



November 13, 2019

Mr. Joshua Ivey
Milwaukee Holdings, LLC
913 29th Street
Des Moines, Iowa 50301

RE: Additional Remedial Action Plan (RAP) Information
Former Comedy Club Café
615 E. Brady Street
Milwaukee, Wisconsin 53202
UEC Project No. 17028.5
BRRTS No. 02-41-553001

Dear Mr. Ivey:

In a July 3, 2018 letter, Nancy Ryan of the Wisconsin Department of Natural Resources (WDNR) requested additional information from United Engineering Consultants, Inc. (United) prior to approval of the Revised Remedial Action Plan (RAP) report dated May 23, 2018 submitted to the WDNR on May 24, 2018. The following paragraphs discuss the six (6) items outlined in the WDNR correspondence. A summary of each WDNR request is italicized.

The WDNR requested additional detail regarding the abandonment and replacement of underground utilities at the subject property. Specifically, the WDNR requested the submittal of a site map indicating the former and current location of the potable water and natural gas service and a discussion of their abandonment and installation procedures. In addition, a discussion of the combined sanitary and storm sewer upgrades including the catch basin located along the western property line was requested. The WDNR also requested a description of any soil management activities related to the removal and replacement of the underground utilities including soil disposal documentation, if applicable.

The underground potable water and natural gas laterals which extended to the former Comedy Club Café building at 615 E. Brady Street from mains in the N. Jackson Street right-of-way were disconnected at the western elevation of the existing structure and abandoned in-place. No spoil was generated during the abandonment of these utilities.

New potable water and natural gas laterals were extended in a common trench from the N. Jackson Street mains to the northwest corner of the structure at 1684 N. Jackson Street. The excavated soil was transported to Waste Management's Metro RDF in Franklin, Wisconsin for proper off-site disposal under profile V128792WI. The combined sanitary and storm sewer was re-fitted with Polyvinyl Chloride (PVC) piping installed from the building to the main in N. Jackson Street. Minimal to no spoil was generated during the combined sewer upgrade.

The brick catch basin located at the southwest corner of the 615 E. Brady Street parcel was removed. Visible observations performed during its removal indicated it was not connected to the municipal sewer system or the on-site combined sanitary and storm sewer lateral. The material removed immediately adjacent to the abandoned brick catch basin consisted of gravel which was transported to Metro RDF for disposal under profile V128792WI.

The former location of these underground utilities is indicated in the attached Figure 2: Site Plan Map. Their current location is indicated on the attached Figure 17: Building Addition, Patio, Cooler and Dumpster Corral Location Map.

The WDNR stated that due to the absence of laboratory analysis of the soil removed beneath the former floor slab to an approximate depth of two (2) feet at the 615 E. Brady Street building, further discussion of compliance with the criteria described in Wisconsin Administrative Code (WAC) NR 722.09(2)(d)1 and NR 726.05(8) should be provided.

The materials removed within two (2) feet of the bottom of the former floor slab at the 615 E. Brady Street building consisted of concrete rubble from underlying additional floor slabs, foundations and limestone and gravel. Laboratory analysis of these materials was not practical due to the absence of sand or fines (silt and clay) throughout the majority of the footprint of the commercial structure.

TCE and PCE impacted soil at concentrations in exceedance of their respective Non-Industrial Direct Contact and Groundwater Pathway RCLs remain within the former building footprint at approximate depths ranging from three (3) to at least eight (8) feet below the existing floor slab. However, these soils were not accessible to typical excavation techniques due to the immediately adjacent eastern perimeter wall footing of the former and existing commercial structure which is founded at approximately two (2) feet below the bottom of the former floor slab. United concluded that driven sheet piling or comparable shoring and bracing techniques would have been required to facilitate the removal of impacted soil below two (2) feet without adverse impact to the adjacent foundation, alleyway pavement section and underground utilities.

TCE and PCE are also present in the soil at approximate depths ranging from seven (7) to nine (9) feet at concentrations in exceedance of their respective Non-Industrial Direct Contact and/or Groundwater Pathway RCLs north of the duplex and at the southwest corner of the subject property. These soils were also not accessible to typical excavation techniques due to the adjacent northern duplex wall footing reportedly founded approximately four (4) feet below the existing grade and the presence of the immediately adjacent N. Jackson Street right-of-way. United concluded that driven sheet piling or comparable shoring and bracing techniques would be required to facilitate the removal of the impacted soil without adverse impact to the duplex foundation and N. Jackson Street right-of-way.

WAC NR 722.09 states that at sites or facilities where vapors have migrated from the source of contamination, active remedial actions shall be taken to limit or prevent, to the extent practicable, potential and actual hazardous substance discharges and environmental pollution that may attain or exceed vapor action levels. Although the soil with the highest documented TCE and PCE concentrations is not accessible to typical excavation techniques throughout the site, the removal of 788.15 tons of soil during development activities should be considered an active remedial action and the mass and concentration of volatile compounds has been reduced to the extent practicable.

WAC NR 726.05(8) states that a site or facility is not eligible for closure until the following criteria have been met: (a) the vapor exposure pathway has been investigated in accordance with s. NR 716.11(5)(g); and (b) where vapors were present above the vapor risk screening level: 1. A remedial action has been conducted and reduced the mass and concentration of volatile compounds to the extent practicable; and 2. The vapor exposure pathway has been interrupted or mitigated.

The vapor exposure pathway has been investigated in accordance with s. NR 716.11(5)(g) with the results of the assessment indicating the presence of PCE and/or TCE in the sub-slab vapor at concentrations in exceedance of their respective small commercial and residential Vapor Risk Screening Levels (VRSLs) in the commercial building and duplex. Although the soil with the highest documented TCE and PCE concentrations is not accessible to typical excavation techniques throughout the site, the removal of 788.15 tons of soil during development activities should be considered an active remedial action and the mass and concentration of volatile compounds has been reduced to the extent practicable. In addition, the vapor exposure pathway is interrupted or mitigated based on the installation of a sub-slab depressurization system in the commercial building and the duplex.

The WDNR requested a description of the soil excavation activities performed within the building footprint including dates of excavation, conditions encountered during the excavation and documentation of soil characterization and disposal. In addition, the WDNR requested a hazardous waste determination of the soil removed from within the building footprint.

The initial planned renovation of the existing building did not include the removal of the existing concrete floor slab(s). However, upon inspection of the integrity and condition of the concrete slabs by the General Contractor and United, it was determined that the floor slabs would require removal to facilitate the proposed renovation. The majority of the materials present within two (2) feet of the bottom of the former floor slabs at the 615 E. Brady Street building consisted of concrete rubble, limestone and gravel which was excavated and transported to Metro RDF for disposal under profile V128792WI.

The excavation activities within the building footprint were performed with a backhoe in late February and early March of 2018. The excavation depth was terminated at approximately two (2) feet due to the immediately adjacent eastern perimeter wall footing of the former and current commercial structure which is founded at approximately two (2) feet below the bottom of the former floor slab. Any excavated material containing sand or fines was stockpiled and covered with four (4) mil polyethylene sheeting within the building footprint for subsequent composite sampling and laboratory Toxicity Characteristic Leaching Procedure (TCLP) analysis. A composite sample of the soil stockpiled within the building footprint was collected on March 7, 2018 and included petroleum impacted soil encountered during Underground Storage Tank (UST) removal activities.

The results of the composite sample analysis indicated a TCLP PCE concentration of 0.00675 mg/L. TCE was not present at a concentration at or above its method detection limit of 0.00450 mg/L. Total Volatile Organic Compound (VOC) analysis on the composite sample indicated PCE and TCE concentrations of two hundred twelve (212) and 27.9 µg/kg, respectively. These soils were subsequently approved for disposal by Waste Management under previously issued Profile 128792WI (See attached Soil Analytical Results and Chain of Custody Form – March 7, 2018.)

The WDNR requested a revised Figure 18 – Remedial Action Map to include the approximate excavation depths for the addition foundation and the foundation reinforcement of the southern and western perimeter building wall footings. The WDNR also requested a description of the soil removed from around the former catch basin located along the western property line and to provide any soil characterization and disposal documentation. In addition, the WDNR requested submittal of disposal documentation for all excavated soil.

The excavations for the northern building addition, the reinforcement of the western wall footing and the removal and replacement of the southern wall footing for the 615 E. Brady Street structure extended approximately five (5) feet below the current concrete floor elevation (See attached Revised Figure 18: Commercial Building Excavation Limits Map) The backfill soil removed adjacent to the western and southern wall footings predominantly consisted of gravel. The soil excavated for the northern building addition consisted of brown clayey silt to silty clay with varying amounts of sand and gravel. The material removed immediately adjacent to the abandoned brick catch basin consisted of gravel. These materials were transported to Metro RDF for off-site disposal under Profile V128792WI.

The attached customer summary report issued by Waste Management indicates 788.15 tons of special waste containing VOC was transported to Metro RDF from February 26, 2018 to March 23, 2018 for disposal under Profile V128792WI.

The WDNR requested confirmation that the sub-slab depressurization systems have been installed below the floor slab in the commercial building at 615 E. Brady Street and the basement floor slab in the duplex at 1684 N. Jackson Street. The WDNR stated that following construction and initial operation of the systems, commissioning must be completed for each system to comply with section NR 726.05(g) of the WAC.

In addition, the WDNR indicated that performance verification should be conducted following the guidelines provided in WDNR publication RR-800, Addressing Vapor Intrusion at Remediation and Redevelopment Sites in Wisconsin. The WDNR requested the submittal of documentation of each system design, verification monitoring and base conditions. A system operation, maintenance and inspection plan will also be required since the systems will require operation as a continuing obligation of case closure.

The system for the commercial building consists of four (4) inch diameter triple wall, perforated PVC schedule 40 piping located around the interior foundation perimeter. The holes in the PVC piping face downward and laterally and the piping is surrounded by #1 stone with a minimum of two (2) inches of stone below and adjacent to the piping. Six (6) inches of #1 stone extends across the entire building footprint to insure total air flow beneath the concrete slab (See attached Figure 20: Sub-Slab Vapor Mitigation System Component Location Map). The piping and #1 stone is overlain by twelve (12) inch lapped forty (40) mil polyethylene plastic and a four (4) inch concrete slab. The lapping is caulked and taped.

The horizontal perforated piping is connected to a four (4) inch diameter vertical pipe located at the southeast corner of the proposed commercial structure which extends above the planned roof line to an exterior earth gas fan. One hundred ten (110) volt at 1.5 amp maximum wire extends from the building to a 15A exterior rated outlet installed adjacent to the exterior fan. A manometer is located along the interior of the eastern wall of the commercial structure for monthly inspection.

The system for the duplex consists of four (4) inch diameter triple wall, perforated PVC schedule 40 piping placed in a U shaped trench ranging in width from approximately twelve (12) to twenty (20) inches and about ten (10) to twelve (12) inches in depth (See Figure 20: Sub-Slab Vapor Mitigation System Component Location Map). The holes in the piping face downward and laterally and the piping is surrounded by a minimum of two (2) inches of #1 stone below and adjacent to the piping. The piping is overlain by forty (40) mil polyethylene plastic and a four (4) inch concrete slab.

The horizontal, perforated piping is connected to a vertical four (4) inch diameter PVC pipe located at the northeast corner of the duplex which extends above the planned roof line. The exterior earth gas fan is located at the bottom of the vertical pipe. One hundred ten (110) volt at 1.5 amp maximum wire extends from the duplex to a 15A exterior rated outlet installed adjacent to the exterior fan. A manometer is located along the interior of the northern wall of the duplex for monthly inspection.

Following initial operation of the duplex sub-slab depressurization system, adequate sub-slab vacuum testing will be performed to confirm negative pressure beneath the entire duplex basement concrete slab. Sub-slab vacuum testing of the commercial building is not recommended subsequent to initial system operation due to anticipated unrestricted air flow throughout the uniform six (6) inch stone sub-base. It is estimated that approximately two hundred fifty (250) to three hundred (300) Cubic Feet per Minute (CFM) of air flow will be generated beneath the four thousand (4000) square foot floor slab.

The sub-slab depressurization systems were installed in stages during the renovation of the commercial building and duplex from April 2018 to August 2018. The electrical service to power the systems was installed in May and June of 2019. The systems design and final construction specifications as well as an Operations and Maintenance (O&M) plan will be submitted in a separate report and documented in attachment D of the Case Closure – GIS Registry Form 4400-202.

The WDNR requested a description and the date of the abandonment of the previously installed vapor mitigation trench located immediately north of the duplex at 1684 N. Jackson Street.

The PVC piping was removed from the trench on July 15, 2018. The void space was filled with #1 stone. Concrete was placed above the former vapor mitigation trench.

Sub-Slab Vapor Sampling – October 23, 2018

On October 23, 2018, five (5) sub-slab vapor samples were collected within the commercial building and the duplex. The samples were analyzed for the presence of Chlorinated Volatile Organic Compounds (CVOC) utilizing method TO-15.

The results of the laboratory analysis indicates the presence of TCE and PCE in the commercial building in the immediate area of the former dry cleaning machine (SS-PC2) at concentrations of eight hundred forty four (844) $\mu\text{g}/\text{m}^3$ and twenty two thousand eight hundred (22,800) $\mu\text{g}/\text{m}^3$, respectively. These concentrations are in exceedance of the residential and small commercial sub-slab VRSLs for TCE and PCE. TCE and PCE are present in the commercial structure immediately north of the former dry cleaning machine (SS-PC1) at concentrations which exceed their residential sub-slab VRSLs. TCE and PCE are not present at concentrations in exceedance of their residential and commercial sub-slab VRSLs along the western wall (SS-PC5) of the commercial building.

