/22 14:32	10061-01-5	
trans-1,3-Dichloropropene	<160	ug/kg	280	160	1	11/07/22 09:30	11/07/22 14:32	10061-02-6	
Diisopropyl ether	<13.9	ug/kg	56.1	13.9	1	11/07/22 09:30	11/07/22 14:32	108-20-3	
Ethylbenzene	<13.3	ug/kg	56.1	13.3	1	11/07/22 09:30	11/07/22 14:32	100-41-4	
Hexachloro-1,3-butadiene	<111	ug/kg	280	111	1	11/07/22 09:30	11/07/22 14:32	87-68-3	
Isopropylbenzene (Cumene)	<15.1	ug/kg	56.1	15.1	1	11/07/22 09:30	11/07/22 14:32	98-82-8	
p-Isopropyltoluene	<17.0	ug/kg	56.1	17.0	1	11/07/22 09:30	11/07/22 14:32	99-87-6	
Methylene Chloride	<15.6	ug/kg	56.1	15.6	1	11/07/22 09:30	11/07/22 14:32	75-09-2	
Methyl-tert-butyl ether	<16.5	ug/kg	56.1	16.5	1	11/07/22 09:30	11/07/22 14:32	1634-04-4	
Naphthalene	<17.5	ug/kg	280	17.5	1	11/07/22 09:30	11/07/22 14:32	91-20-3	
n-Propylbenzene	<13.5	ug/kg	56.1	13.5	1	11/07/22 09:30	11/07/22 14:32	103-65-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 10587A BOTTLE & BEAN
Pace Project No.: 40254293

Sample: SS1 **Lab ID: 40254293001** Collected: 11/03/22 10:30 Received: 11/05/22 08:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Pace Analytical Services - Green Bay									
Styrene	<14.4	ug/kg	56.1	14.4	1	11/07/22 09:30	11/07/22 14:32	100-42-5	
1,1,1,2-Tetrachloroethane	<13.5	ug/kg	56.1	13.5	1	11/07/22 09:30	11/07/22 14:32	630-20-6	
1,1,2,2-Tetrachloroethane	<20.3	ug/kg	56.1	20.3	1	11/07/22 09:30	11/07/22 14:32	79-34-5	
Tetrachloroethene	<21.8	ug/kg	56.1	21.8	1	11/07/22 09:30	11/07/22 14:32	127-18-4	
Toluene	<14.1	ug/kg	56.1	14.1	1	11/07/22 09:30	11/07/22 14:32	108-88-3	
1,2,3-Trichlorobenzene	<62.5	ug/kg	280	62.5	1	11/07/22 09:30	11/07/22 14:32	87-61-6	
1,2,4-Trichlorobenzene	<46.2	ug/kg	280	46.2	1	11/07/22 09:30	11/07/22 14:32	120-82-1	
1,1,1-Trichloroethane	<14.4	ug/kg	56.1	14.4	1	11/07/22 09:30	11/07/22 14:32	71-55-6	
1,1,2-Trichloroethane	<20.4	ug/kg	56.1	20.4	1	11/07/22 09:30	11/07/22 14:32	79-00-5	
Trichloroethene	<21.0	ug/kg	56.1	21.0	1	11/07/22 09:30	11/07/22 14:32	79-01-6	
Trichlorofluoromethane	<16.3	ug/kg	56.1	16.3	1	11/07/22 09:30	11/07/22 14:32	75-69-4	
1,2,3-Trichloropropane	<27.3	ug/kg	56.1	27.3	1	11/07/22 09:30	11/07/22 14:32	96-18-4	
1,2,4-Trimethylbenzene	<16.7	ug/kg	56.1	16.7	1	11/07/22 09:30	11/07/22 14:32	95-63-6	
1,3,5-Trimethylbenzene	<18.1	ug/kg	56.1	18.1	1	11/07/22 09:30	11/07/22 14:32	108-67-8	
Vinyl chloride	<11.3	ug/kg	56.1	11.3	1	11/07/22 09:30	11/07/22 14:32	75-01-4	
m&p-Xylene	<23.7	ug/kg	112	23.7	1	11/07/22 09:30	11/07/22 14:32	179601-23-1	
o-Xylene	<16.8	ug/kg	56.1	16.8	1	11/07/22 09:30	11/07/22 14:32	95-47-6	
Surrogates									
Toluene-d8 (S)	116	%	69-153		1	11/07/22 09:30	11/07/22 14:32	2037-26-5	
4-Bromofluorobenzene (S)	128	%	68-156		1	11/07/22 09:30	11/07/22 14:32	460-00-4	
1,2-Dichlorobenzene-d4 (S)	121	%	71-161		1	11/07/22 09:30	11/07/22 14:32	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	5.7	%	0.10	0.10	1		11/10/22 13:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 10587A BOTTLE & BEAN

Pace Project No.: 40254293

Sample: SS2 **Lab ID: 40254293002** Collected: 11/03/22 11:00 Received: 11/05/22 08:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Pace Analytical Services - Green Bay									
Benzene	<16.5	ug/kg	27.8	16.5	1	11/07/22 09:30	11/07/22 14:52	71-43-2	
Bromobenzene	<27.1	ug/kg	69.5	27.1	1	11/07/22 09:30	11/07/22 14:52	108-86-1	
Bromochloromethane	<19.0	ug/kg	69.5	19.0	1	11/07/22 09:30	11/07/22 14:52	74-97-5	
Bromodichloromethane	<16.5	ug/kg	69.5	16.5	1	11/07/22 09:30	11/07/22 14:52	75-27-4	
Bromoform	<306	ug/kg	347	306	1	11/07/22 09:30	11/07/22 14:52	75-25-2	
Bromomethane	<97.4	ug/kg	347	97.4	1	11/07/22 09:30	11/07/22 14:52	74-83-9	
n-Butylbenzene	<31.8	ug/kg	69.5	31.8	1	11/07/22 09:30	11/07/22 14:52	104-51-8	
sec-Butylbenzene	<17.0	ug/kg	69.5	17.0	1	11/07/22 09:30	11/07/22 14:52	135-98-8	
tert-Butylbenzene	<21.8	ug/kg	69.5	21.8	1	11/07/22 09:30	11/07/22 14:52	98-06-6	
Carbon tetrachloride	<15.3	ug/kg	69.5	15.3	1	11/07/22 09:30	11/07/22 14:52	56-23-5	
Chlorobenzene	<8.3	ug/kg	69.5	8.3	1	11/07/22 09:30	11/07/22 14:52	108-90-7	
Chloroethane	<29.3	ug/kg	347	29.3	1	11/07/22 09:30	11/07/22 14:52	75-00-3	
Chloroform	<49.8	ug/kg	347	49.8	1	11/07/22 09:30	11/07/22 14:52	67-66-3	
Chloromethane	<26.4	ug/kg	69.5	26.4	1	11/07/22 09:30	11/07/22 14:52	74-87-3	
2-Chlorotoluene	<22.5	ug/kg	69.5	22.5	1	11/07/22 09:30	11/07/22 14:52	95-49-8	
4-Chlorotoluene	<26.4	ug/kg	69.5	26.4	1	11/07/22 09:30	11/07/22 14:52	106-43-4	
1,2-Dibromo-3-chloropropane	<53.9	ug/kg	347	53.9	1	11/07/22 09:30	11/07/22 14:52	96-12-8	
Dibromochloromethane	<238	ug/kg	347	238	1	11/07/22 09:30	11/07/22 14:52	124-48-1	
1,2-Dibromoethane (EDB)	<19.0	ug/kg	69.5	19.0	1	11/07/22 09:30	11/07/22 14:52	106-93-4	
Dibromomethane	<20.6	ug/kg	69.5	20.6	1	11/07/22 09:30	11/07/22 14:52	74-95-3	
1,2-Dichlorobenzene	<21.5	ug/kg	69.5	21.5	1	11/07/22 09:30	11/07/22 14:52	95-50-1	
1,3-Dichlorobenzene	<19.0	ug/kg	69.5	19.0	1	11/07/22 09:30	11/07/22 14:52	541-73-1	
1,4-Dichlorobenzene	<19.0	ug/kg	69.5	19.0	1	11/07/22 09:30	11/07/22 14:52	106-46-7	
Dichlorodifluoromethane	<29.9	ug/kg	69.5	29.9	1	11/07/22 09:30	11/07/22 14:52	75-71-8	
1,1-Dichloroethane	<17.8	ug/kg	69.5	17.8	1	11/07/22 09:30	11/07/22 14:52	75-34-3	
1,2-Dichloroethane	<16.0	ug/kg	69.5	16.0	1	11/07/22 09:30	11/07/22 14:52	107-06-2	
1,1-Dichloroethene	<23.1	ug/kg	69.5	23.1	1	11/07/22 09:30	11/07/22 14:52	75-35-4	
cis-1,2-Dichloroethene	<14.9	ug/kg	69.5	14.9	1	11/07/22 09:30	11/07/22 14:52	156-59-2	
trans-1,2-Dichloroethene	<15.0	ug/kg	69.5	15.0	1	11/07/22 09:30	11/07/22 14:52	156-60-5	
1,2-Dichloropropane	<16.5	ug/kg	69.5	16.5	1	11/07/22 09:30	11/07/22 14:52	78-87-5	
1,3-Dichloropropane	<15.2	ug/kg	69.5	15.2	1	11/07/22 09:30	11/07/22 14:52	142-28-9	
2,2-Dichloropropane	<18.8	ug/kg	69.5	18.8	1	11/07/22 09:30	11/07/22 14:52	594-20-7	
1,1-Dichloropropene	<22.5	ug/kg	69.5	22.5	1	11/07/22 09:30	11/07/22 14:52	563-58-6	
cis-1,3-Dichloropropene	<45.9	ug/kg	347	45.9	1	11/07/22 09:30	11/07/22 14:52	10061-01-5	
trans-1,3-Dichloropropene	<199	ug/kg	347	199	1	11/07/22 09:30	11/07/22 14:52	10061-02-6	
Diisopropyl ether	<17.2	ug/kg	69.5	17.2	1	11/07/22 09:30	11/07/22 14:52	108-20-3	
Ethylbenzene	<16.5	ug/kg	69.5	16.5	1	11/07/22 09:30	11/07/22 14:52	100-41-4	
Hexachloro-1,3-butadiene	<138	ug/kg	347	138	1	11/07/22 09:30	11/07/22 14:52	87-68-3	
Isopropylbenzene (Cumene)	<18.8	ug/kg	69.5	18.8	1	11/07/22 09:30	11/07/22 14:52	98-82-8	
p-Isopropyltoluene	<21.1	ug/kg	69.5	21.1	1	11/07/22 09:30	11/07/22 14:52	99-87-6	
Methylene Chloride	<19.3	ug/kg	69.5	19.3	1	11/07/22 09:30	11/07/22 14:52	75-09-2	
Methyl-tert-butyl ether	<20.4	ug/kg	69.5	20.4	1	11/07/22 09:30	11/07/22 14:52	1634-04-4	
Naphthalene	<21.7	ug/kg	347	21.7	1	11/07/22 09:30	11/07/22 14:52	91-20-3	
n-Propylbenzene	<16.7	ug/kg	69.5	16.7	1	11/07/22 09:30	11/07/22 14:52	103-65-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 10587A BOTTLE & BEAN

