State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
3911 Fish Hatchery Road
Fitchburg WI 53711-5397

Scott Walker, Governor
Daniel L. Meyer, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

February 28, 2018

Mr. Robert Franz
c/o Hub Pub
15672 State Highway 80
Richland Center, WI 53581

File Ref: 03-53-000559

Subject: Air Monitoring and Basement Sump Sampling Results
January 24-25, 2018 Sampling Event
Hub Pub, 15672 STH 80, Hub City
Located adjacent to Anderson Property Site (BRRTS #03-53-000559)

Dear Mr. Franz:

This letter includes results of air sampling and the sampling of water from a sump located in a downstairs mechanical room (basement) at the Hub Pub located at 15672 State Highway 80, Hub City, Wisconsin. Sampling was performed between January 24-25, 2018. The air and water samples were collected to assess the possibility of vapor intrusion (VI) of petroleum constituents that may be from the nearby Anderson Property petroleum underground storage tank site (BRRTS #03-53-000559).

In October 2017, you notified the Wisconsin Department of Natural Resources (DNR) of petroleum-like odors related to water discharged from your sump pump. You requested vapor tests be done. You also informed me that you planned on closing the Hub Pub and moving to a nearby farm on December 1, 2017.

The responsible party for the Anderson Property has not responded to our requests to perform environmental work at the Hub Pub. In response to your request, the DNR and Department of Health Services (DHS) planned the VI and water sampling over the winter when the ground is frozen, doors and windows are closed, and the effects of vapor intrusion are often the greatest.

An outdoor air sample and the sump water samples were collected on January 24, 2018. Two indoor air (24-hour) samples were collected from period of January 24-25, 2018, obtained from the first-floor kitchen and the basement. The DHS performed the air sampling and field-screening. The air samples were analyzed for volatile organic compounds (VOCs) using US EPA method TO-15. The DNR performed the sump water sampling. The water samples from the sump were analyzed for VOCs and polynuclear aromatic hydrocarbons (PAHs).

Field observations regarding the air sampling, sump water sampling, and sump water discharge are summarized in a DNR memo dated January 29, 2018 (see **Attachment A**).

Air Sampling Results

An evaluation of the air sampling results is summarized in the attached letter by DHS dated February 26, 2018 (see **Attachment B**). Air sample laboratory reports prepared by the Wisconsin State Lab of Hygiene (WSLH) are included in **Attachment C**.

As discussed by the DHS, the air sampling laboratory results indicated that 1,4-dichlorobenzene was detected at concentrations exceeding the Vapor Action Level (VAL) of 0.43 parts per billion by Volume (ppb/V). The concentration of 1,4-dichlorobenzene in the kitchen was 8.6 ppb/V and in the basement was 0.99 ppb/V.

A common source of 1,4-dichlorobenzene is pesticide formulations and as a deodorizer in urinal cakes. The 1,4-dichlorobenzene is likely due to an indoor source and not vapor intrusion.

Other detected VOCs appear to be occurring by outdoor air influence or possibly non-vapor intrusion sources such as cleaners, paints, and other products stored upstairs in or near the kitchen.

The TO-15 VOC air sampling results were consistent with the total VOC field-screening results using a photo-ionization detector (PID). The field screening PID results ranged from 0 to 0.1 parts per million by volume (ppm/V) (or 0 to 100 ppb/V) while on site on January 24, 2018.

Sump Water Sampling Results

At the time of sampling (January 24, 2018) the water level in the sump did not appear to be rising and the sump pump was not pumping. No obvious odors were observed. The water in the sump was clear. There was an orange scum/staining along the along the walls and base of the sump, as noted in the field observations (**Attachment A**).

The laboratory reports for the VOC and PAH analyses are included in **Attachment D**. For the VOC analysis, acetone was detected at a concentration of 2.7 parts-per-billion (ppb). The NR 140 enforcement standard for acetone (9,000 ppb) was not exceeded. The source of the acetone is not known. Sec-butylbenzene was detected at a concentration of 0.86 ppb. No NR 140 enforcement standard has been established for sec-butylbenzene.

Petroleum constituents appear to be present in the water in the sump. The laboratory report had the following comments: "The mass spectrometer's compound library has tentatively identified several methyl-substituted alkane-like compounds in this sample. The presence of these compounds is only qualitative in nature, and alkanes are not compounds included in this analysis." A common commercial source of alkanes is petroleum.

Four PAHs were detected in the sump water sample at concentrations less than 1 ppb. The compounds were benzo(b)fluoranthene, benzo(k)fluoranthene, fluoranthene, and phenanthrene. Benzo(b)fluoranthene had a concentration of less than 0.23 ppb, and this concentration is slightly above the NR 140 enforcement standard of 0.2 ppb, but below the level of quantitation of 0.44 ppb. The lab commented on the report sheet that there was interference in the analysis.

Benzo(k)fluoranthene was detected at a concentration of 0.14 ppb (no NR 140 enforcement standards established). Fluoranthene was detected at a concentration of 0.24 ppb, and this was below the NR 140 enforcement standard of 400 ppb. Phenanthrene had a concentration of < 0.17 ppb (no NR 140 enforcement standards established).

Conclusions and Recommendations

The indoor air sampling results indicated that the VAL for 1,4-dichlorobenzene was exceeded in the kitchen and basement, and the compound appears to be present due to an indoor source. Exposure to 1,4-dichlorobenzene can be reduced by identifying and mitigating indoor commercial product sources. We recommend removing products from the Hub Pub that contain 1,4-dichlorobenzene, if possible.

Other VOC compounds did not exceed the VALs, indicating vapor intrusion was not occurring at the time of sampling (January 24-25, 2018).

The sump water contained petroleum-like compounds, but the compounds detected were at a very low concentration. One PAH compound, benzo(b)fluoranthene, had a reported concentration of less than 0.23 ppm, which is below the level of quantitation, and slightly above the NR 140 enforcement standard of 0.20 ppb.

During the time of sampling, the sump pump was not discharging water. You have mentioned that petroleum vapors are greatest when the sump pump is discharging. The results of previously sampling the sump on July 5, 2017 when it was discharging was consistent with your observations. As we have reported, a water sample obtained from the sump on that date had a benzene concentration of 330 ppb, exceeding the NR 140 enforcement standard of 5.0 ppb. The NR 140 groundwater enforcement standard of 0.2 ppb was exceeded for benzo(a)pyrene (0.47 ppb), benzo(b)fluoranthene (0.51 ppb), and chrysene (0.62 ppb) (PAH compounds).