TCE is present in the duplex at both sampled locations at concentrations of four hundred eighty three (483) $\mu\text{g}/\text{m}^3$ and one thousand three hundred forty (1340) $\mu\text{g}/\text{m}^3$ which are in exceedance of its residential and small commercial sub-slab VRSLs. PCE is present at the sampled locations at concentrations of three thousand forty (3040) $\mu\text{g}/\text{m}^3$ and five thousand three hundred ten (5310) $\mu\text{g}/\text{m}^3$ which exceed its residential sub-slab VRSL (See attached Table 7 – Vapor Analytical Results – Volatile Organic Compounds, Figure 4: Ambient and Sub-Slab Vapor Sample Location Map and Vapor Analytical Results – October 23, 2018).

Sincerely,
United Engineering Consultants, Inc.

Nick Anderson

Nicholas J. Anderson, P.E.
Staff Engineer

Timothy J. Anderson

Timothy J. Anderson, P.E.
Principal

Attachments: Figure 2: Site Plan Map
Figure 17: Building Addition, Patio, Cooler and Dumpster
Corral Location Map
Soil Analytical Results and Chain of Custody Form – March 7, 2018.
Figure 18: Commercial Building Excavation Limits Map
Waste Management Customer Summary Report – Profile: V128792WI
Figure 20: Sub-Slab Vapor Mitigation System Component Location Map
Table 7 – Vapor Analytical Results – Volatile Organic Compounds
Figure 4: Ambient and Sub-Slab Vapor Sample Location Map
Vapor Analytical Results – October 23, 2018

ATTACHMENTS

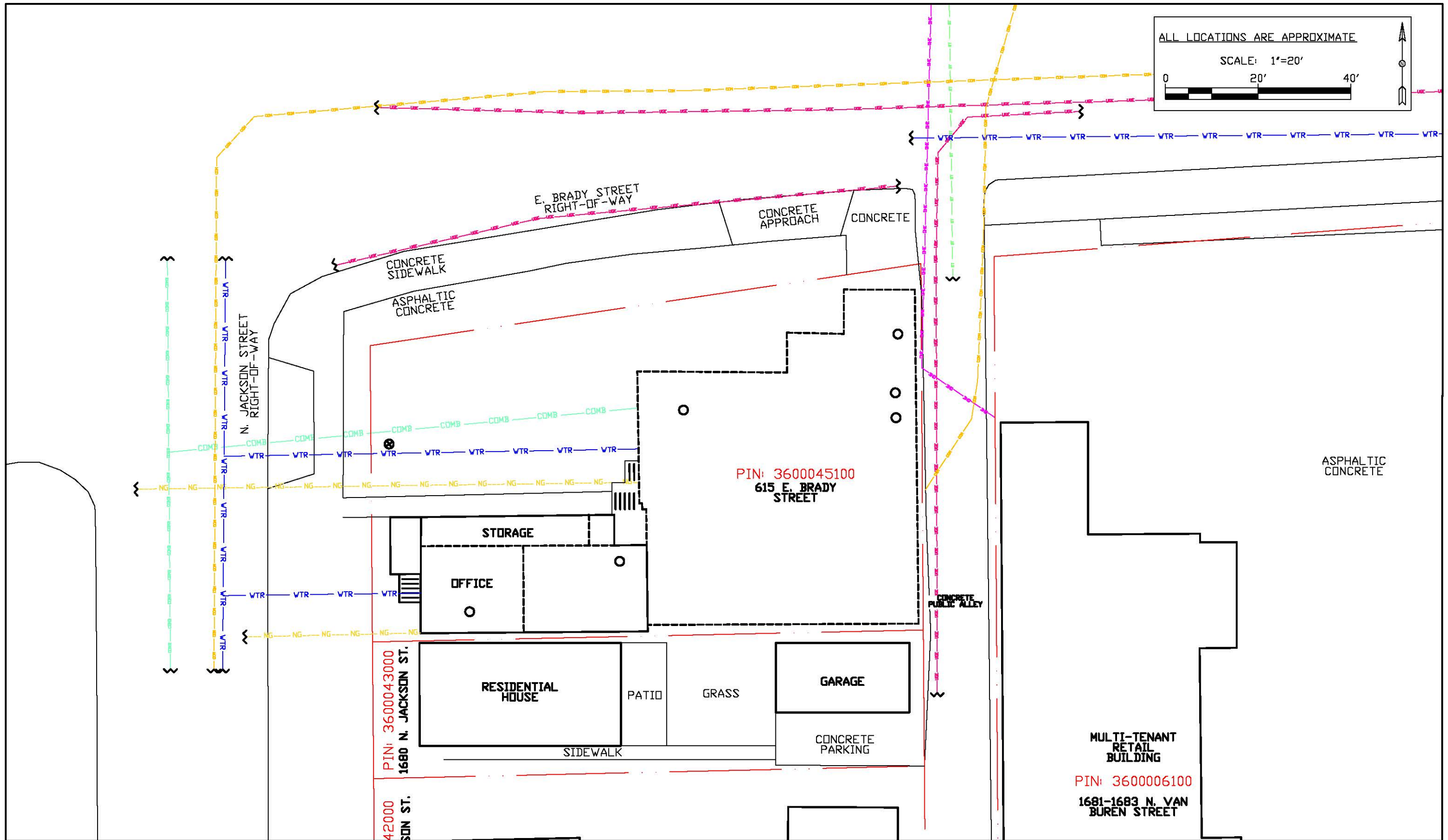


Figure 2: Site Plan Map

**United Engineering
Consultants, Inc.**

16237 W. Ryerson Road
New Berlin, WI 53151
Tel. (262) 785-1447
Fax (262) 706-4400

#17028

DRAWN BY: NJA

DATE: 11/11/2019

**Remedial Action Plan (RAP)
Former Comedy Club Cafe
615 E. Brady Street
Milwaukee, WI 53202**

Legend

- Property Line
- NG — Underground Natural Gas Line
- VTR — Underground Water Line
- OHE — Overhead Electric Line
- UEL — Underground Electric Line
- UCL — Underground Communication Line
- USS — Underground Storm Sewer Line
- Former or Existing Floor Drain
- ⊗ Former Catch Basin

Analytical Report

Timothy J. Anderson
United Engineering Consultants, Inc.
16237 W. Ryerson Road
New Berlin, WI 53151

March 22, 2018

Work Order: 18C0468

RE: Waste Characterization
18006/18009

Dear Timothy J. Anderson:

Enclosed are the analytical reports for the EMT Work Order listed. Also included with this analytical report is a copy of the chain of custody associated with these samples. If you have any questions, please contact me.

Sincerely,

Approved by,



Katherine Langfoss
Project Manager
847.967.6666
klangfoss@emt.com

Matthew Gregory
Technical Manager

Approved for release: 3/22/2018 1:02:14PM

The contents of this report apply to the sample(s) analyzed. No duplication is allowed except in its entirety. Detection and Reporting limits are adjusted for sample size used, dilutions and moisture content, if applicable.

State of Wisconsin Dept of Natural Resources, Cert No. 999888890

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Chain of Custody	21

Sample Summary

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP-615	18C0468-01	Soil	03/07/18 11:00	03/13/18 17:15
FO-BROADWAY	18C0468-02	Soil	03/08/18 12:00	03/13/18 17:15
PE-E	18C0468-03	Soil	03/07/18 10:45	03/13/18 17:15
PE-C	18C0468-04	Soil	03/07/18 10:50	03/13/18 17:15
PE-W	18C0468-05	Soil	03/07/18 10:55	03/13/18 17:15

Case Narrative

Client: United Engineering Consultants, Inc.

Date: 03/22/2018

Project: Waste Characterization

18006/18009

Work Order: 18C0468

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

Sample results only relate to the sample(s) received at the laboratory and analytes of interest tested.

Work Order: 18C0468

The samples were received on 03/13/18 17:15. The samples arrived in good condition and properly preserved. The temperature of the cooler at receipt was

<u>Cooler</u>	<u>Temp C°</u>
Default Cooler	2.0

Refer to Qualifiers and Definitions for quality and analytical clarifications or deviations.

GC/MS Semivolatiles

Method: 8270D_SVOC_TCLP, B8C0637-BS1: The recovery for two compounds in the blank spike were below the laboratory control limit, However, the BSD recoveries were within acceptable laboratory control limits.

Method: 8270D_SVOC_TCLP, B8C0637-BS1/BSD1: The relative percent difference (RPD) for two spike compounds were outside of the 20% limit. However, the compounds in question were not detected in the sample.

Client Sample Results

Client: United Engineering Consultants, Inc.
Project: Waste Characterization
 18006/18009
Work Order: 18C0468

Client Sample ID: SP-615
Report Date: 03/22/2018
Collection Date: 03/07/2018 11:00
Matrix: Soil
Lab ID: 18C0468-01

Analyses	Result	EMT Reporting		Qual	Units	Reg Limit	MDL	Date/Time Analyzed	Batch	Analyst	DF	
		Limit	Limit									
Metals by ICP-AES												
Method: SW6010C / SW3015 / SW1311												
Lead, TCLP	< 0.0140	0.0500			mg/L	5	0.0140	03/15/18 19:41	B8C0526	GJ1	1	
Volatile Organic Compounds by GC/MS												
Method: SW8260B / SW5030 / SW1311												
1,1-Dichloroethane, TCLP	< 0.00585	0.0200			mg/L		0.00585	03/22/18 07:21	B8C0737	JL	1	
1,2-Dichloroethane, TCLP	< 0.00725	0.0400			mg/L		0.00725	03/22/18 07:21	B8C0737	JL	1	
1,4-Dichlorobenzene, TCLP	< 0.00430	0.0200			mg/L		0.00430	03/22/18 07:21	B8C0737	JL	1	
2-Butanone, TCLP	< 0.0477	0.200			mg/L		0.0477	03/22/18 07:21	B8C0737	JL	1	
Benzene, TCLP	< 0.00470	0.0200			mg/L		0.00470	03/22/18 07:21	B8C0737	JL	1	
Carbon tetrachloride, TCLP	< 0.00425	0.0200			mg/L		0.00425	03/22/18 07:21	B8C0737	JL	1	
Chlorobenzene, TCLP	< 0.00305	0.0200			mg/L		0.00305	03/22/18 07:21	B8C0737	JL	1	
Chloroform, TCLP	< 0.00650	0.0400			mg/L		0.00650	03/22/18 07:21	B8C0737	JL	1	
Tetrachloroethene, TCLP	0.00675	0.0200	J		mg/L		0.00510	03/22/18 07:21	B8C0737	JL	1	
Trichloroethene, TCLP	< 0.00450	0.0200			mg/L		0.00450	03/22/18 07:21	B8C0737	JL	1	
Vinyl chloride, TCLP	< 0.00525	0.0200			mg/L		0.00525	03/22/18 07:21	B8C0737	JL	1	

Surrogate: Dibromofluoromethane, TCLP							Recovery: 111%	Limits: 78-119	03/22/18 07:21	B8C0737	JL	1
Surrogate: 1,2-Dichloroethane-d4, TCLP							Recovery: 131%	Limits: 71-136	03/22/18 07:21	B8C0737	JL	1
Surrogate: Fluorobenzene, TCLP							Recovery: 98%	Limits: 81-114	03/22/18 07:21	B8C0737	JL	1
Surrogate: Toluene-d8, TCLP							Recovery: 91%	Limits: 85-116	03/22/18 07:21	B8C0737	JL	1
Surrogate: 4-Bromofluorobenzene, TCLP							Recovery: 102%	Limits: 79-119	03/22/18 07:21	B8C0737	JL	1
Surrogate: 1,2-Dichlorobenzene-d4, TCLP							Recovery: 106%	Limits: 80-120	03/22/18 07:21	B8C0737	JL	1
Semivolatile Organic Compounds by GC/MS												
Method: SW8270D / SW3510 / SW1311												
Cresols, Total, TCLP	< 0.0040	0.0177			mg/L	200	0.0040	03/21/18 05:38	B8C0637	JN1	2	
1,4-Dichlorobenzene, TCLP	< 0.0014	0.0088			mg/L	7.5	0.0014	03/21/18 05:38	B8C0637	JN1	2	
2,4,5-Trichlorophenol, TCLP	< 0.0051	0.0442			mg/L	400	0.0051	03/21/18 05:38	B8C0637	JN1	2	
2,4,6-Trichlorophenol, TCLP	< 0.0057	0.0442			mg/L	2	0.0057	03/21/18 05:38	B8C0637	JN1	2	
2,4-Dinitrotoluene, TCLP	< 0.0032	0.0221			mg/L	0.13	0.0032	03/21/18 05:38	B8C0637	JN1	2	
2-Methylphenol, TCLP	< 0.0020	0.0088			mg/L	200	0.0020	03/21/18 05:38	B8C0637	JN1	2	
3 & 4-Methylphenol, TCLP	< 0.0020	0.0088			mg/L	200	0.0020	03/21/18 05:38	B8C0637	JN1	2	
Hexachlorobenzene, TCLP	< 0.0017	0.0088			mg/L	0.13	0.0017	03/21/18 05:38	B8C0637	JN1	2	
Hexachlorobutadiene, TCLP	< 0.0053	0.0442			mg/L	0.5	0.0053	03/21/18 05:38	B8C0637	JN1	2	
Hexachloroethane, TCLP	< 0.0056	0.0442			mg/L	3	0.0056	03/21/18 05:38	B8C0637	JN1	2	
Nitrobenzene, TCLP	< 0.0026	0.0177			mg/L	2	0.0026	03/21/18 05:38	B8C0637	JN1	2	
Pentachlorophenol, TCLP	< 0.0335	0.221			mg/L	100	0.0335	03/21/18 05:38	B8C0637	JN1	2	
Pyridine, TCLP	< 0.0160	0.110			mg/L	5	0.0160	03/21/18 05:38	B8C0637	JN1	2	

