



Memo

Date: 08/08/2016

RE: Vapor Intrusion Sampling

To: Shawn Wenzel – WDNR

Bob's Citgo – Milton, WI

From: Robyn Seymour

cc Bob Richardson

Shawn,

We visited the site on June 29, 2016 to conduct the vapor intrusion sampling. This was the last (third) round of vapor sampling at the site as approved in our March 2015 budget request. During the work vapor samples were collected of the indoor air and from the two sub-slab vapor points, which were installed previously.

Indoor air data from June 2016 appears to be consistent with the information collected in June 2015. The indoor air sample contained 22 volatile organic compounds in 2015 and 19 in 2016. The concentrations of the VOCs generally were within a factor of 2 in the two events. The exception to this was chloromethane, which was present at much higher levels in both the indoor and outdoor air in June 2015. Only acrolein exceeded the indoor vapor action level (VAL). Acrolein has been present above the VAL in all of the indoor and outdoor samples collected at the site.

We believe the sub-slab vapor data from June 2016 generally is consistent with data collected in June 2015 and March 2016. At SS-1 similar compounds and concentrations were present in the vapors during each sampling event. At SS-2 data from the first two events were very similar but additional VOCs were detected during the most recent sampling. The anomalous data from this sample is most likely related to leakage in the sampling apparatus. During the line tightness testing a small, 10%, drop in pressure was noted but we believed it was a problem with the gauge so sampling was continued. Monitoring of the sampling apparatus showed that the summa canister filled in approximately 20 minutes. This indicates that the leak was between the canister inlet and the flow regulator. Comparison of data from SS-2 and the indoor air indicate a leakage of ~35%. If the levels of the compounds historically present in the sub-slab vapors are adjusted proportionally for the leakage they remain substantially below the indoor VAL.

Low levels of five VOCs have been detected in the sub-slab vapors beneath the building including acetone, tetrachloroethene, methyl ethyl ketone, dichlorofluoromethane, and trichlorofluoromethane. These compounds are typical of cleaning products (degreasers), and/or refrigerants. All concentrations of the compounds detected were below the indoor air standard listed by the WDNR or the USEPA. No petroleum-related contamination was detected in the sub-slab vapors although they were present in the ambient air samples collected in June 2015. Based on this we believe that hazardous levels of vapors are not accumulating beneath the building. Thus, we do not anticipate the need for a mitigation system. Please give us a call if you have any questions or comments on this data or other environmental activities at the site.

