

From: [Robyn Seymour](#)
To: [Koepke, Cynthia L - DNR](#)
Subject: RE: sampling results from new well nest?
Date: Thursday, July 25, 2019 9:13:17 AM
Attachments: [Miller's Liquor Well Details.pdf](#)
[Well Nest-4 Initial Data.pdf](#)

From: Koepke, Cynthia L - DNR <Cynthia.Koepke@wisconsin.gov>
Sent: Thursday, July 25, 2019 8:18 AM
To: Robyn Seymour <rseymour@chorus.net>
Subject: sampling results from new well nest?
Importance: High

Hi Robyn,
Could you please send me the boring logs, WCRs, and sample results from the newest well nest at Miller's please? Lab sheets are ok for the analytical results if you don't have time to make a table at the moment.
Thanks.
Cindy

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Cindy Koepke, P.G.
Hydrogeologist, Remediation & Redevelopment Program
Wisconsin Department of Natural Resources
South Central Region, Fitchburg
(608)275-3257
cynthia.koepke@wisconsin.gov



dnr.wi.gov



MILLER'S LIQUOR

University Avenue
Madison, Wisconsin

GROUNDWATER SAMPLING RESULTS

Select VOCs	MW-1 05/18/19	MW-2 05/18/19	MW-3 05/18/19	PZ-3 05/18/19	MW-4 05/18/19	PZ-4A 05/18/19	PZ-4B 05/18/19	NR140 PAL	ES	units
Tetrachloroethene	na	na	na	na	362	330	5.5	0.5	5	ug/l
Trichloroethene	na	na	na	na	7.7	<u>3.5</u>	<0.26	0.5	5	ug/l
cis 1,2 dichloroethene	na	na	na	na	<u>26.1</u>	<u>7.2</u>	<0.27	7	70	ug/l
trans 1,2 dichloroethene	na	na	na	na	<5.5	<2.2	<1.1	20	100	ug/l
Vinyl chloride	na	na	na	na	<0.87	<0.35	<0.17	0.02	0.2	ug/l
Toluene	na	na	na	na	<0.86	<0.34	<0.17	200	1000	ug/l
1,2,4 Trimethylbenzene	na	na	na	na	<4.2	<1.7	<0.84	96	480	ug/l
Benzene	na	na	na	na	<1.2	<0.49	<0.25	0.5	5	ug/l
Ethylbenzene	na	na	na	na	<1.1	<0.44	<0.22	140	700	ug/l
Dibromochloromethane	na	na	na	na	<13.0	<5.2	<2.6	6	60	
Methylene Chloride	na	na	na	na	<2.9	<1.2	<0.58	0.5	5	
Chloroform	na	na	na	na	<6.4	9.4	<1.3			
1,1 dichloroethene	na	na	na	na	<1.2	1.1	<0.24			

STOUGHTON, WISCONSIN
FOR MILLERS LIQUOR

Job No. 7599

LOCATION 2308 UNIVERSITY AVE.

ELEV. _____

Boring No. MW-4

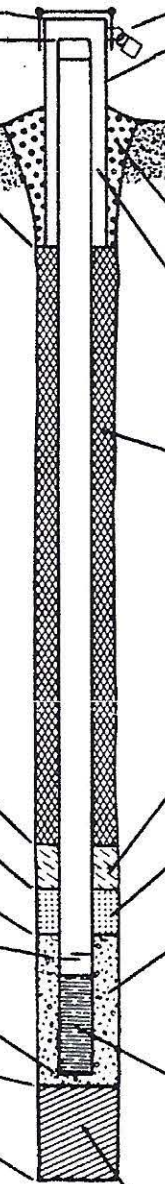
GROUND WATER

While drilling _____ Time after drilling _____
Before casing removal _____ Depth to water _____
After casing removal _____ Depth to cave-in _____

Start 5-1-19
Unit D-120#19
Chief K.D.-J.F.

Sample No.	Moisture	Blows on Sampler		Sample Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Casing/Probe Weight Drop	Unconfined Strength	Boulders	Blows on		Drilling Method
		0/6	6/12							Casing Size	Probe Size	
						BLIND BRILL 4 1/4 HSA 0' - 18.5' E.O.B. REFUSAL						
						SET WELL 18.5'						
						10' SCREEN 18.5' - 8.5'						
						⑥ FILTER 18.5' - 8.5'						
						① FINE 6.5' - 5.5'						
						② CHIPS 5.5' - 3'						
						9" FLUSH MOUNT						
						2" CAP & PLUG						
						① CONCRETE						

Facility/Project Name MILLERS LIQUOR	Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. _____ ft. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.	Well Name MW-4
Facility License, Permit or Monitoring Number _____	Grid Origin Location Lat. _____ Long. _____ or _____	Wis. Unique Well Number VR127 DNR Well Number _____
Type of Well Water Table Observation Well <input type="checkbox"/> 11 Piezometer <input type="checkbox"/> 12	St. Plane _____ ft. N. _____ ft. E.	Date Well Installed 05/01/19 m m d d y y
Distance Well Is From Waste/Source Boundary _____ ft.	Section Location of Waste/Source 1/4 of _____ 1/4 of Sec. _____ T. _____ N. R. _____ <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Installed By: (Person's Name and Firm) BADGER STATE DRILLING
Is Well A Point of Enforcement Std. Application? <input type="checkbox"/> Yes <input type="checkbox"/> No	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	KEVIN Duerst

<p>A. Protective pipe, top elevation <u>FLUSH</u> ft. MSL</p> <p>B. Well casing, top elevation <u>-3</u> ft. MSL</p> <p>C. Land surface elevation _____ ft. MSL</p> <p>D. Surface seal, bottom _____ ft. MSL or _____ ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input checked="" type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/></p> <p>15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input checked="" type="checkbox"/> 03 None <input type="checkbox"/> 99</p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis): _____</p> </div> <p>E. Bentonite seal, top _____ ft. MSL or <u>2</u> ft.</p> <p>F. Fine sand, top _____ ft. MSL or <u>5.5</u> ft.</p> <p>G. Filter pack, top _____ ft. MSL or <u>6.5</u> ft.</p> <p>H. Screen joint, top _____ ft. MSL or <u>8.5</u> ft.</p> <p>I. Well bottom _____ ft. MSL or <u>18.5</u> ft.</p> <p>J. Filter pack, bottom _____ ft. MSL or <u>18.5</u> ft.</p> <p>K. Borehole, bottom _____ ft. MSL or <u>18.5</u> ft.</p> <p>L. Borehole, diameter <u>8</u> in.</p> <p>M. O.D. well casing <u>2.38</u> in.</p> <p>N. I.D. well casing <u>2.0</u> in.</p>	 <p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe: a. Inside diameter: <u>9</u> in. b. Length: <u>1</u> ft. c. Material: Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/> d. Additional protection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____</p> <p>3. Surface seal: Bentonite <input type="checkbox"/> 30 Concrete <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe: Bentonite <input type="checkbox"/> 30 Annular space seal <input type="checkbox"/> Other <input type="checkbox"/></p> <p>5. Annular space seal: a. Granular Bentonite <input checked="" type="checkbox"/> 33 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 35 c. _____ Lbs/gal mud weight Bentonite slurry <input type="checkbox"/> 31 d. _____ % Bentonite Bentonite-cement grout <input type="checkbox"/> 50 e. _____ Ft³ volume added for any of the above f. How installed: Tremie <input type="checkbox"/> 01 Tremie pumped <input type="checkbox"/> 02 Gravity <input checked="" type="checkbox"/> 08</p> <p>6. Bentonite seal: a. Bentonite granules <input checked="" type="checkbox"/> 33 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input type="checkbox"/> 32 c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name & mesh size a. <u>OH10 #7</u> b. Volume added _____ ft³</p> <p>8. Filter pack material: Manufacturer, product name and mesh size a. <u>OH10 #5</u> b. Volume added _____ ft³</p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 23 Flush threaded PVC schedule 80 <input type="checkbox"/> 24 Other <input type="checkbox"/></p> <p>10. Screen material: <u>PVC SCH 40</u> a. Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/> b. Manufacturer <u>MONO FLEX</u> c. Slot size: 0.010 in. d. Slotted length: <u>10</u> ft.</p> <p>11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 14 Other <input type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Kevin Duerst Firm Badger State Drilling Inc.