Surrogate: 2-Fluorophenol, TCLP							Recovery: 42%	Limits: 4-108	03/21/18 05:38	B8C0637	JN1	2
Surrogate: Phenol-d5, TCLP							Recovery: 36%	Limits: 1-101	03/21/18 05:38	B8C0637	JN1	2
Surrogate: Nitrobenzene-d5, TCLP							Recovery: 50%	Limits: 23-119	03/21/18 05:38	B8C0637	JN1	2
Surrogate: 2-Fluorobiphenyl, TCLP							Recovery: 44%	Limits: 28-124	03/21/18 05:38	B8C0637	JN1	2
Surrogate: 2,4,6-Tribromophenol, TCLP							Recovery: 40%	Limits: 11-102	03/21/18 05:38	B8C0637	JN1	2
Surrogate: 4-Terphenyl-d14, TCLP							Recovery: 116%	Limits: 79-147	03/21/18 05:38	B8C0637	JN1	2

8100 N. Austin Avenue Morton Grove, IL 60053-3203 P 847.967.6666 800.246.0663 F 847.967.6735 www.emt.com

Client Sample Results

(Continued)

Client: United Engineering Consultants, Inc.
Project: Waste Characterization
18006/18009
Work Order: 18C0468

Client Sample ID: FO-BROADWAY
Report Date: 03/22/2018
Collection Date: 03/08/2018 12:00
Matrix: Soil
Lab ID: 18C0468-02

Analyses	Result	EMT Reporting		Qual	Units	Reg Limit	MDL	Date/Time Analyzed	Batch	Analyst	DF
		Limit	Limit								
Wet Chemistry											
Method: SM2540G											
Total Solids	97.5	0.100			% (Percent)		0.00700	03/14/18 17:30	B8C0504	JJ2	1
Volatile Organic Compounds by GC/MS											
Method: SW8260B / SW5035											
Benzene	< 5.89	45.3			ug/Kg dry		5.89	03/16/18 00:48	B8C0554	FP1	50
Surrogate: Fluorobenzene					Recovery: 97%	Limits: 91-106		03/16/18 00:48	B8C0554	FP1	50
Surrogate: Toluene-d8					Recovery: 85%	Limits: 71-112		03/16/18 00:48	B8C0554	FP1	50
Surrogate: 4-Bromofluorobenzene					Recovery: 98%	Limits: 85-119		03/16/18 00:48	B8C0554	FP1	50

8100 N. Austin Avenue Morton Grove, IL 60053-3203 P 847.967.6666 800.246.0663 F 847.967.6735 www.emt.com

Client Sample Results

(Continued)

Client: United Engineering Consultants, Inc.
Project: Waste Characterization
 18006/18009
Work Order: 18C0468

Client Sample ID: PE-E
Report Date: 03/22/2018
Collection Date: 03/07/2018 10:45
Matrix: Soil
Lab ID: 18C0468-03

Analyses	Result	EMT Reporting		Qual	Units	Reg Limit	MDL	Date/Time Analyzed	Batch	Analyst	DF	
		Limit	Limit									
Wet Chemistry												
Method: SM2540G												
Total Solids	93.5	0.100			% (Percent)		0.00700	03/14/18 17:32	B8C0504	JJ2	1	
PVOC Compounds by GC PID/FID												
Method: WI(95)-GRO/PVOC: PUBL-SW-140												
1,2,4-Trimethylbenzene	< 42.6	42.6			ug/Kg dry		42.6	03/15/18 17:21	B8C0564	FP1	50	
1,3,5-Trimethylbenzene	< 25.0	25.0			ug/Kg dry		21.0	03/15/18 17:21	B8C0564	FP1	50	
Benzene	< 38.6	38.6			ug/Kg dry		38.6	03/15/18 17:21	B8C0564	FP1	50	
Ethylbenzene	< 25.2	25.2			ug/Kg dry		25.2	03/15/18 17:21	B8C0564	FP1	50	
m,p-Xylene	< 25.0	25.0			ug/Kg dry		23.1	03/15/18 17:21	B8C0564	FP1	50	
Methyl tert-butyl ether	< 66.3	66.3			ug/Kg dry		66.3	03/15/18 17:21	B8C0564	FP1	50	
Naphthalene	165	44.8			ug/Kg dry		44.8	03/15/18 17:21	B8C0564	FP1	50	
o-Xylene	< 31.7	31.7			ug/Kg dry		31.7	03/15/18 17:21	B8C0564	FP1	50	
Toluene	< 46.3	46.3			ug/Kg dry		46.3	03/15/18 17:21	B8C0564	FP1	50	
Xylenes, Total	< 53.6	53.6			ug/Kg dry		53.6	03/15/18 17:21	B8C0564	FP1	50	

Surrogate: 1,4-Dichlorobenzene-d4					Recovery: 101%		Limits: 70-130		03/15/18 17:21	B8C0564	FP1	50

Client Sample Results

(Continued)

Client: United Engineering Consultants, Inc.
Project: Waste Characterization
 18006/18009
Work Order: 18C0468

Client Sample ID: PE-C
Report Date: 03/22/2018
Collection Date: 03/07/2018 10:50
Matrix: Soil
Lab ID: 18C0468-04

Analyses	Result	EMT Reporting		Qual	Units	Reg Limit	MDL	Date/Time Analyzed	Batch	Analyst	DF	
		Limit	Limit									
Wet Chemistry												
Method: SM2540G												
Total Solids	93.7	0.100			% (Percent)		0.00700	03/14/18 17:34	B8C0504	JJ2	1	
PVOC Compounds by GC PID/FID												
Method: WI(95)-GRO/PVOC: PUBL-SW-140												
1,2,4-Trimethylbenzene	< 42.6	42.6			ug/Kg dry		42.6	03/15/18 17:56	B8C0564	FP1	50	
1,3,5-Trimethylbenzene	< 25.0	25.0			ug/Kg dry		21.0	03/15/18 17:56	B8C0564	FP1	50	
Benzene	< 38.6	38.6			ug/Kg dry		38.6	03/15/18 17:56	B8C0564	FP1	50	
Ethylbenzene	< 25.2	25.2			ug/Kg dry		25.2	03/15/18 17:56	B8C0564	FP1	50	
m,p-Xylene	< 25.0	25.0			ug/Kg dry		23.1	03/15/18 17:56	B8C0564	FP1	50	
Methyl tert-butyl ether	< 66.3	66.3			ug/Kg dry		66.3	03/15/18 17:56	B8C0564	FP1	50	
Naphthalene	116	44.8			ug/Kg dry		44.8	03/15/18 17:56	B8C0564	FP1	50	
o-Xylene	< 31.7	31.7			ug/Kg dry		31.7	03/15/18 17:56	B8C0564	FP1	50	
Toluene	< 46.3	46.3			ug/Kg dry		46.3	03/15/18 17:56	B8C0564	FP1	50	
Xylenes, Total	< 53.6	53.6			ug/Kg dry		53.6	03/15/18 17:56	B8C0564	FP1	50	
<i>Surrogate: 1,4-Dichlorobenzene-d4</i>					<i>Recovery: 106%</i>		<i>Limits: 70-130</i>		<i>03/15/18 17:56</i>	<i>B8C0564</i>	<i>FP1</i>	<i>50</i>

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Client Sample Results

(Continued)

Client: United Engineering Consultants, Inc.
Project: Waste Characterization
 18006/18009
Work Order: 18C0468

Client Sample ID: PE-W
Report Date: 03/22/2018
Collection Date: 03/07/2018 10:55
Matrix: Soil
Lab ID: 18C0468-05

Analyses	Result	EMT Reporting		Qual	Units	Reg Limit	MDL	Date/Time Analyzed	Batch	Analyst	DF	
		Limit	Limit									
Wet Chemistry												
Method: SM2540G												
Total Solids	83.9	0.100			% (Percent)		0.00700	03/14/18 17:36	B8C0504	JJ2	1	
PVOC Compounds by GC PID/FID												
Method: WI(95)-GRO/PVOC: PUBL-SW-140												
1,2,4-Trimethylbenzene	< 42.6	42.6			ug/Kg dry		42.6	03/15/18 18:32	B8C0564	FP1	50	
1,3,5-Trimethylbenzene	< 25.0	25.0			ug/Kg dry		21.0	03/15/18 18:32	B8C0564	FP1	50	
Benzene	< 38.6	38.6			ug/Kg dry		38.6	03/15/18 18:32	B8C0564	FP1	50	
Ethylbenzene	< 25.2	25.2			ug/Kg dry		25.2	03/15/18 18:32	B8C0564	FP1	50	
m,p-Xylene	< 25.0	25.0			ug/Kg dry		23.1	03/15/18 18:32	B8C0564	FP1	50	
Methyl tert-butyl ether	< 66.3	66.3			ug/Kg dry		66.3	03/15/18 18:32	B8C0564	FP1	50	
Naphthalene	134	44.8			ug/Kg dry		44.8	03/15/18 18:32	B8C0564	FP1	50	
o-Xylene	< 31.7	31.7			ug/Kg dry		31.7	03/15/18 18:32	B8C0564	FP1	50	
Toluene	< 46.3	46.3			ug/Kg dry		46.3	03/15/18 18:32	B8C0564	FP1	50	
Xylenes, Total	< 53.6	53.6			ug/Kg dry		53.6	03/15/18 18:32	B8C0564	FP1	50	

Surrogate: 1,4-Dichlorobenzene-d4					Recovery: 94%		Limits: 70-130		03/15/18 18:32	B8C0564	FP1	50

Dates Report

Client: United Engineering Consultants, Inc.

Report Date: 03/22/2018

Project: Waste Characterization
18006/18009

Work Order: 18C0468

Sample ID	Client Sample ID	Collection	Matrix	Test Name	Leached Prep Date	Prep Date	Analysis Date	Batch ID	Sequence
18C0468-01	SP-615	03/07/18	Soil	Lead, TCLP ICP-AES	03/14/18 11:32	03/15/18 12:29	03/15/18 19:41	B8C0526	S8C0247
				Semivolatile Organic Compounds TCLP by GC/MS	03/14/18 11:32	03/20/18 08:50	03/21/18 05:38	B8C0637	S8C0327
				Volatile Organic Compounds TCLP by GC/MS	03/16/18 16:02	03/21/18 12:07	03/22/18 07:21	B8C0737	S8C0332
18C0468-02	FO-BROADWAY	03/08/18		Total Solids / Percent Moisture		03/14/18 17:09	03/14/18 17:30	B8C0504	
				Volatile Organic Compounds by GC/MS		03/15/18 13:00	03/16/18 00:48	B8C0554	S8C0249
18C0468-03	PE-E	03/07/18		Total Solids / Percent Moisture		03/14/18 17:09	03/14/18 17:32	B8C0504	
18C0468-04	PE-C	03/07/18		PVOC (WDNR) by GC/FID		03/15/18 09:00	03/15/18 17:21	B8C0564	S8C0253
				Total Solids / Percent Moisture		03/14/18 17:09	03/14/18 17:34	B8C0504	
18C0468-05	PE-W	03/07/18		PVOC (WDNR) by GC/FID		03/15/18 09:00	03/15/18 17:56	B8C0564	S8C0253
				Total Solids / Percent Moisture		03/14/18 17:09	03/14/18 17:36	B8C0504	
				PVOC (WDNR) by GC/FID		03/15/18 09:00	03/15/18 18:32	B8C0564	S8C0253

Quality Control

Client: United Engineering Consultants, Inc.