Pace Project No.: 40254293

Sample: SS2 **Lab ID: 40254293002** Collected: 11/03/22 11:00 Received: 11/05/22 08:25 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Pace Analytical Services - Green Bay									
Styrene	<17.8	ug/kg	69.5	17.8	1	11/07/22 09:30	11/07/22 14:52	100-42-5	
1,1,1,2-Tetrachloroethane	<16.7	ug/kg	69.5	16.7	1	11/07/22 09:30	11/07/22 14:52	630-20-6	
1,1,2,2-Tetrachloroethane	<25.2	ug/kg	69.5	25.2	1	11/07/22 09:30	11/07/22 14:52	79-34-5	
Tetrachloroethene	<27.0	ug/kg	69.5	27.0	1	11/07/22 09:30	11/07/22 14:52	127-18-4	
Toluene	<17.5	ug/kg	69.5	17.5	1	11/07/22 09:30	11/07/22 14:52	108-88-3	
1,2,3-Trichlorobenzene	<77.4	ug/kg	347	77.4	1	11/07/22 09:30	11/07/22 14:52	87-61-6	
1,2,4-Trichlorobenzene	<57.3	ug/kg	347	57.3	1	11/07/22 09:30	11/07/22 14:52	120-82-1	
1,1,1-Trichloroethane	<17.8	ug/kg	69.5	17.8	1	11/07/22 09:30	11/07/22 14:52	71-55-6	
1,1,2-Trichloroethane	<25.3	ug/kg	69.5	25.3	1	11/07/22 09:30	11/07/22 14:52	79-00-5	
Trichloroethene	<26.0	ug/kg	69.5	26.0	1	11/07/22 09:30	11/07/22 14:52	79-01-6	
Trichlorofluoromethane	<20.2	ug/kg	69.5	20.2	1	11/07/22 09:30	11/07/22 14:52	75-69-4	
1,2,3-Trichloropropane	<33.8	ug/kg	69.5	33.8	1	11/07/22 09:30	11/07/22 14:52	96-18-4	
1,2,4-Trimethylbenzene	<20.7	ug/kg	69.5	20.7	1	11/07/22 09:30	11/07/22 14:52	95-63-6	
1,3,5-Trimethylbenzene	<22.4	ug/kg	69.5	22.4	1	11/07/22 09:30	11/07/22 14:52	108-67-8	
Vinyl chloride	<14.0	ug/kg	69.5	14.0	1	11/07/22 09:30	11/07/22 14:52	75-01-4	
m&p-Xylene	<29.3	ug/kg	139	29.3	1	11/07/22 09:30	11/07/22 14:52	179601-23-1	
o-Xylene	<20.8	ug/kg	69.5	20.8	1	11/07/22 09:30	11/07/22 14:52	95-47-6	
Surrogates									
Toluene-d8 (S)	136	%	69-153		1	11/07/22 09:30	11/07/22 14:52	2037-26-5	
4-Bromofluorobenzene (S)	148	%	68-156		1	11/07/22 09:30	11/07/22 14:52	460-00-4	
1,2-Dichlorobenzene-d4 (S)	136	%	71-161		1	11/07/22 09:30	11/07/22 14:52	2199-69-1	
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	16.3	%	0.10	0.10	1		11/10/22 13:44		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 10587A BOTTLE & BEAN

Pace Project No.: 40254293

QC Batch: 430756

Analysis Method: EPA 8260

QC Batch Method: EPA 5035/5030B

Analysis Description: 8260 MSV Med Level Normal List

Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40254293001, 40254293002

METHOD BLANK: 2480807

Matrix: Solid

Associated Lab Samples: 40254293001, 40254293002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<12.0	50.0	11/07/22 11:29	
1,1,1-Trichloroethane	ug/kg	<12.8	50.0	11/07/22 11:29	
1,1,2,2-Tetrachloroethane	ug/kg	<18.1	50.0	11/07/22 11:29	
1,1,2-Trichloroethane	ug/kg	<18.2	50.0	11/07/22 11:29	
1,1-Dichloroethane	ug/kg	<12.8	50.0	11/07/22 11:29	
1,1-Dichloroethene	ug/kg	<16.6	50.0	11/07/22 11:29	
1,1-Dichloropropene	ug/kg	<16.2	50.0	11/07/22 11:29	
1,2,3-Trichlorobenzene	ug/kg	<55.7	250	11/07/22 11:29	
1,2,3-Trichloropropane	ug/kg	<24.3	50.0	11/07/22 11:29	
1,2,4-Trichlorobenzene	ug/kg	<41.2	250	11/07/22 11:29	
1,2,4-Trimethylbenzene	ug/kg	<14.9	50.0	11/07/22 11:29	
1,2-Dibromo-3-chloropropane	ug/kg	<38.8	250	11/07/22 11:29	
1,2-Dibromoethane (EDB)	ug/kg	<13.7	50.0	11/07/22 11:29	
1,2-Dichlorobenzene	ug/kg	<15.5	50.0	11/07/22 11:29	
1,2-Dichloroethane	ug/kg	<11.5	50.0	11/07/22 11:29	
1,2-Dichloropropane	ug/kg	<11.9	50.0	11/07/22 11:29	
1,3,5-Trimethylbenzene	ug/kg	<16.1	50.0	11/07/22 11:29	
1,3-Dichlorobenzene	ug/kg	<13.7	50.0	11/07/22 11:29	
1,3-Dichloropropane	ug/kg	<10.9	50.0	11/07/22 11:29	
1,4-Dichlorobenzene	ug/kg	<13.7	50.0	11/07/22 11:29	
2,2-Dichloropropane	ug/kg	<13.5	50.0	11/07/22 11:29	
2-Chlorotoluene	ug/kg	<16.2	50.0	11/07/22 11:29	
4-Chlorotoluene	ug/kg	<19.0	50.0	11/07/22 11:29	
Benzene	ug/kg	<11.9	20.0	11/07/22 11:29	
Bromobenzene	ug/kg	<19.5	50.0	11/07/22 11:29	
Bromochloromethane	ug/kg	<13.7	50.0	11/07/22 11:29	
Bromodichloromethane	ug/kg	<11.9	50.0	11/07/22 11:29	
Bromoform	ug/kg	<220	250	11/07/22 11:29	
Bromomethane	ug/kg	<70.1	250	11/07/22 11:29	
Carbon tetrachloride	ug/kg	<11.0	50.0	11/07/22 11:29	
Chlorobenzene	ug/kg	<6.0	50.0	11/07/22 11:29	
Chloroethane	ug/kg	<21.1	250	11/07/22 11:29	
Chloroform	ug/kg	<35.8	250	11/07/22 11:29	
Chloromethane	ug/kg	<19.0	50.0	11/07/22 11:29	
cis-1,2-Dichloroethene	ug/kg	<10.7	50.0	11/07/22 11:29	
cis-1,3-Dichloropropene	ug/kg	<33.0	250	11/07/22 11:29	
Dibromochloromethane	ug/kg	<171	250	11/07/22 11:29	
Dibromomethane	ug/kg	<14.8	50.0	11/07/22 11:29	
Dichlorodifluoromethane	ug/kg	<21.5	50.0	11/07/22 11:29	
Diisopropyl ether	ug/kg	<12.4	50.0	11/07/22 11:29	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 10587A BOTTLE & BEAN

Pace Project No.: 40254293

METHOD BLANK: 2480807

Matrix: Solid

Associated Lab Samples: 40254293001, 40254293002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/kg	<11.9	50.0	11/07/22 11:29	
Hexachloro-1,3-butadiene	ug/kg	<99.4	250	11/07/22 11:29	
Isopropylbenzene (Cumene)	ug/kg	<13.5	50.0	11/07/22 11:29	
m&p-Xylene	ug/kg	<21.1	100	11/07/22 11:29	
Methyl-tert-butyl ether	ug/kg	<14.7	50.0	11/07/22 11:29	
Methylene Chloride	ug/kg	<13.9	50.0	11/07/22 11:29	
n-Butylbenzene	ug/kg	<22.9	50.0	11/07/22 11:29	
n-Propylbenzene	ug/kg	<12.0	50.0	11/07/22 11:29	
Naphthalene	ug/kg	<15.6	250	11/07/22 11:29	
o-Xylene	ug/kg	<15.0	50.0	11/07/22 11:29	
p-Isopropyltoluene	ug/kg	<15.2	50.0	11/07/22 11:29	
sec-Butylbenzene	ug/kg	<12.2	50.0	11/07/22 11:29	
Styrene	ug/kg	<12.8	50.0	11/07/22 11:29	
tert-Butylbenzene	ug/kg	<15.7	50.0	11/07/22 11:29	
Tetrachloroethene	ug/kg	<19.4	50.0	11/07/22 11:29	
Toluene	ug/kg	<12.6	50.0	11/07/22 11:29	
trans-1,2-Dichloroethene	ug/kg	<10.8	50.0	11/07/22 11:29	
trans-1,3-Dichloropropene	ug/kg	<143	250	11/07/22 11:29	
Trichloroethene	ug/kg	<18.7	50.0	11/07/22 11:29	
Trichlorofluoromethane	ug/kg	<14.5	50.0	11/07/22 11:29	
Vinyl chloride	ug/kg	<10.1	50.0	11/07/22 11:29	
1,2-Dichlorobenzene-d4 (S)	%	107	71-161	11/07/22 11:29	
4-Bromofluorobenzene (S)	%	112	68-156	11/07/22 11:29	
Toluene-d8 (S)	%	99	69-153	11/07/22 11:29	

LABORATORY CONTROL SAMPLE: 2480808

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2680	107	70-130	
1,1,2,2-Tetrachloroethane	ug/kg	2500	2980	119	70-130	
1,1,2-Trichloroethane	ug/kg	2500	2580	103	70-130	
1,1-Dichloroethane	ug/kg	2500	2520	101	70-130	
1,1-Dichloroethene	ug/kg	2500	2520	101	77-120	
1,2,4-Trichlorobenzene	ug/kg	2500	2530	101	67-130	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2590	104	70-130	
1,2-Dibromoethane (EDB)	ug/kg	2500	2500	100	70-130	
1,2-Dichlorobenzene	ug/kg	2500	2910	117	70-130	
1,2-Dichloroethane	ug/kg	2500	2560	103	70-130	
1,2-Dichloropropane	ug/kg	2500	2430	97	80-123	
1,3-Dichlorobenzene	ug/kg	2500	2890	116	70-130	
1,4-Dichlorobenzene	ug/kg	2500	2760	110	70-130	
Benzene	ug/kg	2500	2610	104	70-130	
Bromodichloromethane	ug/kg	2500	2620	105	70-130	
Bromoform	ug/kg	2500	2620	105	60-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 10587A BOTTLE & BEAN

Pace Project No.: 40254293

LABORATORY CONTROL SAMPLE: 2480808

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromomethane	ug/kg	2500	2210	88	45-153	
Carbon tetrachloride	ug/kg	2500	2920	117	70-130	
Chlorobenzene	ug/kg	2500	2670	107	70-130	
Chloroethane	ug/kg	2500	2560	102	55-160	
Chloroform	ug/kg	2500	2540	102	80-120	
Chloromethane	ug/kg	2500	1770	71	47-130	
cis-1,2-Dichloroethene	ug/kg	2500	2430	97	70-130	
cis-1,3-Dichloropropene	ug/kg	2500	2500	100	70-130	
Dibromochloromethane	ug/kg	2500	2530	101	70-130	
Dichlorodifluoromethane	ug/kg	2500	1370	55	16-83	
Ethylbenzene	ug/kg	2500	2610	104	80-120	
Isopropylbenzene (Cumene)	ug/kg	2500	2660	106	70-130	
m&p-Xylene	ug/kg	5000	5220	104	70-130	
Methyl-tert-butyl ether	ug/kg	2500	2470	99	65-130	
Methylene Chloride	ug/kg	2500	2480	99	70-130	
o-Xylene	ug/kg	2500	2560	102	70-130	
Styrene	ug/kg	2500	2620	105	70-130	
Tetrachloroethene	ug/kg	2500	2680	107	70-130	
Toluene	ug/kg	2500	2580	103	80-120	
trans-1,2-Dichloroethene	ug/kg	2500	2550	102	70-130	
trans-1,3-Dichloropropene	ug/kg	2500	2540	102	70-130	
Trichloroethene	ug/kg	2500	2650	106	70-130	
Trichlorofluoromethane	ug/kg	2500	2380	95	70-130	
Vinyl chloride	ug/kg	2500	2050	82	59-114	
1,2-Dichlorobenzene-d4 (S)	%			110	71-161	
4-Bromofluorobenzene (S)	%			121	68-156	
Toluene-d8 (S)	%			107	69-153	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 10587A BOTTLE & BEAN

Pace Project No.: 40254293

QC Batch: 431154

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40254293001, 40254293002

SAMPLE DUPLICATE: 2482730

Parameter	Units	40254292004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	16.6	16.4	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 10587A BOTTLE & BEAN