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch.144, Wis Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

Route to: Solid Waste Haz. Waste Wastewater
Env. Response & Repair Underground Tanks Other _____

Facility/Project Name <u>MILLERS LIQUOR</u>	County Name <u>DANE</u>	Well Name <u>RW-4</u>
Facility License, Permit or Monitoring Number _____	County Code _____	Wis. Unique Well Number <u>VR127</u>
		DNR Well Number _____

<p>1. Can this well be purged dry? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Well development method</p> <p>surged with bailer and bailed <input type="checkbox"/> 41</p> <p>surged with bailer and pumped <input checked="" type="checkbox"/> 61</p> <p>surged with block and bailed <input type="checkbox"/> 42</p> <p>surged with block and pumped <input type="checkbox"/> 62</p> <p>surged with block, bailed and pumped <input type="checkbox"/> 70</p> <p>compressed air <input type="checkbox"/> 20</p> <p>bailed only <input type="checkbox"/> 10</p> <p>pumped only <input type="checkbox"/> 51</p> <p>pumped slowly <input type="checkbox"/> 50</p> <p>Other <input type="checkbox"/> _____</p> <p>3. Time spent developing well <u>150</u> min.</p> <p>4. Depth of well (from top of well casing) <u>18.2</u> ft.</p> <p>5. Inside diameter of well <u>2.0</u> in.</p> <p>6. Volume of water in filter pack and well casing <u>—</u> gal.</p> <p>7. Volume of water removed from well <u>150</u> gal.</p> <p>8. Volume of water added (if any) <u>—</u> gal.</p> <p>9. Source of water added _____</p> <p>10. Analysis performed on water added? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If yes, attach results)</p>	<p>11. Depth to Water (from top of well casing)</p> <p>a. <u>10.1</u> ft. <u>10.4</u> ft.</p> <p>Date b. <u>05/02/19</u> <u>05/02/19</u> m m d d y y m m d d y y</p> <p>Time c. <u>09:00</u> <input checked="" type="checkbox"/> a.m. <u>11:30</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m. <input type="checkbox"/> p.m.</p> <p>12. Sediment in well bottom _____ inches _____ inches</p> <p>13. Water clarity Clear <input type="checkbox"/> 10 Clear <input type="checkbox"/> 20 Turbid <input checked="" type="checkbox"/> 15 Turbid <input checked="" type="checkbox"/> 25 (Describe) <u>MILKY</u> <u>SLIGHT</u> <u>BROWN</u> <u>LT. BROWN</u> <u>COLOR</u> <u>COLOR</u></p> <p>Fill in if drilling fluids were used and well is at solid waste facility:</p> <p>14. Total suspended solids _____ mg/l _____ mg/l</p> <p>15. COD _____ mg/l _____ mg/l</p>
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16. Additional comments on development:

Well developed by: Person's Name and Firm	I hereby certify that the above information is true and correct to the best of my knowledge.
Name: <u>Kevin Dvest</u>	Signature: _____
Firm: <u>Badger State Drilling, Inc.</u>	Print Initials: _____
	Firm: _____

NOTE: Shaded areas are for DNR use only. See instructions for more information including a list of county codes.

STOUGHTON, WISCONSIN

FOR MILLERS LIQUOR

Job No. 7599

LOCATION 9308 UNIVERSITY AVE.

ELEV. _____

Boring No. MW-4 PZ 4A

GROUND WATER

While drilling _____
 Before casing removal _____
 After casing removal _____

Time after drilling _____
 Depth to water _____
 Depth to cave-in _____

Start 4-30-19
 Unit D-120#19
 Chief K.D.-D.D.

Sample No.	Moisture	Blows on Sampler		Sample Recovery	Total Blows	VISUAL FIELD CLASSIFICATION AND REMARKS	Casing/Probe Weight Drop	Unconfined Strength	Boulders	Blows on		Drilling Method
		0/6	6/12							Casing Size	Probe Size	
						BLIND DRILL 6 1/4 HSA 0'-21'						
						5 7/8 TRI-CONE 21'-62'						
						SET WELL @ 60'						
						5' SCREEN 60'-55'						
						③ FILTER 62'-53'						
						① FINE 53'-51'						
						② CHIPS 51'-45'						
						- GROUT 45'-8' 30 gal.						
						② CHIPS 8'-2'						
						9" FLUSH MOUNT						
						2" CAP & PLUG						
						① CONCRETE						
						SET 5-1-19						

4' ROCK

E.O.B. 62'

Facility/Project Name <u>MILLERS LIQUOR</u>	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name <u>MW 4 PZ 4A</u>
Facility License, Permit or Monitoring Number	Grid Origin Location Lat. _____ Long. _____ or St. Plane _____ ft. N, _____ ft. E.	Wis. Unique Well Number <u>VR126</u> DNR Well Number
Type of Well Water Table Observation Well <input type="checkbox"/> 11 Piezometer <input type="checkbox"/> 12	Section Location of Waste/Source 1/4 of _____ 1/4 of Sec. _____, T. _____ N, R. _____ E. <input type="checkbox"/> W.	Date Well Installed <u>04/30/19</u> m m d d y y
Distance Well Is From Waste/Source Boundary ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Well Installed By: (Person's Name and Firm) <u>BADGER STATE DRILLING</u> <u>KEVIN Duerst</u>
Is Well A Point of Enforcement Std. Application? <input type="checkbox"/> Yes <input type="checkbox"/> No		

A. Protective pipe, top elevation <u>EL 2.54</u> ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation <u>-3</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: <u>9</u> in. b. Length: <u>1</u> ft. c. Material: Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/>
C. Land surface elevation _____ ft. MSL	d. Additional protection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____
D. Surface seal, bottom _____ ft. MSL or _____ ft.	3. Surface seal: Bentonite <input type="checkbox"/> 30 Concrete <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/>
12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/>	4. Material between well casing and protective pipe: Bentonite <input type="checkbox"/> 30 Annular space seal <input type="checkbox"/> Other <input type="checkbox"/>
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Annular space seal: a. Granular Bentonite <input type="checkbox"/> 33 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 35 c. _____ Lbs/gal mud weight Bentonite slurry <input checked="" type="checkbox"/> 31 d. _____ % Bentonite Bentonite-cement grout <input type="checkbox"/> 50 e. _____ Ft ³ volume added for any of the above f. How installed: Tremie <input type="checkbox"/> 01 Tremie pumped <input checked="" type="checkbox"/> 02 Gravity <input type="checkbox"/> 08
14. Drilling method used: Rotary <input checked="" type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/>	6. Bentonite seal: a. Bentonite granules <input checked="" type="checkbox"/> 33 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input type="checkbox"/> 32 c. _____ Other <input type="checkbox"/>
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input checked="" type="checkbox"/> 03 None <input type="checkbox"/> 99	7. Fine sand material: Manufacturer, product name & mesh size a. <u>OHIO #7</u> b. Volume added _____ ft ³
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Describe _____	8. Filter pack material: Manufacturer, product name and mesh size a. <u>OHIO #5</u> b. Volume added _____ ft ³
17. Source of water (attach analysis): _____	9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 23 Flush threaded PVC schedule 80 <input type="checkbox"/> 24 Other <input type="checkbox"/>
E. Bentonite seal, top _____ ft. MSL or <u>4.5</u> ft.	10. Screen material: <u>PVC SCH 40</u> a. Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/>
F. Fine sand, top _____ ft. MSL or <u>51</u> ft.	b. Manufacturer <u>MONO FLEX</u> c. Slot size: 0.010 in. d. Slotted length: <u>5</u> ft.
G. Filter pack, top _____ ft. MSL or <u>53</u> ft.	11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 14 Other <input type="checkbox"/>
H. Screen joint, top _____ ft. MSL or <u>55</u> ft.	
I. Well bottom _____ ft. MSL or <u>60</u> ft.	
J. Filter pack, bottom _____ ft. MSL or <u>62</u> ft.	
K. Borehole, bottom _____ ft. MSL or <u>62</u> ft.	
L. Borehole, diameter <u>10</u> in.	
M. O.D. well casing <u>2.38</u> in.	
N. I.D. well casing <u>2.0</u> in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.
Signature Ma OR Fern D Firm Badger State Drilling, Inc.

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

Route to: Solid Waste Haz. Waste Wastewater
Env. Response & Repair Underground Tanks Other _____

Facility/Project Name <u>MILLERS LIQUOR</u>	County Name <u>DANE</u>	Well Name <u>10000 P24A</u>
Facility License, Permit or Monitoring Number _____	County Code _____	Wis. Unique Well Number <u>V10136</u>
		DNR Well Number _____

<p>1. Can this well be purged dry? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>2. Well development method</p> <p>surged with bailer and bailed <input type="checkbox"/> 41</p> <p>surged with bailer and pumped <input checked="" type="checkbox"/> 61</p> <p>surged with block and bailed <input type="checkbox"/> 42</p> <p>surged with block and pumped <input type="checkbox"/> 62</p> <p>surged with block, bailed and pumped <input type="checkbox"/> 70</p> <p>compressed air <input type="checkbox"/> 20</p> <p>bailed only <input type="checkbox"/> 10</p> <p>pumped only <input type="checkbox"/> 51</p> <p>pumped slowly <input type="checkbox"/> 50</p> <p>Other _____ <input type="checkbox"/> _____</p> <p>3. Time spent developing well <u>75</u> min.</p> <p>4. Depth of well (from top of well casing) <u>59.9</u> ft.</p> <p>5. Inside diameter of well <u>2.0</u> in.</p> <p>6. Volume of water in filter pack and well casing _____ gal.</p> <p>7. Volume of water removed from well <u>75</u> gal.</p> <p>8. Volume of water added (if any) _____ gal.</p> <p>9. Source of water added _____</p> <p>10. Analysis performed on water added? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If yes, attach results)</p>	<p>11. Depth to Water (from top of well casing)</p> <p>a. <u>10.8</u> ft. Before Development <u>11.1</u> ft. After Development</p> <p>b. <u>05/02/19</u> <u>05/02/19</u> m m d d y y m m d d y y</p> <p>c. <u>8:25</u> <input checked="" type="checkbox"/> a.m. <u>9:40</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m. <input type="checkbox"/> p.m.</p> <p>12. Sediment in well bottom _____ inches</p> <p>13. Water clarity</p> <p>Clear <input type="checkbox"/> 10 Clear <input checked="" type="checkbox"/> 20</p> <p>Turbid <input checked="" type="checkbox"/> 15 Turbid <input type="checkbox"/> 25</p> <p>(Describe) <u>GT. BROWN</u> <u>COLOR TAN</u></p>
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Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids _____ mg/l

15. COD _____ mg/l

16. Additional comments on development:

Well developed by: Person's Name and Firm	I hereby certify that the above information is true and correct to the best of my knowledge.
Name: <u>Kevin Doerst</u>	Signature: _____
Firm: <u>Badger State Drilling</u>	Print Initials: _____
	Firm: _____

NOTE: Shaded areas are for DNR use only. See instructions for more information including a list of county codes.