Thanks,

Robyn Seymour

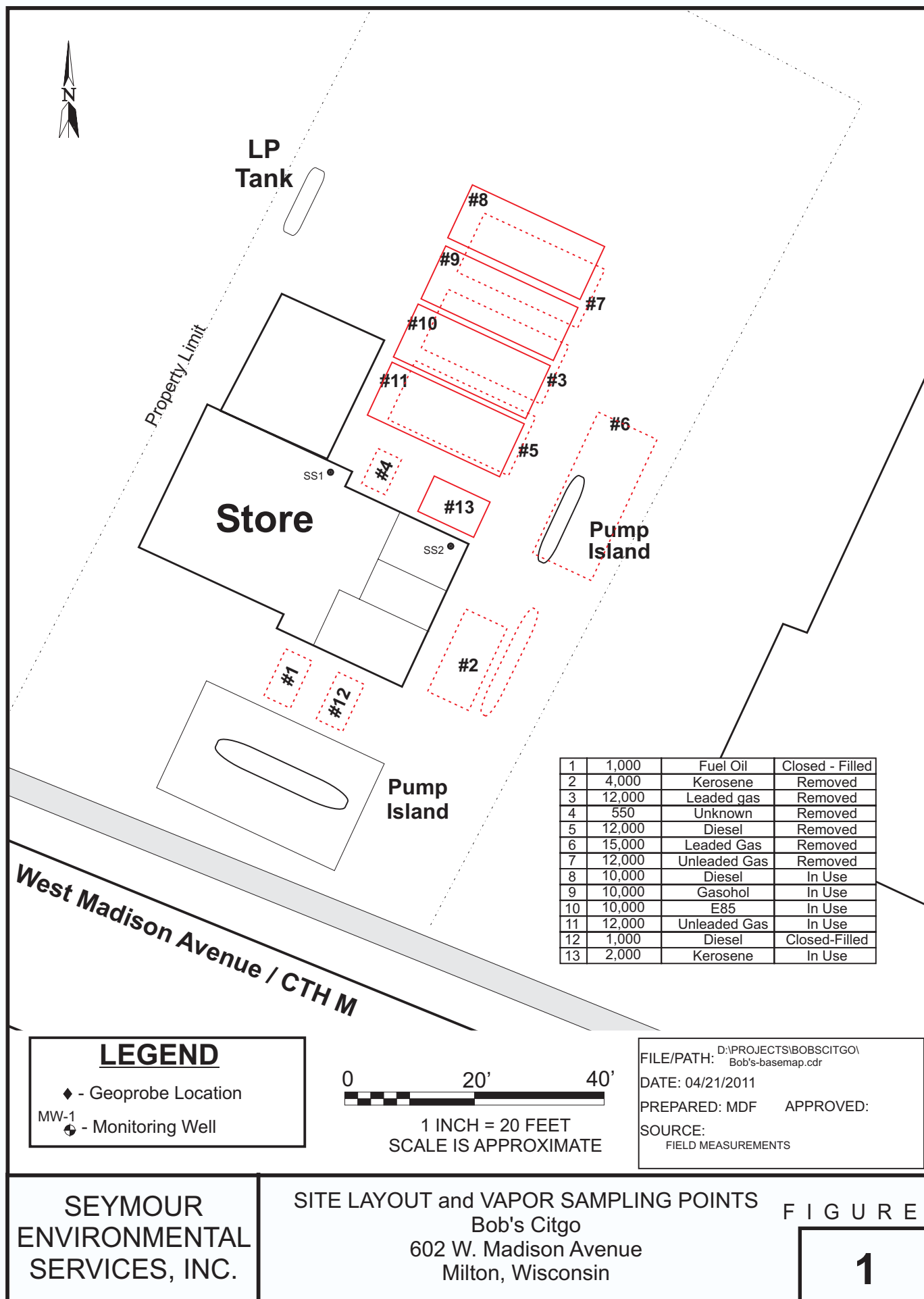
Attached: Table of Vapor Analytical Data
 Map of Vapor Sampling Points
 Laboratory Report

TABLE 1
SUMMARY OF VAPOR MIGRATION SAMPLING
Former Bob's CITGO - 602 West Madison Avenue - Milton, Wisconsin