Pace Project No.: 40254293

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 10587A BOTTLE & BEAN

Pace Project No.: 40254293

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40254293001	SS1	EPA 5035/5030B	430756	EPA 8260	430762
40254293002	SS2	EPA 5035/5030B	430756	EPA 8260	430762
40254293001	SS1	ASTM D2974-87	431154		
40254293002	SS2	ASTM D2974-87	431154		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt Form (SCUR)

Client Name: REI

Project #: _____

WO# : 40254293



40254293

Courier: CS Logistics Fed Ex Speedee UPS Walco
 Client Pace Other: _____

Tracking #: 3385095-1

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used SR-110 Type of Ice: Wet Blue Dry None Meltwater Only

Cooler Temperature Uncorr: - / Corr: 0°

Temp Blank Present: yes no Biological Tissue is Frozen: yes no

Person examining contents:
 Date: 11/5/22 / Initials: mp
 Labeled By Initials: MVQ

Temp should be above freezing to 6°C.
 Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2.	<u>pg#</u> <u>11/5/22 mp</u>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.	
- DI VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:	
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.	
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.	
Sufficient Volume:		8.	
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A			
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.	
Correct Type: <u>Pace Green Bay, Pace IR, Non-Pace</u>			
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.	
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.	
-Includes date/time/ID/Analysis Matrix: <u>3</u>			
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13.	
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

PM Review is documented electronically in LIMS. By releasing the project, the PM acknowledges they have reviewed the sample logir

Synergy Environmental Lab, LLC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

ANDY DELFORGE
REI ENGINEERING
4080 N. 20TH AVENUE
WAUSAU, WI 54401

Report Date 05-Oct-23

Project Name BOTTLED BEAN
Project # 10587A

Invoice # E42998

Lab Code 5042998A
Sample ID SS-1N
Sample Matrix Air
Sample Date 9/27/2023

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
Air Samples										
Acetone	730	ug/m3	2.99	9.5	10	TO-15		10/2/2023	CJR	1
Benzene	23.1	ug/m3	0.136	0.433	1	TO-15		9/29/2023	CJR	1
Benzyl Chloride	< 0.209	ug/m3	0.209	0.665	1	TO-15		9/29/2023	CJR	1
Bromodichloromethane	< 0.374	ug/m3	0.374	1.19	1	TO-15		9/29/2023	CJR	1
Bromoform	< 0.414	ug/m3	0.414	1.32	1	TO-15		9/29/2023	CJR	1
Bromomethane	< 0.2	ug/m3	0.2	0.637	1	TO-15		9/29/2023	CJR	1
1,3-Butadiene	< 0.143	ug/m3	0.143	0.454	1	TO-15		9/29/2023	CJR	1
Carbon Disulfide	39	ug/m3	0.138	0.44	1	TO-15		9/29/2023	CJR	1
Carbon Tetrachloride	0.57 "J"	ug/m3	0.307	0.978	1	TO-15		9/29/2023	CJR	1
Chlorobenzene	0.55 "J"	ug/m3	0.251	0.798	1	TO-15		9/29/2023	CJR	1
Chloroethane	< 0.159	ug/m3	0.159	0.507	1	TO-15		9/29/2023	CJR	1
Chloroform	0.39 "J"	ug/m3	0.3	0.953	1	TO-15		9/29/2023	CJR	1
Chloromethane	< 0.831	ug/m3	0.831	2.64	1	TO-15		9/29/2023	CJR	1
Cyclohexane	8.0	ug/m3	0.212	0.674	1	TO-15		9/29/2023	CJR	1
Dibromochloromethane	< 0.376	ug/m3	0.376	1.2	1	TO-15		9/29/2023	CJR	1
1,4-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		9/29/2023	CJR	1
1,3-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		9/29/2023	CJR	1
1,2-Dichlorobenzene	< 0.235	ug/m3	0.235	0.749	1	TO-15		9/29/2023	CJR	1
Dichlorodifluoromethane	< 0.263	ug/m3	0.263	0.836	1	TO-15		9/29/2023	CJR	1
1,2-Dichloroethane	0.45 "J"	ug/m3	0.24	0.763	1	TO-15		9/29/2023	CJR	1
1,1-Dichloroethane	< 0.187	ug/m3	0.187	0.596	1	TO-15		9/29/2023	CJR	1
1,1-Dichloroethene	< 0.21	ug/m3	0.21	0.668	1	TO-15		9/29/2023	CJR	1
cis-1,2-Dichloroethene	< 0.197	ug/m3	0.197	0.626	1	TO-15		9/29/2023	CJR	1
trans-1,2-Dichloroethene	< 0.231	ug/m3	0.231	0.734	1	TO-15		9/29/2023	CJR	1
1,2-Dichloropropane	1.43	ug/m3	0.28	0.89	1	TO-15		9/29/2023	CJR	1

Project Name BOTTLED BEAN
Project # 10587A

Invoice # E42998

Lab Code 5042998A
Sample ID SS-1N
Sample Matrix Air
Sample Date 9/27/2023

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
trans-1,3-Dichloropropene	< 0.198	ug/m3	0.198	0.63	1	TO-15		9/29/2023	CJR	1
cis-1,3-Dichloropropene	< 0.234	ug/m3	0.234	0.745	1	TO-15		9/29/2023	CJR	1
1,2-Dichlorotetrafluoroethane	1390	ug/m3	4.46	14.2	10	TO-15		10/2/2023	CJR	1
1,4-Dioxane	< 0.157	ug/m3	0.157	0.5	1	TO-15		9/29/2023	CJR	1
EDB (1,2-Dibromoethane)	< 0.342	ug/m3	0.342	1.09	1	TO-15		9/29/2023	CJR	1
Ethanol	1180	ug/m3	1.52	4.82	10	TO-15		10/2/2023	CJR	10
Ethyl Acetate	< 0.176	ug/m3	0.176	0.559	1	TO-15		9/29/2023	CJR	1
Ethylbenzene	29.6	ug/m3	0.203	0.645	1	TO-15		9/29/2023	CJR	1
4-Ethyltoluene	6.0	ug/m3	0.214	0.681	1	TO-15		9/29/2023	CJR	1
Heptane	45	ug/m3	0.265	0.845	1	TO-15		9/29/2023	CJR	1
Hexachlorobutadiene	< 0.489	ug/m3	0.489	1.56	1	TO-15		9/29/2023	CJR	1
Hexane	26.3	ug/m3	0.235	0.748	1	TO-15		9/29/2023	CJR	1
2-Hexanone	< 0.222	ug/m3	0.222	0.707	1	TO-15		9/29/2023	CJR	1
Isopropyl Alcohol	60	ug/m3	0.109	0.347	1	TO-15		9/29/2023	CJR	1
Methyl ethyl ketone (MEK)	24.4	ug/m3	0.178	0.567	1	TO-15		9/29/2023	CJR	1
Methyl isobutyl ketone (MIBK)	38	ug/m3	0.168	0.536	1	TO-15		9/29/2023	CJR	1
Methyl Methacrylate	12.4	ug/m3	0.217	0.69	1	TO-15		9/29/2023	CJR	1
Methylene chloride	< 15	ug/m3	0.159	0.506	1	TO-15		9/29/2023	CJR	1
Methyl tert-butyl ether (MTBE)	36	ug/m3	0.16	0.509	1	TO-15		9/29/2023	CJR	1
Naphthalene	< 0.675	ug/m3	0.675	2.15	1	TO-15		9/29/2023	CJR	1
Propene	< 0.079	ug/m3	0.079	0.251	1	TO-15		9/29/2023	CJR	1
Styrene	11.8	ug/m3	0.181	0.577	1	TO-15		9/29/2023	CJR	1
1,1,2,2-Tetrachloroethane	< 0.325	ug/m3	0.325	1.03	1	TO-15		9/29/2023	CJR	1
Tetrachloroethene	9.9	ug/m3	0.278	0.884	1	TO-15		9/29/2023	CJR	1
Tetrahydrofuran	< 0.131	ug/m3	0.131	0.417	1	TO-15		9/29/2023	CJR	1
Toluene	400	ug/m3	1.84	5.85	10	TO-15		10/2/2023	CJR	1
1,2,4-Trichlorobenzene	< 0.657	ug/m3	0.657	2.09	1	TO-15		9/29/2023	CJR	1
1,1,1-Trichloroethane	< 0.249	ug/m3	0.249	0.793	1	TO-15		9/29/2023	CJR	1
1,1,2-Trichloroethane	< 0.258	ug/m3	0.258	0.822	1	TO-15		9/29/2023	CJR	1
Trichloroethene (TCE)	0.96	ug/m3	0.237	0.754	1	TO-15		9/29/2023	CJR	1
Trichlorofluoromethane	1.4	ug/m3	0.337	1.07	1	TO-15		9/29/2023	CJR	1
Trichlorotrifluoroethane	0.92 "J"	ug/m3	0.402	1.28	1	TO-15		9/29/2023	CJR	1
1,2,4-Trimethylbenzene	17.2	ug/m3	0.283	0.899	1	TO-15		9/29/2023	CJR	1
1,3,5-Trimethylbenzene	5.9	ug/m3	0.232	0.739	1	TO-15		9/29/2023	CJR	1
Vinyl acetate	< 0.203	ug/m3	0.203	0.645	1	TO-15		9/29/2023	CJR	1
Vinyl Chloride	< 0.148	ug/m3	0.148	0.472	1	TO-15		9/29/2023	CJR	1
m&p-Xylene	76	ug/m3	0.377	1.2	1	TO-15		9/29/2023	CJR	1
o-Xylene	29.8	ug/m3	0.218	0.695	1	TO-15		9/29/2023	CJR	1