STOUGHTON, WISCONSIN

FOR MILLERS LIQUOR

Job No. 7599

LOCATION 2308 UNIVERSITY AVE.

ELEV.

Boring No. MW-4 PZ4B

GROUND WATER	While drilling	_____	Time after drilling	_____	Start	4/29/19
	Before casing removal	_____	Depth to water	_____	Unit	D-120 #19
	After casing removal	_____	Depth to cave-in	_____	Chief	K.D.-D.D.

Sample No.	Moisture	Blows on Sampler		Sample Recovery	Total Blows	Auto Hammer VISUAL FIELD CLASSIFICATION AND REMARKS	Casing/Probe 2" Weight 140 lbs. Drop 30"	Unconfined Strength	Boulders	Blows on		Drilling Method
		0/6	6/12							Casing Size	Probe Size	
						BLIND DRILL TO 23' HIT ROCK						
						SWITCH TO AIR ROTARY 5 7/8" Button BIT						
						(04-30-19) OVERSITE WATER LEVEL 11'						
						SWITCH TO MUD ROTARY 4 3/4" DRILL TO 92'						
						SET WELL AT 90' USING 5' SCREEN						
						Filter sand 92'-93'						
						Fine sand 93'-92'						
						chips 82'-75'						
						GROUT 75'-12'						
						CHIPS 12'-2'						
						Filter sand 3 BAGS						
						Fine sand 1 BAG						
						chips 5 BAGS						
						FLUSH MOUNT 1						
						2" CAP & PLUG 1						
						CONCRETE 1						
						69' ROCK						

Facility/Project Name <u>MILLERS LIQUOR</u>	Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. _____ ft. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.	Well Name <u>MW4 PZ4B</u>
Facility License, Permit or Monitoring Number _____	Grid Origin Location Lat. _____ Long. _____ or _____	Wis. Unique Well Number <u>VR125</u> DNR Well Number _____
Type of Well Water Table Observation Well <input type="checkbox"/> 11 Piezometer <input type="checkbox"/> 12	St. Plane _____ ft. N, _____ ft. E.	Date Well Installed <u>04/30/19</u> m m d d y y
Distance Well Is From Waste/Source Boundary _____ ft.	Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. _____ T. _____ N, R. _____ E. W.	Well Installed By: (Person's Name and Firm) <u>BADGER STATE DRILLING</u> <u>KEVIN Duerst</u>
Is Well A Point of Enforcement Std. Application? <input type="checkbox"/> Yes <input type="checkbox"/> No	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	

A. Protective pipe, top elevation <u>FLUSH</u> ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation <u>-3</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: <u>9</u> in. b. Length: <u>1.1</u> ft. c. Material: Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/>
C. Land surface elevation _____ ft. MSL	d. Additional protection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____
D. Surface seal, bottom _____ ft. MSL or _____ ft.	3. Surface seal: Bentonite <input type="checkbox"/> 30 Concrete <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/>
12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/>	4. Material between well casing and protective pipe: Bentonite <input type="checkbox"/> 30 Annular space seal <input type="checkbox"/>
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Annular space seal: a. Granular Bentonite <input type="checkbox"/> 33 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 35 c. _____ Lbs/gal mud weight Bentonite slurry <input checked="" type="checkbox"/> 31 d. _____ % Bentonite Bentonite-cement grout <input type="checkbox"/> 50 e. _____ Ft ³ volume added for any of the above
14. Drilling method used: Rotary <input checked="" type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/>	f. How installed: Tremie <input type="checkbox"/> 01 Tremie pumped <input checked="" type="checkbox"/> 02 Gravity <input type="checkbox"/> 08
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input checked="" type="checkbox"/> 03 None <input type="checkbox"/> 99	6. Bentonite seal: a. Bentonite granules <input checked="" type="checkbox"/> 33 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite pellets <input type="checkbox"/> 32 c. _____ Other <input type="checkbox"/>
16. Drilling additives used? <input type="checkbox"/> Yes <input type="checkbox"/> No Describe _____	7. Fine sand material: Manufacturer, product name & mesh size a. <u>OHIO #7</u> b. Volume added _____ ft ³
17. Source of water (attach analysis): _____	8. Filter pack material: Manufacturer, product name and mesh size a. <u>OHIO #5</u> b. Volume added _____ ft ³
E. Bentonite seal, top _____ ft. MSL or <u>7.5</u> ft.	9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 23 Flush threaded PVC schedule 80 <input type="checkbox"/> 24 Other <input type="checkbox"/>
F. Fine sand, top _____ ft. MSL or <u>82</u> ft.	10. Screen material: <u>PVC SCH. 40</u> a. Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/>
G. Filter pack, top _____ ft. MSL or <u>83</u> ft.	b. Manufacturer <u>MONOFLEX</u> c. Slot size: <u>0.010</u> in. d. Slotted length: <u>5</u> ft.
H. Screen joint, top _____ ft. MSL or <u>85</u> ft.	11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 14 Other <input type="checkbox"/>
I. Well bottom _____ ft. MSL or <u>90</u> ft.	
J. Filter pack, bottom _____ ft. MSL or <u>92</u> ft.	
K. Borehole, bottom _____ ft. MSL or <u>92</u> ft.	
L. Borehole, diameter <u>10</u> in.	
M. O.D. well casing <u>2.38</u> in.	
N. I.D. well casing <u>2.0</u> in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.
Signature Mark Duerst Firm Badger State Drilling, Inc.

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144, 147 and 160, Wis. Stats., and ch. NR 141, Wis. Ad. Code. In accordance with ch. 144, Wis. Stats., failure to file this form may result in a forfeiture of not less than \$10, nor more than \$5000 for each day of violation. In accordance with ch. 147, Wis. Stats., failure to file this form may result in a forfeiture of not more than \$10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. See instructions for more information including where the completed form should be sent.

Route to: Solid Waste Haz. Waste Wastewater
Env. Response & Repair Underground Tanks Other _____

Facility/Project Name <u>MINERS LIQUOR</u>	County Name <u>DANE</u>	Well Name <u>MP2-4B</u>
Facility License, Permit or Monitoring Number _____	County Code _____	Wis. Unique Well Number <u>VE125</u>
		DNR Well Number _____