Therefore, we think the vapor intrusion is an ongoing concern at the Hub Pub. We recommend additional vapor intrusion sampling be performed, including during times of higher water table when the sump pump is actively discharging.

We also recommend periodic sampling of the water well at the Hub Pub. During the January 24-25, 2018 sampling event, the water was shut off and the water well was not operating, and therefore the water well was not sampled.

As we have recommended previously, the Hub Pub should be ventilated if possible (in warmer weather), and a sealed cover should be installed over sump pump opening. When the sump is discharging water to the yard, a fence should be installed around the sump discharge area to prevent people from encountering the water.

If you have any questions, please contact me in writing at the letterhead address, by telephone at 608-275-3222 or by email at john.mason@wisconsin.gov.

Sincerely,

John Mason
Project Manager

cc: Ed Berry and Rita Thielmann, 15625 STH 80, Richland Center, WI, 53581
Robert Thiboldeaux, DHS, 1 West Wilson Street, Rm 150, Madison, WI 53701 (elec. copy)
Curtis Hedman, DHS, 1 West Wilson Street, Rm 150, Madison, WI 53701 (elec. copy)
Troy Moris, Env. Health Coordinator, 111 South Jefferson St, Flr. 2, Lancaster, WI 53813 (elec.copy)
Steven Martin, DNR (electronic copy)

Attachment A – Field Observations Memo by DNR dated January 29, 2018

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: January 29, 2018 FILE REF: 03-53-000559

TO: File
Steve Martin, SCR Team Supervisor
Robert Thiboldeaux, DHS

FROM: John Mason

SUBJECT: Air Monitoring and Sump Sampling Field Observations at Hub Pub, 15672 STH 80 Hub City – located adjacent to Anderson Property site (BRRTS #03-53-000559)

This memo includes observations made while sampling air and the downstairs mechanical room (basement) sump water at the Hub Pub, located at 15672 State Highway 80, in Hub City, Wisconsin. Air sample Summa canisters were set up and air was field-screened by Department of Health Services (DHS) personnel on January 24, 2018. The basement sump was sampled by Department of Natural Resources (DNR) personnel on January 24, 2018. The DNR planned to sample the water well, but the pump was not working, so a sample was not collected. The DNR returned on January 25, 2018, to shut off and remove the air sample canisters from the kitchen and basement.

Personnel present on January 24, 2018:
Rob Franz - Owner of the Hub Pub
John Mason - DNR
Erin Niemisto - DNR
Mike Metcalf - DHS
Curtis Hedman - DHS Toxicologist
Troy Moris – County Health Dept. (works out of Grant County)
Rose Kohout – Nurse, Richland County Health and Human Services

Personnel present on January 25, 2018:
Rob Franz – Owner of the Hub Pub
John Mason - DNR

Air Sampling Field Observations
SUMMA canisters were set up at three locations. One canister was placed outdoors near the southwest part of the property, one was placed in the main floor kitchen area, and one was placed in the basement. The outside air sample was collected for one hour, and the samples obtained in the kitchen and basement were collected for a period of approximately 24 hours.

The outside air sample was collected during January 24, 2018, with a starting time of 10:44 a.m. and an ending sample time of 11:45 a.m. The outside air had a hand-held photoionization detector (PID) reading of 0.0 ppm as instrument units. Outside, the air temperature was 23 degrees F., with a pressure of 30.27, dew point of 19 degrees F. and a slight breeze from the south. The ground was partially covered with snow.

The air sampling performed in the main floor kitchen area was started on January 24, 2018, at 10:28 a.m. and ended January 25, 2018, at 10:36 a.m. The kitchen is located behind the bar area. The canister was set in the middle of the room on a small table. There were no obvious odors in the kitchen and the hand-held PID reading of the air in the room was 0.1 ppm as instrument units. The room was largely empty, because the bar was shut down and several items (e.g. fryer/grill) had been removed. In kitchen area room, there were two containers of cooking oil (Butter-It) and one of natural hickory liquid smoke. The kitchen is separated from an adjacent room by a wall partition. On shelving in the room on the other side

of the partition were several cans of paints and stains, paint stripper, along with a bottle of glass cleaner, a bottle of oxygen orange cleaner, and a bottle of mold and mildew cleaner. Bottles of dish detergent one bottle of insecticide were also in this room.

The air sampling performed in the basement was started on January 24, 2018, at 11:20 a.m. and ended January 25, 2018, at 11:20 a.m. The regulator gauge reading was 0.0 at 10:50 a.m., but the valve was not shut off until 11:20 a.m. The canister was set near the middle of the room on the top of two plastic milk crates, placed one on top of the other. There were no obvious odors in the basement, and the hand-held PID reading for air in the basement was 0.1 ppm as instrument units. The room contained the basement sump, the water well pump and pressure tank, and two furnaces. The sump had a piece of plywood over it that covered ¾ of the opening. An inoperative sump pump covered with a with dried orange residue was sitting on the floor of the basement. The furnace was in operation.

Water Well Sampling Attempt

Plans were made to sample the Hub Pub water well, but the pump did not operate when switched on. The pump is an above-ground pump, located in the basement. The lines attached to the pump had all been drained and the well is not in use. The pump would require priming to start. Mr. Rob Franz, owner of the Hub Pub, decided to not try to get the pump going, and therefore a water sample was not obtained from the pump. Mr. Franz indicated that he was aware that previous water samples did not indicate that the water from the water well was contaminated, and therefore he felt comfortable not obtaining a water sample from the water well.

Sump Water Field Observations

The DNR sampled the water in the basement sump. The floor of the basement is approximately six feet below ground surface. The basement room is approximately 20-feet by 13-feet in size and is located beneath the north half of the building. The sump is located at the southwest corner of the basement room.

The sump did not go through any pump cycles at the time of sampling. The water level in the sump was approximately 6-inches below the top of the sump (basement floor level). Prior to sampling, the float was manually moved upward, and this got the pump working for a brief period, resulting in the water being drawn down to a level of approximately 8-inches below the top of the sump.

The water was sampled from the sump using a clear disposable bailer. The sump water samples were clear. Petroleum product did not appear to be present in the water samples. There was an orange scum/ staining along the along the walls and base of the sump. The samples were analyzed for VOCs and PAHs.

Sump Water Discharge Observations

As was observed on July 5, 2017, a sump water discharge hose (flexible black plastic pipe) extended from the Hub Pub into the yard northwest of the Hub Pub building and west of the garage. No active discharge was occurring, but some orange-colored staining was observed in the grass at the end of the outflow pipe. Some orange discoloration was also observed on some nearby patches of ice in the grass.