Project Name BOTTLED BEAN
Project # 10587A

Invoice # E42998

Lab Code 5042998B
Sample ID SS-2S
Sample Matrix Air
Sample Date 9/27/2023

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
Air Samples										
Acetone	680	ug/m3	2.99	9.5	10	TO-15		10/2/2023	CJR	1
Benzene	12.9	ug/m3	0.136	0.433	1	TO-15		9/29/2023	CJR	1
Benzyl Chloride	< 0.209	ug/m3	0.209	0.665	1	TO-15		9/29/2023	CJR	1
Bromodichloromethane	< 0.374	ug/m3	0.374	1.19	1	TO-15		9/29/2023	CJR	1
Bromoform	< 0.414	ug/m3	0.414	1.32	1	TO-15		9/29/2023	CJR	1
Bromomethane	< 0.2	ug/m3	0.2	0.637	1	TO-15		9/29/2023	CJR	1
1,3-Butadiene	< 0.143	ug/m3	0.143	0.454	1	TO-15		9/29/2023	CJR	1
Carbon Disulfide	10.1	ug/m3	0.138	0.44	1	TO-15		9/29/2023	CJR	1
Carbon Tetrachloride	0.44 "J"	ug/m3	0.307	0.978	1	TO-15		9/29/2023	CJR	1
Chlorobenzene	0.55 "J"	ug/m3	0.251	0.798	1	TO-15		9/29/2023	CJR	1
Chloroethane	< 0.159	ug/m3	0.159	0.507	1	TO-15		9/29/2023	CJR	1
Chloroform	< 0.3	ug/m3	0.3	0.953	1	TO-15		9/29/2023	CJR	1
Chloromethane	< 0.831	ug/m3	0.831	2.64	1	TO-15		9/29/2023	CJR	1
Cyclohexane	5.4	ug/m3	0.212	0.674	1	TO-15		9/29/2023	CJR	1
Dibromochloromethane	< 0.376	ug/m3	0.376	1.2	1	TO-15		9/29/2023	CJR	1
1,4-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		9/29/2023	CJR	1
1,3-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		9/29/2023	CJR	1
1,2-Dichlorobenzene	< 0.235	ug/m3	0.235	0.749	1	TO-15		9/29/2023	CJR	1
Dichlorodifluoromethane	< 0.263	ug/m3	0.263	0.836	1	TO-15		9/29/2023	CJR	1
1,2-Dichloroethane	0.243 "J"	ug/m3	0.24	0.763	1	TO-15		9/29/2023	CJR	1
1,1-Dichloroethane	< 0.187	ug/m3	0.187	0.596	1	TO-15		9/29/2023	CJR	1
1,1-Dichloroethene	< 0.21	ug/m3	0.21	0.668	1	TO-15		9/29/2023	CJR	1
cis-1,2-Dichloroethene	< 0.197	ug/m3	0.197	0.626	1	TO-15		9/29/2023	CJR	1
trans-1,2-Dichloroethene	< 0.231	ug/m3	0.231	0.734	1	TO-15		9/29/2023	CJR	1
1,2-Dichloropropane	0.92	ug/m3	0.28	0.89	1	TO-15		9/29/2023	CJR	1
trans-1,3-Dichloropropene	< 0.198	ug/m3	0.198	0.63	1	TO-15		9/29/2023	CJR	1
cis-1,3-Dichloropropene	< 0.234	ug/m3	0.234	0.745	1	TO-15		9/29/2023	CJR	1
1,2-Dichlorotetrafluoroethane	2300	ug/m3	4.46	14.2	10	TO-15		10/2/2023	CJR	1
1,4-Dioxane	< 0.157	ug/m3	0.157	0.5	1	TO-15		9/29/2023	CJR	1
EDB (1,2-Dibromoethane)	< 0.342	ug/m3	0.342	1.09	1	TO-15		9/29/2023	CJR	1
Ethanol	1660	ug/m3	1.52	4.82	10	TO-15		10/2/2023	CJR	10
Ethyl Acetate	< 0.176	ug/m3	0.176	0.559	1	TO-15		9/29/2023	CJR	1
Ethylbenzene	33	ug/m3	0.203	0.645	1	TO-15		9/29/2023	CJR	1
4-Ethyltoluene	5.6	ug/m3	0.214	0.681	1	TO-15		9/29/2023	CJR	1
Heptane	33	ug/m3	0.265	0.845	1	TO-15		9/29/2023	CJR	1
Hexachlorobutadiene	< 0.489	ug/m3	0.489	1.56	1	TO-15		9/29/2023	CJR	1
Hexane	16.3	ug/m3	0.235	0.748	1	TO-15		9/29/2023	CJR	1
2-Hexanone	< 0.222	ug/m3	0.222	0.707	1	TO-15		9/29/2023	CJR	1
Isopropyl Alcohol	32	ug/m3	0.109	0.347	1	TO-15		9/29/2023	CJR	1
Methyl ethyl ketone (MEK)	19.5	ug/m3	0.178	0.567	1	TO-15		9/29/2023	CJR	1
Methyl isobutyl ketone (MIBK)	31.4	ug/m3	0.168	0.536	1	TO-15		9/29/2023	CJR	1
Methyl Methacrylate	9.8	ug/m3	0.217	0.69	1	TO-15		9/29/2023	CJR	1
Methylene chloride	< 15	ug/m3	0.159	0.506	1	TO-15		9/29/2023	CJR	1
Methyl tert-butyl ether (MTBE)	18.4	ug/m3	0.16	0.509	1	TO-15		9/29/2023	CJR	1

Project Name BOTTLED BEAN
Project # 10587A

Invoice # E42998

Lab Code 5042998B
Sample ID SS-2S
Sample Matrix Air
Sample Date 9/27/2023

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Naphthalene	< 0.675	ug/m3	0.675	2.15	1	TO-15		9/29/2023	CJR	1
Propene	< 0.079	ug/m3	0.079	0.251	1	TO-15		9/29/2023	CJR	1
Styrene	19.2	ug/m3	0.181	0.577	1	TO-15		9/29/2023	CJR	1
1,1,2,2-Tetrachloroethane	< 0.325	ug/m3	0.325	1.03	1	TO-15		9/29/2023	CJR	1
Tetrachloroethene	7.3	ug/m3	0.278	0.884	1	TO-15		9/29/2023	CJR	1
Tetrahydrofuran	< 0.131	ug/m3	0.131	0.417	1	TO-15		9/29/2023	CJR	1
Toluene	302	ug/m3	1.84	5.85	10	TO-15		10/2/2023	CJR	1
1,2,4-Trichlorobenzene	< 0.657	ug/m3	0.657	2.09	1	TO-15		9/29/2023	CJR	1
1,1,1-Trichloroethane	< 0.249	ug/m3	0.249	0.793	1	TO-15		9/29/2023	CJR	1
1,1,2-Trichloroethane	< 0.258	ug/m3	0.258	0.822	1	TO-15		9/29/2023	CJR	1
Trichloroethene (TCE)	0.70 "J"	ug/m3	0.237	0.754	1	TO-15		9/29/2023	CJR	1
Trichlorofluoromethane	1.12	ug/m3	0.337	1.07	1	TO-15		9/29/2023	CJR	1
Trichlorotrifluoroethane	0.77 "J"	ug/m3	0.402	1.28	1	TO-15		9/29/2023	CJR	1
1,2,4-Trimethylbenzene	15.9	ug/m3	0.283	0.899	1	TO-15		9/29/2023	CJR	1
1,3,5-Trimethylbenzene	5.3	ug/m3	0.232	0.739	1	TO-15		9/29/2023	CJR	1
Vinyl acetate	< 0.203	ug/m3	0.203	0.645	1	TO-15		9/29/2023	CJR	1
Vinyl Chloride	< 0.148	ug/m3	0.148	0.472	1	TO-15		9/29/2023	CJR	1
m&p-Xylene	71	ug/m3	0.377	1.2	1	TO-15		9/29/2023	CJR	1
o-Xylene	28.7	ug/m3	0.218	0.695	1	TO-15		9/29/2023	CJR	1

Project Name BOTTLED BEAN
Project # 10587A

Invoice # E42998

"J" Flag: Analyte detected between LOD and LOQ

LOD Limit of Detection

LOQ Limit of Quantitation

Code ***Comment***

1	Laboratory QC within limits.
10	Linear range of calibration curve exceeded.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature



Synergy Environmental Lab, LLC.

Invoice

ANDY DELFORGE
REI ENGINEERING

4080 N. 20TH AVENUE
WAUSAU, WI 54401

Client Account #	897955	Invoice #	E42998
Project #	10587A	Invoice Date	10/5/2023
Project Name	BOTTLED BEAN	Quote #	8561
Notes	53049	Date Due	11/4/2023
		Sample Date	9/27/2023

Sample ID	Labcode	Sample Type	Matrix	Test Name	Price
SS-1N	5042998A	Sample	Air	TO-15	\$250.00
SS-2S	5042998B	Sample	Air	TO-15	\$250.00

Total Cost: \$500.00

**To ensure proper payment,
Include Account # Invoice #**

PLEASE REMIT PAYMENT TO:
Synergy Environmental Lab
1798 Holloway Drive, Suite B
Holt, MI 48842

CHAIN OF STUDY RECORD



Environmental Lab, LLC

www.synergy-lab.net
1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • mrsynergy@wi.twcbc.com

Chain # 53049

Page 1 of 1

Sample Handling Request
Rush Analysis Date Required: _____
(Rushes accepted only with prior authorization)
 Normal Turn Around

Lab I.D. # _____
QUOTE # : _____
Project #: 10587 A
Sampler: (signature)

Project (Name / Location): Barker Beach / Arrow Rock

Reports To: Andy Orlosky
Company: RET
Address: _____
City/State/Zip: _____
Phone: 715-675-6781

Invoice To: RS
Company: RET
Address: _____
City/State/Zip: _____
Phone: _____
Email: _____

Lab I.D.	Sample I.D.	Collection Date	Time	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	Analysis Requested								Other Analysis												
								DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 524.2)	VOC (EPA 8260)	VOC AIR (TO - 15)	8-RCRA METALS	PID/ FID					
S042998A	SS-1w	4/27/23	1:18	N	1	A	-																					
B	SS-2S	4/27/23	1:25	N	1	A	-																					

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge, etc.)

Sample Integrity - To be completed by receiving lab.
Method of Shipment: Walkie
Temp. of Temp. Blank: _____ °C On Ice: _____
Cooler seal intact upon receipt: Yes _____ No

Relinquished By: (sign)
Time: 8:30
Date: 4/28/23

Received in Laboratory By: Ray Ginn
Time: 9:15m
Date: 04-29-23



1990 Prospect Court
 Appleton, WI 54914

www.synergy-lab.n
 (920) 830-2445

to 15 level II qc	MATRIX BLANK					
	LCS	% REC	PPBV	MOL WT	UG/M3	
Propene	4.64	116	N.D	42.1	#VALUE!	
Dichlorodifluoromet	3.8	95	N.D	120.92	#VALUE!	
Chloromethane	3.71	92.75	N.D	50.5	#VALUE!	
Dichlorotetrafluoroc	3.3	82.5	N.D	171	#VALUE!	
Vinyl Chloride	3.43	85.75	N.D	62.5	#VALUE!	
1,3--Butadiene	3.37	84.25	N.D	54.1	#VALUE!	
Bromomethane	3.38	84.5	N.D	94.9	#VALUE!	
Chloroethane	3.4	85	N.D	64.5	#VALUE!	
Ethanol	3.73	93.25	1.17	46.1	2.20511	
Acrolein	3.85	96.25	N.D	56.06	#VALUE!	
Trichlorofluorometh	3.94	98.5	N.D	137.4	#VALUE!	
Acetone	3.95	98.75	2.12	58.1	5.03565	
Isopropyl Alcohol	4.62	115.5	N.D	60.1	#VALUE!	
1,1-Dichloroethene	4.29	107.25	N.D	96.9	#VALUE!	
Freon 113	4.04	101	N.D	187.4	#VALUE!	
Methylene Chloride	4.36	109	2.5	84.9	8.677433	
Carbon Disulfide	5.79	144.75	N.D	76.1	#VALUE!	
trans-1,2-Dichloroet	4.94	123.5	N.D	96.9	#VALUE!	
MTBE	4.6	115	N.D	88.1	#VALUE!	
Vinyl Acetate	5.32	133	N.D	86.09	#VALUE!	
1,1-Dichloroethane	4.32	108	N.D	98	#VALUE!	
2-Butanone	4.55	113.75	N.D	72.1	#VALUE!	
Hexane	4.82	120.5	1.51	86.2	5.321423	
cis-1,2-Dichloroethe	4.22	105.5	N.D	96.9	#VALUE!	
Ethyl Acetate	4.29	107.25	N.D	88.1	#VALUE!	
Chloroform	4.13	103.25	N.D	119	#VALUE!	
Tetrahydrofuran	4	100	N.D	72.1	#VALUE!	
1,1,1-Trichloroethar	3.97	99.25	N.D	133	#VALUE!	
1,2-Dichloroethane	4.11	102.75	N.D	99	#VALUE!	
Benzene	4.19	104.75	N.D	78.1	#VALUE!	
Carbon Tetrachlorid	3.98	99.5	N.D	154	#VALUE!	
Cyclohexane	4.24	106	N.D	84.2	#VALUE!	
Heptane	4.91	122.75	N.D	100.21	#VALUE!	
Trichloroethene	4.46	111.5	N.D	131	#VALUE!	