<p>1. Can this well be purged dry? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Well development method</p> <p>surged with bailer and bailed <input type="checkbox"/> 41</p> <p>surged with bailer and pumped <input checked="" type="checkbox"/> 61</p> <p>surged with block and bailed <input type="checkbox"/> 42</p> <p>surged with block and pumped <input type="checkbox"/> 62</p> <p>surged with block, bailed and pumped <input type="checkbox"/> 70</p> <p>compressed air <input type="checkbox"/> 20</p> <p>bailed only <input type="checkbox"/> 10</p> <p>pumped only <input type="checkbox"/> 51</p> <p>pumped slowly <input type="checkbox"/> 50</p> <p>Other _____ <input type="checkbox"/> _____</p> <p>3. Time spent developing well <u>50</u> min.</p> <p>4. Depth of well (from top of well casing) <u>90.2</u> ft.</p> <p>5. Inside diameter of well <u>2.0</u> in.</p> <p>6. Volume of water in filter pack and well casing <u>—</u> gal.</p> <p>7. Volume of water removed from well <u>50</u> gal.</p> <p>8. Volume of water added (if any) <u>—</u> gal.</p> <p>9. Source of water added _____</p> <p>10. Analysis performed on water added? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If yes, attach results)</p>	<table border="1"> <thead> <tr> <th></th> <th>Before Development</th> <th>After Development</th> </tr> </thead> <tbody> <tr> <td>11. Depth to Water (from top of well casing)</td> <td>a. <u>10.3</u> ft.</td> <td><u>10.4</u> ft.</td> </tr> <tr> <td>Date</td> <td>b. <u>05/02/19</u> m m d d y y</td> <td><u>05/02/19</u> m m d d y y</td> </tr> <tr> <td>Time</td> <td>c. <u>7:50</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.</td> <td><u>8:40</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.</td> </tr> <tr> <td>12. Sediment in well bottom</td> <td>_____ inches</td> <td>_____ inches</td> </tr> <tr> <td>13. Water clarity</td> <td>Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) <u>LT. BROWN</u> <u>TAN COLOR</u></td> <td>Clear <input checked="" type="checkbox"/> 20 Turbid <input type="checkbox"/> 25 (Describe)</td> </tr> <tr> <td colspan="3">Fill in if drilling fluids were used and well is at solid waste facility:</td> </tr> <tr> <td>14. Total suspended solids</td> <td>_____ mg/l</td> <td>_____ mg/l</td> </tr> <tr> <td>15. COD</td> <td>_____ mg/l</td> <td>_____ mg/l</td> </tr> </tbody> </table>		Before Development	After Development	11. Depth to Water (from top of well casing)	a. <u>10.3</u> ft.	<u>10.4</u> ft.	Date	b. <u>05/02/19</u> m m d d y y	<u>05/02/19</u> m m d d y y	Time	c. <u>7:50</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	<u>8:40</u> <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	12. Sediment in well bottom	_____ inches	_____ inches	13. Water clarity	Clear <input type="checkbox"/> 10 Turbid <input checked="" type="checkbox"/> 15 (Describe) <u>LT. BROWN</u> <u>TAN COLOR</u>	Clear <input checked="" type="checkbox"/> 20 Turbid <input type="checkbox"/> 25 (Describe)	Fill in if drilling fluids were used and well is at solid waste facility:			14. Total suspended solids	_____ mg/l	_____ mg/l	15. COD	_____ mg/l	_____ mg/l
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14. Total suspended solids	_____ mg/l	_____ mg/l																										
15. COD	_____ mg/l	_____ mg/l																										

16. Additional comments on development:

Well developed by: Person's Name and Firm

Name: Kevin Dverst

Firm: Badger State Drilling

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: _____

Print Initials: _____

Firm: _____

NOTE: Shaded areas are for DNR use only. See instructions for more information including a list of county codes.

From: [Robyn Seymour](#)
To: [Koepke, Cynthia L - DNR](#)
Subject: RE: sampling results from new well nest?
Date: Monday, December 9, 2019 2:06:19 PM
Attachments: [GW-Well Nest 4 Initial.pdf](#)

From: Koepke, Cynthia L - DNR <Cynthia.Koepke@wisconsin.gov>
Sent: Friday, December 6, 2019 3:00 PM
To: Robyn Seymour <rseymour@chorus.net>
Subject: RE: sampling results from new well nest?

Hi Robyn,
Could you send me the lab sheets for these samples for my files?
Also, did Steve Miller get back to you?

Thanks!

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Cindy Koepke
(608) 275-3257
Cynthia.koepke@wisconsin.gov

From: Robyn Seymour <rseymour@chorus.net>
Sent: Thursday, July 25, 2019 9:13 AM
To: Koepke, Cynthia L - DNR <Cynthia.Koepke@wisconsin.gov>
Subject: RE: sampling results from new well nest?

From: Koepke, Cynthia L - DNR <Cynthia.Koepke@wisconsin.gov>
Sent: Thursday, July 25, 2019 8:18 AM
To: Robyn Seymour <rseymour@chorus.net>
Subject: sampling results from new well nest?
Importance: High

Hi Robyn,
Could you please send me the boring logs, WCRs, and sample results from the newest well nest at Miller's please? Lab sheets are ok for the analytical results if you don't have time to make a table at the moment.
Thanks.
Cindy

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Cindy Koepke, P.G.

Hydrogeologist, Remediation & Redevelopment Program

Wisconsin Department of Natural Resources

South Central Region, Fitchburg

(608)275-3257

cynthia.koepke@wisconsin.gov



dnr.wi.gov



May 23, 2019

Robyn Seymour
Seymour Environmental Services, INC.
2531 Dyreson Road
Mc Farland, WI 53558

RE: Project: MILLER'S LIQUOR
Pace Project No.: 40187964

Dear Robyn Seymour:

Enclosed are the analytical results for sample(s) received by the laboratory on May 21, 2019. 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,



Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40187964001	MW-4	Water	05/18/19 11:35	05/21/19 09:45
40187964002	PZ-4A	Water	05/18/19 11:45	05/21/19 09:45
40187964003	PZ-4B	Water	05/18/19 11:55	05/21/19 09:45

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SAMPLE ANALYTE COUNT

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40187964001	MW-4	EPA 8260	LAP	64	PASI-G
40187964002	PZ-4A	EPA 8260	LAP	64	PASI-G
40187964003	PZ-4B	EPA 8260	LAP	64	PASI-G

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40187964001	MW-4					
EPA 8260	cis-1,2-Dichloroethene	26.1	ug/L	5.0	05/22/19 13:12	
EPA 8260	Tetrachloroethene	362	ug/L	5.4	05/22/19 13:12	
EPA 8260	Trichloroethene	7.7	ug/L	5.0	05/22/19 13:12	
40187964002	PZ-4A					
EPA 8260	Chloroform	9.4J	ug/L	10.0	05/22/19 12:50	
EPA 8260	1,1-Dichloroethene	1.1J	ug/L	2.0	05/22/19 12:50	
EPA 8260	cis-1,2-Dichloroethene	7.2	ug/L	2.0	05/22/19 12:50	
EPA 8260	Tetrachloroethene	330	ug/L	2.2	05/22/19 12:50	
EPA 8260	Trichloroethene	3.5	ug/L	2.0	05/22/19 12:50	
40187964003	PZ-4B					
EPA 8260	Tetrachloroethene	5.5	ug/L	1.1	05/22/19 10:38	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

Sample: MW-4 Lab ID: 40187964001 Collected: 05/18/19 11:35 Received: 05/21/19 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<1.2	ug/L	5.0	1.2	5		05/22/19 13:12	71-43-2	
Bromobenzene	<1.2	ug/L	5.0	1.2	5		05/22/19 13:12	108-86-1	
Bromochloromethane	<1.8	ug/L	25.0	1.8	5		05/22/19 13:12	74-97-5	
Bromodichloromethane	<1.8	ug/L	6.1	1.8	5		05/22/19 13:12	75-27-4	
Bromoform	<19.9	ug/L	66.2	19.9	5		05/22/19 13:12	75-25-2	
Bromomethane	<4.9	ug/L	25.0	4.9	5		05/22/19 13:12	74-83-9	
n-Butylbenzene	<3.5	ug/L	11.8	3.5	5		05/22/19 13:12	104-51-8	
sec-Butylbenzene	<4.2	ug/L	25.0	4.2	5		05/22/19 13:12	135-98-8	
tert-Butylbenzene	<1.5	ug/L	5.1	1.5	5		05/22/19 13:12	98-06-6	
Carbon tetrachloride	<0.83	ug/L	5.0	0.83	5		05/22/19 13:12	56-23-5	
Chlorobenzene	<3.6	ug/L	11.8	3.6	5		05/22/19 13:12	108-90-7	
Chloroethane	<6.7	ug/L	25.0	6.7	5		05/22/19 13:12	75-00-3	
Chloroform	<6.4	ug/L	25.0	6.4	5		05/22/19 13:12	67-66-3	
Chloromethane	<10.9	ug/L	36.5	10.9	5		05/22/19 13:12	74-87-3	
2-Chlorotoluene	<4.6	ug/L	25.0	4.6	5		05/22/19 13:12	95-49-8	
4-Chlorotoluene	<3.8	ug/L	12.6	3.8	5		05/22/19 13:12	106-43-4	
1,2-Dibromo-3-chloropropane	<8.8	ug/L	29.4	8.8	5		05/22/19 13:12	96-12-8	
Dibromochloromethane	<13.0	ug/L	43.4	13.0	5		05/22/19 13:12	124-48-1	
1,2-Dibromoethane (EDB)	<4.1	ug/L	13.8	4.1	5		05/22/19 13:12	106-93-4	
Dibromomethane	<4.7	ug/L	15.6	4.7	5		05/22/19 13:12	74-95-3	
1,2-Dichlorobenzene	<3.5	ug/L	11.8	3.5	5		05/22/19 13:12	95-50-1	
1,3-Dichlorobenzene	<3.1	ug/L	10.5	3.1	5		05/22/19 13:12	541-73-1	
1,4-Dichlorobenzene	<4.7	ug/L	15.7	4.7	5		05/22/19 13:12	106-46-7	
Dichlorodifluoromethane	<2.5	ug/L	25.0	2.5	5		05/22/19 13:12	75-71-8	
1,1-Dichloroethane	<1.4	ug/L	5.0	1.4	5		05/22/19 13:12	75-34-3	
1,2-Dichloroethane	<1.4	ug/L	5.0	1.4	5		05/22/19 13:12	107-06-2	
1,1-Dichloroethene	<1.2	ug/L	5.0	1.2	5		05/22/19 13:12	75-35-4	
cis-1,2-Dichloroethene	26.1	ug/L	5.0	1.4	5		05/22/19 13:12	156-59-2	
trans-1,2-Dichloroethene	<5.5	ug/L	18.2	5.5	5		05/22/19 13:12	156-60-5	
1,2-Dichloropropane	<1.4	ug/L	5.0	1.4	5		05/22/19 13:12	78-87-5	
1,3-Dichloropropane	<4.1	ug/L	13.8	4.1	5		05/22/19 13:12	142-28-9	
2,2-Dichloropropane	<11.3	ug/L	37.8	11.3	5		05/22/19 13:12	594-20-7	
1,1-Dichloropropene	<2.7	ug/L	9.0	2.7	5		05/22/19 13:12	563-58-6	
cis-1,3-Dichloropropene	<18.1	ug/L	60.5	18.1	5		05/22/19 13:12	10061-01-5	
trans-1,3-Dichloropropene	<21.9	ug/L	72.8	21.9	5		05/22/19 13:12	10061-02-6	
Diisopropyl ether	<9.4	ug/L	31.5	9.4	5		05/22/19 13:12	108-20-3	
Ethylbenzene	<1.1	ug/L	5.0	1.1	5		05/22/19 13:12	100-41-4	
Hexachloro-1,3-butadiene	<5.9	ug/L	25.0	5.9	5		05/22/19 13:12	87-68-3	
Isopropylbenzene (Cumene)	<2.0	ug/L	25.0	2.0	5		05/22/19 13:12	98-82-8	
p-Isopropyltoluene	<4.0	ug/L	13.3	4.0	5		05/22/19 13:12	99-87-6	
Methylene Chloride	<2.9	ug/L	25.0	2.9	5		05/22/19 13:12	75-09-2	
Methyl-tert-butyl ether	<6.2	ug/L	20.8	6.2	5		05/22/19 13:12	1634-04-4	
Naphthalene	<5.9	ug/L	25.0	5.9	5		05/22/19 13:12	91-20-3	
n-Propylbenzene	<4.1	ug/L	25.0	4.1	5		05/22/19 13:12	103-65-1	
Styrene	<2.3	ug/L	7.8	2.3	5		05/22/19 13:12	100-42-5	
1,1,1,2-Tetrachloroethane	<1.3	ug/L	5.0	1.3	5		05/22/19 13:12	630-20-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