Report Date: 03/22/2018

Project: Waste Characterization
18006/18009

Matrix: Solid

Work Order: 18C0468

Wet Chemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual	DF
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Batch: B8C0504

Blank (B8C0504-BLK1)

Prepared: 03/14/2018 17:09 Analyzed: 03/14/2018 17:42

Total Solids	< 0.00700	0.100	%								1
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LCS (B8C0504-BS1)

Prepared: 03/14/2018 17:09 Analyzed: 03/14/2018 17:44

Total Solids	0.189	0.100	%	0.2000		94.6	80.2-112				1
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Quality Control

(Continued)

Client: United Engineering Consultants, Inc.
Project: Waste Characterization
 18006/18009
Work Order: 18C0468

Report Date: 03/22/2018
Matrix: Solid

PVOC Compounds by GC PID/FID

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual	DF
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Batch: B8C0564
Blank (B8C0564-BLK1)
Prepared: 03/15/2018 09:00 Analyzed: 03/15/2018 10:59

1,2,4-Trimethylbenzene	< 42.6	42.6	ug/Kg wet								50
1,3,5-Trimethylbenzene	< 25.0	25.0	ug/Kg wet								50
Benzene	< 38.6	38.6	ug/Kg wet								50
Ethylbenzene	< 25.2	25.2	ug/Kg wet								50
m,p-Xylene	< 25.0	25.0	ug/Kg wet								50
Methyl tert-butyl ether	< 66.3	66.3	ug/Kg wet								50
Naphthalene	< 44.8	44.8	ug/Kg wet								50
o-Xylene	< 31.7	31.7	ug/Kg wet								50
Toluene	< 46.3	46.3	ug/Kg wet								50
Xylenes, Total	< 53.6	53.6	ug/Kg wet								50
<hr style="border-top: 1px dashed black;"/>											
<i>Surrogate: 1,4-Dichlorobenzene-d4</i>	19.7		ug/Kg	20.00		98	70-130				50

LCS (B8C0564-BS1)
Prepared: 03/15/2018 09:00 Analyzed: 03/15/2018 16:44

1,2,4-Trimethylbenzene	4570	128	ug/Kg wet	5000		91	80-120				50
1,3,5-Trimethylbenzene	4560	63.1	ug/Kg wet	5000		91	80-120				50
Benzene	4580	116	ug/Kg wet	5000		92	80-120				50
Ethylbenzene	4610	75.6	ug/Kg wet	5000		92	80-120				50
m,p-Xylene	9290	69.2	ug/Kg wet	10000		93	80-120				50
Methyl tert-butyl ether	4770	199	ug/Kg wet	5000		95	80-120				50
Naphthalene	4610	134	ug/Kg wet	5000		92	80-120				50
o-Xylene	4650	95.0	ug/Kg wet	5000		93	80-120				50
Toluene	4610	139	ug/Kg wet	5000		92	80-120				50
Xylenes, Total	13900	161	ug/Kg wet	15000		93	80-120				50
<hr style="border-top: 1px dashed black;"/>											
<i>Surrogate: 1,4-Dichlorobenzene-d4</i>	20.2		ug/Kg	20.00		101	70-130				50

LCS Dup (B8C0564-BSD1)
Prepared: 03/15/2018 09:00 Analyzed: 03/15/2018 19:08

1,2,4-Trimethylbenzene	5570	128	ug/Kg wet	5000		111	80-120	20	20		50
1,3,5-Trimethylbenzene	5550	63.1	ug/Kg wet	5000		111	80-120	19	20		50
Benzene	5580	116	ug/Kg wet	5000		112	80-120	20	20		50
Ethylbenzene	5620	75.6	ug/Kg wet	5000		112	80-120	20	20		50
m,p-Xylene	11300	69.2	ug/Kg wet	10000		113	80-120	20	20		50
Methyl tert-butyl ether	5760	199	ug/Kg wet	5000		115	80-120	19	20		50
Naphthalene	5460	134	ug/Kg wet	5000		109	80-120	17	20		50
o-Xylene	5640	95.0	ug/Kg wet	5000		113	80-120	19	20		50
Toluene	5630	139	ug/Kg wet	5000		113	80-120	20	20		50
Xylenes, Total	17000	161	ug/Kg wet	15000		113	80-120	20	20		50
<hr style="border-top: 1px dashed black;"/>											
<i>Surrogate: 1,4-Dichlorobenzene-d4</i>	20.2		ug/Kg	20.00		101	70-130				50

Quality Control

(Continued)

Client: United Engineering Consultants, Inc.

Report Date: 03/22/2018

Project: Waste Characterization
18006/18009

Matrix: Solid

Work Order: 18C0468

Volatile Organic Compounds by GC/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual	DF
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Batch: B8C0554 - SW5035
Blank (B8C0554-BLK1)

Prepared: 03/15/2018 13:00 Analyzed: 03/15/2018 14:16

Benzene	< 12.8	98.4	ug/Kg wet								50
Surrogate: Fluorobenzene	19.3		ug/Kg	20.00		96	91-106				50
Surrogate: Toluene-d8	17.5		ug/Kg	20.00		87	71-112				50
Surrogate: 4-Bromofluorobenzene	10.7		ug/Kg	10.00		107	85-119				50

LCS (B8C0554-BS1)

Prepared: 03/15/2018 13:00 Analyzed: 03/15/2018 15:16

Benzene	4680	97.5	ug/Kg wet	3899		120	77-121				50
Surrogate: Fluorobenzene	20.2		ug/Kg	20.00		101	91-106				50
Surrogate: Toluene-d8	20.8		ug/Kg	20.00		104	71-112				50
Surrogate: 4-Bromofluorobenzene	9.07		ug/Kg	10.00		91	85-119				50

LCS Dup (B8C0554-BSD1)

Prepared: 03/15/2018 13:00 Analyzed: 03/15/2018 15:46

Benzene	4510	99.2	ug/Kg wet	3969		114	77-121	4	20		50
Surrogate: Fluorobenzene	20.3		ug/Kg	20.00		102	91-106				50
Surrogate: Toluene-d8	20.9		ug/Kg	20.00		104	71-112				50
Surrogate: 4-Bromofluorobenzene	9.66		ug/Kg	10.00		97	85-119				50

Batch: B8C0737 - SW5030
Blank (B8C0737-BLK1)

Prepared: 03/21/2018 12:07 Analyzed: 03/22/2018 05:12

1,1-Dichloroethene	< 0.00117	0.00400	mg/L								1
1,2-Dichloroethane	< 0.00145	0.00800	mg/L								1
1,4-Dichlorobenzene	< 0.000860	0.00400	mg/L								1
2-Butanone	< 0.00954	0.0400	mg/L								1
Benzene	< 0.000940	0.00400	mg/L								1
Carbon tetrachloride	< 0.000850	0.00400	mg/L								1
Chlorobenzene	< 0.000610	0.00400	mg/L								1
Chloroform	< 0.00130	0.00800	mg/L								1
Tetrachloroethene	< 0.00102	0.00400	mg/L								1
Trichloroethene	< 0.000900	0.00400	mg/L								1
Vinyl chloride	< 0.00105	0.00400	mg/L								1
Surrogate: Dibromofluoromethane	18.7		ug/L	20.00		93	78-119				1
Surrogate: 1,2-Dichloroethane-d4	19.8		ug/L	20.00		99	71-136				1
Surrogate: Fluorobenzene	19.4		ug/L	20.00		97	81-114				1
Surrogate: Toluene-d8	20.0		ug/L	20.00		100	85-116				1
Surrogate: 4-Bromofluorobenzene	10.6		ug/L	10.00		106	79-119				1
Surrogate: 1,2-Dichlorobenzene-d4	21.6		ug/L	20.00		108	80-120				1

Quality Control

(Continued)

Client: United Engineering Consultants, Inc.

Report Date: 03/22/2018

Project: Waste Characterization
18006/18009

Matrix: Solid

Work Order: 18C0468

Volatile Organic Compounds by GC/MS

(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual	DF
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Batch: B8C0737 - SW5030 (Continued)
LCS (B8C0737-BS1)

Prepared: 03/21/2018 12:07 Analyzed: 03/22/2018 02:29

1,1-Dichloroethene	0.0980	0.00400	mg/L	0.08000		123	71-131				1
1,2-Dichloroethane	0.0884	0.00800	mg/L	0.08000		111	73-128				1
1,4-Dichlorobenzene	0.0912	0.00400	mg/L	0.08000		114	84-129				1
2-Butanone	0.256	0.0400	mg/L	0.2800		92	71-119				1
Benzene	0.0852	0.00400	mg/L	0.08000		106	79-120				1
Carbon tetrachloride	0.0862	0.00400	mg/L	0.08000		108	75-125				1
Chlorobenzene	0.0870	0.00400	mg/L	0.08000		109	82-118				1
Chloroform	0.0939	0.00800	mg/L	0.08000		117	79-124				1
Tetrachloroethene	0.0810	0.00400	mg/L	0.08000		101	74-129				1
Trichloroethene	0.0868	0.00400	mg/L	0.08000		108	84-129				1
Vinyl chloride	0.106	0.00400	mg/L	0.08000		132	58-137				1
<hr/>											
Surrogate: Dibromofluoromethane	17.8		ug/L	20.00		89	78-119				1
Surrogate: 1,2-Dichloroethane-d4	17.5		ug/L	20.00		88	71-136				1
Surrogate: Fluorobenzene	18.5		ug/L	20.00		92	81-114				1
Surrogate: Toluene-d8	17.4		ug/L	20.00		87	85-116				1
Surrogate: 4-Bromofluorobenzene	8.14		ug/L	10.00		81	79-119				1
Surrogate: 1,2-Dichlorobenzene-d4	17.8		ug/L	20.00		89	80-120				1

LCS Dup (B8C0737-BSD1)

Prepared: 03/21/2018 12:07 Analyzed: 03/22/2018 03:02

1,1-Dichloroethene	0.0719	0.00400	mg/L	0.08000		90	71-131	31	20	P	1
1,2-Dichloroethane	0.0777	0.00800	mg/L	0.08000		97	73-128	13	20		1
1,4-Dichlorobenzene	0.0815	0.00400	mg/L	0.08000		102	84-129	11	20		1
2-Butanone	0.274	0.0400	mg/L	0.2800		98	71-119	7	20		1
Benzene	0.0832	0.00400	mg/L	0.08000		104	79-120	2	20		1
Carbon tetrachloride	0.0793	0.00400	mg/L	0.08000		99	75-125	8	20		1
Chlorobenzene	0.0868	0.00400	mg/L	0.08000		108	82-118	0.3	20		1
Chloroform	0.0915	0.00800	mg/L	0.08000		114	79-124	3	20		1
Tetrachloroethene	0.0783	0.00400	mg/L	0.08000		98	74-129	3	20		1
Trichloroethene	0.0755	0.00400	mg/L	0.08000		94	84-129	14	20		1
Vinyl chloride	0.0772	0.00400	mg/L	0.08000		97	58-137	31	20	P	1
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Surrogate: Dibromofluoromethane	23.7		ug/L	20.00		119	78-119				1
Surrogate: 1,2-Dichloroethane-d4	22.2		ug/L	20.00		111	71-136				1
Surrogate: Fluorobenzene	20.4		ug/L	20.00		102	81-114				1
Surrogate: Toluene-d8	21.5		ug/L	20.00		107	85-116				1
Surrogate: 4-Bromofluorobenzene	10.9		ug/L	10.00		109	79-119				1
Surrogate: 1,2-Dichlorobenzene-d4	23.5		ug/L	20.00		117	80-120				1

Quality Control

(Continued)

Client: United Engineering Consultants, Inc.
Project: Waste Characterization
 18006/18009
Work Order: 18C0468

Report Date: 03/22/2018
Matrix: Water

Metals by ICP-AES

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual	DF
Batch: B8C0526 - SW3015											
Blank (B8C0526-BLK1) <i>Prepared: 03/15/2018 12:29 Analyzed: 03/15/2018 18:59</i>											
Lead	< 0.0140	0.0500	mg/L								1
TCLP Blank (B8C0526-BLK2) <i>Prepared: 03/15/2018 12:29 Analyzed: 03/15/2018 19:12</i>											
Lead	< 0.0140	0.0500	mg/L								1
LCS (B8C0526-BS1) <i>Prepared: 03/15/2018 12:29 Analyzed: 03/15/2018 19:03</i>											
Lead	1.24	0.0500	mg/L	1.250		98.9	86-113				1
Serial Dilution (B8C0526-DUP1) Source: 18C0466-01 <i>Prepared: 03/15/2018 12:29 Analyzed: 03/15/2018 20:02</i>											
Lead	< 0.0700	0.250	mg/L		ND				10		5
MRL Check (B8C0526-MRL1) <i>Prepared: 03/15/2018 12:29 Analyzed: 03/15/2018 19:08</i>											
Lead	0.0682	0.0500	mg/L	0.06250		109	70-130				1
Matrix Spike (B8C0526-MS1) Source: 18C0466-01 <i>Prepared: 03/15/2018 12:29 Analyzed: 03/15/2018 19:50</i>											
Lead	1.16	0.0500	mg/L	1.250	0.0186	91.6	75-125				1
Matrix Spike Dup (B8C0526-MSD1) Source: 18C0466-01 <i>Prepared: 03/15/2018 12:29 Analyzed: 03/15/2018 19:54</i>											
Lead	1.18	0.0500	mg/L	1.250	0.0186	92.5	75-125	0.940	20		1
Post Spike (B8C0526-PS1) Source: 18C0466-01 <i>Prepared: 03/15/2018 12:29 Analyzed: 03/15/2018 19:58</i>											
Lead	0.662	0.0556	mg/L	0.6944	0.0186	92.7	80-120				1

Quality Control

(Continued)

Client: United Engineering Consultants, Inc.
Project: Waste Characterization
 18006/18009
Work Order: 18C0468

Report Date: 03/22/2018
Matrix: Water

Semivolatile Organic Compounds by GC/MS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual	DF
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Batch: B8C0637 - SW3510

Blank (B8C0637-BLK1)