1,2-Dichloropropan	4.73	118.25 N.D		113	#VALUE!
1,4-Dioxane	4.67	116.75 N.D		88.1	#VALUE!
Methyl Methacrylat	5.09	127.25 N.D		100.12	#VALUE!
Bromodichlorometh	4.42	110.5 N.D		164	#VALUE!
cis-1,3-Dichloroprop	4.69	117.25 N.D		111	#VALUE!
4-Methyl-2-pentano	4.92	123 N.D		100.1	#VALUE!
trans-1,3-Dichloropr	4.53	113.25 N.D		111	#VALUE!
Toluene	4.18	104.5 N.D		92.1	#VALUE!
1,1,2-Trichloroethar	4.47	111.75 N.D		133	#VALUE!
2-Hexanone	4.88	122 N.D		100.1	#VALUE!
Dibromochlorometf	4.13	103.25 N.D		208	#VALUE!
Tetrachloroethene	3.8	95 N.D		166	#VALUE!
1,2-Dibromoethane	4.5	112.5 N.D		188	#VALUE!
Chlorobenzene	3.9	97.5 N.D		113	#VALUE!
Ethylbenzene	4.25	106.25 N.D		106	#VALUE!
m,p-Xylene	8.04	100.5 N.D		106	#VALUE!
Styrene	4.31	107.75 N.D		104	#VALUE!
o-Xylene	4.15	103.75 N.D		106	#VALUE!
Bromoform	3.43	85.75 N.D		253	#VALUE!
1,1,1,2-Tetrachloro	4.14	103.5 N.D		168	#VALUE!
4-Ethyltoluene	4.1	102.5 N.D		120	#VALUE!
1,3,5-Trimethylbenz	4.03	100.75 N.D		120	#VALUE!
1,2,4-Trimethylbenz	4.24	106 N.D		120	#VALUE!
1,3-Dichlorobenzene	3.56	89 N.D		147	#VALUE!
Benzyl Chloride	4.28	107 N.D		127	#VALUE!
1,4-Dichlorobenzene	3.61	90.25 N.D		147	#VALUE!
1,2-Dichlorobenzene	3.72	93 N.D		144	#VALUE!
1,2,4-Trichlorobenz	3.77	94.25 N.D		181	#VALUE!
Naphthalene	4.12	103	0.09	128	0.470973
Hexachlorobutadien	3.45	86.25 N.D		261	#VALUE!

Synergy Environmental Lab, LLC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

ANDY DELFORGE
REI ENGINEERING
4080 N. 20TH AVENUE
WAUSAU, WI 54401

Report Date 07-Feb-24

Project Name BOTTLED BEAN/ MINOCQUA
Project # 10587A

Invoice # E43517

Lab Code 5043517A
Sample ID VP1
Sample Matrix Air
Sample Date 1/30/2024

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
Air Samples										
Acetone	145	ug/m3	2.99	9.5	10	TO-15		2/5/2024	CJR	4
Benzene	12.1	ug/m3	0.136	0.433	1	TO-15		2/2/2024	CJR	1
Benzyl Chloride	< 0.209	ug/m3	0.209	0.665	1	TO-15		2/2/2024	CJR	1
Bromodichloromethane	< 0.374	ug/m3	0.374	1.19	1	TO-15		2/2/2024	CJR	1
Bromoform	< 0.414	ug/m3	0.414	1.32	1	TO-15		2/2/2024	CJR	1
Bromomethane	< 0.2	ug/m3	0.2	0.637	1	TO-15		2/2/2024	CJR	1
1,3-Butadiene	< 0.143	ug/m3	0.143	0.454	1	TO-15		2/2/2024	CJR	1
Carbon Disulfide	9.4	ug/m3	0.138	0.44	1	TO-15		2/2/2024	CJR	1
Carbon Tetrachloride	< 0.307	ug/m3	0.307	0.978	1	TO-15		2/2/2024	CJR	1
Chlorobenzene	< 0.251	ug/m3	0.251	0.798	1	TO-15		2/2/2024	CJR	1
Chloroethane	< 0.159	ug/m3	0.159	0.507	1	TO-15		2/2/2024	CJR	1
Chloroform	< 0.3	ug/m3	0.3	0.953	1	TO-15		2/2/2024	CJR	1
Chloromethane	1.11 "J"	ug/m3	0.831	2.64	1	TO-15		2/2/2024	CJR	1
Cyclohexane	3.5	ug/m3	0.212	0.674	1	TO-15		2/2/2024	CJR	1
Dibromochloromethane	< 0.376	ug/m3	0.376	1.2	1	TO-15		2/2/2024	CJR	1
1,4-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		2/2/2024	CJR	1
1,3-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		2/2/2024	CJR	1
1,2-Dichlorobenzene	< 0.235	ug/m3	0.235	0.749	1	TO-15		2/2/2024	CJR	1
Dichlorodifluoromethane	3.2	ug/m3	0.263	0.836	1	TO-15		2/2/2024	CJR	4
1,2-Dichloroethane	< 0.24	ug/m3	0.24	0.763	1	TO-15		2/2/2024	CJR	1
1,1-Dichloroethane	< 0.187	ug/m3	0.187	0.596	1	TO-15		2/2/2024	CJR	1
1,1-Dichloroethene	< 0.21	ug/m3	0.21	0.668	1	TO-15		2/2/2024	CJR	1
cis-1,2-Dichloroethene	< 0.197	ug/m3	0.197	0.626	1	TO-15		2/2/2024	CJR	1
trans-1,2-Dichloroethene	< 0.231	ug/m3	0.231	0.734	1	TO-15		2/2/2024	CJR	1
1,2-Dichloropropane	0.46 "J"	ug/m3	0.28	0.89	1	TO-15		2/2/2024	CJR	1
trans-1,3-Dichloropropene	< 0.198	ug/m3	0.198	0.63	1	TO-15		2/2/2024	CJR	1
cis-1,3-Dichloropropene	< 0.234	ug/m3	0.234	0.745	1	TO-15		2/2/2024	CJR	1
1,2-Dichlorotetrafluoroethane	0.98 "J"	ug/m3	0.446	1.42	1	TO-15		2/2/2024	CJR	1
1,4-Dioxane	< 0.157	ug/m3	0.157	0.5	1	TO-15		2/2/2024	CJR	1

Project Name BOTTLED BEAN/ MINOCQUA
Project # 10587A

Invoice # E43517

Lab Code 5043517A
Sample ID VP1
Sample Matrix Air
Sample Date 1/30/2024

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
EDB (1,2-Dibromoethane)	< 0.342	ug/m3	0.342	1.09	1	TO-15		2/2/2024	CJR	1
Ethanol	710	ug/m3	1.52	4.82	10	TO-15		2/5/2024	CJR	1
Ethyl Acetate	< 0.176	ug/m3	0.176	0.559	1	TO-15		2/2/2024	CJR	1
Ethylbenzene	16.3	ug/m3	0.203	0.645	1	TO-15		2/2/2024	CJR	1
4-Ethyltoluene	3.5	ug/m3	0.214	0.681	1	TO-15		2/2/2024	CJR	1
Heptane	16.3	ug/m3	0.265	0.845	1	TO-15		2/2/2024	CJR	1
Hexachlorobutadiene	< 0.489	ug/m3	0.489	1.56	1	TO-15		2/2/2024	CJR	1
Hexane	< 15	ug/m3	0.235	0.748	1	TO-15		2/2/2024	CJR	1
2-Hexanone	< 0.222	ug/m3	0.222	0.707	1	TO-15		2/2/2024	CJR	1
Isopropyl Alcohol	18.2	ug/m3	0.109	0.347	1	TO-15		2/2/2024	CJR	4 5
Methyl ethyl ketone (MEK)	5.7	ug/m3	0.178	0.567	1	TO-15		2/2/2024	CJR	1
Methyl isobutyl ketone (MIBK)	13.9	ug/m3	0.168	0.536	1	TO-15		2/2/2024	CJR	1
Methyl Methacrylate	3.6	ug/m3	0.217	0.69	1	TO-15		2/2/2024	CJR	1
Methylene chloride	< 15	ug/m3	0.159	0.506	1	TO-15		2/2/2024	CJR	1
Methyl tert-butyl ether (MTBE)	10.9	ug/m3	0.16	0.509	1	TO-15		2/2/2024	CJR	1
Naphthalene	< 0.675	ug/m3	0.675	2.15	1	TO-15		2/2/2024	CJR	1
Propene	< 0.079	ug/m3	0.079	0.251	1	TO-15		2/2/2024	CJR	1
Styrene	4.3	ug/m3	0.181	0.577	1	TO-15		2/2/2024	CJR	1
1,1,2,2-Tetrachloroethane	< 0.325	ug/m3	0.325	1.03	1	TO-15		2/2/2024	CJR	1
Tetrachloroethene	3.4	ug/m3	0.278	0.884	1	TO-15		2/2/2024	CJR	1
Tetrahydrofuran	< 0.131	ug/m3	0.131	0.417	1	TO-15		2/2/2024	CJR	1
Toluene	304	ug/m3	1.84	5.85	10	TO-15		2/5/2024	CJR	1
1,2,4-Trichlorobenzene	< 0.657	ug/m3	0.657	2.09	1	TO-15		2/2/2024	CJR	1
1,1,1-Trichloroethane	< 0.249	ug/m3	0.249	0.793	1	TO-15		2/2/2024	CJR	1
1,1,2-Trichloroethane	< 0.258	ug/m3	0.258	0.822	1	TO-15		2/2/2024	CJR	1
Trichloroethene (TCE)	< 0.237	ug/m3	0.237	0.754	1	TO-15		2/2/2024	CJR	1
Trichlorofluoromethane	2.13	ug/m3	0.337	1.07	1	TO-15		2/2/2024	CJR	4
Trichlorotrifluoroethane	< 0.402	ug/m3	0.402	1.28	1	TO-15		2/2/2024	CJR	1
1,2,4-Trimethylbenzene	9.2	ug/m3	0.283	0.899	1	TO-15		2/2/2024	CJR	1
1,3,5-Trimethylbenzene	3.14	ug/m3	0.232	0.739	1	TO-15		2/2/2024	CJR	1
Vinyl acetate	< 0.203	ug/m3	0.203	0.645	1	TO-15		2/2/2024	CJR	1
Vinyl Chloride	< 0.148	ug/m3	0.148	0.472	1	TO-15		2/2/2024	CJR	1
m&p-Xylene	46	ug/m3	0.377	1.2	1	TO-15		2/2/2024	CJR	1
o-Xylene	18.8	ug/m3	0.218	0.695	1	TO-15		2/2/2024	CJR	1