Sample: MW-4 **Lab ID: 40187964001** Collected: 05/18/19 11:35 Received: 05/21/19 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<1.4	ug/L	5.0	1.4	5		05/22/19 13:12	79-34-5	
Tetrachloroethene	362	ug/L	5.4	1.6	5		05/22/19 13:12	127-18-4	
Toluene	<0.86	ug/L	25.0	0.86	5		05/22/19 13:12	108-88-3	
1,2,3-Trichlorobenzene	<3.1	ug/L	25.0	3.1	5		05/22/19 13:12	87-61-6	
1,2,4-Trichlorobenzene	<4.8	ug/L	25.0	4.8	5		05/22/19 13:12	120-82-1	
1,1,1-Trichloroethane	<1.2	ug/L	5.0	1.2	5		05/22/19 13:12	71-55-6	
1,1,2-Trichloroethane	<2.8	ug/L	25.0	2.8	5		05/22/19 13:12	79-00-5	
Trichloroethene	7.7	ug/L	5.0	1.3	5		05/22/19 13:12	79-01-6	
Trichlorofluoromethane	<1.1	ug/L	5.0	1.1	5		05/22/19 13:12	75-69-4	
1,2,3-Trichloropropane	<3.0	ug/L	25.0	3.0	5		05/22/19 13:12	96-18-4	
1,2,4-Trimethylbenzene	<4.2	ug/L	14.0	4.2	5		05/22/19 13:12	95-63-6	
1,3,5-Trimethylbenzene	<4.4	ug/L	14.6	4.4	5		05/22/19 13:12	108-67-8	
Vinyl chloride	<0.87	ug/L	5.0	0.87	5		05/22/19 13:12	75-01-4	
m&p-Xylene	<2.3	ug/L	10.0	2.3	5		05/22/19 13:12	179601-23-1	
o-Xylene	<1.3	ug/L	5.0	1.3	5		05/22/19 13:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	83	%	70-130		5		05/22/19 13:12	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		5		05/22/19 13:12	1868-53-7	
Toluene-d8 (S)	102	%	70-130		5		05/22/19 13:12	2037-26-5	

Sample: PZ-4A **Lab ID: 40187964002** Collected: 05/18/19 11:45 Received: 05/21/19 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.49	ug/L	2.0	0.49	2		05/22/19 12:50	71-43-2	
Bromobenzene	<0.48	ug/L	2.0	0.48	2		05/22/19 12:50	108-86-1	
Bromochloromethane	<0.72	ug/L	10.0	0.72	2		05/22/19 12:50	74-97-5	
Bromodichloromethane	<0.73	ug/L	2.4	0.73	2		05/22/19 12:50	75-27-4	
Bromoform	<7.9	ug/L	26.5	7.9	2		05/22/19 12:50	75-25-2	
Bromomethane	<1.9	ug/L	10.0	1.9	2		05/22/19 12:50	74-83-9	
n-Butylbenzene	<1.4	ug/L	4.7	1.4	2		05/22/19 12:50	104-51-8	
sec-Butylbenzene	<1.7	ug/L	10.0	1.7	2		05/22/19 12:50	135-98-8	
tert-Butylbenzene	<0.61	ug/L	2.0	0.61	2		05/22/19 12:50	98-06-6	
Carbon tetrachloride	<0.33	ug/L	2.0	0.33	2		05/22/19 12:50	56-23-5	
Chlorobenzene	<1.4	ug/L	4.7	1.4	2		05/22/19 12:50	108-90-7	
Chloroethane	<2.7	ug/L	10.0	2.7	2		05/22/19 12:50	75-00-3	
Chloroform	9.4J	ug/L	10.0	2.5	2		05/22/19 12:50	67-66-3	
Chloromethane	<4.4	ug/L	14.6	4.4	2		05/22/19 12:50	74-87-3	
2-Chlorotoluene	<1.9	ug/L	10.0	1.9	2		05/22/19 12:50	95-49-8	
4-Chlorotoluene	<1.5	ug/L	5.0	1.5	2		05/22/19 12:50	106-43-4	
1,2-Dibromo-3-chloropropane	<3.5	ug/L	11.8	3.5	2		05/22/19 12:50	96-12-8	
Dibromochloromethane	<5.2	ug/L	17.3	5.2	2		05/22/19 12:50	124-48-1	
1,2-Dibromoethane (EDB)	<1.7	ug/L	5.5	1.7	2		05/22/19 12:50	106-93-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MILLER'S LIQUOR
Pace Project No.: 40187964