Rob Franz provided to the DNR photographs dated November 12, 2017, of small pools of an orange-colored liquid in the grass in the sump water discharge area. Mr. Franz also provided a photograph dated August 10. 2017, of a sump pump covered in a shiny orange substance. The pump appears to be the same pump that was sitting on the floor of the basement.

On January 25, 2018, Rob Franz informed the DNR that in 2017, he was directed by the Township of Henrietta to discharge the Hub Pub sump water to the sanitary sewer. He said he performed the plumbing change, but he changed it back to discharging in the yard after observing odors coming up from drains in the kitchen, bar, and bathrooms. He said the odors were worse in the kitchen.

Attachment B – Air Sampling Results Letter by DHS dated Feb. 26, 2018

Scott Walker
Governor

Linda Seemeyer
Secretary

DIVISION OF PUBLIC HEALTH

1 WEST WILSON STREET
PO BOX 2659
MADISON WI 53701-2659

Telephone: 608-266-1251
Fax: 608-267-2832
TTY: 711 or 800-947-3529

State of Wisconsin
Department of Health Services

February 26th, 2018

John Mason
Hydrogeologist
Remediation and Redevelopment Program
Environmental Management Division
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road, Fitchburg, WI 53711

Re: TO-15 results evaluation request for Hub Pub, 15672 STH 80 Hub City – located adjacent to Anderson Property site (BRRTS #03-53-000559)

Dear Mr. Mason:

Background: Staff from the Wisconsin Department of Natural Resources (DNR) and Wisconsin Department of Health Services (DHS) recently conducted indoor air sampling at the property located at the Hub Pub, located at 15672 State Highway 80, in Hub City, Wisconsin. This work was performed to assess potential petroleum compounds contamination in the soil and groundwater due to previous complaints of petroleum odors being observed at the property several months earlier and the presence of an underground petroleum storage tank on an adjacent property.

Investigation: The field investigation of the property consisted of an inspection of the building and grounds, real-time screening for total volatile organic compounds (VOCs) using a photoionization detector (PID), and indoor and outdoor air samples for later laboratory analysis at the Wisconsin State Laboratory of Hygiene (WSLH). Six-liter Summa canisters were used to take one 24-hour breathing height air sample in each of the kitchen and basement areas, along with, for reference, an upwind one-hour outdoor air Summa canister sample. Air was field-screened by DHS on January 24th, 2018 at the time the cans were deployed. The DNR returned on January 25th, 2018, to shut off and remove the air sample canisters from the kitchen and basement. The air samples were analyzed by WSLH using US EPA Method TO-15 to evaluate for VOCs present. Vapors from some of the VOCs monitored for by Method TO-15 could theoretically migrate from contaminated soils and groundwater into the indoor air of a property in a process known as vapor intrusion (VI). A winter time sampling event is thought to represent a worst case VI scenario as this creates the ideal conditions for VOCs to rise through the soil vadose zone into a property through a susceptible building foundation.

Findings: TO-15 results for these samples were reported by WSLH on January 30th, 2018. This report, along with a request for data evaluation, was received by our office on January 31st, 2018.

Results contain the flag, F, if the analytical result is between the limit of detection (LOD) and limit of quantitation (LOQ) for the WSLH TO-15 method, which indicates there may be more quantitative uncertainty (i.e. > 30%) associated with these results. A one-hour outdoor sample was taken because it was not feasible to leave a Summa canister out in the elements overnight. The results for the VOCs present in these samples were compared to Vapor Action Levels (VALs) based on available DNR and EPA Regional Screening Levels (RSLs)[1], and a summary of these results is presented in a table attached to this letter.

While the focus of this sampling event was to assess for petroleum based product vapor intrusion, one non-petroleum based VOC, 1,4-Dichlorobenzene, was detected at levels above the VAL of 0.43 ppbV that has been set to be protective of lifetime cancer risk. Common product uses for 1,4-Dichlorobenzene are as an ingredient in pesticide formulations and as a deodorizer in urinal cakes. The outdoor sample was ND for 1,4-Dichlorobenzene and the concentration of 1,4-Dichlorobenzene observed in the kitchen area sample was an order of magnitude higher than the concentration observed in the basement area sample, which suggests an indoor source exists for this VOC.

All other VOCs detected indoors were observed to be at concentrations that were an order of magnitude or more below available VALs, and appeared to be occurring either by outdoor air influence or due to a possible non-VI indoor source (several of these potential VOCs sources are noted as being present in the DNR observations reported for the sampling event that were provided in a Memo dated January 29th, 2018). In addition, these TO-15 VOCs results are also consistent with the observed total VOCs screening results that were performed by a RAE Systems Photoionization Detector (PID), which ranged from 0 to 0.1ppmV (or 0 to 100ppbV) while on site on January 24th, 2018.

Conclusions: Vapor intrusion traveling from a petroleum mass in soil or groundwater to a building foundation is a possibility when the mass is close to the foundation. The effect can be enhanced during shallow water table periods. In this case, the location of former petroleum underground storage tanks (USTs) and associated soil contamination is within 70 feet of the building on the investigated property (DNR communication). During the summer 2017 visit to the Hub Pub, DHS staff noted faint petroleum odors in the sump water outfall when the sump discharged, suggesting that the sump is intercepting petroleum-contaminated groundwater some of the time. Nonetheless, based on the results and observations from this sampling event which reflect worst-case conditions, we do not have evidence of an indoor health hazard related to petroleum vapor intrusion. Exposure to 1,4-Dichlorobenzene can be reduced by identifying and mitigating indoor commercial product sources.

Recommendations: Although two rounds of indoor air sampling did not reveal a health hazard, we cannot exclude future indoor air impacts due to limited knowledge of the degree and extent of the petroleum mass. DHS recommends some form of remediation to address this environmental and indeterminate public health issue. Please contact Curtis Hedman with the Wisconsin Division of Public Health at (608) 266-6677, or curtis.hedman@wisconsin.gov if you have any questions about the health recommendations made in this letter.