Prepared: 03/20/2018 08:50 Analyzed: 03/21/2018 00:55

Cresols, Total	< 0.0021	0.0092	mg/L								1
1,4-Dichlorobenzene	< 0.0007	0.0046	mg/L								1
2,4,5-Trichlorophenol	< 0.0027	0.0231	mg/L								1
2,4,6-Trichlorophenol	< 0.0030	0.0231	mg/L								1
2,4-Dinitrotoluene	< 0.0017	0.0116	mg/L								1
2-Methylphenol	< 0.0011	0.0046	mg/L								1
3 & 4-Methylphenol	< 0.0010	0.0046	mg/L								1
Hexachlorobenzene	< 0.0009	0.0046	mg/L								1
Hexachlorobutadiene	< 0.0028	0.0231	mg/L								1
Hexachloroethane	< 0.0029	0.0231	mg/L								1
Nitrobenzene	< 0.0014	0.0092	mg/L								1
Pentachlorophenol	< 0.0176	0.116	mg/L								1
Pyridine	< 0.0084	0.0578	mg/L								1
<hr/>											
Surrogate: 2-Fluorophenol	0.0291		mg/L	0.09634		30	4-108				1
Surrogate: Phenol-d5	0.0236		mg/L	0.09634		24	1-101				1
Surrogate: Nitrobenzene-d5	0.0330		mg/L	0.09634		34	23-119				1
Surrogate: 2-Fluorobiphenyl	0.0326		mg/L	0.09634		34	28-124				1
Surrogate: 2,4,6-Tribromophenol	0.0179		mg/L	0.09634		19	11-102				1
Surrogate: 4-Terphenyl-d14	0.0981		mg/L	0.09634		102	79-147				1

LCS (B8C0637-BS1)

Prepared: 03/20/2018 08:50 Analyzed: 03/21/2018 02:57

Cresols, Total	0.0361	0.0040	mg/L	0.1000		36	8-74				1
1,4-Dichlorobenzene	0.0139	0.0020	mg/L	0.05000		28	23-137				1
2,4,5-Trichlorophenol	0.0263	0.0100	mg/L	0.05000		53	33-161				1
2,4,6-Trichlorophenol	0.0212	0.0100	mg/L	0.05000		42	36-149				1
2,4-Dinitrotoluene	0.0353	0.0050	mg/L	0.05000		71	31-151				1
2-Methylphenol	0.0187	0.0020	mg/L	0.05000		37	36-131				1
3 & 4-Methylphenol	0.0174	0.0020	mg/L	0.05000		35	30-137				1
Hexachlorobenzene	0.0336	0.0020	mg/L	0.05000		67	39-139				1
Hexachlorobutadiene	0.0150	0.0100	mg/L	0.05000		30	36-128			S	1
Hexachloroethane	0.0128	0.0100	mg/L	0.05000		26	33-126			S	1
Nitrobenzene	0.0185	0.0040	mg/L	0.05000		37	30-143				1
Pentachlorophenol	0.0322	0.0500	mg/L	0.05000		64	37-112			J	1
Pyridine	0.0105	0.0250	mg/L	0.05000		21	16-133			J	1
<hr/>											
Surrogate: 2-Fluorophenol	0.00977		mg/L	0.03334		29	4-108				1
Surrogate: Phenol-d5	0.00713		mg/L	0.03334		21	1-101				1
Surrogate: Nitrobenzene-d5	0.0126		mg/L	0.03334		38	23-119				1
Surrogate: 2-Fluorobiphenyl	0.0132		mg/L	0.03334		40	28-124				1
Surrogate: 2,4,6-Tribromophenol	0.0245		mg/L	0.03334		74	11-102				1
Surrogate: 4-Terphenyl-d14	0.0352		mg/L	0.03334		106	79-147				1

Quality Control

(Continued)

Client: United Engineering Consultants, Inc.

Report Date: 03/22/2018

Project: Waste Characterization
18006/18009

Matrix: Water

Work Order: 18C0468

Semivolatile Organic Compounds by GC/MS

(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual	DF
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Batch: B8C0637 - SW3510 (Continued)

LCS Dup (B8C0637-BSD1)

Prepared: 03/20/2018 08:50 Analyzed: 03/21/2018 03:37

Cresols, Total	0.0420	0.0040	mg/L	0.1000		42	8-74	15	20		1
1,4-Dichlorobenzene	0.0182	0.0020	mg/L	0.05000		36	23-137	26	20	P	1
2,4,5-Trichlorophenol	0.0307	0.0100	mg/L	0.05000		61	33-161	15	20		1
2,4,6-Trichlorophenol	0.0268	0.0100	mg/L	0.05000		54	36-149	23	20	P	1
2,4-Dinitrotoluene	0.0402	0.0050	mg/L	0.05000		80	31-151	13	20		1
2-Methylphenol	0.0221	0.0020	mg/L	0.05000		44	36-131	17	20		1
3 & 4-Methylphenol	0.0199	0.0020	mg/L	0.05000		40	30-137	13	20		1
Hexachlorobenzene	0.0386	0.0020	mg/L	0.05000		77	39-139	14	20		1
Hexachlorobutadiene	0.0182	0.0100	mg/L	0.05000		36	36-128	19	20		1
Hexachloroethane	0.0167	0.0100	mg/L	0.05000		33	33-126	27	20	P	1
Nitrobenzene	0.0246	0.0040	mg/L	0.05000		49	30-143	28	20	P	1
Pentachlorophenol	0.0359	0.0500	mg/L	0.05000		72	37-112	11	20	J	1
Pyridine	0.0140	0.0250	mg/L	0.05000		28	16-133	29	20	P, J	1
<hr/>											
Surrogate: 2-Fluorophenol	0.0114		mg/L	0.03334		34	4-108				1
Surrogate: Phenol-d5	0.00788		mg/L	0.03334		24	1-101				1
Surrogate: Nitrobenzene-d5	0.0164		mg/L	0.03334		49	23-119				1
Surrogate: 2-Fluorobiphenyl	0.0172		mg/L	0.03334		52	28-124				1
Surrogate: 2,4,6-Tribromophenol	0.0270		mg/L	0.03334		81	11-102				1
Surrogate: 4-Terphenyl-d14	0.0370		mg/L	0.03334		111	79-147				1

Certified Analyses included in this Report

Analyte	CAS #	Certifications
SM2540G in Solid		
Total Solids	Moist	WDNR
SW6010C in Water		
Lead, TCLP	7439-92-1	AKDEC,ISO,WDNR,DoD,ILEPA
SW8260B in Solid		
1,1-Dichloroethene, TCLP	75-35-4	AKDEC,LELAP,WDNR,DoD,ILEPA
1,2-Dichloroethane, TCLP	107-06-2	AKDEC,LELAP,WDNR,DoD,ILEPA
1,4-Dichlorobenzene, TCLP	106-46-7	LELAP,WDNR,DoD,ILEPA
2-Butanone, TCLP	78-93-3	LELAP,WDNR,DoD,ILEPA
Benzene, TCLP	71-43-2	LELAP,WDNR,DoD,ILEPA
Carbon tetrachloride, TCLP	56-23-5	AKDEC,LELAP,WDNR,DoD,ILEPA
Chlorobenzene, TCLP	108-90-7	AKDEC,LELAP,WDNR,DoD,ILEPA
Chloroform, TCLP	67-66-3	AKDEC,LELAP,WDNR,DoD,ILEPA
Tetrachloroethene, TCLP	127-18-4	LELAP,WDNR,DoD,ILEPA
Trichloroethene, TCLP	79-01-6	AKDEC,LELAP,WDNR,DoD,ILEPA
Vinyl chloride, TCLP	75-01-4	AKDEC,LELAP,WDNR,DoD,ILEPA
Benzene	71-43-2	LELAP,WDNR,DoD,ILEPA
SW8270D in Water		
Cresols, Total, TCLP	1319-77-3	DoD,WDNR
1,4-Dichlorobenzene, TCLP	106-46-7	DoD,WDNR,ILEPA
2,4,5-Trichlorophenol, TCLP	95-95-4	DoD,WDNR,ILEPA
2,4,6-Trichlorophenol, TCLP	88-06-2	DoD,WDNR,ILEPA
2,4-Dinitrotoluene, TCLP	121-14-2	DoD,WDNR,ILEPA
2-Methylphenol, TCLP	95-48-7	DoD,WDNR,ILEPA
3 & 4-Methylphenol, TCLP	84989-04-8	DoD,WDNR,ILEPA
Hexachlorobenzene, TCLP	118-74-1	DoD,WDNR,ILEPA
Hexachlorobutadiene, TCLP	87-68-3	DoD,WDNR,ILEPA
Hexachloroethane, TCLP	67-72-1	DoD,WDNR,ILEPA
Nitrobenzene, TCLP	98-95-3	DoD,WDNR,ILEPA
Pentachlorophenol, TCLP	87-86-5	DoD,WDNR,ILEPA
Pyridine, TCLP	110-86-1	DoD,WDNR,ILEPA
WI(95)-GRO/PVOC: PUBL-SW-140 in Solid		
1,2,4-Trimethylbenzene	95-63-6	WDNR
1,3,5-Trimethylbenzene	108-67-8	WDNR
Benzene	71-43-2	WDNR
Ethylbenzene	100-41-4	WDNR
m,p-Xylene	179601-23-1	WDNR
Methyl tert-butyl ether	1634-04-4	WDNR
Naphthalene	91-20-3	WDNR
o-Xylene	95-47-6	WDNR
Toluene	108-88-3	WDNR
Xylenes, Total	1330-20-7	WDNR

List of Certifications

Code	Description	Number	Expires
AKDEC	State of Alaska, Dept. Environmental Conservation	UST-105	04/30/2018
CPSC	US Consumer Product Safety Commission, Accredited by PJLA Lab No. 1050	L14-56	04/30/2018
DoD	Department of Defense, Accredited by PJLA	L14-55	04/30/2018
ILEPA	State of Illinois, NELAP Accredited Lab No. 100256	003674	08/08/2018
ISO	ISO/IEC 17025, Accredited by PJLA	L14-56	04/30/2018
LELAP	State of Louisiana, NELAP Accredited Lab No. 171344	05015	06/30/2018
NJDEP	State of New Jersey, NELAP Accredited Lab No. IL010	NLC160001	06/30/2018
WDNR	State of Wisconsin Dept of Natural Resources	999888890	08/31/2018

Qualifiers and Definitions

Item	Description
J	Estimated Value
P	The %RPD result is above the laboratory control limits.
S	The recovery is outside of the laboratory control limits.
%Rec	Percent Recovery
MDL	In the state of Wisconsin MDL is equivalent to LOD; in all other applications MDL is equivalent to MDL. In the state of Wisconsin LOQ is equivalent to Reporting Limit.

Sample Receipt Checklist**Work Order: 18C0468**

Printed: 3/14/2018 7:59:26AM

Client: **United Engineering Consultants, Inc.**
 Project: **Waste Characterization**

Date Due: **03/20/18 17:00 (5 day TAT)**

Received By:	Steven Legacki	Date Received:	03/13/18 17:15
Logged In By:	Steven Legacki	Date Logged In:	03/13/18 18:00
Samples Received at:			2°C
How were samples received?			EMT
Custody Seals Present			No
Custody Seals Intact			NA
Sample Cont/Cooler Intact			Yes
COC Present/Complete			Yes
COC/Labels Agree			Yes
Proper Cont/Preservation checked			No
Sufficient Sample Volume			Yes
Samples Within Holdtime			Yes
Cooler Temp Within Limits			Yes
VOA Water Vials Received			No
VOA Water Vials/Zero Headspace			NA
PM or Client Contacted			Yes