Sample: **PZ-4A** Lab ID: **40187964002** Collected: 05/18/19 11:45 Received: 05/21/19 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Dibromomethane	<1.9	ug/L	6.2	1.9	2		05/22/19 12:50	74-95-3	
1,2-Dichlorobenzene	<1.4	ug/L	4.7	1.4	2		05/22/19 12:50	95-50-1	
1,3-Dichlorobenzene	<1.3	ug/L	4.2	1.3	2		05/22/19 12:50	541-73-1	
1,4-Dichlorobenzene	<1.9	ug/L	6.3	1.9	2		05/22/19 12:50	106-46-7	
Dichlorodifluoromethane	<1.0	ug/L	10.0	1.0	2		05/22/19 12:50	75-71-8	
1,1-Dichloroethane	<0.55	ug/L	2.0	0.55	2		05/22/19 12:50	75-34-3	
1,2-Dichloroethane	<0.56	ug/L	2.0	0.56	2		05/22/19 12:50	107-06-2	
1,1-Dichloroethene	1.1J	ug/L	2.0	0.49	2		05/22/19 12:50	75-35-4	
cis-1,2-Dichloroethene	7.2	ug/L	2.0	0.54	2		05/22/19 12:50	156-59-2	
trans-1,2-Dichloroethene	<2.2	ug/L	7.3	2.2	2		05/22/19 12:50	156-60-5	
1,2-Dichloropropane	<0.57	ug/L	2.0	0.57	2		05/22/19 12:50	78-87-5	
1,3-Dichloropropane	<1.7	ug/L	5.5	1.7	2		05/22/19 12:50	142-28-9	
2,2-Dichloropropane	<4.5	ug/L	15.1	4.5	2		05/22/19 12:50	594-20-7	
1,1-Dichloropropene	<1.1	ug/L	3.6	1.1	2		05/22/19 12:50	563-58-6	
cis-1,3-Dichloropropene	<7.3	ug/L	24.2	7.3	2		05/22/19 12:50	10061-01-5	
trans-1,3-Dichloropropene	<8.7	ug/L	29.1	8.7	2		05/22/19 12:50	10061-02-6	
Diisopropyl ether	<3.8	ug/L	12.6	3.8	2		05/22/19 12:50	108-20-3	
Ethylbenzene	<0.44	ug/L	2.0	0.44	2		05/22/19 12:50	100-41-4	
Hexachloro-1,3-butadiene	<2.4	ug/L	10.0	2.4	2		05/22/19 12:50	87-68-3	
Isopropylbenzene (Cumene)	<0.79	ug/L	10.0	0.79	2		05/22/19 12:50	98-82-8	
p-Isopropyltoluene	<1.6	ug/L	5.3	1.6	2		05/22/19 12:50	99-87-6	
Methylene Chloride	<1.2	ug/L	10.0	1.2	2		05/22/19 12:50	75-09-2	
Methyl-tert-butyl ether	<2.5	ug/L	8.3	2.5	2		05/22/19 12:50	1634-04-4	
Naphthalene	<2.4	ug/L	10.0	2.4	2		05/22/19 12:50	91-20-3	
n-Propylbenzene	<1.6	ug/L	10.0	1.6	2		05/22/19 12:50	103-65-1	
Styrene	<0.93	ug/L	3.1	0.93	2		05/22/19 12:50	100-42-5	
1,1,1,2-Tetrachloroethane	<0.54	ug/L	2.0	0.54	2		05/22/19 12:50	630-20-6	
1,1,1,2,2-Tetrachloroethane	<0.55	ug/L	2.0	0.55	2		05/22/19 12:50	79-34-5	
Tetrachloroethene	330	ug/L	2.2	0.65	2		05/22/19 12:50	127-18-4	
Toluene	<0.34	ug/L	10.0	0.34	2		05/22/19 12:50	108-88-3	
1,2,3-Trichlorobenzene	<1.3	ug/L	10.0	1.3	2		05/22/19 12:50	87-61-6	
1,2,4-Trichlorobenzene	<1.9	ug/L	10.0	1.9	2		05/22/19 12:50	120-82-1	
1,1,1-Trichloroethane	<0.49	ug/L	2.0	0.49	2		05/22/19 12:50	71-55-6	
1,1,2-Trichloroethane	<1.1	ug/L	10.0	1.1	2		05/22/19 12:50	79-00-5	
Trichloroethene	3.5	ug/L	2.0	0.51	2		05/22/19 12:50	79-01-6	
Trichlorofluoromethane	<0.43	ug/L	2.0	0.43	2		05/22/19 12:50	75-69-4	
1,2,3-Trichloropropane	<1.2	ug/L	10.0	1.2	2		05/22/19 12:50	96-18-4	
1,2,4-Trimethylbenzene	<1.7	ug/L	5.6	1.7	2		05/22/19 12:50	95-63-6	
1,3,5-Trimethylbenzene	<1.7	ug/L	5.8	1.7	2		05/22/19 12:50	108-67-8	
Vinyl chloride	<0.35	ug/L	2.0	0.35	2		05/22/19 12:50	75-01-4	
m&p-Xylene	<0.93	ug/L	4.0	0.93	2		05/22/19 12:50	179601-23-1	
o-Xylene	<0.52	ug/L	2.0	0.52	2		05/22/19 12:50	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		2		05/22/19 12:50	460-00-4	
Dibromofluoromethane (S)	113	%	70-130		2		05/22/19 12:50	1868-53-7	
Toluene-d8 (S)	102	%	70-130		2		05/22/19 12:50	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

Sample: PZ-4B **Lab ID: 40187964003** Collected: 05/18/19 11:55 Received: 05/21/19 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.25	ug/L	1.0	0.25	1		05/22/19 10:38	71-43-2	
Bromobenzene	<0.24	ug/L	1.0	0.24	1		05/22/19 10:38	108-86-1	
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		05/22/19 10:38	74-97-5	
Bromodichloromethane	<0.36	ug/L	1.2	0.36	1		05/22/19 10:38	75-27-4	
Bromoform	<4.0	ug/L	13.2	4.0	1		05/22/19 10:38	75-25-2	
Bromomethane	<0.97	ug/L	5.0	0.97	1		05/22/19 10:38	74-83-9	
n-Butylbenzene	<0.71	ug/L	2.4	0.71	1		05/22/19 10:38	104-51-8	
sec-Butylbenzene	<0.85	ug/L	5.0	0.85	1		05/22/19 10:38	135-98-8	
tert-Butylbenzene	<0.30	ug/L	1.0	0.30	1		05/22/19 10:38	98-06-6	
Carbon tetrachloride	<0.17	ug/L	1.0	0.17	1		05/22/19 10:38	56-23-5	
Chlorobenzene	<0.71	ug/L	2.4	0.71	1		05/22/19 10:38	108-90-7	
Chloroethane	<1.3	ug/L	5.0	1.3	1		05/22/19 10:38	75-00-3	
Chloroform	<1.3	ug/L	5.0	1.3	1		05/22/19 10:38	67-66-3	
Chloromethane	<2.2	ug/L	7.3	2.2	1		05/22/19 10:38	74-87-3	
2-Chlorotoluene	<0.93	ug/L	5.0	0.93	1		05/22/19 10:38	95-49-8	
4-Chlorotoluene	<0.76	ug/L	2.5	0.76	1		05/22/19 10:38	106-43-4	
1,2-Dibromo-3-chloropropane	<1.8	ug/L	5.9	1.8	1		05/22/19 10:38	96-12-8	
Dibromochloromethane	<2.6	ug/L	8.7	2.6	1		05/22/19 10:38	124-48-1	
1,2-Dibromoethane (EDB)	<0.83	ug/L	2.8	0.83	1		05/22/19 10:38	106-93-4	
Dibromomethane	<0.94	ug/L	3.1	0.94	1		05/22/19 10:38	74-95-3	
1,2-Dichlorobenzene	<0.71	ug/L	2.4	0.71	1		05/22/19 10:38	95-50-1	
1,3-Dichlorobenzene	<0.63	ug/L	2.1	0.63	1		05/22/19 10:38	541-73-1	
1,4-Dichlorobenzene	<0.94	ug/L	3.1	0.94	1		05/22/19 10:38	106-46-7	
Dichlorodifluoromethane	<0.50	ug/L	5.0	0.50	1		05/22/19 10:38	75-71-8	
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		05/22/19 10:38	75-34-3	
1,2-Dichloroethane	<0.28	ug/L	1.0	0.28	1		05/22/19 10:38	107-06-2	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		05/22/19 10:38	75-35-4	
cis-1,2-Dichloroethene	<0.27	ug/L	1.0	0.27	1		05/22/19 10:38	156-59-2	
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		05/22/19 10:38	156-60-5	
1,2-Dichloropropane	<0.28	ug/L	1.0	0.28	1		05/22/19 10:38	78-87-5	
1,3-Dichloropropane	<0.83	ug/L	2.8	0.83	1		05/22/19 10:38	142-28-9	
2,2-Dichloropropane	<2.3	ug/L	7.6	2.3	1		05/22/19 10:38	594-20-7	
1,1-Dichloropropene	<0.54	ug/L	1.8	0.54	1		05/22/19 10:38	563-58-6	
cis-1,3-Dichloropropene	<3.6	ug/L	12.1	3.6	1		05/22/19 10:38	10061-01-5	
trans-1,3-Dichloropropene	<4.4	ug/L	14.6	4.4	1		05/22/19 10:38	10061-02-6	
Diisopropyl ether	<1.9	ug/L	6.3	1.9	1		05/22/19 10:38	108-20-3	
Ethylbenzene	<0.22	ug/L	1.0	0.22	1		05/22/19 10:38	100-41-4	
Hexachloro-1,3-butadiene	<1.2	ug/L	5.0	1.2	1		05/22/19 10:38	87-68-3	
Isopropylbenzene (Cumene)	<0.39	ug/L	5.0	0.39	1		05/22/19 10:38	98-82-8	
p-Isopropyltoluene	<0.80	ug/L	2.7	0.80	1		05/22/19 10:38	99-87-6	
Methylene Chloride	<0.58	ug/L	5.0	0.58	1		05/22/19 10:38	75-09-2	
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		05/22/19 10:38	1634-04-4	
Naphthalene	<1.2	ug/L	5.0	1.2	1		05/22/19 10:38	91-20-3	
n-Propylbenzene	<0.81	ug/L	5.0	0.81	1		05/22/19 10:38	103-65-1	
Styrene	<0.47	ug/L	1.6	0.47	1		05/22/19 10:38	100-42-5	
1,1,1,2-Tetrachloroethane	<0.27	ug/L	1.0	0.27	1		05/22/19 10:38	630-20-6	