Project Name BOTTLED BEAN/ MINOCQUA
Project # 10587A

Invoice # E43517

Lab Code 5043517B
Sample ID VP2
Sample Matrix Air
Sample Date 1/30/2024

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
Air Samples										
Acetone	470	ug/m3	2.99	9.5	10	TO-15		2/5/2024	CJR	4
Benzene	7.6	ug/m3	0.136	0.433	1	TO-15		2/2/2024	CJR	1
Benzyl Chloride	< 0.209	ug/m3	0.209	0.665	1	TO-15		2/2/2024	CJR	1
Bromodichloromethane	< 0.374	ug/m3	0.374	1.19	1	TO-15		2/2/2024	CJR	1
Bromoform	< 0.414	ug/m3	0.414	1.32	1	TO-15		2/2/2024	CJR	1
Bromomethane	< 0.2	ug/m3	0.2	0.637	1	TO-15		2/2/2024	CJR	1
1,3-Butadiene	< 0.143	ug/m3	0.143	0.454	1	TO-15		2/2/2024	CJR	1
Carbon Disulfide	3.05	ug/m3	0.138	0.44	1	TO-15		2/2/2024	CJR	1
Carbon Tetrachloride	< 0.307	ug/m3	0.307	0.978	1	TO-15		2/2/2024	CJR	1
Chlorobenzene	< 0.251	ug/m3	0.251	0.798	1	TO-15		2/2/2024	CJR	1
Chloroethane	< 0.159	ug/m3	0.159	0.507	1	TO-15		2/2/2024	CJR	1
Chloroform	< 0.3	ug/m3	0.3	0.953	1	TO-15		2/2/2024	CJR	1
Chloromethane	< 0.831	ug/m3	0.831	2.64	1	TO-15		2/2/2024	CJR	1
Cyclohexane	2.41	ug/m3	0.212	0.674	1	TO-15		2/2/2024	CJR	1
Dibromochloromethane	< 0.376	ug/m3	0.376	1.2	1	TO-15		2/2/2024	CJR	1
1,4-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		2/2/2024	CJR	1
1,3-Dichlorobenzene	< 0.302	ug/m3	0.302	0.96	1	TO-15		2/2/2024	CJR	1
1,2-Dichlorobenzene	< 0.235	ug/m3	0.235	0.749	1	TO-15		2/2/2024	CJR	1
Dichlorodifluoromethane	2.92	ug/m3	0.263	0.836	1	TO-15		2/2/2024	CJR	4
1,2-Dichloroethane	< 0.24	ug/m3	0.24	0.763	1	TO-15		2/2/2024	CJR	1
1,1-Dichloroethane	< 0.187	ug/m3	0.187	0.596	1	TO-15		2/2/2024	CJR	1
1,1-Dichloroethene	< 0.21	ug/m3	0.21	0.668	1	TO-15		2/2/2024	CJR	1
cis-1,2-Dichloroethene	< 0.197	ug/m3	0.197	0.626	1	TO-15		2/2/2024	CJR	1
trans-1,2-Dichloroethene	< 0.231	ug/m3	0.231	0.734	1	TO-15		2/2/2024	CJR	1
1,2-Dichloropropane	0.37 "J"	ug/m3	0.28	0.89	1	TO-15		2/2/2024	CJR	1
trans-1,3-Dichloropropene	< 0.198	ug/m3	0.198	0.63	1	TO-15		2/2/2024	CJR	1
cis-1,3-Dichloropropene	< 0.234	ug/m3	0.234	0.745	1	TO-15		2/2/2024	CJR	1
1,2-Dichlorotetrafluoroethane	2.31	ug/m3	0.446	1.42	1	TO-15		2/2/2024	CJR	1
1,4-Dioxane	< 0.157	ug/m3	0.157	0.5	1	TO-15		2/2/2024	CJR	1
EDB (1,2-Dibromoethane)	< 0.342	ug/m3	0.342	1.09	1	TO-15		2/2/2024	CJR	1
Ethanol	1080	ug/m3	1.52	4.82	10	TO-15		2/5/2024	CJR	10
Ethyl Acetate	0.86	ug/m3	0.176	0.559	1	TO-15		2/2/2024	CJR	1
Ethylbenzene	15.3	ug/m3	0.203	0.645	1	TO-15		2/2/2024	CJR	1
4-Ethyltoluene	3.4	ug/m3	0.214	0.681	1	TO-15		2/2/2024	CJR	1
Heptane	12.1	ug/m3	0.265	0.845	1	TO-15		2/2/2024	CJR	1
Hexachlorobutadiene	< 0.489	ug/m3	0.489	1.56	1	TO-15		2/2/2024	CJR	1
Hexane	< 15	ug/m3	0.235	0.748	1	TO-15		2/2/2024	CJR	1
2-Hexanone	< 0.222	ug/m3	0.222	0.707	1	TO-15		2/2/2024	CJR	1
Isopropyl Alcohol	18.4	ug/m3	0.109	0.347	1	TO-15		2/2/2024	CJR	4 5
Methyl ethyl ketone (MEK)	5.2	ug/m3	0.178	0.567	1	TO-15		2/2/2024	CJR	1
Methyl isobutyl ketone (MIBK)	12	ug/m3	0.168	0.536	1	TO-15		2/2/2024	CJR	1
Methyl Methacrylate	2.82	ug/m3	0.217	0.69	1	TO-15		2/2/2024	CJR	1
Methylene chloride	< 15	ug/m3	0.159	0.506	1	TO-15		2/2/2024	CJR	1
Methyl tert-butyl ether (MTBE)	7.3	ug/m3	0.16	0.509	1	TO-15		2/2/2024	CJR	1
Naphthalene	< 0.675	ug/m3	0.675	2.15	1	TO-15		2/2/2024	CJR	1
Propene	< 0.079	ug/m3	0.079	0.251	1	TO-15		2/2/2024	CJR	1
Styrene	5.1	ug/m3	0.181	0.577	1	TO-15		2/2/2024	CJR	1
1,1,2,2-Tetrachloroethane	< 0.325	ug/m3	0.325	1.03	1	TO-15		2/2/2024	CJR	1
Tetrachloroethene	2.38	ug/m3	0.278	0.884	1	TO-15		2/2/2024	CJR	1
Tetrahydrofuran	< 0.131	ug/m3	0.131	0.417	1	TO-15		2/2/2024	CJR	1

Project Name BOTTLED BEAN/ MINOCQUA
Project # 10587A

Invoice # E43517

Lab Code 5043517B
Sample ID VP2
Sample Matrix Air
Sample Date 1/30/2024

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Toluene	244	ug/m3	1.84	5.85	10	TO-15		2/5/2024	CJR	1
1,2,4-Trichlorobenzene	< 0.657	ug/m3	0.657	2.09	1	TO-15		2/2/2024	CJR	1
1,1,1-Trichloroethane	< 0.249	ug/m3	0.249	0.793	1	TO-15		2/2/2024	CJR	1
1,1,2-Trichloroethane	< 0.258	ug/m3	0.258	0.822	1	TO-15		2/2/2024	CJR	1
Trichloroethene (TCE)	< 0.237	ug/m3	0.237	0.754	1	TO-15		2/2/2024	CJR	1
Trichlorofluoromethane	1.85	ug/m3	0.337	1.07	1	TO-15		2/2/2024	CJR	4
Trichlorotrifluoroethane	< 0.402	ug/m3	0.402	1.28	1	TO-15		2/2/2024	CJR	1
1,2,4-Trimethylbenzene	8.9	ug/m3	0.283	0.899	1	TO-15		2/2/2024	CJR	1
1,3,5-Trimethylbenzene	3.09	ug/m3	0.232	0.739	1	TO-15		2/2/2024	CJR	1
Vinyl acetate	< 0.203	ug/m3	0.203	0.645	1	TO-15		2/2/2024	CJR	1
Vinyl Chloride	< 0.148	ug/m3	0.148	0.472	1	TO-15		2/2/2024	CJR	1
m&p-Xylene	43	ug/m3	0.377	1.2	1	TO-15		2/2/2024	CJR	1
o-Xylene	17.7	ug/m3	0.218	0.695	1	TO-15		2/2/2024	CJR	1

"J" Flag: Analyte detected between LOD and LOQ

LOD Limit of Detection

LOQ Limit of Quantitation

Code **Comment**

- 1 Laboratory QC within limits.
- 4 The continuing calibration standard not within established limits.
- 5 The QC blank not within established limits.
- 10 Linear range of calibration curve exceeded.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature



Synergy Environmental Lab, INC.

Invoice

ANDY DELFORGE
REI ENGINEERING

4080 N. 20TH AVENUE
WAUSAU, WI 54401

Client Account #	897955	Invoice #	E43517
Project #	10587A	Invoice Date	2/7/2024
Project Name	BOTTLED BEAN/ MINOCQUA	Quote #	8593
Notes	52715	Date Due	3/8/2024
		Sample Date	1/30/2024

Sample ID	Labcode	Sample Type	Matrix	Test Name	Price
VP1	5043517A	Sample	Air	TO-15	\$275.00
VP2	5043517B	Sample	Air	TO-15	\$275.00

Total Cost: \$550.00

To ensure proper payment,
Include Account # Invoice #

PLEASE REMIT PAYMENT TO:
SYNERGY ENVIRONMENTAL LAB, LLC
1798 HOLLOWAY DRIVE SUITE B
HOLT, MI 48842



Environmental Lab, LLC

www.synergy-lab.net
 1990 Prospect Ct. • Appleton, WI 54914
 920-830-2455 • mrsynergy@wi.twcabc.com

Sample Handling Request

Rush Analysis Date Required: _____
 (Rushes accepted only with prior authorization)
 Normal Turn Around

Lab I.D. # _____
 QUOTE # : _____
 Project #: 105874
 Sampler: (signature) _____

Project (Name / Location): Bowler Beer / Milwaukee

Analysis Requested

Other Analysis

Reports To:	<u>Andy Detkovich</u>	Invoice To:	<u>ND</u>
Company:	<u>VEI</u>	Company:	<u>VEI</u>
Address:		Address:	
City State Zip:		City State Zip:	
Phone:		Phone:	
Email:	<u>Andy.D@veiconsulting.com</u>	Email:	

DRO (Mod DRO Sep 95)	
GRO (Mod GRO Sep 95)	
LEAD	
NITRATE/NITRITE	
OIL & GREASE	
PAH (EPA 8270)	
PCB	
PVOC (EPA 8021)	
PVOC + NAPHTHALENE	
SULFATE	
TOTAL SUSPENDED SOLIDS	
VOC DW (EPA 524.2)	
VOC (EPA 8260)	
VOC AIR (TO - 15)	<input checked="" type="checkbox"/>
8-RCRA METALS	

Lab I.D.	Sample I.D.	Collection Date	Time	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	PID/ FID
<u>SD135174</u>	<u>B</u>	<u>1/18/14</u>	<u>11:25</u>	<u>N</u>	<u>1</u>	<u>A</u>	<u>-</u>	<u>0</u>
	<u>V12</u>	<u>11:45</u>		<u>N</u>	<u>1</u>	<u>A</u>	<u>-</u>	<u>0</u>

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge, etc.)

Sample Integrity - To be completed by receiving lab.
 Method of Shipment: Wet Ice
 Temp. of Temp. Blank: _____ °C On Ice: _____
 Cooler seal intact upon receipt: Yes No

Relinquished By: (sign) _____	Time: <u>1/24/14</u>	Date: <u>2/15/14</u>	Received By: (sign) _____	Time: _____	Date: _____
Received in Laboratory By: <u>BSJ</u>	Time: <u>02:01:24</u>	Date: <u>10302</u>			