---

[1] United States Environmental Protection Agency. Regional Screening Levels- Generic Tables (revised November 2017). Internet: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2017

Scott Walker
Governor

Linda Seemeyer
Secretary

State of Wisconsin
Department of Health Services

DIVISION OF PUBLIC HEALTH

1 WEST WILSON STREET
PO BOX 2659
MADISON WI 53701-2659

Telephone: 608-266-1251
Fax: 608-267-2832
TTY: 711 or 800-947-3529

Table: Summary of TO-15 Results for Hub Pub Sampling Event on January 24-25th 2018

	ppbV Results					
VOC Detected	**Outdoor**	**Kitchen**	**Basement**	**Vapor Action Level**	**Action Level Source**	**Notes**
Chloromethane	0.45	0.33	ND	45	DNR	outdoor influence
Trichlorofluoromethane	0.16	0.66	0.41	No indoor action level	No indoor action level	outdoor influence
Methylene chloride	0.038F	1.1	0.15	180	DNR	outdoor influence
Trichlorotrifluoroethane	0.034F	ND	0.039F	680	RSL	outdoor influence
Methyl Ethyl Ketone (MEK)	0.076F	ND	0.048F	1800	RSL	outdoor influence
Hexane	ND	0.15F	0.058F	210	RSL	possible non-VI indoor source
1,1,1-Trichloroethane	ND	0.37	0.049	940	DNR	possible non-VI indoor source
Benzene	0.086	0.13	0.14	1.1	DNR	outdoor influence
Carbon tetrachloride	0.047	0.035F	0.05	0.73	DNR	outdoor influence
n-Heptane	ND	0.33	0.036F	100	RSL	possible non-VI indoor source
Toluene	0.039F	0.46	0.099	1,400	DNR	outdoor influence and/or possible non-VI indoor source
1,4-Dichlorobenzene	ND	**8.6**	**0.99**	0.43	RSL	possible non-VI indoor source
1,2-Dichlorobenzene	ND	0.091F	ND	35	RSL	possible non-VI indoor source
Flag Key						
F = Result between LOD and LOQ.						

Sincerely,

Curtis J. Hedman

Curtis Hedman
Toxicologist

Cc: Steve Martin, SCR Team Supervisor, WI DNR
Robert Thiboldeaux, Senior Toxicologist, WI DHS
Michael Metcalf, Indoor Air Quality Communications Coordinator, WI DHS

Attachment C – Air Sampling Laboratory Reports

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN-MADISON

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 364337001

Report To:
TAUREN BEGGS
DNR

Invoice To:
DEPARTMENT OF HEALTH

Customer ID: DH060

Field #: ESS 6055 Kitchen
Project No: HUB PUB
Collection End: 1/25/2018 10:36:00 AM
Collection Start: 01/24/2018 10:28
Collected By: JOHN MASON - DNR
Date Received: 1/25/2018
Date Reported: 1/30/2018
Sample Reason:

ID#:
Sample Location:
Sample Description:
Sample Type: AI-INDOOR AIR
Waterbody:
Point or Outfall:
Sample Depth:
Program Code:
Region Code:
County:

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 01/26/18 Analysis Date 01/26/18					
Propene	EPA TO-15	ND	ppbv	0.073	0.24
Chloromethane	EPA TO-15	0.33	ppbv	0.045	0.15
1,2-Dichlorotetrafluoroethane	EPA TO-15	ND	ppbv	0.095	0.32
Vinyl chloride	EPA TO-15	ND	ppbv	0.040	0.13
1,3-Butadiene	EPA TO-15	ND	ppbv	0.060	0.20
Bromomethane	EPA TO-15	ND	ppbv	0.053	0.18
Chloroethane	EPA TO-15	ND	ppbv	0.080	0.27
Acrolein	EPA TO-15	ND	ppbv	0.15	0.50
Trichlorofluoromethane	EPA TO-15	0.66	ppbv	0.043	0.14
1,1-Dichloroethene	EPA TO-15	ND	ppbv	0.048	0.16
Methylene chloride	EPA TO-15	1.1	ppbv	0.038	0.13
Carbon disulfide	EPA TO-15	ND	ppbv	0.035	0.12
Trichlorotrifluoroethane	EPA TO-15	ND	ppbv	0.048	0.16
trans-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.053	0.17
1,1-Dichloroethane	EPA TO-15	ND	ppbv	0.040	0.13
Methyl tert-Butyl ether (MTBE)	EPA TO-15	ND	ppbv	0.043	0.14

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN-MADISON

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 364337001

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 01/26/18 Analysis Date 01/26/18					
Vinyl acetate	EPA TO-15	ND	ppbv	0.078	0.26
Methyl Ethyl Ketone (MEK)	EPA TO-15	ND	ppbv	0.093	0.31
cis-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.035	0.12
Hexane	EPA TO-15	0.15F	ppbv	0.083	0.28
Chloroform	EPA TO-15	ND	ppbv	0.058	0.20
Tetrahydrofuran	EPA TO-15	ND	ppbv	0.063	0.21
1,2-Dichloroethane	EPA TO-15	ND	ppbv	0.048	0.16
1,1,1-Trichloroethane	EPA TO-15	0.37	ppbv	0.030	0.10
Benzene	EPA TO-15	0.13	ppbv	0.035	0.12
Carbon tetrachloride	EPA TO-15	0.035F	ppbv	0.033	0.11
Cyclohexane	EPA TO-15	ND	ppbv	0.043	0.14
1,2-Dichloropropane	EPA TO-15	ND	ppbv	0.11	0.38
Bromodichloromethane	EPA TO-15	ND	ppbv	0.035	0.11
Trichloroethene	EPA TO-15	ND	ppbv	0.038	0.12
n-Heptane	EPA TO-15	0.33	ppbv	0.033	0.11
cis-1,3-Dichloropropene	EPA TO-15	ND	ppbv	0.040	0.14
4-Methyl-2-pentanone (MIBK)	EPA TO-15	ND	ppbv	0.055	0.18
trans-1,3-Dichloropropene	EPA TO-15	ND	ppbv	0.050	0.17
1,1,2-Trichloroethane	EPA TO-15	ND	ppbv	0.033	0.11
Toluene	EPA TO-15	0.46	ppbv	0.040	0.13
2-Hexanone	EPA TO-15	ND	ppbv	0.11	0.37
Chlorodibromomethane	EPA TO-15	ND	ppbv	0.033	0.11
1,2-Dibromoethane	EPA TO-15	ND	ppbv	0.045	0.15
Tetrachloroethene	EPA TO-15	ND	ppbv	0.085	0.29
Chlorobenzene	EPA TO-15	ND	ppbv	0.040	0.14
Ethyl Benzene	EPA TO-15	ND	ppbv	0.055	0.18
m/p-xylene	EPA TO-15	ND	ppbv	0.11	0.35
Bromoform	EPA TO-15	ND	ppbv	0.043	0.14
Styrene	EPA TO-15	ND	ppbv	0.088	0.29

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN-MADISON

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 364337001

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 01/26/18 Analysis Date 01/26/18					
1,1,2,2-Tetrachloroethane	EPA TO-15	ND	ppbv	0.040	0.13
o-Xylene	EPA TO-15	ND	ppbv	0.058	0.19
1-ethyl-4-methyl benzene	EPA TO-15	ND	ppbv	0.085	0.28
1,3,5-Trimethylbenzene	EPA TO-15	ND	ppbv	0.080	0.27
1,2,4-Trimethylbenzene	EPA TO-15	ND	ppbv	0.10	0.34
1,3-Dichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
1,4-Dichlorobenzene	EPA TO-15	8.6	ppbv	0.10	0.34
1,2-Dichlorobenzene	EPA TO-15	0.091F	ppbv	0.075	0.25
The Upper QC limit for the calibration check is exceeded.					
Hexachlorobutadiene	EPA TO-15	ND	ppbv	0.11	0.35
The Upper QC limit for the calibration check is exceeded.					