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ANALYTICAL RESULTS

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

Sample: PZ-4B **Lab ID: 40187964003** Collected: 05/18/19 11:55 Received: 05/21/19 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.28	ug/L	1.0	0.28	1		05/22/19 10:38	79-34-5	
Tetrachloroethene	5.5	ug/L	1.1	0.33	1		05/22/19 10:38	127-18-4	
Toluene	<0.17	ug/L	5.0	0.17	1		05/22/19 10:38	108-88-3	
1,2,3-Trichlorobenzene	<0.63	ug/L	5.0	0.63	1		05/22/19 10:38	87-61-6	
1,2,4-Trichlorobenzene	<0.95	ug/L	5.0	0.95	1		05/22/19 10:38	120-82-1	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		05/22/19 10:38	71-55-6	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		05/22/19 10:38	79-00-5	
Trichloroethene	<0.26	ug/L	1.0	0.26	1		05/22/19 10:38	79-01-6	
Trichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		05/22/19 10:38	75-69-4	
1,2,3-Trichloropropane	<0.59	ug/L	5.0	0.59	1		05/22/19 10:38	96-18-4	
1,2,4-Trimethylbenzene	<0.84	ug/L	2.8	0.84	1		05/22/19 10:38	95-63-6	
1,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		05/22/19 10:38	108-67-8	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		05/22/19 10:38	75-01-4	
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		05/22/19 10:38	179601-23-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		05/22/19 10:38	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	87	%	70-130		1		05/22/19 10:38	460-00-4	
Dibromofluoromethane (S)	113	%	70-130		1		05/22/19 10:38	1868-53-7	
Toluene-d8 (S)	103	%	70-130		1		05/22/19 10:38	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MILLER'S LIQUOR
Pace Project No.: 40187964

QC Batch: 321995 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40187964001, 40187964002, 40187964003

METHOD BLANK: 1869934 Matrix: Water
Associated Lab Samples: 40187964001, 40187964002, 40187964003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	05/22/19 06:15	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	05/22/19 06:15	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	05/22/19 06:15	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	05/22/19 06:15	
1,1-Dichloroethane	ug/L	<0.27	1.0	05/22/19 06:15	
1,1-Dichloroethene	ug/L	<0.24	1.0	05/22/19 06:15	
1,1-Dichloropropene	ug/L	<0.54	1.8	05/22/19 06:15	
1,2,3-Trichlorobenzene	ug/L	<0.63	5.0	05/22/19 06:15	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	05/22/19 06:15	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	05/22/19 06:15	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	05/22/19 06:15	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	05/22/19 06:15	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	05/22/19 06:15	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	05/22/19 06:15	
1,2-Dichloroethane	ug/L	<0.28	1.0	05/22/19 06:15	
1,2-Dichloropropane	ug/L	<0.28	1.0	05/22/19 06:15	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	05/22/19 06:15	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	05/22/19 06:15	
1,3-Dichloropropane	ug/L	<0.83	2.8	05/22/19 06:15	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	05/22/19 06:15	
2,2-Dichloropropane	ug/L	<2.3	7.6	05/22/19 06:15	
2-Chlorotoluene	ug/L	<0.93	5.0	05/22/19 06:15	
4-Chlorotoluene	ug/L	<0.76	2.5	05/22/19 06:15	
Benzene	ug/L	<0.25	1.0	05/22/19 06:15	
Bromobenzene	ug/L	<0.24	1.0	05/22/19 06:15	
Bromochloromethane	ug/L	<0.36	5.0	05/22/19 06:15	
Bromodichloromethane	ug/L	<0.36	1.2	05/22/19 06:15	
Bromoform	ug/L	<4.0	13.2	05/22/19 06:15	
Bromomethane	ug/L	<0.97	5.0	05/22/19 06:15	
Carbon tetrachloride	ug/L	<0.17	1.0	05/22/19 06:15	
Chlorobenzene	ug/L	<0.71	2.4	05/22/19 06:15	
Chloroethane	ug/L	<1.3	5.0	05/22/19 06:15	
Chloroform	ug/L	<1.3	5.0	05/22/19 06:15	
Chloromethane	ug/L	<2.2	7.3	05/22/19 06:15	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	05/22/19 06:15	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	05/22/19 06:15	
Dibromochloromethane	ug/L	<2.6	8.7	05/22/19 06:15	
Dibromomethane	ug/L	<0.94	3.1	05/22/19 06:15	
Dichlorodifluoromethane	ug/L	<0.50	5.0	05/22/19 06:15	
Diisopropyl ether	ug/L	<1.9	6.3	05/22/19 06:15	
Ethylbenzene	ug/L	<0.22	1.0	05/22/19 06:15	

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.

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QUALITY CONTROL DATA

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

METHOD BLANK: 1869934

Matrix: Water

Associated Lab Samples: 40187964001, 40187964002, 40187964003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	05/22/19 06:15	
Isopropylbenzene (Cumene)	ug/L	<0.39	5.0	05/22/19 06:15	
m&p-Xylene	ug/L	<0.47	2.0	05/22/19 06:15	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	05/22/19 06:15	
Methylene Chloride	ug/L	<0.58	5.0	05/22/19 06:15	
n-Butylbenzene	ug/L	<0.71	2.4	05/22/19 06:15	
n-Propylbenzene	ug/L	<0.81	5.0	05/22/19 06:15	
Naphthalene	ug/L	<1.2	5.0	05/22/19 06:15	
o-Xylene	ug/L	<0.26	1.0	05/22/19 06:15	
p-Isopropyltoluene	ug/L	<0.80	2.7	05/22/19 06:15	
sec-Butylbenzene	ug/L	<0.85	5.0	05/22/19 06:15	
Styrene	ug/L	<0.47	1.6	05/22/19 06:15	
tert-Butylbenzene	ug/L	<0.30	1.0	05/22/19 06:15	
Tetrachloroethene	ug/L	<0.33	1.1	05/22/19 06:15	
Toluene	ug/L	<0.17	5.0	05/22/19 06:15	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	05/22/19 06:15	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	05/22/19 06:15	
Trichloroethene	ug/L	<0.26	1.0	05/22/19 06:15	
Trichlorofluoromethane	ug/L	<0.21	1.0	05/22/19 06:15	
Vinyl chloride	ug/L	<0.17	1.0	05/22/19 06:15	
4-Bromofluorobenzene (S)	%	88	70-130	05/22/19 06:15	
Dibromofluoromethane (S)	%	109	70-130	05/22/19 06:15	
Toluene-d8 (S)	%	102	70-130	05/22/19 06:15	

LABORATORY CONTROL SAMPLE: 1869935

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	54.7	109	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	51.3	103	70-130	
1,1,2-Trichloroethane	ug/L	50	51.6	103	70-130	
1,1-Dichloroethane	ug/L	50	61.3	123	73-150	
1,1-Dichloroethene	ug/L	50	61.9	124	73-138	
1,2,4-Trichlorobenzene	ug/L	50	42.9	86	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	43.4	87	64-129	
1,2-Dibromoethane (EDB)	ug/L	50	52.9	106	70-130	
1,2-Dichlorobenzene	ug/L	50	50.6	101	70-130	
1,2-Dichloroethane	ug/L	50	54.0	108	75-140	
1,2-Dichloropropane	ug/L	50	53.7	107	73-135	
1,3-Dichlorobenzene	ug/L	50	51.6	103	70-130	
1,4-Dichlorobenzene	ug/L	50	52.1	104	70-130	
Benzene	ug/L	50	55.0	110	70-130	
Bromodichloromethane	ug/L	50	53.6	107	70-130	
Bromoform	ug/L	50	50.9	102	68-129	
Bromomethane	ug/L	50	47.6	95	18-159	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

LABORATORY CONTROL SAMPLE: 1869935

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	55.1	110	70-130	
Chlorobenzene	ug/L	50	53.4	107	70-130	
Chloroethane	ug/L	50	55.1	110	53-147	
Chloroform	ug/L	50	54.7	109	74-136	
Chloromethane	ug/L	50	35.0	70	29-115	
cis-1,2-Dichloroethene	ug/L	50	61.0	122	70-130	
cis-1,3-Dichloropropene	ug/L	50	49.6	99	70-130	
Dibromochloromethane	ug/L	50	49.6	99	70-130	
Dichlorodifluoromethane	ug/L	50	30.2	60	10-130	
Ethylbenzene	ug/L	50	54.1	108	80-124	
Isopropylbenzene (Cumene)	ug/L	50	54.0	108	70-130	
m&p-Xylene	ug/L	100	113	113	70-130	
Methyl-tert-butyl ether	ug/L	50	54.4	109	54-137	
Methylene Chloride	ug/L	50	62.9	126	73-138	
o-Xylene	ug/L	50	54.1	108	70-130	
Styrene	ug/L	50	54.7	109	70-130	
Tetrachloroethene	ug/L	50	48.2	96	70-130	
Toluene	ug/L	50	52.2	104	80-126	
trans-1,2-Dichloroethene	ug/L	50	62.3	125	73-145	
trans-1,3-Dichloropropene	ug/L	50	48.0	96	70-130	
Trichloroethene	ug/L	50	53.8	108	70-130	
Trichlorofluoromethane	ug/L	50	67.5	135	76-147	
Vinyl chloride	ug/L	50	50.0	100	51-120	
4-Bromofluorobenzene (S)	%			97	70-130	
Dibromofluoromethane (S)	%			107	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1869936 1869937