COMMENTS

Chain says vials have MeOH, vials do not say they are preserved

[Handwritten Signature]
 11/18

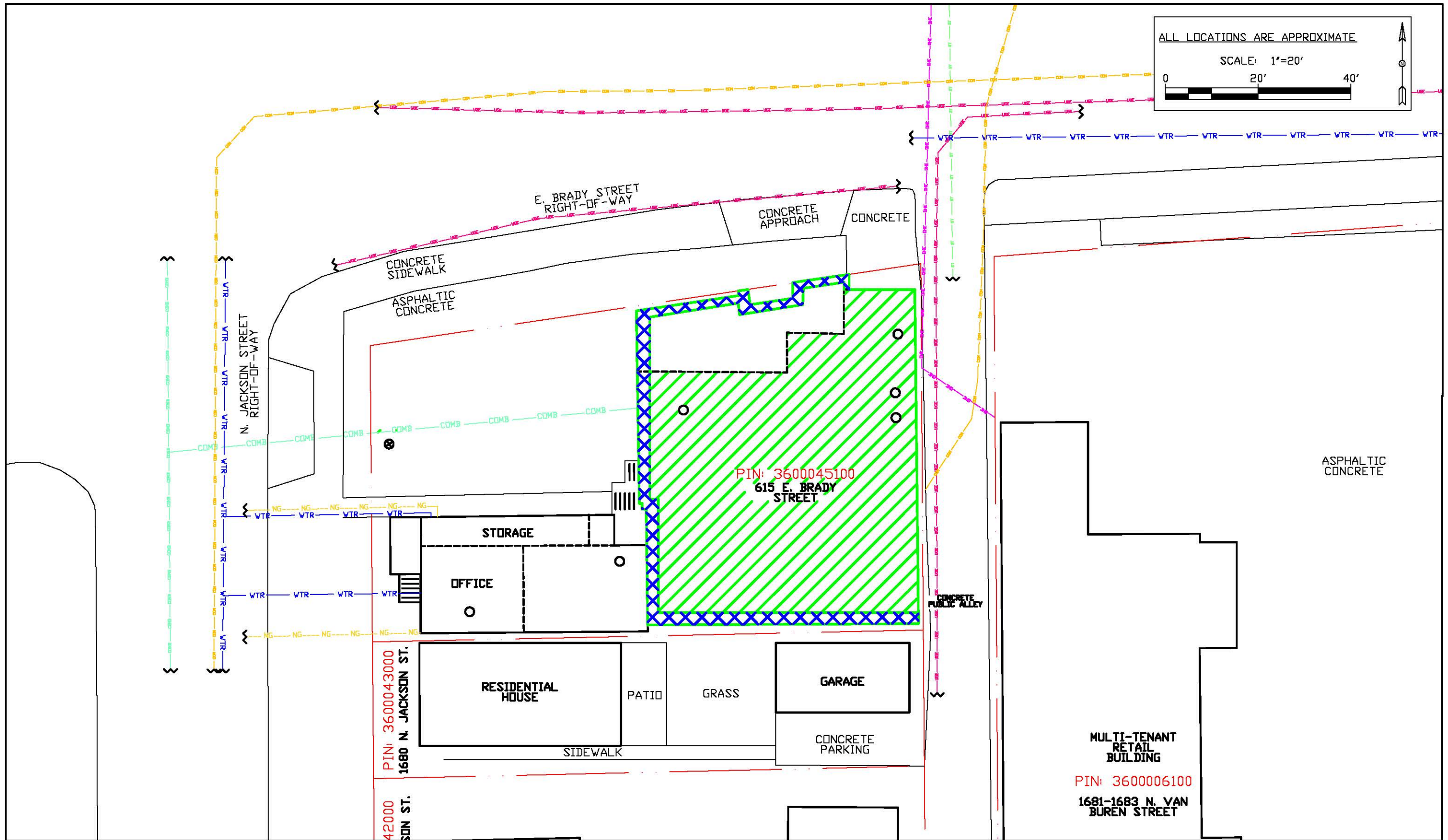


Figure 18: Commerical Building Excavation Limits Map

**United Engineering
Consultants, Inc.**

16237 W. Ryerson Road
New Berlin, WI 53151
Tel. (262) 785-1447
Fax (262) 706-4400

#17028

DRAWN BY: NJA

DATE: 11/11/2019

**Remedial Action Plan (RAP)
Former Comedy Club Cafe
615 E. Brady Street
Milwaukee, WI 53202**

Legend

- Property Line
- NG — Underground Natural Gas Line
- WTR — Underground Water Line
- OE — Overhead Electric Line
- UE — Underground Electric Line
- UC — Underground Communication Line
- USS — Underground Storm Sewer Line
- COMB — Combined Sewer Line
- ▨ Floor Slab Excavation Limits (Depth: 2 Feet)
- ▨ Footing Excavation Limits (Depth: 5 Feet)

Customer Summary Report**Criteria: 02/15/2018 12:00 AM to 05/22/2018 11:59 PM****Business Unit Name: Metro RDF - S03948 (USA)****Profile: V128792WI**

Ticket Date	Ticket ID	Cust Code	MAS Unique ID	Customer	Generator	Manifest	Profile	Truck	Material	Material Description	Tons
2/26/2018	913713	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	22618302	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	17.44
2/27/2018	913864	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	22718104	V128792WI	98	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	26.59
2/27/2018	913875	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	22718121	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	19.67
2/27/2018	913909	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	22718249	V128792WI	98	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	20.53
2/27/2018	913920	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	22718309	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	14.11
2/28/2018	913950	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	22818738	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	15.55
2/28/2018	913954	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	22818814	V128792WI	98	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	20.88
2/28/2018	913976	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	22818914	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	14.18
2/28/2018	914010	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	228181053	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	14.74
2/28/2018	914015	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	228181115	V128792WI	98	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	17.93
2/28/2018	914034	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	228181221	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	15.55
3/1/2018	914171	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	30118951	V128792WI	98	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	17.28
3/1/2018	914300	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	30118342	V128792WI	98	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	22.47
3/2/2018	914336	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	30218837	V128792WI	9	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	22.2
3/2/2018	914346	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	30218902	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	16.46
3/2/2018	914350	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	30218906	V128792WI	98	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	21.28
3/2/2018	914377	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	302181008	V128792WI	9	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	20.85

3/2/2018	914395	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	302181053	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	13.86
3/2/2018	914410	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	302181133	V128792WI	98	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	18.39
3/2/2018	914414	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	32181152	V128792WI	9	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	24.57
3/2/2018	914437	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	302181234	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	18.86
3/2/2018	914498	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	30218309	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	16.5
3/5/2018	914695	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	30518223	V128792WI	98	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	7.78
3/7/2018	914926	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	30718905	V128792WI	61	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	20.25
3/7/2018	914935	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	30718935	V128792WI	98	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	23.21
3/7/2018	914968	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	307181113	V128792WI	61	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	23.94
3/7/2018	915002	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	37181245	V128792WI	61	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	24.33
3/7/2018	915004	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	37181253	V128792WI	98	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	12.59
3/14/2018	915884	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	31418928	V128792WI	214	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	23.74
3/14/2018	915895	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	31418949	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	15.26
3/14/2018	915922	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	314181114	V128792WI	214	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	21.49
3/14/2018	915928	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	314181132	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	17.82
3/14/2018	915948	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	314181243	V128792WI	214	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	21.48
3/14/2018	915967	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	31418130	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	14.88
3/14/2018	916013	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	31418410	V128792WI	214	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	14.91
3/15/2018	916023	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	31518738	V128792WI	89	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	14.28
3/15/2018	916066	0003979	196185543000	MILWAUKEE HOLDINGS LLC	136-COMEDYCAFE	31518957	V128792WI	101	Spwaste VOC-Tons	Special Waste containing VOC (VolatileOrganic Compounds)	20.42

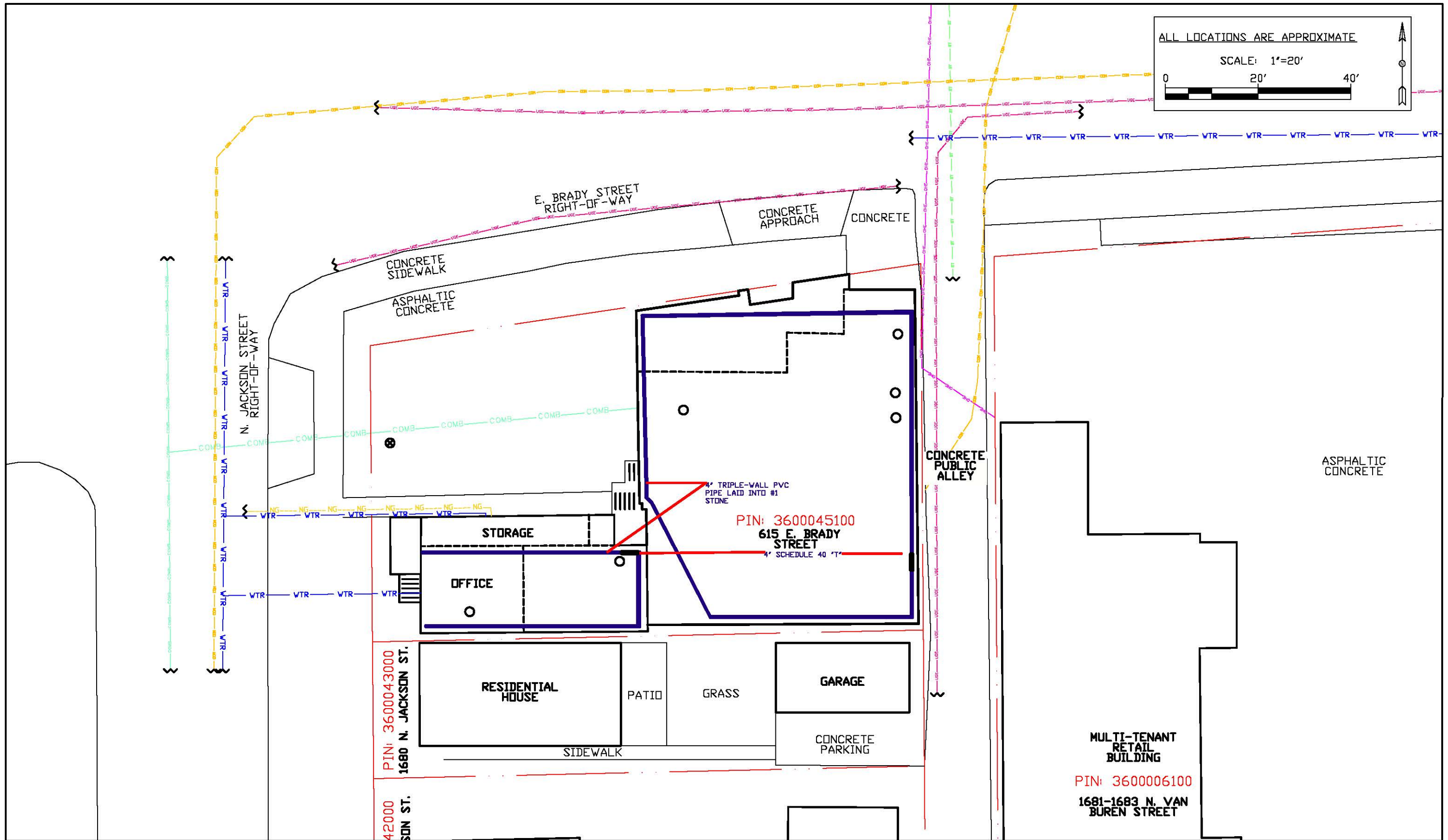


Figure 20: Sub-Slab Vapor Mitigation System Component Location Map

United Engineering
Consultants, Inc.

16237 W. Ryerson Road
New Berlin, WI 53151
Tel. (262) 785-1447
Fax (262) 706-4400

#17028

DRAWN BY: NJA

DATE: 05/20/2018

Remedial Action Plan (RAP)
Former Comedy Club Cafe
615 E. Brady Street
Milwaukee, WI 53202

Legend

- Property Line
- NG— Underground Natural Gas Line
- WTR— Underground Water Line
- OHE— Overhead Electric Line
- UEL— Underground Electric Line
- UCL— Underground Communication Line
- USS— Underground Storm Sewer Line
- COMB— Combined Sewer Line

Table 7
Vapor Analytical Results - Volatile Organic Compounds
Former Comedy Club Cafe
615 E. Brady Street
Milwaukee, Wisconsin 53202

Sample Identification	SS-PC1	SS-PC2	SS-PC3	SS-PC4	SS-PC5	Residential	Small Commercial
Sample Type	SS	SS	SS	SS	SS	Sub-Slab VRSL	Sub-Slab VRSL
Sample Date	10/23/18	10/23/18	10/23/18	10/23/18	10/23/18		
Sample Duration (Hours)	0.5	0.5	0.5	0.5	0.5		
Location	Bar	Bar	Bar	Duplex	Duplex		
Chlorinated Volatile Organic Compounds (CVOC) (Method: TO-15)							
Carbon tetrachloride	<0.79	<246	<0.75	<0.79	<0.79	160	670
Chloroform	1.00	<112	<0.34	2.0	1.1	40	180
Chloromethane	0.51J	<89.4	<0.27	1.9	0.86	3100	13000
1,1-Dichloroethane	<0.41	<129	<0.39	<0.41	<0.41	600	2600
1,1-Dichloroethene	<0.50	<157	<0.48	<0.50	<0.50	7000	29000
cis-1,2-Dichloroethene	62.8	352J	<0.28	149	462	-	-
trans-1,2-Dichloroethene	6.9	<163	<0.50	4.3	5.8	-	-
Methylene chloride	3.7J	<541	3.0J	4.1J	8.9	21000	87000
Tetrachloroethene	<u>5750</u>	22800	9.0	<u>3040</u>	<u>5310</u>	1400	6000
1,1,1-Trichloroethane	<0.57	<177	<0.54	<0.57	<0.57	170000	730000
Trichloroethene	<u>261</u>	844	1.0J	483	1340	70	290
Vinyl Chloride	<0.23	<72.2	<0.22	<0.23	<0.23	57	930

Notes: All results expressed as µg/m³
VRSL Vapor Risk Screening Level (November 2017 Version)
Residential Sub-slab VRSL exceedances in underline (AF=0.03)
Commercial Sub-slab VRSL exceedances in **bold** (AF=0.03)
- Sub-slab VRSL not established for this compound
J Analyte detected below limit of quantitation
6 Liter Summa Canister
Water Dam Method: Pass
Communication testing not performed
All analysis completed by Pace Analytical Services
Tracer gas was not present in any samples