List of Abbreviations:

LOD = Level of detection
LOQ = Level of quantification
ND = None detected. Results are less than the LOD
F next to result = Result is between LOD and LOQ
Z next to result = Result is between 0 (zero) and LOD
if LOD=LOQ, Limits were not statistically derived

Test results for NELAP accredited tests are certified to meet the requirements of the NELAC standards. For a list of accredited analytes see http://www.slh.wisc.edu/about/compliance/nelac-laboratory-accreditation
Results, LOD and LOQ values have been adjusted for analytical dilutions and percent moisture where applicable.
Results relate only to the items tested.

The water microbiology unit analyzes samples as received and not all samples are tested for preservation before analysis is performed.

Responsible Party

Microbiology: Sharon Kluender, Lab Manager, 608-224-6262
Inorganic Chemistry: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282
Metals: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282
Organic Chemistry: Al Spallato, Lab Manager, 608-224-6269
Emergency Chemical Response: Noel Stanton, Lab Manager, 608-224-6251
Environmental Toxicology: Tracy Hanke, Lab Manager, 608-224-6270

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN-MADISON

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 364337002

Report To:
TAUREN BEGGS
DNR

Invoice To:
DEPARTMENT OF HEALTH

Customer ID: DH060

Field #: DH-002 Outdoors
Project No: HUB PUB
Collection End: 1/24/2018 11:45:00 AM
Collection Start: 01/24/18 10:44
Collected By: JOHN MASON - DNR
Date Received: 1/25/2018
Date Reported: 1/30/2018
Sample Reason:

ID#:
Sample Location:
Sample Description:
Sample Type: AR-AIR
Waterbody:
Point or Outfall:
Sample Depth:
Program Code:
Region Code:
County:

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 01/26/18 Analysis Date 01/26/18					
Propene	EPA TO-15	<0.03	ppbv	0.029	0.096
Interference					
Chloromethane	EPA TO-15	0.45	ppbv	0.018	0.061
1,2-Dichlorotetrafluoroethane	EPA TO-15	ND	ppbv	0.038	0.13
Vinyl chloride	EPA TO-15	ND	ppbv	0.016	0.053
1,3-Butadiene	EPA TO-15	ND	ppbv	0.024	0.081
Bromomethane	EPA TO-15	ND	ppbv	0.021	0.070
Chloroethane	EPA TO-15	ND	ppbv	0.032	0.11
Acrolein	EPA TO-15	ND	ppbv	0.060	0.20
Trichlorofluoromethane	EPA TO-15	0.16	ppbv	0.017	0.056
1,1-Dichloroethene	EPA TO-15	ND	ppbv	0.019	0.062
Methylene chloride	EPA TO-15	0.038F	ppbv	0.015	0.051
Carbon disulfide	EPA TO-15	ND	ppbv	0.014	0.047
Trichlorotrifluoroethane	EPA TO-15	0.034F	ppbv	0.019	0.063
trans-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.021	0.068
1,1-Dichloroethane	EPA TO-15	ND	ppbv	0.016	0.053

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN-MADISON

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 364337002

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 01/26/18 Analysis Date 01/26/18					
Methyl tert-Butyl ether (MTBE)	EPA TO-15	ND	ppbv	0.017	0.056
Vinyl acetate	EPA TO-15	ND	ppbv	0.031	0.10
Methyl Ethyl Ketone (MEK)	EPA TO-15	0.076F	ppbv	0.037	0.12
cis-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.014	0.047
Hexane	EPA TO-15	ND	ppbv	0.033	0.11
Chloroform	EPA TO-15	ND	ppbv	0.023	0.078
Tetrahydrofuran	EPA TO-15	ND	ppbv	0.025	0.083
1,2-Dichloroethane	EPA TO-15	ND	ppbv	0.019	0.063
1,1,1-Trichloroethane	EPA TO-15	ND	ppbv	0.012	0.041
Benzene	EPA TO-15	0.086	ppbv	0.014	0.046
Carbon tetrachloride	EPA TO-15	0.047	ppbv	0.013	0.043
Cyclohexane	EPA TO-15	ND	ppbv	0.017	0.057
1,2-Dichloropropane	EPA TO-15	ND	ppbv	0.045	0.15
Bromodichloromethane	EPA TO-15	ND	ppbv	0.014	0.045
Trichloroethene	EPA TO-15	ND	ppbv	0.015	0.049
n-Heptane	EPA TO-15	ND	ppbv	0.013	0.044
cis-1,3-Dichloropropene	EPA TO-15	ND	ppbv	0.016	0.054
4-Methyl-2-pentanone (MIBK)	EPA TO-15	ND	ppbv	0.022	0.073
trans-1,3-Dichloropropene	EPA TO-15	ND	ppbv	0.020	0.068
1,1,2-Trichloroethane	EPA TO-15	ND	ppbv	0.013	0.042
Toluene	EPA TO-15	0.039F	ppbv	0.016	0.053
2-Hexanone	EPA TO-15	ND	ppbv	0.044	0.15
Chlorodibromomethane	EPA TO-15	ND	ppbv	0.013	0.043
1,2-Dibromoethane	EPA TO-15	ND	ppbv	0.018	0.061
Tetrachloroethene	EPA TO-15	ND	ppbv	0.034	0.11
Chlorobenzene	EPA TO-15	ND	ppbv	0.016	0.054
Ethyl Benzene	EPA TO-15	ND	ppbv	0.022	0.073
m/p-xylene	EPA TO-15	ND	ppbv	0.042	0.14
Bromoform	EPA TO-15	ND	ppbv	0.017	0.057

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN-MADISON

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 364337002

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 01/26/18 Analysis Date 01/26/18					
Styrene	EPA TO-15	ND	ppbv	0.035	0.12
1,1,2,2-Tetrachloroethane	EPA TO-15	ND	ppbv	0.016	0.053
o-Xylene	EPA TO-15	ND	ppbv	0.023	0.077
1-ethyl-4-methyl benzene	EPA TO-15	ND	ppbv	0.034	0.11
1,3,5-Trimethylbenzene	EPA TO-15	ND	ppbv	0.032	0.11
1,2,4-Trimethylbenzene	EPA TO-15	ND	ppbv	0.041	0.14
1,3-Dichlorobenzene	EPA TO-15	ND	ppbv	0.034	0.11
1,4-Dichlorobenzene	EPA TO-15	ND	ppbv	0.041	0.14
1,2-Dichlorobenzene	EPA TO-15	ND	ppbv	0.030	0.10
The Upper QC limit for the calibration check is exceeded.					
Hexachlorobutadiene	EPA TO-15	ND	ppbv	0.042	0.14
The Upper QC limit for the calibration check is exceeded.					