Sample Date	Sample Results									Standards / Screening Levels (small commercial)	
	SS-1			SS-2			Indoor		Outdoor	VAL (ppbV)	SS VRSL (ppb)
	06/09/15	03/09/16	06/29/16	06/09/15	03/09/16	06/29/16	06/09/15	06/29/16	06/09/15		
Benzene	<0.085	<0.17	<0.085	<0.085	<0.17	0.27 F	0.37	0.64	0.45	4.9	163
Ethylbenzene	<0.085	<0.17	<0.085	<0.085	<0.17	0.15 F	0.55	0.37	0.36	11	366
n-Hexane	<0.085	<0.17	<0.085	<0.085	<0.17	0.44	0.73	1.2	1.1	865*	28,833*
MTBE	<0.085	<0.17	<0.085	<0.085	<0.17	<0.085	<0.085	<0.085	<0.085	130	4,333
Toluene	<0.085	<0.17	<0.085	<0.085	<0.17	0.70	1.5	2.0	1.6	5700	190,000
1,2,4 Trimethylbenzene	<0.085	<0.17	<0.085	0.32	<0.17	0.18 F	0.67	0.36	0.66	6.2	206
1,3,5 Trimethylbenzene	<0.085	<0.17	<0.085	<0.085	<0.17	0.090 F	0.36	0.14 F	0.33	ne	ne
m&p Xylenes	<0.17	<0.34	<0.17	<0.17	<0.34	0.60	2.1	1.5	1.2	200	6,666
o Xylene	<0.085	<0.17	<0.085	<0.085	<0.17	0.17 F	0.57	0.40	0.49	100	3,333
Ethyl Acetate	<0.085	<0.17	<0.085	<0.085	<0.17	<0.085	0.78	<0.085	<0.085	ne	ne
Cyclohexane	<0.085	<0.17	<0.085	<0.085	<0.17	<0.085	<0.085	0.21 F	0.28	7,430*	247667*
Propene (propylene)	<0.085	<0.17	<0.085	<0.085	<0.17	<0.7	<0.085	<9.56	<0.085	7,430*	247667*
Heptane	<0.085	<0.17	<0.085	<0.085	<0.17	0.14 F	0.20 F	0.40	0.36	ne	ne
Vinyl Acetate	<0.085	<0.17	<0.085	<0.085	<0.17	0.50	0.85	1.2	0.86	246*	8200*
Acetone	0.68	0.52 F	0.37	0.77	0.45 F	4.3	11	10	7.2	57,972*	1932400*
Methylene Chloride	<0.085	<0.17	<0.085	<0.085	<0.17	<0.085	0.13 F	<0.085	<0.085	740	24,666
Tetrachloroethene	0.66	0.62	1.3	0.46	<0.17	0.41	<0.085	<0.085	<0.085	27	900
Trichloroethene	<0.085	<0.17	<0.085	<0.085	<0.17	<0.085	<0.085	<0.085	<0.085	1.6	53
cis 1,2 Dichloroethene	<0.085	<0.17	<0.085	<0.085	<0.17	<0.085	<0.085	<0.085	<0.085	ne	ne
trans 1,2 Dichloroethene	<0.085	<0.17	<0.085	<0.085	<0.17	<0.085	<0.085	<0.085	<0.085	65*	2167*
Vinyl chloride	<0.085	<0.17	<0.085	<0.085	<0.17	<0.085	<0.085	<0.085	<0.085	11	366
Trichlorofluoromethane	3.8	1.1	3.9	2.1	0.86	4.2	5.6	7.7	0.23 F	540	18,000
MEK	0.24 F	<0.17	<0.085	0.23 F	<0.17	0.38	0.94	0.81	0.80	6239*	207969*
Dichlorodifluoromethane	<0.085	<0.17	<0.085	<0.085	0.85	2.1	2.9	3.7	0.43	88	2933
Acrolein	<0.085	<0.17	<0.085	<0.085	<0.17	<u>0.25 F</u>	<u>0.70</u>	<u>0.85</u>	<u>0.39</u>	0.03*	1*
Tetrahydrofuran	<0.085	<0.17	<0.085	<0.085	<0.17	<0.085	0.20 F	<0.085	<0.085	ne	ne
Carbon tetrachloride	<0.085	<0.17	<0.085	<0.085	<0.17	0.090 F	0.20 F	0.11 F	<0.085	3.1	103
Styrene	<0.085	<0.17	<0.085	<0.085	<0.17	0.12 F	0.37	0.24 F	<0.085	864*	28798*
Chloromethane	<0.085	<0.17	<0.085	<0.085	<0.17	<0.085	13	<0.085	11	190	6333
1-ethyl-4-methyl benzene	<0.085	<0.17	<0.085	<0.085	<0.17	0.10 F	0.34	0.15 F	0.35	ne	ne
Chloroform	<0.085	<0.17	0.12 F	<0.085	<0.17	<0.085	<0.085	<0.085	<0.085	1.1	36
1,2 Dichloroethane	<0.085	<0.17	<0.085	<0.085	<0.17	<0.085	<0.085	0.82	<0.085	19	633

- All results are listed in ppbV
- ne = no standard established
- Detected compounds shown in bold

- VAL = Indoor Air Standard (exceedances underlined)
- SS VRSL = Subslab Screening level based on WDNR attenuation factor of 0.03 (exceedances shaded)
- * = Standard from USEPA not listed in WDNR guidance



Environmental Health Division

WDNR LAB ID: 113133790

NELAP LAB ID: E37658

EPA LAB ID: WI00007

WI DATCP ID: 105-415

WSLH Sample: 263535001

Report To:

SEYMOUR ENV SERVICES
2531 DYRESON RD
P.O. BOX 398
MCFARLAND, WI 53558

Invoice To:

SEYMOUR ENV SERVICES
2531 DYRESON RD
P.O. BOX 398
MCFARLAND, WI 53558
Customer ID: 13810

Field #: SS-1
Project No: BOB'S CITGO
Collection End: 6/29/2016 10:34:00 AM
Collection Start: 06/29/16 10:02
Collected By: MDF
Date Received: 7/1/2016
Date Reported: 7/13/2016
Sample Reason:

ID#:
Sample Location:
Sample Description:
Sample Type: SB-SUB SLAB
Waterbody:
Point or Outfall:
Sample Depth:
Program Code:
Region Code:
County:

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 07/06/16	Analysis Date 07/06/16				
Propene	EPA TO-15	ND	ppbv	0.085	0.28
Dichlorodifluoromethane	EPA TO-15	ND	ppbv	0.085	0.28
Chloromethane	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dichlorotetrafluoroethane	EPA TO-15	ND	ppbv	0.085	0.33
Vinyl chloride	EPA TO-15	ND	ppbv	0.085	0.28
1,3-Butadiene	EPA TO-15	ND	ppbv	0.085	0.28
Bromomethane	EPA TO-15	ND	ppbv	0.085	0.28
Chloroethane	EPA TO-15	ND	ppbv	0.085	0.28
Acrolein	EPA TO-15	ND	ppbv	0.085	0.28
Acetone	EPA TO-15	0.37	ppbv	0.085	0.28
Trichlorofluoromethane	EPA TO-15	3.9	ppbv	0.085	0.28
1,1-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
Methylene chloride	EPA TO-15	ND	ppbv	0.085	0.28
Carbon disulfide	EPA TO-15	ND	ppbv	0.085	0.28
Trichlorotrifluoroethane	EPA TO-15	ND	ppbv	0.085	0.28

Environmental Health Division

WDNR LAB ID: 113133790

NELAP LAB ID: E37658

EPA LAB ID: WI00007

WI DATCP ID: 105-415

WSLH Sample: 263535001

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 07/06/16	Analysis Date 07/06/16				
trans-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
1,1-Dichloroethane	EPA TO-15	ND	ppbv	0.085	0.28
Methyl tert-Butyl ether (MTBE)	EPA TO-15	ND	ppbv	0.085	0.28
Vinyl acetate	EPA TO-15	ND	ppbv	0.085	0.28
Methyl Ethyl Ketone (MEK)	EPA TO-15	ND	ppbv	0.085	0.28
cis-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
Hexane	EPA TO-15	ND	ppbv	0.085	0.28
Chloroform	EPA TO-15	0.12F	ppbv	0.085	0.28
Ethyl acetate	EPA TO-15	ND	ppbv	0.085	0.28
Tetrahydrofuran	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dichloroethane	EPA TO-15	ND	ppbv	0.085	0.28
1,1,1-Trichloroethane	EPA TO-15	ND	ppbv	0.085	0.28
Benzene	EPA TO-15	ND	ppbv	0.085	0.28
Carbon tetrachloride	EPA TO-15	ND	ppbv	0.085	0.28
Cyclohexane	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dichloropropane	EPA TO-15	ND	ppbv	0.085	0.28
Bromodichloromethane	EPA TO-15	ND	ppbv	0.085	0.33
Trichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
1,4 Dioxane	EPA TO-15	ND	ppbv	0.085	0.28
n-Heptane	EPA TO-15	ND	ppbv	0.085	0.28
cis-1,3-Dichloropropene	EPA TO-15	ND	ppbv	0.085	0.28
4-Methyl-2-pentanone (MIBK)	EPA TO-15	ND	ppbv	0.085	0.28
trans-1,3-Dichloropropene	EPA TO-15	ND	ppbv	0.085	0.28
1,1,2-Trichloroethane	EPA TO-15	ND	ppbv	0.085	0.28
Toluene	EPA TO-15	ND	ppbv	0.085	0.28
2-Hexanone	EPA TO-15	ND	ppbv	0.085	0.28
Chlorodibromomethane	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dibromoethane	EPA TO-15	ND	ppbv	0.085	0.28
Tetrachloroethene	EPA TO-15	1.3	ppbv	0.085	0.28

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WSLH Sample: 263535001

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 07/06/16	Analysis Date 07/06/16				
Chlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
Ethyl Benzene	EPA TO-15	ND	ppbv	0.085	0.28
m,p-Xylene	EPA TO-15	ND	ppbv	0.17	0.56
Bromoform	EPA TO-15	ND	ppbv	0.085	0.28
Styrene	EPA TO-15	ND	ppbv	0.085	0.28
1,1,2,2-Tetrachloroethane	EPA TO-15	ND	ppbv	0.085	0.28
o-Xylene	EPA TO-15	ND	ppbv	0.085	0.28
1-ethyl-4-methyl benzene	EPA TO-15	ND	ppbv	0.085	0.28
1,3,5-Trimethylbenzene	EPA TO-15	ND	ppbv	0.085	0.28
1,2,4-Trimethylbenzene	EPA TO-15	ND	ppbv	0.085	0.28
Benzyl chloride	EPA TO-15	ND	ppbv	0.085	0.28
1,3-Dichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
1,4-Dichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
1,2,4-Trichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
Hexachlorobutadiene	EPA TO-15	ND	ppbv	0.085	0.28

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.