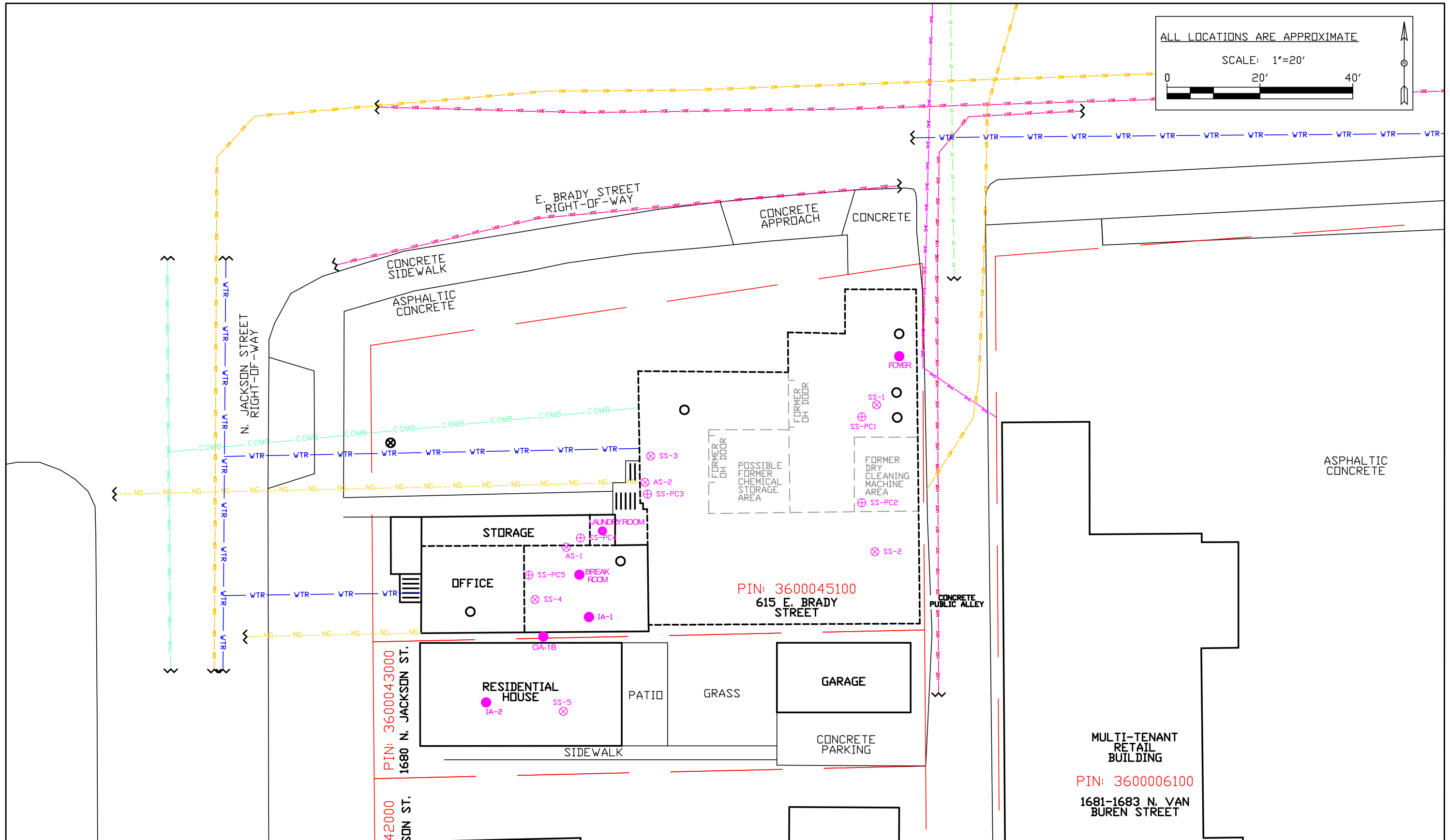


Figure 4: Ambient and Sub-Slab Vapor Sample Location Map

United Engineering Consultants, Inc. 16237 W. Ryerson Road New Berlin, WI 53151 Tel. (262) 785-1447 Fax (262) 706-4400	#17028	Phase II Environmental Site Assessment Former Comedy Club Cafe 615 E. Brady Street Milwaukee, WI 53202	Legend --- Property Line --- NG --- Underground Natural Gas Line --- WTR --- Underground Water Line --- OHE --- Overhead Electric Line --- UEL --- Underground Electric Line --- CM --- Underground Communication Line --- ST --- Underground Storm Sewer Line ● Ambient-Air Vapor Sample Location (KEY) ⊕ Sub-Slab Vapor Sample Location (KEY) ● IA-1 Sub-Slab Vapor Sample Location (KEY) ⊕ SS-PC1 Sub-Slab Vapor Sample Location (KEY)
	DRAWN BY: NJA DATE: 10/30/2018		

October 29, 2018

Mr. Timothy Anderson
United Engineering
16237 W. Ryerson Rd.
New Berlin, WI 53151

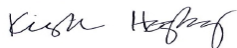
RE: Project: 17028
Pace Project No.: 10452878

Dear Mr. Anderson:

Enclosed are the analytical results for sample(s) received by the laboratory on October 24, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Kirsten Hogberg
kirsten.hogberg@pacelabs.com
(612)607-1700
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 17028
Pace Project No.: 10452878

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

CNMI Saipan Certification #: MP0003

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

Guam EPA Certification #: MN00064

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: 03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Massachusetts Certification #: M-MN064

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certification #: via MN 027-053-137

Minnesota Petrofund Certification #: 1240

Mississippi Certification #: MN00064

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon NwTPH Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #:74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DW Certification #: 9952 C

West Virginia DEP Certification #: 382

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 17028
Pace Project No.: 10452878

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10452878001	SS-PC1	Air	10/23/18 12:25	10/24/18 11:45
10452878002	SS-PC2	Air	10/23/18 12:37	10/24/18 11:45
10452878003	SS-PC3	Air	10/23/18 12:50	10/24/18 11:45
10452878004	SS-PC4	Air	10/23/18 13:06	10/24/18 11:45
10452878005	SS-PC5	Air	10/23/18 13:13	10/24/18 11:45

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SAMPLE ANALYTE COUNT

Project: 17028
Pace Project No.: 10452878

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10452878001	SS-PC1	TO-15	MG2	12	PASI-M
10452878002	SS-PC2	TO-15	MG2	12	PASI-M
10452878003	SS-PC3	TO-15	MJL	12	PASI-M
10452878004	SS-PC4	TO-15	MG2	12	PASI-M
10452878005	SS-PC5	TO-15	MG2	12	PASI-M

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ANALYTICAL RESULTS

Project: 17028
Pace Project No.: 10452878

Sample: SS-PC1 **Lab ID: 10452878001** Collected: 10/23/18 12:25 Received: 10/24/18 11:45 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Carbon tetrachloride	<0.79	ug/m3	5.9	0.79	1.83		10/26/18 16:13	56-23-5	
Chloroform	1.0	ug/m3	0.91	0.36	1.83		10/26/18 16:13	67-66-3	
Chloromethane	0.51J	ug/m3	0.77	0.29	1.83		10/26/18 16:13	74-87-3	
1,1-Dichloroethane	<0.41	ug/m3	1.5	0.41	1.83		10/26/18 16:13	75-34-3	
1,1-Dichloroethene	<0.50	ug/m3	1.5	0.50	1.83		10/26/18 16:13	75-35-4	
cis-1,2-Dichloroethene	62.8	ug/m3	1.5	0.40	1.83		10/26/18 16:13	156-59-2	
trans-1,2-Dichloroethene	6.9	ug/m3	1.5	0.52	1.83		10/26/18 16:13	156-60-5	
Methylene Chloride	3.7J	ug/m3	6.5	1.7	1.83		10/26/18 16:13	75-09-2	
Tetrachloroethene	5750	ug/m3	202	91.9	292.8		10/27/18 13:27	127-18-4	
1,1,1-Trichloroethane	<0.57	ug/m3	2.0	0.57	1.83		10/26/18 16:13	71-55-6	
Trichloroethene	261	ug/m3	1.0	0.47	1.83		10/26/18 16:13	79-01-6	
Vinyl chloride	<0.23	ug/m3	0.48	0.23	1.83		10/26/18 16:13	75-01-4	

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ANALYTICAL RESULTS

Project: 17028
Pace Project No.: 10452878

Sample: SS-PC2 **Lab ID: 10452878002** Collected: 10/23/18 12:37 Received: 10/24/18 11:45 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Carbon tetrachloride	<246	ug/m3	733	246	572.8		10/28/18 01:31	56-23-5	
Chloroform	<112	ug/m3	284	112	572.8		10/28/18 01:31	67-66-3	
Chloromethane	<89.4	ug/m3	241	89.4	572.8		10/28/18 01:31	74-87-3	
1,1-Dichloroethane	<129	ug/m3	471	129	572.8		10/28/18 01:31	75-34-3	
1,1-Dichloroethene	<157	ug/m3	462	157	572.8		10/28/18 01:31	75-35-4	
cis-1,2-Dichloroethene	352J	ug/m3	462	125	572.8		10/28/18 01:31	156-59-2	
trans-1,2-Dichloroethene	<163	ug/m3	462	163	572.8		10/28/18 01:31	156-60-5	
Methylene Chloride	<541	ug/m3	2020	541	572.8		10/28/18 01:31	75-09-2	
Tetrachloroethene	22800	ug/m3	395	180	572.8		10/28/18 01:31	127-18-4	
1,1,1-Trichloroethane	<177	ug/m3	636	177	572.8		10/28/18 01:31	71-55-6	
Trichloroethene	844	ug/m3	625	147	572.8		10/28/18 01:31	79-01-6	
Vinyl chloride	<72.2	ug/m3	149	72.2	572.8		10/28/18 01:31	75-01-4	

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ANALYTICAL RESULTS

Project: 17028
Pace Project No.: 10452878

Sample: SS-PC3 **Lab ID: 10452878003** Collected: 10/23/18 12:50 Received: 10/24/18 11:45 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Carbon tetrachloride	<0.75	ug/m3	2.2	0.75	1.75		10/28/18 17:51	56-23-5	
Chloroform	<0.34	ug/m3	0.87	0.34	1.75		10/28/18 17:51	67-66-3	
Chloromethane	<0.27	ug/m3	0.74	0.27	1.75		10/28/18 17:51	74-87-3	
1,1-Dichloroethane	<0.39	ug/m3	1.4	0.39	1.75		10/28/18 17:51	75-34-3	
1,1-Dichloroethene	<0.48	ug/m3	1.4	0.48	1.75		10/28/18 17:51	75-35-4	
cis-1,2-Dichloroethene	<0.38	ug/m3	1.4	0.38	1.75		10/28/18 17:51	156-59-2	
trans-1,2-Dichloroethene	<0.50	ug/m3	1.4	0.50	1.75		10/28/18 17:51	156-60-5	
Methylene Chloride	3.0J	ug/m3	15.4	1.7	1.75		10/28/18 17:51	75-09-2	
Tetrachloroethene	9.0	ug/m3	2.4	0.55	1.75		10/28/18 17:51	127-18-4	
1,1,1-Trichloroethane	<0.54	ug/m3	1.9	0.54	1.75		10/28/18 17:51	71-55-6	
Trichloroethene	1.0J	ug/m3	1.9	0.45	1.75		10/28/18 17:51	79-01-6	
Vinyl chloride	<0.22	ug/m3	0.46	0.22	1.75		10/28/18 17:51	75-01-4	

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ANALYTICAL RESULTS

Project: 17028
Pace Project No.: 10452878

Sample: SS-PC4 **Lab ID: 10452878004** Collected: 10/23/18 13:06 Received: 10/24/18 11:45 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Carbon tetrachloride	<0.79	ug/m3	5.9	0.79	1.83		10/26/18 17:36	56-23-5	
Chloroform	2.0	ug/m3	0.91	0.36	1.83		10/26/18 17:36	67-66-3	
Chloromethane	1.9	ug/m3	0.77	0.29	1.83		10/26/18 17:36	74-87-3	
1,1-Dichloroethane	<0.41	ug/m3	1.5	0.41	1.83		10/26/18 17:36	75-34-3	
1,1-Dichloroethene	<0.50	ug/m3	1.5	0.50	1.83		10/26/18 17:36	75-35-4	
cis-1,2-Dichloroethene	149	ug/m3	1.5	0.40	1.83		10/26/18 17:36	156-59-2	
trans-1,2-Dichloroethene	4.3	ug/m3	1.5	0.52	1.83		10/26/18 17:36	156-60-5	
Methylene Chloride	4.1J	ug/m3	6.5	1.7	1.83		10/26/18 17:36	75-09-2	
Tetrachloroethene	3040	ug/m3	101	46.0	146.4		10/27/18 15:59	127-18-4	
1,1,1-Trichloroethane	<0.57	ug/m3	2.0	0.57	1.83		10/26/18 17:36	71-55-6	
Trichloroethene	483	ug/m3	160	37.6	146.4		10/27/18 15:59	79-01-6	
Vinyl chloride	<0.23	ug/m3	0.48	0.23	1.83		10/26/18 17:36	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 17028
Pace Project No.: 10452878

Sample: SS-PC5 **Lab ID: 10452878005** Collected: 10/23/18 13:13 Received: 10/24/18 11:45 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Carbon tetrachloride	<0.79	ug/m3	5.9	0.79	1.83		10/26/18 18:04	56-23-5	
Chloroform	1.1	ug/m3	0.91	0.36	1.83		10/26/18 18:04	67-66-3	
Chloromethane	0.86	ug/m3	0.77	0.29	1.83		10/26/18 18:04	74-87-3	
1,1-Dichloroethane	<0.41	ug/m3	1.5	0.41	1.83		10/26/18 18:04	75-34-3	
1,1-Dichloroethene	<0.50	ug/m3	1.5	0.50	1.83		10/26/18 18:04	75-35-4	
cis-1,2-Dichloroethene	462	ug/m3	236	64.1	292.8		10/27/18 16:26	156-59-2	
trans-1,2-Dichloroethene	5.8	ug/m3	1.5	0.52	1.83		10/26/18 18:04	156-60-5	
Methylene Chloride	8.9	ug/m3	6.5	1.7	1.83		10/26/18 18:04	75-09-2	
Tetrachloroethene	5310	ug/m3	202	91.9	292.8		10/27/18 16:26	127-18-4	
1,1,1-Trichloroethane	<0.57	ug/m3	2.0	0.57	1.83		10/26/18 18:04	71-55-6	
Trichloroethene	1340	ug/m3	320	75.2	292.8		10/27/18 16:26	79-01-6	
Vinyl chloride	<0.23	ug/m3	0.48	0.23	1.83		10/26/18 18:04	75-01-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 17028
Pace Project No.: 10452878