List of Abbreviations:

LOD = Level of detection
LOQ = Level of quantification
ND = None detected. Results are less than the LOD
F next to result = Result is between LOD and LOQ
Z next to result = Result is between 0 (zero) and LOD
if LOD=LOQ, Limits were not statistically derived

Test results for NELAP accredited tests are certified to meet the requirements of the NELAC standards. For a list of accredited analytes see http://www.slh.wisc.edu/about/compliance/nelac-laboratory-accreditation
Results, LOD and LOQ values have been adjusted for analytical dilutions and percent moisture where applicable.
Results relate only to the items tested.

The water microbiology unit analyzes samples as received and not all samples are tested for preservation before analysis is performed.

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN–MADISON

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 364337002

Responsible Party

Microbiology: Sharon Kluender, Lab Manager, 608-224-6262
Inorganic Chemistry: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282
Metals: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282
Organic Chemistry: Al Spallato, Lab Manager, 608-224-6269
Emergency Chemical Response: Noel Stanton, Lab Manager, 608-224-6251
Environmental Toxicology: Tracy Hanke, Lab Manager, 608-224-6270

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN-MADISON

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 364337003

Report To:
TAUREN BEGGS
DNR

Invoice To:
DEPARTMENT OF HEALTH

Customer ID: DH060

Field #: ESS 6011 Basement
Project No: HUB PUB
Collection End: 1/25/2018 11:20:00 AM
Collection Start: 1/24/18 11:20
Collected By: JOHN MASON - DNR
Date Received: 1/25/2018
Date Reported: 1/30/2018
Sample Reason:

ID#:
Sample Location:
Sample Description:
Sample Type: AI-INDOOR AIR
Waterbody:
Point or Outfall:
Sample Depth:
Program Code:
Region Code:
County:

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 01/26/18 Analysis Date 01/26/18					
Propene	EPA TO-15	ND	ppbv	0.029	0.096
Chloromethane	EPA TO-15	ND	ppbv	0.018	0.061
1,2-Dichlorotetrafluoroethane	EPA TO-15	ND	ppbv	0.038	0.13
Vinyl chloride	EPA TO-15	ND	ppbv	0.016	0.053
1,3-Butadiene	EPA TO-15	ND	ppbv	0.024	0.081
Bromomethane	EPA TO-15	ND	ppbv	0.021	0.070
Chloroethane	EPA TO-15	ND	ppbv	0.032	0.11
Acrolein	EPA TO-15	ND	ppbv	0.060	0.20
Trichlorofluoromethane	EPA TO-15	0.41	ppbv	0.017	0.056
1,1-Dichloroethene	EPA TO-15	ND	ppbv	0.019	0.062
Methylene chloride	EPA TO-15	0.15	ppbv	0.015	0.051
Carbon disulfide	EPA TO-15	ND	ppbv	0.014	0.047
Trichlorotrifluoroethane	EPA TO-15	0.039F	ppbv	0.019	0.063
trans-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.021	0.068
1,1-Dichloroethane	EPA TO-15	ND	ppbv	0.016	0.053
Methyl tert-Butyl ether (MTBE)	EPA TO-15	ND	ppbv	0.017	0.056

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN-MADISON

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 364337003

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 01/26/18	Analysis Date 01/26/18				
Vinyl acetate	EPA TO-15	ND	ppbv	0.031	0.10
Methyl Ethyl Ketone (MEK)	EPA TO-15	0.048F	ppbv	0.037	0.12
cis-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.014	0.047
Hexane	EPA TO-15	0.058F	ppbv	0.033	0.11
Chloroform	EPA TO-15	ND	ppbv	0.023	0.078
Tetrahydrofuran	EPA TO-15	ND	ppbv	0.025	0.083
1,2-Dichloroethane	EPA TO-15	ND	ppbv	0.019	0.063
1,1,1-Trichloroethane	EPA TO-15	0.049	ppbv	0.012	0.041
Benzene	EPA TO-15	0.14	ppbv	0.014	0.046
Carbon tetrachloride	EPA TO-15	0.050	ppbv	0.013	0.043
Cyclohexane	EPA TO-15	ND	ppbv	0.017	0.057
1,2-Dichloropropane	EPA TO-15	ND	ppbv	0.045	0.15
Bromodichloromethane	EPA TO-15	ND	ppbv	0.014	0.045
Trichloroethene	EPA TO-15	ND	ppbv	0.015	0.049
n-Heptane	EPA TO-15	0.036F	ppbv	0.013	0.044
cis-1,3-Dichloropropene	EPA TO-15	ND	ppbv	0.016	0.054
4-Methyl-2-pentanone (MIBK)	EPA TO-15	ND	ppbv	0.022	0.073
trans-1,3-Dichloropropene	EPA TO-15	ND	ppbv	0.020	0.068
1,1,2-Trichloroethane	EPA TO-15	ND	ppbv	0.013	0.042
Toluene	EPA TO-15	0.099	ppbv	0.016	0.053
2-Hexanone	EPA TO-15	ND	ppbv	0.044	0.15
Chlorodibromomethane	EPA TO-15	ND	ppbv	0.013	0.043
1,2-Dibromoethane	EPA TO-15	ND	ppbv	0.018	0.061
Tetrachloroethene	EPA TO-15	ND	ppbv	0.034	0.11
Chlorobenzene	EPA TO-15	ND	ppbv	0.016	0.054
Ethyl Benzene	EPA TO-15	ND	ppbv	0.022	0.073
m/p-xylene	EPA TO-15	ND	ppbv	0.042	0.14
Bromoform	EPA TO-15	ND	ppbv	0.017	0.057
Styrene	EPA TO-15	ND	ppbv	0.035	0.12