This Laboratory Report shall not be reproduced except in full, without written approval of the laboratory.

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
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 - Peter Shult, Ph.D., Interim Director

Environmental Health Division

WDNR LAB ID: 113133790

NELAP LAB ID: E37658

EPA LAB ID: WI00007

WI DATCP ID: 105-415

WSLH Sample: 263535001

Responsible Party

Microbiology: Sharon Kluender, Lab Manager, 608-224-6262

Inorganic Chemistry: Tracy Hanke, Lab Manager, 608-224-6270

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: Dave Webb, Lab Manager, 608-224-6200

Environmental Health Division

WDNR LAB ID: 113133790

NELAP LAB ID: E37658

EPA LAB ID: WI00007

WI DATCP ID: 105-415

WSLH Sample: 263535002

Report To:

SEYMOUR ENV SERVICES
2531 DYRESON RD
P.O. BOX 398
MCFARLAND, WI 53558

Invoice To:

SEYMOUR ENV SERVICES
2531 DYRESON RD
P.O. BOX 398
MCFARLAND, WI 53558
Customer ID: 13810

Field #: SS-2
Project No: BOB'S CITGO
Collection End: 6/29/2016 10:45:00 AM
Collection Start: 06/29/16 10:13
Collected By: MDF
Date Received: 7/1/2016
Date Reported: 7/13/2016
Sample Reason:

ID#:
Sample Location:
Sample Description:
Sample Type: SB-SUB SLAB
Waterbody:
Point or Outfall:
Sample Depth:
Program Code:
Region Code:
County:

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 07/06/16	Analysis Date 07/06/16				
Propene	EPA TO-15	<0.7	ppbv	0.085	0.28
Interference					
Dichlorodifluoromethane	EPA TO-15	2.1	ppbv	0.085	0.28
Chloromethane	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dichlorotetrafluoroethane	EPA TO-15	ND	ppbv	0.085	0.33
Vinyl chloride	EPA TO-15	ND	ppbv	0.085	0.28
1,3-Butadiene	EPA TO-15	ND	ppbv	0.085	0.28
Bromomethane	EPA TO-15	ND	ppbv	0.085	0.28
Chloroethane	EPA TO-15	ND	ppbv	0.085	0.28
Acrolein	EPA TO-15	0.25F	ppbv	0.085	0.28
Acetone	EPA TO-15	4.3	ppbv	0.085	0.28
Trichlorofluoromethane	EPA TO-15	4.2	ppbv	0.085	0.28
1,1-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
Methylene chloride	EPA TO-15	ND	ppbv	0.085	0.28
Carbon disulfide	EPA TO-15	ND	ppbv	0.085	0.28

Environmental Health Division

WDNR LAB ID: 113133790

NELAP LAB ID: E37658

EPA LAB ID: WI00007

WI DATCP ID: 105-415

WSLH Sample: 263535002

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 07/06/16	Analysis Date 07/06/16				
Trichlorotrifluoroethane	EPA TO-15	ND	ppbv	0.085	0.28
trans-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
1,1-Dichloroethane	EPA TO-15	ND	ppbv	0.085	0.28
Methyl tert-Butyl ether (MTBE)	EPA TO-15	ND	ppbv	0.085	0.28
Vinyl acetate	EPA TO-15	0.50	ppbv	0.085	0.28
Methyl Ethyl Ketone (MEK)	EPA TO-15	0.38	ppbv	0.085	0.28
cis-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
Hexane	EPA TO-15	0.44	ppbv	0.085	0.28
Chloroform	EPA TO-15	ND	ppbv	0.085	0.28
Ethyl acetate	EPA TO-15	ND	ppbv	0.085	0.28
Tetrahydrofuran	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dichloroethane	EPA TO-15	0.30	ppbv	0.085	0.28
1,1,1-Trichloroethane	EPA TO-15	ND	ppbv	0.085	0.28
Benzene	EPA TO-15	0.27F	ppbv	0.085	0.28
Carbon tetrachloride	EPA TO-15	0.090F	ppbv	0.085	0.28
Cyclohexane	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dichloropropane	EPA TO-15	ND	ppbv	0.085	0.28
Bromodichloromethane	EPA TO-15	ND	ppbv	0.085	0.33
Trichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
1,4 Dioxane	EPA TO-15	ND	ppbv	0.085	0.28
n-Heptane	EPA TO-15	0.14F	ppbv	0.085	0.28
cis-1,3-Dichloropropene	EPA TO-15	ND	ppbv	0.085	0.28
4-Methyl-2-pentanone (MIBK)	EPA TO-15	ND	ppbv	0.085	0.28
trans-1,3-Dichloropropene	EPA TO-15	ND	ppbv	0.085	0.28
1,1,2-Trichloroethane	EPA TO-15	ND	ppbv	0.085	0.28
Toluene	EPA TO-15	0.70	ppbv	0.085	0.28
2-Hexanone	EPA TO-15	ND	ppbv	0.085	0.28
Chlorodibromomethane	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dibromoethane	EPA TO-15	ND	ppbv	0.085	0.28