SAMPLE DUPLICATE: 3103527

Parameter	Units	10452907003 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND	<0.32		25	
Methylene Chloride	ug/m3	5.4	5.4	0	25	
Tetrachloroethene	ug/m3	ND	0.64J		25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.41		25	
Trichloroethene	ug/m3	ND	<0.37		25	
Vinyl chloride	ug/m3	ND	<0.18		25	

SAMPLE DUPLICATE: 3103528

Parameter	Units	10452907002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<0.44		25	
1,1-Dichloroethane	ug/m3	ND	<0.32		25	
1,1-Dichloroethene	ug/m3	ND	<0.39		25	
Carbon tetrachloride	ug/m3	ND	<0.62		25	
Chloroform	ug/m3	ND	<0.28		25	
Chloromethane	ug/m3	0.81	1.1	31	25	R1
cis-1,2-Dichloroethene	ug/m3	ND	<0.32		25	
Methylene Chloride	ug/m3	ND	4.6J		25	
Tetrachloroethene	ug/m3	ND	0.73J		25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.41		25	
Trichloroethene	ug/m3	ND	<0.37		25	
Vinyl chloride	ug/m3	ND	<0.18		25	

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QUALITY CONTROL DATA

Project: 17028
Pace Project No.: 10452878

QC Batch: 571901 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10452878002

METHOD BLANK: 3103471 Matrix: Air
Associated Lab Samples: 10452878002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.31	1.1	10/27/18 10:42	
1,1-Dichloroethane	ug/m3	<0.22	0.82	10/27/18 10:42	
1,1-Dichloroethene	ug/m3	<0.27	0.81	10/27/18 10:42	
Carbon tetrachloride	ug/m3	<0.43	1.3	10/27/18 10:42	
Chloroform	ug/m3	<0.20	0.50	10/27/18 10:42	
Chloromethane	ug/m3	<0.16	0.42	10/27/18 10:42	
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	10/27/18 10:42	
Methylene Chloride	ug/m3	<0.94	3.5	10/27/18 10:42	
Tetrachloroethene	ug/m3	<0.31	0.69	10/27/18 10:42	
trans-1,2-Dichloroethene	ug/m3	<0.28	0.81	10/27/18 10:42	
Trichloroethene	ug/m3	<0.26	1.1	10/27/18 10:42	MN
Vinyl chloride	ug/m3	<0.13	0.26	10/27/18 10:42	

LABORATORY CONTROL SAMPLE: 3103472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	51.0	92	70-135	
1,1-Dichloroethane	ug/m3	41.1	41.2	100	70-134	
1,1-Dichloroethene	ug/m3	40.3	36.3	90	70-137	
Carbon tetrachloride	ug/m3	64	55.4	87	60-145	
Chloroform	ug/m3	49.6	48.8	98	70-132	
Chloromethane	ug/m3	21	19.5	93	58-140	
cis-1,2-Dichloroethene	ug/m3	40.3	41.0	102	70-136	
Methylene Chloride	ug/m3	177	160	91	67-132	
Tetrachloroethene	ug/m3	68.9	70.9	103	70-133	
trans-1,2-Dichloroethene	ug/m3	40.3	41.8	104	70-132	
Trichloroethene	ug/m3	54.6	50.6	93	70-135	
Vinyl chloride	ug/m3	26	25.0	96	70-141	

SAMPLE DUPLICATE: 3103561

Parameter	Units	10452926001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<0.46			25
1,1-Dichloroethane	ug/m3	ND	<0.34			25
1,1-Dichloroethene	ug/m3	ND	<0.41			25
Carbon tetrachloride	ug/m3	ND	<0.64			25
Chloroform	ug/m3	ND	<0.29			25
Chloromethane	ug/m3	0.66	0.96	38		25 R1

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QUALITY CONTROL DATA

Project: 17028
Pace Project No.: 10452878

SAMPLE DUPLICATE: 3103561

Parameter	Units	10452926001 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND	<0.33		25	
Methylene Chloride	ug/m3	10.6	10.7	1	25	
Tetrachloroethene	ug/m3	ND	<0.47		25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.42		25	
Trichloroethene	ug/m3	ND	<0.38		25	
Vinyl chloride	ug/m3	ND	<0.19		25	

SAMPLE DUPLICATE: 3103562

Parameter	Units	10452926003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<0.45		25	
1,1-Dichloroethane	ug/m3	ND	<0.33		25	
1,1-Dichloroethene	ug/m3	ND	<0.40		25	
Carbon tetrachloride	ug/m3	ND	<0.63		25	
Chloroform	ug/m3	ND	<0.29		25	
Chloromethane	ug/m3	1.0	1.1	5	25	
cis-1,2-Dichloroethene	ug/m3	ND	<0.32		25	
Methylene Chloride	ug/m3	7.4	7.5	1	25	
Tetrachloroethene	ug/m3	ND	<0.46		25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.42		25	
Trichloroethene	ug/m3	ND	<0.38		25	
Vinyl chloride	ug/m3	ND	<0.18		25	

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QUALITY CONTROL DATA

Project: 17028
Pace Project No.: 10452878

QC Batch: 572006 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10452878003

METHOD BLANK: 3103785 Matrix: Air
Associated Lab Samples: 10452878003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.31	1.1	10/28/18 13:56	
1,1-Dichloroethane	ug/m3	<0.22	0.82	10/28/18 13:56	
1,1-Dichloroethene	ug/m3	<0.27	0.81	10/28/18 13:56	
Carbon tetrachloride	ug/m3	<0.43	1.3	10/28/18 13:56	
Chloroform	ug/m3	<0.20	0.50	10/28/18 13:56	
Chloromethane	ug/m3	<0.16	0.42	10/28/18 13:56	
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	10/28/18 13:56	
Methylene Chloride	ug/m3	<0.94	8.8	10/28/18 13:56	MN
Tetrachloroethene	ug/m3	<0.31	1.4	10/28/18 13:56	MN
trans-1,2-Dichloroethene	ug/m3	<0.28	0.81	10/28/18 13:56	
Trichloroethene	ug/m3	<0.26	1.1	10/28/18 13:56	MN
Vinyl chloride	ug/m3	<0.13	0.26	10/28/18 13:56	

LABORATORY CONTROL SAMPLE: 3103786

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	54.1	98	70-135	
1,1-Dichloroethane	ug/m3	41.1	38.9	95	70-134	
1,1-Dichloroethene	ug/m3	40.3	39.1	97	70-137	
Carbon tetrachloride	ug/m3	64	70.1	110	60-145	
Chloroform	ug/m3	49.6	46.4	94	70-132	
Chloromethane	ug/m3	21	20.9	100	58-140	
cis-1,2-Dichloroethene	ug/m3	40.3	38.5	96	70-136	
Methylene Chloride	ug/m3	177	165	94	67-132	
Tetrachloroethene	ug/m3	68.9	63.5	92	70-133	
trans-1,2-Dichloroethene	ug/m3	40.3	38.3	95	70-132	
Trichloroethene	ug/m3	54.6	50.4	92	70-135	
Vinyl chloride	ug/m3	26	27.1	104	70-141	

SAMPLE DUPLICATE: 3103803

Parameter	Units	10452781008 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<0.46			25
1,1-Dichloroethane	ug/m3	ND	<0.34			25
1,1-Dichloroethene	ug/m3	ND	<0.41			25
Carbon tetrachloride	ug/m3	ND	<0.64			25
Chloroform	ug/m3	ND	<0.29			25
Chloromethane	ug/m3	2.8	2.7	2		25

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 17028
Pace Project No.: 10452878

SAMPLE DUPLICATE: 3103803

Parameter	Units	10452781008 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND	<0.33		25	
Methylene Chloride	ug/m3	ND	12.1J		25	
Tetrachloroethene	ug/m3	8.2	8.2	0	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.42		25	
Trichloroethene	ug/m3	ND	<0.38		25	
Vinyl chloride	ug/m3	ND	<0.19		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 17028
Pace Project No.: 10452878

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 and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

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.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 10452878003

[1] The Total Hydrocarbon (THC) pattern occurred in the second half of the chromatogram (after toluene).

ANALYTE QUALIFIERS

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

R1 RPD value was outside control limits.

SS This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 17028
Pace Project No.: 10452878

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10452878001	SS-PC1	TO-15	571802		
10452878002	SS-PC2	TO-15	571901		
10452878003	SS-PC3	TO-15	572006		
10452878004	SS-PC4	TO-15	571802		
10452878005	SS-PC5	TO-15	571802		

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AIR: CHAIN-OF-CUSTODY /

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant

WO#: 10452878



34310

Page: 1 of 1

Section A Required Client Information: Company: UNITED ENGINEERING CONSULTANTS, INC. Address: 16237 W. RYERSON ROAD NEW BERLIN, WI 53151 Email To: TAUEC@SBCGLOBAL.NET Phone: 262-785-1447 Fax: 262-706-4400 Requested Due Date/TAT: N/A	Section B Required Project Information: Report To: T. ANDERSON Copy To: Purchase Order No.: Project Name: 17028 Project Number:	Section C Invoice Information: Attention: T. ANDERSON Company Name: SAME Address: SAME Pace Quote Reference: Pace Project Manager/Sales Rep. Pace Profile #: 17028	Program <input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act <input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input type="checkbox"/> Other Location of Sampling by State: WI Reporting Units ug/m ³ <input checked="" type="checkbox"/> mg/m ³ <input type="checkbox"/> PPBV <input type="checkbox"/> PPMV <input type="checkbox"/> Other <input type="checkbox"/> Report Level: <u>II</u> <input type="checkbox"/> <u>III</u> <input type="checkbox"/> <u>IV</u> <input type="checkbox"/> Other <input type="checkbox"/>
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ITEM #	Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA CODE Tediar Bag TB 1 Liter Summa Can 1LC 6 Liter Summa Can 6LC Low Volume Puff LVP High Volume Puff HVP Other PM10	MEDIA CODE	PID Reading (Client only)	COLLECTED				Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10 3C - Evapor Gas (%) TO-3 BTEX TO-3M (Methane) TO-14 TO-15 Full List VOCs TO-15 Short List BTEX TO-15 Short List Chlorinated TO-15 Short List (Other)	Pace Lab ID
					COMPOSITE START		COMPOSITE - END/GRAB							
					DATE	TIME	DATE	TIME						
1	SS-PC1	6LC			10/23/18	11:55	10/23/18	12:25	30	9	3481		✓	001
2	SS-PC2	6LC			↓	12:07	↓	12:37	30	7	3401		✓	002
3	SS-PC3	6LC			↓	12:20	↓	12:50	29.5	7	3516		✓	003
4	SS-PCH	6LC			↓	12:36	↓	13:06	29	7	3484		✓	004
5	SS-PCS	6LC			✓	12:43	✓	13:13	30	9	3492		✓	005
6														
7														
8														
9														
10														
11														
12														

Comments: **2 BOXES**

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
UNITED ENGINEERING CONSULTANTS	10/23/18	14:45	<i>Nicholas Anderson</i>	10/24/18	11:45	Temp in °C	Received on ice	Custody Sealed Cooler	Samples Intact
						Y/N	Y/N	Y/N	Y/N
						Y/N	Y/N	Y/N	Y/N
						Y/N	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **NICHOLAS ANDERSON**
 SIGNATURE of SAMPLER: *Nicholas Anderson* DATE Signed (MM/DD/YY): **10/23/18**

ORIGINAL

Air Sample Condition Upon Receipt
 Client Name: United Eng.
 Project #:

WO#: 10452878
 PM: CT1 Due Date: 10/31/18
 CLIENT: United Eng

Courier: Fed Ex UPS Speedee Client
 Commercial Pace Other:

Tracking Number: 4545 9900 9356, 9367

Custody Seal on Cooler/Box Present? Yes No
 Seals Intact? Yes No
 Optional: Proj. Due Date: Proj. Name:

Packing Material: Bubble Wrap Bubble Bags Foam None Tin Can Other:
 Temp Blank rec: Yes No

Temp. (TO17 and TO13 samples only) (°C): Corrected Temp (°C):
 Temp should be above freezing to 6°C Correction Factor:
 Thermom. Used: G87A9170600254 G87A9155100842
 Date & Initials of Person Examining Contents: AG 10/24/18

Type of ice Received Blue Wet None

		Comments:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or 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.
Short Hold Time Analysis (<72 hr)?	<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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11. Individually Certified Cans: Y <u>N</u> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.

Samples Received: <u>FFPT</u>					Pressure Gauge # <u>10AIR35</u>				
Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
<u>PC 1</u>		<u>1747</u>	<u>-8</u>	<u>+3</u>					
<u>1 2</u>		<u>1121</u>	<u>-7.5</u>	<u>11</u>					
<u>1 3</u>		<u>0639</u>	<u>-7</u>	<u>11</u>					
<u>1 4</u>		<u>1646</u>	<u>-8</u>	<u>11</u>					
<u>1 5</u>		<u>2802</u>	<u>-8</u>	<u>11</u>					

CLIENT NOTIFICATION/RESOLUTION
 Person Contacted: _____ Date/Time: _____
 Comments/Resolution: Compound list in folder.

Project Manager Review: Kirsten Hofer Date: 10/26/2018
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)