1990 Prospect Court
Appleton, WI 54914

www.synergy-lab.n
(920) 830-2445

to 15 level II qc

MATRIX BLANK

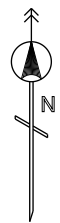
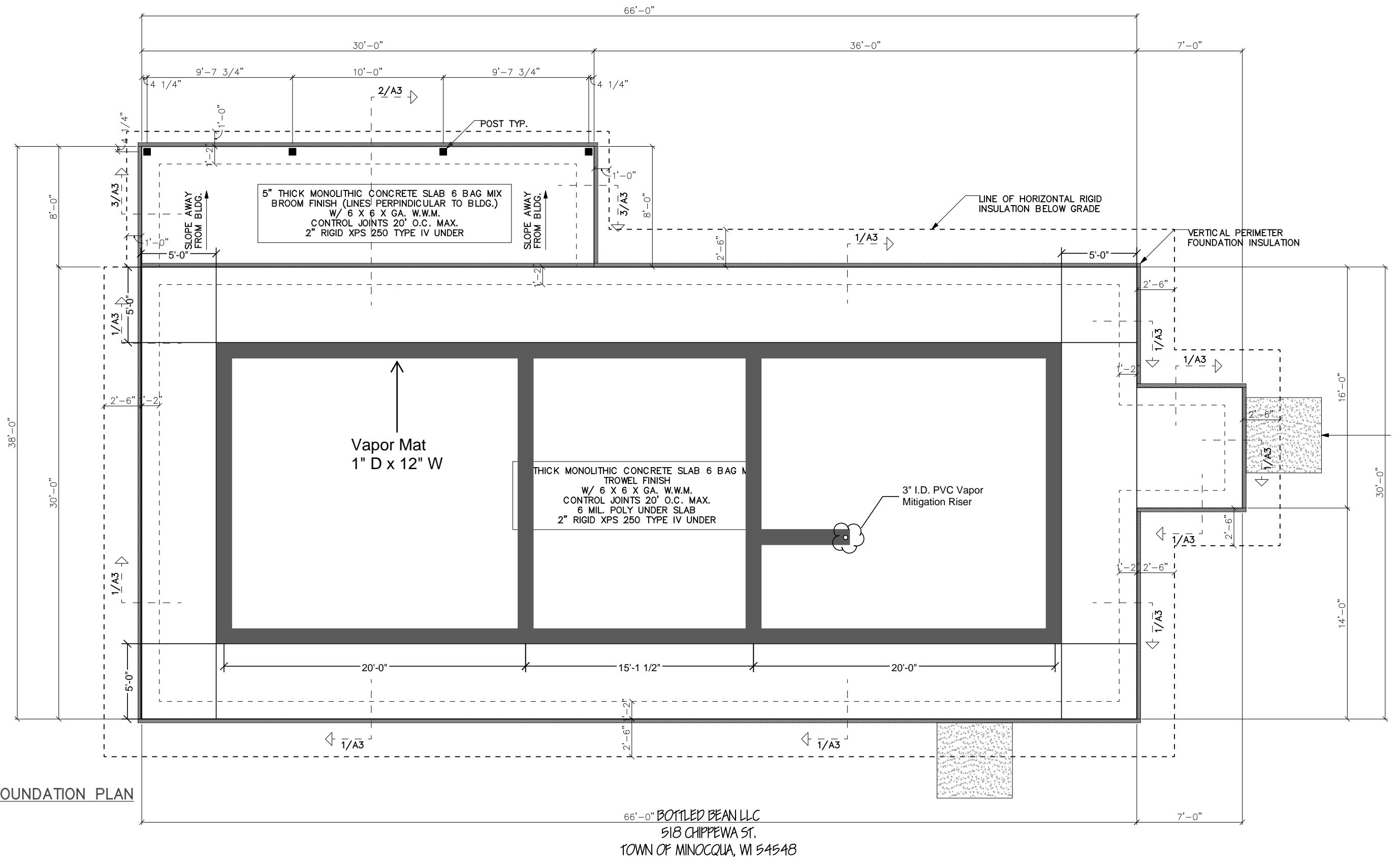
	LCS	% REC	PPBV	MOL WT	UG/M3
Propene	4.67	116.75	N.D	42.1	#VALUE!
Dichlorodifluoromet	6.4	160	N.D	120.92	#VALUE!
Chloromethane	4.53	113.25	N.D	50.5	#VALUE!
Dichlorotetrafluoroc	4.61	115.25	N.D	171	#VALUE!
Vinyl Chloride	4.61	115.25	N.D	62.5	#VALUE!
1,3--Butadiene	4.7	117.5	N.D	54.1	#VALUE!
Bromomethane	4.52	113	N.D	94.9	#VALUE!
Chloroethane	4.57	114.25	N.D	64.5	#VALUE!
Ethanol	5.83	145.75	3.15	46.1	5.936836
Acrolein	6.64	166	N.D	56.06	#VALUE!
Trichlorofluorometh	7.61	190.25	N.D	137.4	#VALUE!
Acetone	7.03	175.75	0.42	58.1	0.997629
Isopropyl Alcohol	7.49	187.25	0.63	60.1	1.547956
1,1-Dichloroethene	4.13	103.25	N.D	96.9	#VALUE!
Freon 113	3.77	94.25	N.D	187.4	#VALUE!
Methylene Chloride	4.06	101.5	0.74	84.9	2.56852
Carbon Disulfide	4.03	100.75	N.D	76.1	#VALUE!
trans-1,2-Dichloroet	4.1	102.5	N.D	96.9	#VALUE!
MTBE	4.03	100.75	N.D	88.1	#VALUE!
Vinyl Acetate	4.49	112.25	N.D	86.09	#VALUE!
1,1-Dichloroethane	4.19	104.75	N.D	98	#VALUE!
2-Butanone	4.04	101	N.D	72.1	#VALUE!
Hexane	4.26	106.5	N.D	86.2	#VALUE!
cis-1,2-Dichloroethe	4.07	101.75	N.D	96.9	#VALUE!
Ethyl Acetate	4.2	105	N.D	88.1	#VALUE!
Chloroform	3.97	99.25	N.D	119	#VALUE!
Tetrahydrofuran	4.07	101.75	N.D	72.1	#VALUE!
1,1,1-Trichloroethar	3.86	96.5	N.D	133	#VALUE!
1,2-Dichloroethane	4.13	103.25	N.D	99	#VALUE!
Benzene	4	100	N.D	78.1	#VALUE!
Carbon Tetrachlorid	3.74	93.5	N.D	154	#VALUE!
Cyclohexane	3.91	97.75	N.D	84.2	#VALUE!
Heptane	4.55	113.75	N.D	100.21	#VALUE!
Trichloroethene	4.39	109.75	N.D	131	#VALUE!

1,2-Dichloropropan	4.63	115.75 N.D	113 #VALUE!
1,4-Dioxane	4.46	111.5 N.D	88.1 #VALUE!
Methyl Methacrylat	4.59	114.75 N.D	100.12 #VALUE!
Bromodichlorometh	4.59	114.75 N.D	164 #VALUE!
cis-1,3-Dichloroprop	4.5	112.5 N.D	111 #VALUE!
4-Methyl-2-pentano	5.07	126.75 N.D	100.1 #VALUE!
trans-1,3-Dichloropr	4.51	112.75 N.D	111 #VALUE!
Toluene	4.45	111.25 N.D	92.1 #VALUE!
1,1,2-Trichloroethar	4.4	110 N.D	133 #VALUE!
2-Hexanone	4.77	119.25 N.D	100.1 #VALUE!
Dibromochlorometf	4.27	106.75 N.D	208 #VALUE!
Tetrachloroethene	4.03	100.75 N.D	166 #VALUE!
1,2-Dibromoethane	4.34	108.5 N.D	188 #VALUE!
Chlorobenzene	4.12	103 N.D	113 #VALUE!
Ethylbenzene	4.2	105 N.D	106 #VALUE!
m,p-Xylene	8.25	103.125 N.D	106 #VALUE!
Styrene	4.19	104.75 N.D	104 #VALUE!
o-Xylene	4.22	105.5 N.D	106 #VALUE!
Bromoform	3.85	96.25 N.D	253 #VALUE!
1,1,2,2-Tetrachloro	4.27	106.75 N.D	168 #VALUE!
4-Ethyltoluene	4.08	102 N.D	120 #VALUE!
1,3,5-Trimethylbenz	4.1	102.5 N.D	120 #VALUE!
1,2,4-Trimethylbenz	4.07	101.75 N.D	120 #VALUE!
1,3-Dichlorobenz	3.93	98.25 N.D	147 #VALUE!
Benzyl Chloride	4.15	103.75 N.D	127 #VALUE!
1,4-Dichlorobenz	4.02	100.5 N.D	147 #VALUE!
1,2-Dichlorobenz	3.96	99 N.D	144 #VALUE!
1,2,4-Trichlorobenz	3.59	89.75 N.D	181 #VALUE!
Naphthalene	3.86	96.5 N.D	128 #VALUE!
Hexachlorobutadien	3.55	88.75 N.D	261 #VALUE!

APPENDIX C

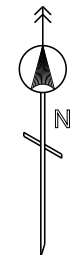
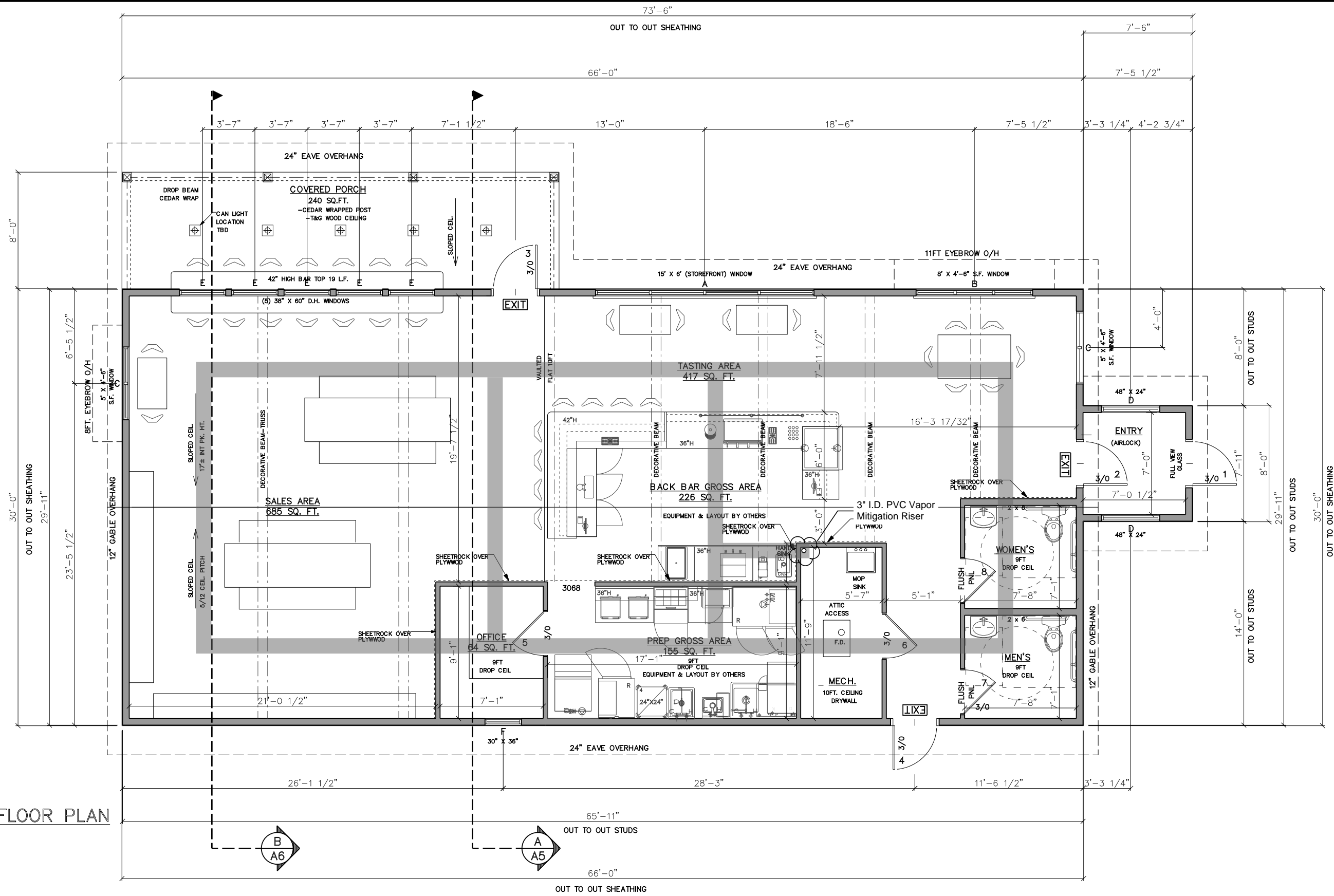
VAPOR MITIGATION SYSTEM PLANS AND SPECIFICATIONS