Environmental Health Division

WDNR LAB ID: 113133790

NELAP LAB ID: E37658

EPA LAB ID: WI00007

WI DATCP ID: 105-415

WSLH Sample: 263535002

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 07/06/16	Analysis Date 07/06/16				
Tetrachloroethene	EPA TO-15	0.41	ppbv	0.085	0.28
Chlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
Ethyl Benzene	EPA TO-15	0.15F	ppbv	0.085	0.28
m,p-Xylene	EPA TO-15	0.60	ppbv	0.17	0.56
Bromoform	EPA TO-15	ND	ppbv	0.085	0.28
Styrene	EPA TO-15	0.12F	ppbv	0.085	0.28
1,1,2,2-Tetrachloroethane	EPA TO-15	ND	ppbv	0.085	0.28
o-Xylene	EPA TO-15	0.17F	ppbv	0.085	0.28
1-ethyl-4-methyl benzene	EPA TO-15	0.10F	ppbv	0.085	0.28
1,3,5-Trimethylbenzene	EPA TO-15	0.090F	ppbv	0.085	0.28
1,2,4-Trimethylbenzene	EPA TO-15	0.18F	ppbv	0.085	0.28
Benzyl chloride	EPA TO-15	ND	ppbv	0.085	0.28
1,3-Dichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
1,4-Dichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
1,2,4-Trichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
Hexachlorobutadiene	EPA TO-15	ND	ppbv	0.085	0.28

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Madison, WI 53707-7996
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Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Peter Shult, Ph.D., Interim Director

Environmental Health Division

WDNR LAB ID: 113133790

NELAP LAB ID: E37658

EPA LAB ID: WI00007

WI DATCP ID: 105-415

WSLH Sample: 263535002

Responsible Party

Microbiology: Sharon Kluender, Lab Manager, 608-224-6262

Inorganic Chemistry: Tracy Hanke, Lab Manager, 608-224-6270

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: Dave Webb, Lab Manager, 608-224-6200

Environmental Health Division

WDNR LAB ID: 113133790

NELAP LAB ID: E37658

EPA LAB ID: WI00007

WI DATCP ID: 105-415

WSLH Sample: 263535003

Report To:

SEYMOUR ENV SERVICES
2531 DYRESON RD
P.O. BOX 398
MCFARLAND, WI 53558

Invoice To:

SEYMOUR ENV SERVICES
2531 DYRESON RD
P.O. BOX 398
MCFARLAND, WI 53558
Customer ID: 13810

Field #: INDOOR
Project No: BOB'S CITGO
Collection End: 6/30/2016 10:20:00 AM
Collection Start: 06/29/16 10:17
Collected By: MDF
Date Received: 7/1/2016
Date Reported: 7/13/2016
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 07/06/16 Analysis Date 07/06/16					
Propene	EPA TO-15	<9.56	ppbv	0.085	0.28
Interference					
Dichlorodifluoromethane	EPA TO-15	3.7	ppbv	0.085	0.28
Chloromethane	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dichlorotetrafluoroethane	EPA TO-15	ND	ppbv	0.085	0.33
Vinyl chloride	EPA TO-15	ND	ppbv	0.085	0.28
1,3-Butadiene	EPA TO-15	ND	ppbv	0.085	0.28
Bromomethane	EPA TO-15	ND	ppbv	0.085	0.28
Chloroethane	EPA TO-15	ND	ppbv	0.085	0.28
Acrolein	EPA TO-15	0.85	ppbv	0.085	0.28
Acetone	EPA TO-15	10	ppbv	0.085	0.28
Trichlorofluoromethane	EPA TO-15	7.7	ppbv	0.085	0.28
1,1-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
Methylene chloride	EPA TO-15	ND	ppbv	0.085	0.28
Carbon disulfide	EPA TO-15	ND	ppbv	0.085	0.28