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40187936002	Result	Conc.	Conc.								
1,1,1-Trichloroethane	ug/L	<0.24	50	50	56.4	57.0	113	114	70-130	1	20		
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	55.2	56.8	110	114	70-130	3	20		
1,1,2-Trichloroethane	ug/L	<0.55	50	50	54.9	55.4	110	111	70-137	1	20		
1,1-Dichloroethane	ug/L	<0.27	50	50	63.1	64.1	126	128	73-153	2	20		
1,1-Dichloroethene	ug/L	<0.24	50	50	64.9	64.2	130	128	73-138	1	20		
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	50.8	50.4	102	101	70-130	1	20		
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	46.0	48.8	92	98	58-129	6	20		
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	54.6	57.0	109	114	70-130	4	20		
1,2-Dichlorobenzene	ug/L	<0.71	50	50	56.1	58.0	112	116	70-130	3	20		
1,2-Dichloroethane	ug/L	0.72J	50	50	57.0	58.1	113	115	75-140	2	20		
1,2-Dichloropropane	ug/L	<0.28	50	50	54.0	55.2	108	110	71-138	2	20		
1,3-Dichlorobenzene	ug/L	<0.63	50	50	56.4	57.9	113	116	70-130	3	20		
1,4-Dichlorobenzene	ug/L	<0.94	50	50	56.7	59.1	113	118	70-130	4	20		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1869936 1869937												
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		40187936002 Result	Spike Conc.	Spike Conc.	MS Result							
Benzene	ug/L	<0.25	50	50	56.8	57.3	114	115	70-130	1	20	
Bromodichloromethane	ug/L	<0.36	50	50	53.3	54.6	107	109	70-130	2	20	
Bromoform	ug/L	<4.0	50	50	54.0	56.0	108	112	68-129	4	20	
Bromomethane	ug/L	<0.97	50	50	50.5	55.9	101	112	15-170	10	20	
Carbon tetrachloride	ug/L	<0.17	50	50	56.2	58.4	112	117	70-130	4	20	
Chlorobenzene	ug/L	<0.71	50	50	57.7	56.9	115	114	70-130	2	20	
Chloroethane	ug/L	<1.3	50	50	57.1	59.5	114	119	51-148	4	20	
Chloroform	ug/L	<1.3	50	50	56.8	57.7	114	115	74-136	2	20	
Chloromethane	ug/L	<2.2	50	50	36.2	36.1	72	72	23-115	0	20	
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	62.7	62.6	125	125	70-131	0	20	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	51.3	51.6	103	103	70-130	1	20	
Dibromochloromethane	ug/L	<2.6	50	50	55.0	55.9	110	112	70-130	2	20	
Dichlorodifluoromethane	ug/L	<0.50	50	50	30.0	31.1	60	62	10-132	4	20	
Ethylbenzene	ug/L	<0.22	50	50	57.9	58.6	116	117	80-125	1	20	
Isopropylbenzene (Cumene)	ug/L	<0.39	50	50	59.6	57.5	119	115	70-130	4	20	
m&p-Xylene	ug/L	<0.47	100	100	115	117	115	117	70-130	2	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	55.2	55.1	110	110	51-145	0	20	
Methylene Chloride	ug/L	<0.58	50	50	65.5	65.7	131	131	73-140	0	20	
o-Xylene	ug/L	<0.26	50	50	57.8	58.8	116	118	70-130	2	20	
Styrene	ug/L	<0.47	50	50	58.5	57.5	117	115	70-130	2	20	
Tetrachloroethene	ug/L	<0.33	50	50	51.5	53.1	103	106	70-130	3	20	
Toluene	ug/L	<0.17	50	50	56.2	56.9	112	114	80-131	1	20	
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	65.0	66.5	130	133	73-148	2	20	
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	52.2	52.4	104	105	70-130	0	20	
Trichloroethene	ug/L	<0.26	50	50	54.8	57.0	110	114	70-130	4	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	68.2	69.5	136	139	74-147	2	20	
Vinyl chloride	ug/L	<0.17	50	50	51.8	51.7	104	103	41-129	0	20	
4-Bromofluorobenzene (S)	%						101	101	70-130			HS
Dibromofluoromethane (S)	%						109	111	70-130			
Toluene-d8 (S)	%						102	105	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

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

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MILLER'S LIQUOR

Pace Project No.: 40187964

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40187964001	MW-4	EPA 8260	321995		
40187964002	PZ-4A	EPA 8260	321995		
40187964003	PZ-4B	EPA 8260	321995		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: *Seymour Environ.*
Branch/Location:
Project Contact: *Robyn Seymour*
Phone: *608 225 9407*
Project Number:
Project Name: *Miller's Liquor*
Project State: *Wisconsin*
Sampled By (Print):
Sampled By (Sign):



UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

40187964

CHAIN OF CUSTODY

Preservation Codes
 A=None B=HCL C=H2SO4 D=HNO3 E=DJ Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
 (YES/NO)
PRESERVATION CODE*

Y/N	Pick Letter	Analyze Requested	N	B	VOC										

Regulatory Program:

Data Package Options (billable)

- EPA Level III
 EPA Level IV

MS/MSD

- On your sample (billable)
 NOT needed on your sample

Matrix Codes

- A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SI = Sludge WIP = Wipe

PACE LAB # **CLIENT FIELD ID** **COLLECTION DATE** **TIME** **MATRIX**

<i>001</i>	<i>MW-4</i>	<i>5/18</i>	<i>1135</i>	<i>GW</i>													
<i>002</i>	<i>PZ-4A</i>		<i>1145</i>	<i>I</i>													
<i>003</i>	<i>PZ-4B</i>		<i>1155</i>	<i>I</i>													

Quote #:
Mail To Contact: *Robyn Seymour*
Mail To Company: *Seymour Env.*
Mail To Address: *2531 Pyreson Road
 McFarland, 53558*
Invoice To Contact:
Invoice To Company:
Invoice To Address:
Invoice To Phone:

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #

Rush Turnaround Time Requested - Prelims
 (Rush TAT subject to approval/surcharge)
Date Needed:
 Transmit Prelim Rush Results by (complete what you want):
 Email #1:
 Email #2:
 Telephone:
 Fax:
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *Robyn Seymour* Date/Time: *5/20 1:30*
 Relinquished By: *C. Logoski* Date/Time: *5-21-19 0745*
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:
 Relinquished By: Date/Time:

Received By: Date/Time:
 Received By: *Susan Uffler* Date/Time: *5-21-19 0745*
 Received By: *Spice* Date/Time:
 Received By: Date/Time:
 Received By: Date/Time:

PACE Project No. *40187964*
Receipt Temp = *ROT*
Sample Receipt pH
 OK / Adjusted
Cooler Custody Seal
 Present Not Present
 Intact / Not Intact

Client Name: Seymour Env. Project # 40187969

All containers needing preservation have been checked and noted below: Yes No N/A

Lab Lot# of pH paper:

Lab Std #/ID of preservation (if pH adjusted):


Initial when completed:

Date/Time:

Pace Lab #	Glass						Plastic						Vials				Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤	pH after adjusted	Volume (mL)			
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3B	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU								WPFU	SP5T	ZPLC
001																																2.5 / 5 / 10
002																																2.5 / 5 / 10
003																																2.5 / 5 / 10
004																																2.5 / 5 / 10
005																																2.5 / 5 / 10
006																																2.5 / 5 / 10
007																																2.5 / 5 / 10
008																																2.5 / 5 / 10
009																																2.5 / 5 / 10
010																																2.5 / 5 / 10
011																																2.5 / 5 / 10
012																																2.5 / 5 / 10
013																																2.5 / 5 / 10
014																																2.5 / 5 / 10
015																																2.5 / 5 / 10
016																																2.5 / 5 / 10
017																																2.5 / 5 / 10
018																																2.5 / 5 / 10
019																																2.5 / 5 / 10
020																																2.5 / 5 / 10


Exceptions to preservation check: VOA Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) Yes No N/A *If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3B	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
	Document No.: F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: Seymour Env.
Courier: CS Logistics Fed Ex Speedee UPS Walto
 Client Pace Other: _____

Project #: **WO# : 40187964**

 40187964

Tracking #: _____
Custody Seal on Cooler/Box Present: yes no **Seals intact:** yes no
Custody Seal on Samples Present: yes no **Seals intact:** yes no
Packing Material: Bubble Wrap Bubble Bags None Other shredded paper 5-21-19
Thermometer Used: SR - N/A **Type of Ice:** Wet Dry None Samples on ice, cooling process has begun
Cooler Temperature: Uncorr: ROT / Corr: _____

Temp Blank Present: yes no **Biological Tissue is Frozen:** yes no
 Temp should be above freezing to 6°C.
 Biota Samples may be received at ≤ 0°C.

Person examining contents:
 Date: 5-21-19
 Initials: SW

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>CC</u>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC: <u>5/21/19</u>	<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.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: _____
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:	For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	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 <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments
 Person Contacted: _____ Date/Time: _____
 Comments/ Resolution: _____

Project Manager Review: [Signature] **Date:** 05/21/19