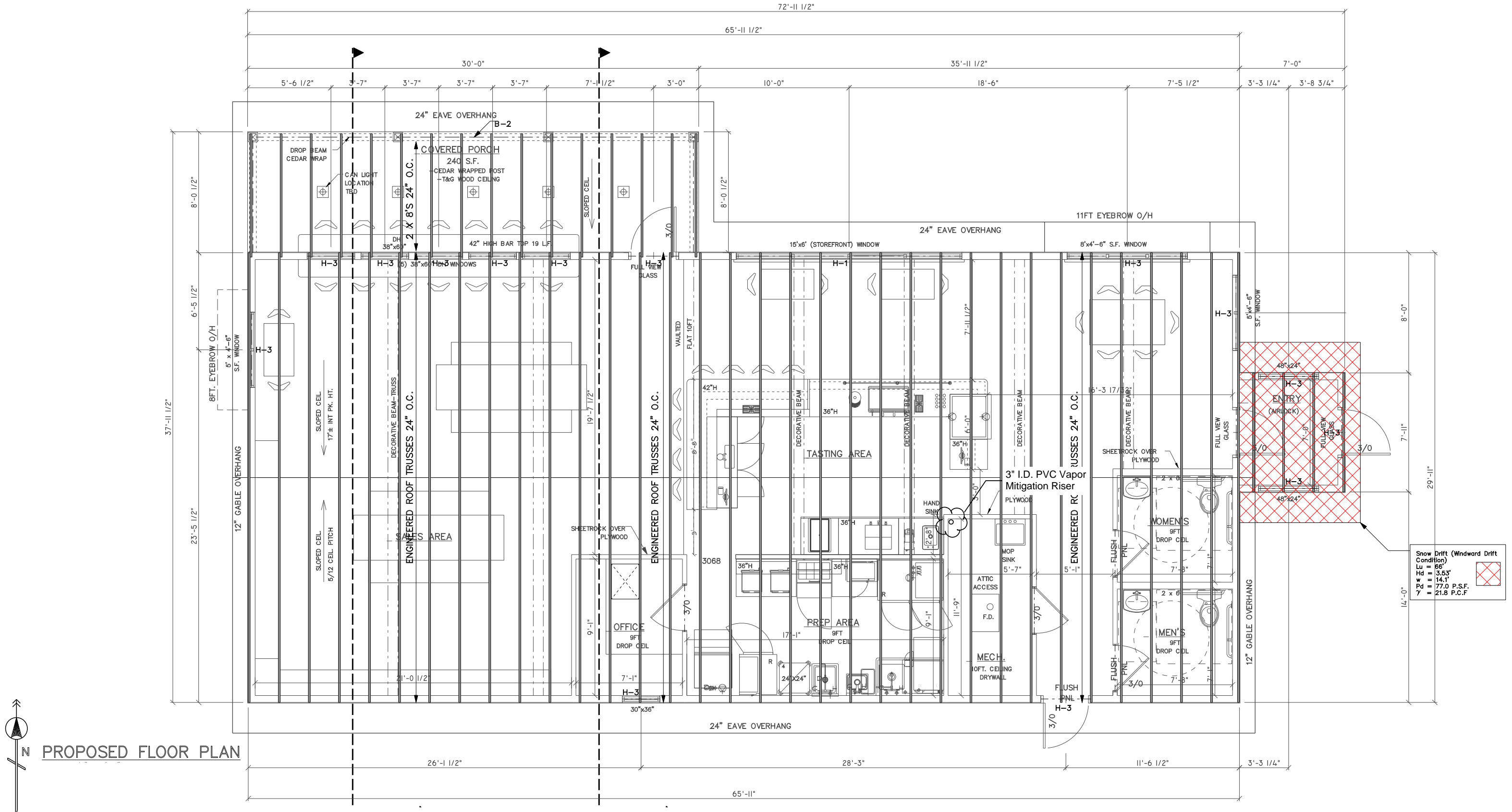


PROPOSED FOUNDATION PLAN

66'-0" BOTTLED BEAN LLC
 518 CHIPPEWA ST.
 TOWN OF MINOCQUA, WI 54548



PROPOSED FLOOR PLAN



PROPOSED FLOOR PLAN

ATTACHMENT D

SUB-SLAB VAPOR SAMPLING METHODS AND PROCEDURES





Standard Operating Procedure Installation and Extraction of the Vapor Pin®

Updated March 16, 2018

Scope:

This standard operating procedure describes the installation and extraction of the VAPOR PIN® for use in sub-slab soil-gas sampling.

Purpose:

The purpose of this procedure is to assure good quality control in field operations and uniformity between field personnel in the use of the VAPOR PIN® for the collection of sub-slab soil-gas samples or pressure readings.

Equipment Needed:

- Assembled VAPOR PIN® [VAPOR PIN® and silicone sleeve(Figure 1)]; Because of sharp edges, gloves are recommended for sleeve installation;
- Hammer drill;
- 5/8-inch (16mm) diameter hammer bit (hole must be 5/8-inch (16mm) diameter to ensure seal. It is recommended that you use the drill guide). (Hilti™ TE-YX 5/8" x 22" (400 mm) #00206514 or equivalent);
- 1½-inch (38mm) diameter hammer bit (Hilti™ TE-YX 1½" x 23" #00293032 or equivalent) for flush mount applications;
- ¾-inch (19mm) diameter bottle brush;
- Wet/Dry vacuum with HEPA filter (optional);
- VAPOR PIN® installation/extraction tool;
- Dead blow hammer;
- VAPOR PIN® flush mount cover, if desired;
- VAPOR PIN® drilling guide, if desired;

- VAPOR PIN® protective cap; and
- VOC-free hole patching material (hydraulic cement) and putty knife or trowel for repairing the hole following the extraction of the VAPOR PIN®.



Figure 1. Assembled VAPOR PIN®

Installation Procedure:

- 1) Check for buried obstacles (pipes, electrical lines, etc.) prior to proceeding.
- 2) Set up wet/dry vacuum to collect drill cuttings.
- 3) If a flush mount installation is required, drill a 1½-inch (38mm) diameter hole at least 1¾-inches (45mm) into the slab. Use of a VAPOR PIN® drilling guide is recommended.
- 4) Drill a 5/8-inch (16mm) diameter hole through the slab and approximately 1-inch (25mm) into the underlying soil to form a void. Hole must be 5/8-inch (16mm) in diameter to ensure seal. It is recommended that you use the drill guide.

VAPOR PIN® protected under US Patent # 8,220,347 B2, US 9,291,531 B2 and other patents pending

- 5) Remove the drill bit, brush the hole with the bottle brush, and remove the loose cuttings with the vacuum.
- 6) Place the lower end of VAPOR PIN® assembly into the drilled hole. Place the small hole located in the handle of the installation/extraction tool over the vapor pin to protect the barb fitting, and tap the vapor pin into place using a dead blow hammer (Figure 2). Make sure the installation/extraction tool is aligned parallel to the vapor pin to avoid damaging the barb fitting.



Figure 2. Installing the VAPOR PIN®

During installation, the silicone sleeve will form a slight bulge between the slab and the VAPOR PIN® shoulder. Place the protective cap on VAPOR PIN® to prevent vapor loss prior to sampling (Figure 3).



Figure 3. Installed VAPOR PIN®

- 7) For flush mount installations, cover the vapor pin with a flush mount cover, using either the plastic cover or the optional stainless-steel Secure Cover (Figure 4).



Figure 4. Secure Cover Installed

- 8) Allow 20 minutes or more (consult applicable guidance for your situation) for the sub-slab soil-gas conditions to re-equilibrate prior to sampling.
- 9) Remove protective cap and connect sample tubing to the barb fitting of the VAPOR PIN®. This connection can be made using a short piece of Tygon™ tubing to join the VAPOR PIN® with the

Nylaflow tubing (Figure 5). Put the Nylaflow tubing as close to the VAPOR PIN® as possible to minimize contact between soil gas and Tygon™ tubing.



Figure 5. VAPOR PIN® sample connection

10) Conduct leak tests in accordance with applicable guidance. If the method of leak testing is not specified, an alternative can be the use of a water dam and vacuum pump, as described in SOP Leak Testing the VAPOR PIN® via Mechanical Means (Figure 6). For flush-mount installations, distilled water can be poured directly into the 1 1/2 inch (38mm) hole.



Figure 6. Water dam used for leak detection

11) Collect sub-slab soil gas sample or pressure reading. When finished, replace

the protective cap and flush mount cover until the next event. If the sampling is complete, extract the VAPOR PIN®.

Extraction Procedure:

- 1) Remove the protective cap, and thread the installation/extraction tool onto the barrel of the VAPOR PIN® (Figure 7). Turn the tool clockwise continuously, don't stop turning, the VAPOR PIN® will feed into the bottom of the installation/extraction tool and will extract from the hole like a wine cork, DO NOT PULL.
- 2) Fill the void with hydraulic cement and smooth with a trowel or putty knife.



Figure 7. Removing the VAPOR PIN®

- Prior to reuse, remove the silicone sleeve and protective cap and discard. Decontaminate the VAPOR PIN® in a hot water and Alconox® wash, then heat in an oven to a temperature of 265° F (130° C) for 15 to 30 minutes. For both steps, STAINLESS – 1/2 hour, BRASS 8 minutes

- 3) Replacement parts and supplies are available online.

METHODS AND PROCEDURES FOR SUB-SLAB VAPOR PROBE INSTALLATION & SAMPLE COLLECTION

Installation

Interior sub-slab vapor samples are collected via the installation of a stainless-steel VAPOR PIN[®] (Part# VPIN0522SS). The probe will be installed following the manufacturer Standard Operating Procedure Installation and Extraction of the VAPOR PIN[®] (March 16, 2018) and Use of the VAPOR PIN[®] Drilling Guide and Secure Cover (March 16, 2018).

Equilibration & Leak Testing

After installation, the sub-slab vapors will be allowed to equilibrate prior to sampling by allowing the probe to “rest” for a period of one (1) to two (2) hours or by purging the sub-slab probe and screening the sub-slab vapors until field meter reading are stable.

Leak tests to verify the tightness of the sampling train and the sample probe are completed prior to sample collection. A helium shroud is utilized to verify the tightness of the sample probe and sampling train contained within the shroud. The helium shroud consists of a six (6) quart polyethylene box placed over the sample port. Sample tubing, consisting of quarter (1/4) inch outside diameter HDPE is connected to the sample port barbed fitting utilizing approximately two (2) inch long pieces of LS15 silicon tubing and connected to the helium shroud internal sample train. Helium is introduced through a valve in the top of the helium shroud to a concentration of twenty (20) to fifty (50) percent by volume. A MiniRAE PID with internal pump is used to purge the sample line connected to the sample port with at least four (4) volumes of air removed from the tubing. The purge air is monitored for the presence of helium using an OxyCheq Expedition Helium Analyzer. Once the line was purged and the helium detector identified showed the seal was adequate the sample line is disconnected from the vacuum pump and connected to the sampling container. The sample train and vapor probe seal are considered sealed when helium concentrations in the purge air is less than five (5) percent of the shroud concentration.

Sample Collection

Sub-slab vapor samples are collected utilizing a laboratory provided canister, received from the laboratory with a vacuum, and a laboratory provided flow controller. The flow controller is connected to the sample line with a compression fitting to the quarter (1/4) inch HDPE tubing. Once the sample train is connected the initial vacuum is recorded and the sample canister draws vapor

until the vacuum pressure decreased to two (2) to five (5) inches of mercury at which time sample collection is terminated.

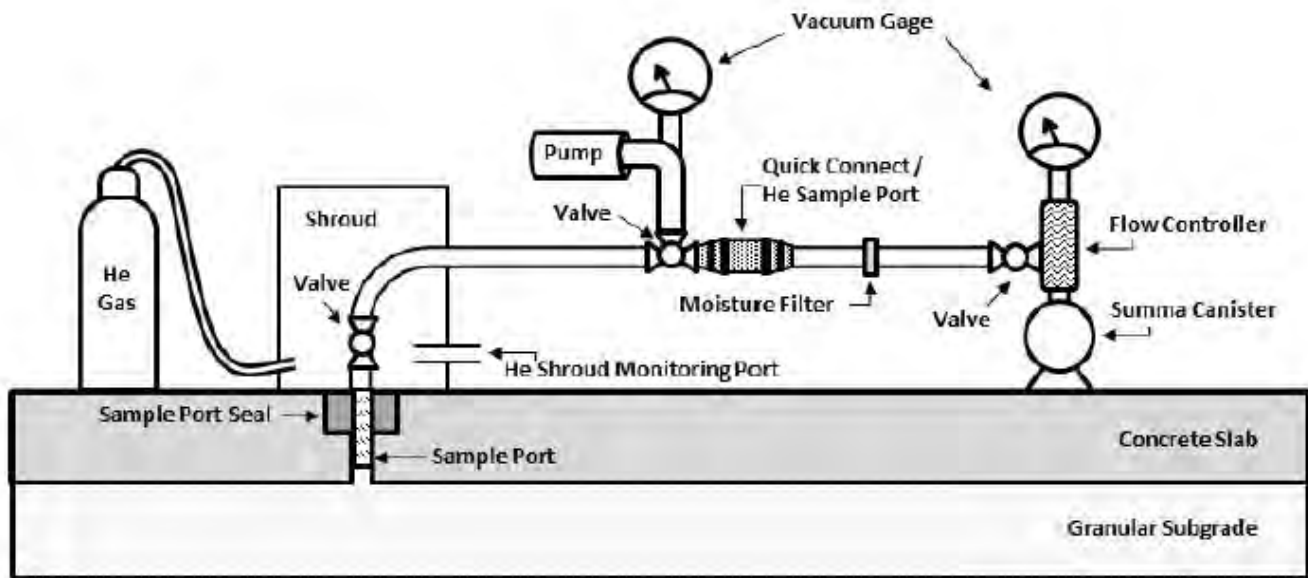


Figure 1: Example Sub-Slab Vapor Sample Train. From WDNR Sub-slab Vapor Sampling Procedures (RR-989), July 2014.

Abandonment

Interior sub-slab vapor probes are extracted following the manufacturer Standard Operating Procedure Installation and Extraction of the VAPOR PIN® (March 16, 2018). The void through the concrete slab is filled with hydraulic cement and smoothed with a trowel.