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OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 07/06/16	Analysis Date 07/06/16				
Trichlorotrifluoroethane	EPA TO-15	ND	ppbv	0.085	0.28
trans-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
1,1-Dichloroethane	EPA TO-15	ND	ppbv	0.085	0.28
Methyl tert-Butyl ether (MTBE)	EPA TO-15	ND	ppbv	0.085	0.28
Vinyl acetate	EPA TO-15	1.2	ppbv	0.085	0.28
Methyl Ethyl Ketone (MEK)	EPA TO-15	0.81	ppbv	0.085	0.28
cis-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
Hexane	EPA TO-15	1.2	ppbv	0.085	0.28
Chloroform	EPA TO-15	ND	ppbv	0.085	0.28
Ethyl acetate	EPA TO-15	ND	ppbv	0.085	0.28
Tetrahydrofuran	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dichloroethane	EPA TO-15	0.82	ppbv	0.085	0.28
1,1,1-Trichloroethane	EPA TO-15	ND	ppbv	0.085	0.28
Benzene	EPA TO-15	0.64	ppbv	0.085	0.28
Carbon tetrachloride	EPA TO-15	0.11F	ppbv	0.085	0.28
Cyclohexane	EPA TO-15	0.21F	ppbv	0.085	0.28
1,2-Dichloropropane	EPA TO-15	ND	ppbv	0.085	0.28
Bromodichloromethane	EPA TO-15	ND	ppbv	0.085	0.33
Trichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
1,4 Dioxane	EPA TO-15	ND	ppbv	0.085	0.28
n-Heptane	EPA TO-15	0.40	ppbv	0.085	0.28
cis-1,3-Dichloropropene	EPA TO-15	ND	ppbv	0.085	0.28
4-Methyl-2-pentanone (MIBK)	EPA TO-15	ND	ppbv	0.085	0.28
trans-1,3-Dichloropropene	EPA TO-15	ND	ppbv	0.085	0.28
1,1,2-Trichloroethane	EPA TO-15	ND	ppbv	0.085	0.28
Toluene	EPA TO-15	2.0	ppbv	0.085	0.28
2-Hexanone	EPA TO-15	ND	ppbv	0.085	0.28
Chlorodibromomethane	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dibromoethane	EPA TO-15	ND	ppbv	0.085	0.28

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OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 07/06/16	Analysis Date 07/06/16				
Tetrachloroethene	EPA TO-15	ND	ppbv	0.085	0.28
Chlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
Ethyl Benzene	EPA TO-15	0.37	ppbv	0.085	0.28
m,p-Xylene	EPA TO-15	1.5	ppbv	0.17	0.56
Bromoform	EPA TO-15	ND	ppbv	0.085	0.28
Styrene	EPA TO-15	0.24F	ppbv	0.085	0.28
1,1,2,2-Tetrachloroethane	EPA TO-15	ND	ppbv	0.085	0.28
o-Xylene	EPA TO-15	0.40	ppbv	0.085	0.28
1-ethyl-4-methyl benzene	EPA TO-15	0.15F	ppbv	0.085	0.28
1,3,5-Trimethylbenzene	EPA TO-15	0.14F	ppbv	0.085	0.28
1,2,4-Trimethylbenzene	EPA TO-15	0.36	ppbv	0.085	0.28
Benzyl chloride	EPA TO-15	ND	ppbv	0.085	0.28
1,3-Dichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
1,4-Dichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
1,2-Dichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
1,2,4-Trichlorobenzene	EPA TO-15	ND	ppbv	0.085	0.28
Hexachlorobutadiene	EPA TO-15	ND	ppbv	0.085	0.28

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.

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



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2601 Agriculture Drive, PO Box 7996
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<http://www.slh.wisc.edu>

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Peter Shult, Ph.D., Interim Director

Environmental Health Division

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