Wisconsin State Laboratory of Hygiene
UNIVERSITY OF WISCONSIN-MADISON

Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Prof. James J. Schauer, Ph.D., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007, WI00008 WI DATCP ID: 105-415

WSLH Sample: 364337003

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 01/26/18 Analysis Date 01/26/18					
1,1,2,2-Tetrachloroethane	EPA TO-15	ND	ppbv	0.016	0.053
o-Xylene	EPA TO-15	ND	ppbv	0.023	0.077
1-ethyl-4-methyl benzene	EPA TO-15	ND	ppbv	0.034	0.11
1,3,5-Trimethylbenzene	EPA TO-15	ND	ppbv	0.032	0.11
1,2,4-Trimethylbenzene	EPA TO-15	ND	ppbv	0.041	0.14
1,3-Dichlorobenzene	EPA TO-15	ND	ppbv	0.034	0.11
1,4-Dichlorobenzene	EPA TO-15	0.99	ppbv	0.041	0.14
1,2-Dichlorobenzene	EPA TO-15	ND	ppbv	0.030	0.10
The Upper QC limit for the calibration check is exceeded.					
Hexachlorobutadiene	EPA TO-15	ND	ppbv	0.042	0.14
The Upper QC limit for the calibration check is exceeded.					

List of Abbreviations:

LOD = Level of detection
LOQ = Level of quantification
ND = None detected. Results are less than the LOD
F next to result = Result is between LOD and LOQ
Z next to result = Result is between 0 (zero) and LOD
if LOD=LOQ, Limits were not statistically derived

Test results for NELAP accredited tests are certified to meet the requirements of the NELAC standards. For a list of accredited analytes see http://www.slh.wisc.edu/about/compliance/nelac-laboratory-accreditation
Results, LOD and LOQ values have been adjusted for analytical dilutions and percent moisture where applicable.
Results relate only to the items tested.

The water microbiology unit analyzes samples as received and not all samples are tested for preservation before analysis is performed.

Responsible Party

Microbiology: Sharon Kluender, Lab Manager, 608-224-6262
Inorganic Chemistry: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282
Metals: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282
Organic Chemistry: Al Spallato, Lab Manager, 608-224-6269
Emergency Chemical Response: Noel Stanton, Lab Manager, 608-224-6251
Environmental Toxicology: Tracy Hanke, Lab Manager, 608-224-6270

Attachment D – Sump Water Sample Laboratory Reports

Wisconsin Department of Natural Resources
Laboratory Report

Laboratory: Wisconsin State Laboratory of Hygiene DNR ID 113133790
2601 Agriculture Dr
Madison WI 53718
Phone : 800-442-4618 Fax Phone : 608-224-6213

Sample:

Field #:	HUB PUB SUMP	Sample #:	364171001
Collection Start:	01/24/2018 10:30 am	Collection End:	01/24/2018 10:30 am
Collected by:	JOHN MASON	Waterbody/Outfall Id:	
ID #:		ID Point #:	
County:		Account #:	RR051
Sample Location:	15672 STATE HWY 80 RICHLAND CENTER, WI 53581		
Sample Description:	WATER SAMPLE FROM THE SUMP IN THE BASEMENT OF THE HUB PUB		
Sample Source:	Other	Sample Depth:	
Date Reported:	02/08/2018	Sample Status:	COMPLETE
Project No:		Sample Reason:	

Comment: The mass spectrometer's compound library has tentatively identified several methyl-substituted alkane-like compounds in this sample. The presence of these compounds is only qualitative in nature, and alkanes are not compounds included in this analysis.

Analyses and Results:

Analysis Method		Analysis Date	Lab Comment			
EPA 8260B in Water		01/31/2018				
Code	Description	Result	Units	LOD	Report Limit	LOQ
77562	1,1,1,2-TETRACHLOROETHANE	ND	ug/L	0.37		1.2
34506	1,1,1-TRICHLOROETHANE	ND	ug/L	0.20		0.67
34516	1,1,2,2-TETRACHLOROETHANE	ND	ug/L	0.36		1.2
34511	1,1,2-TRICHLOROETHANE	ND	ug/L	0.48		1.6
34496	1,1-DICHLOROETHANE	ND	ug/L	0.30		1.0
34501	1,1-DICHLOROETHYLENE	ND	ug/L	0.22		0.73
77168	1,1-DICHLOROPROPENE	ND	ug/L	0.19		0.63
77613	1,2,3-TRICHLOROBENZENE	ND	ug/L	0.33		1.1
77443	1,2,3-TRICHLOROPROPANE	ND	ug/L	0.36		1.2
34551	1,2,4-TRICHLOROBENZENE	ND	ug/L	0.47		1.6
77222	1,2,4-TRIMETHYLBENZENE	ND	ug/L	0.20		0.67
38437	1,2-DIBROMO-3-CHLOROPROPANE	ND	ug/L	0.40		1.3
77651	1,2-DIBROMOETHANE	ND	ug/L	0.39		1.3
34536	1,2-DICHLOROBENZENE	ND	ug/L	0.12		0.40
34531	1,2-DICHLOROETHANE	ND	ug/L	0.16		0.53
77093	1,2-DICHLOROETHYLENE CIS	ND	ug/L	0.16		0.53
34546	1,2-DICHLOROETHYLENE TRANS	ND	ug/L	0.22		0.73

Code	Description	Result	Units	LOD	Report Limit	LOQ
34541	1,2-DICHLOROPROPANE	ND	ug/L	0.30		1.0
77226	1,3,5-TRIMETHYLBENZENE	ND	ug/L	0.26		0.87
34566	1,3-DICHLOROBENZENE	ND	ug/L	0.11		0.37
77173	1,3-DICHLOROPROPANE	ND	ug/L	0.29		0.97
34704	1,3-DICHLOROPROPENE-CIS	ND	ug/L	0.14		0.47
34699	1,3-DICHLOROPROPENE-TRANS	ND	ug/L	0.30		1.0
34571	1,4-DICHLOROBENZENE	ND	ug/L	0.11		0.37
77170	2,2-DICHLOROPROPANE	ND	ug/L	1.0		3.3
77275	2-CHLOROTOLUENE	ND	ug/L	0.29		0.97
81552	ACETONE	2.7	ug/L	2.0		6.7
	Comment: The Upper QC limit for the calibration check is exceeded. | The lab matrix spike does not meet the upper QC limit.					
34030	BENZENE	ND	ug/L	0.10		0.33
81555	BROMOBENZENE	ND	ug/L	0.29		0.97
77297	BROMOCHLOROMETHANE	ND	ug/L	0.30		1.0
32101	BROMODICHLOROMETHANE	ND	ug/L	0.17		0.57
32104	BROMOFORM	1.3	ug/L	1.0		3.3
34413	BROMOMETHANE	ND	ug/L	0.31		1.0
77350	BUTYLBENZENE SEC	0.86	ug/L	0.20		0.67
77353	BUTYLBENZENE TERT	ND	ug/L	0.42		1.4
77041	CARBON DISULFIDE	ND	ug/L	1.0		3.3
32102	CARBON TETRACHLORIDE	ND	ug/L	0.21		0.70
34301	CHLOROBENZENE	ND	ug/L	0.27		0.90
34311	CHLOROETHANE	ND	ug/L	0.30		1.0
32106	CHLOROFORM	ND	ug/L	0.10		0.33
34418	CHLOROMETHANE	ND	ug/L	0.89		3.0
32105	DIBROMOCHLOROMETHANE	ND	ug/L	0.26		0.87
77596	DIBROMOMETHANE	ND	ug/L	0.23		0.77
34668	DICHLORODIFLUOROMETHANE	ND	ug/L	0.50		1.7
81577	DIISOPROPYL ETHER	ND	ug/L	0.21		0.70
34371	ETHYLBENZENE	ND	ug/L	0.30		1.0
34391	HEXACHLOROBUTADIENE	ND	ug/L	0.30		1.0
81590	HEXANE, MIXTURE OF ISOMERS	ND	ug/L	0.73		2.4
77223	ISOPROPYLBENZENE	ND	ug/L	0.31		1.0

Code	Description	Result	Units	LOD	Report Limit	LOQ
85795	M/P-XYLENE	ND	ug/L	0.56		1.9
81595	METHYL ETHYL KETONE	ND	ug/L	2.0		6.7
	Comment: The Upper QC limit for the calibration check is exceeded. | The lab matrix spike does not meet the upper QC limit.					
78133	METHYL ISOBUTYL KETONE (MIBK)	ND	ug/L	1.3		4.3
78032	METHYL TERT BUTYL ETHER	ND	ug/L	0.24		0.80
34423	METHYLENE CHLORIDE	ND	ug/L	0.15		0.50
77342	N-BUTYLBENZENE	ND	ug/L	0.58		1.9
77224	N-PROPYLBENZENE	ND	ug/L	0.26		0.87
34696	NAPHTHALENE	ND	ug/L	0.32		1.1
77135	O-XYLENE	ND	ug/L	0.33		1.1
77277	P-CHLOROTOLUENE	ND	ug/L	0.32		1.1
77356	P-ISOPROPYLTOLUENE	ND	ug/L	0.20		0.67
77128	STYRENE	ND	ug/L	0.27		0.90
34475	TETRACHLOROETHYLENE	ND	ug/L	0.29		0.97
81607	TETRAHYDROFURAN	ND	ug/L	1.4		4.7
34010	TOLUENE	ND	ug/L	0.29		0.97
39180	TRICHLOROETHYLENE	ND	ug/L	0.16		0.53
34488	TRICHLOROFLUOROMETHANE	ND	ug/L	0.24		0.80
81611	TRICHLOROTRIFLUOROETHANE	ND	ug/L	0.72		2.4
39175	VINYL CHLORIDE	ND	ug/L	0.17		0.57

Wisconsin Department of Natural Resources
Laboratory Report

Laboratory: Wisconsin State Laboratory of Hygiene DNR ID 113133790
2601 Agriculture Dr
Madison WI 53718
Phone : 800-442-4618 Fax Phone : 608-224-6213

Sample:

Field #:	HUB PUB SUMP	Sample #:	364169001
Collection Start:	01/24/2018 10:45 am	Collection End:	01/24/2018 10:45 am
Collected by:	JOHN MASON	Waterbody/Outfall Id:	
ID #:		ID Point #:	
County:		Account #:	RR051
Sample Location:	15672 STATE HWY 80 RICHLAND CENTER, WI 53581		
Sample Description:	WATER SAMPLE FROM THE SUMP IN THE BASEMENT OF THE HUB PUB		
Sample Source:	Other	Sample Depth:	
Date Reported:	02/19/2018	Sample Status:	COMPLETE
Project No:		Sample Reason:	
Comment:			

Analyses and Results:

Analysis Method: SW846 Method 8270D PAH in W — Analysis Date: 02/03/2018 — Lab Comment:

Code	Description	Result	Units	LOD	Report Limit	LOQ
77418	1-METHYLNAPHTHALENE	ND	ug/L	0.039		0.13
78820	2,7-DIMETHYL NAPTHALENE	ND	ug/L	0.039		0.13
77416	2-METHYLNAPHTHALENE	ND	ug/L	0.047		0.16
34205	ACENAPHTHENE	ND	ug/L	0.039		0.13
34200	ACENAPHTHYLENE	ND	ug/L	0.13		0.44
34220	ANTHRACENE	ND	ug/L	0.11		0.37
34526	BENZO (A) ANTHRACENE	ND	ug/L	0.18		0.62
	Comment: The matrix spike does not meet the upper QC limit.					
34247	BENZO (A) PYRENE	ND	ug/L	0.053		0.18
34230	BENZO (B) FLUORANTHENE	<0.23	ug/L	0.13		0.44
	Comment: Interference					
34521	BENZO (G H I) PERYLENE	ND	ug/L	0.057		0.19
34242	BENZO (K) FLUORANTHENE	<0.14	ug/L	0.035		0.12
	Comment: Interference					
77802	BENZO(E)PYRENE	ND	ug/L	0.041		0.13
	Comment: The relative percent difference for the matrix spike and matrix spike duplicate does not meet the QC limit. The matrix spike does not meet the upper QC limit.					
34320	CHRYSENE	ND	ug/L	0.080		0.27
98306	CORONENE	ND	ug/L	0.28		0.94
34556	DIBENZO (A H) ANTHRACENE	ND	ug/L	0.036		0.12
34376	FLUORANTHENE	0.24	ug/L	0.14		0.46

Code	*Description*	*Result*	*Units*	*LOD*	*Report Limit*	*LOQ*
34381	**FLUORENE**	**ND**	ug/L	0.060		0.20
34403	**INDENO (1,2,3-C D) PYRENE**	**ND**	ug/L	0.23		0.77
34696	**NAPHTHALENE**	**ND**	ug/L	0.038		0.13
34461	**PHENANTHRENE**	**<0.17**	ug/L	0.053		0.18
	Comment: Interference					
34469	**PYRENE**	**ND**	ug/L	0.12		0.39
85787	**RETENE**	**ND**	ug/L	0.045		0.15