

From: Karen Dorow <kdorow@manitowoc.org>
Sent: Thursday, January 17, 2019 4:17 PM
To: Beggs, Tauren R - DNR
Cc: GravelPit
Subject: Potable Well Testing, Oct/Nov 2018 - Property Owner Letters
Attachments: Potable Well Testing Letters - Copy.pdf; PFAS - EPA Information Sheet.pdf

Hi Tauren,

Attached you will find copies of the letters sent to property owners for the fall potable well testing. Also attached is the PFAS flyer that was included with the results for those who were tested.

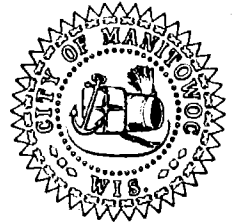
Have a great day.

Karen Dorow | Business Manager
City of Manitowoc
900 Quay Street
Manitowoc, WI 54220
Office (920) 686-6514
Mobile (920) 374-0404

CITY OF MANITOWOC

WISCONSIN, USA

www.manitowoc.org



COPY

December 21, 2018

Mr. Jeffrey P. Nelson
3422 CTH CR
Manitowoc, WI 54220

Dear Mr. Nelson:

The City has been conducting sampling of the private potable wells in the vicinity of the Former Newton Gravel Pit. Your private well was included in the sampling that took place on Monday, November 19, 2018.

The City is in receipt of the sample results for your property. The results confirm that water from your well does not indicate the presence of volatile organic compounds (VOCs). According to DNR guidelines the well water remains fit for consumption, and you can continue using it with no limitations. A copy of your laboratory analytical results is attached.

If you have any questions please feel free to call us or the WDNR contacts listed below:

- Well water/sample results: Jim Kasdorf (920) 387-7872
WDNR, Drinking & Groundwater
- Investigation/future activities: Tauren Beggs (920) 662-5178
WDNR, Remediation & Redevelopment
- Health Questions: Sarah Yang, Ph.D. (608) 266-9337
Wisconsin Department of Health Services

If you have any questions, please do not hesitate to call Kathleen McDaniel at 686-6990.

Sincerely,

Kathleen McDaniel
City Attorney
City of Manitowoc

Dan Koski, P.E.
Director of Public Infrastructure
City of Manitowoc

Attachment: Laboratory Data



Synergy Environmental Lab, INC

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

DAVE HENDERSON
AECOM
1555 N RIVERCENTER DRIVE
MILWAUKEE, WI 53212

Report Date 05-Dec-18

Project Name NEWTON Invoice # E35526
Project # 60135471
Lab Code 5035526A
Sample ID 3422 CTHCR
Sample Matrix Water
Sample Date 11/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		11/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		11/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		11/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		11/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		11/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		11/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		11/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		11/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		11/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		11/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		11/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		11/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		11/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		11/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		11/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		11/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		11/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		11/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		11/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		11/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		11/28/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		11/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		11/28/2018	CJR	1

Project Name NEWTON
Project # 60135471

Invoice # E35526

Lab Code 5035526A
Sample ID 3422 CTHCR
Sample Matrix Water
Sample Date 11/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		11/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		11/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		11/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		11/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		11/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		11/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		11/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		11/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		11/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		11/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		11/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		11/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		11/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		11/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		11/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		11/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		11/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		11/28/2018	CJR	1
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		11/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		11/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		11/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		11/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		11/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		11/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		11/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		11/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		11/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		11/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	115	REC %			1	8260B		11/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	98	REC %			1	8260B		11/28/2018	CJR	1
SUR - Dibromofluoromethane	110	REC %			1	8260B		11/28/2018	CJR	1
SUR - Toluene-d8	99	REC %			1	8260B		11/28/2018	CJR	1

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December 20, 2018

Ms. Birringer & Mr. Ratjczak
3027 Orchard Ln
Manitowoc, WI 54220

COPY

RE: 3128 Orchard Ln

Dear Ms. Birringer & Mr. Ratjczak:

The City has been conducting sampling of the private potable wells in the vicinity of the gravel pit. Your private well was included in the sampling that took place on Monday, November 19, 2018.

The City is in receipt of the sample results for your property. The results confirm that water from your well does not indicate the presence of volatile organic compounds (VOCs). According to DNR guidelines the well water remains fit for consumption, and you can continue using it with no limitations. A copy of your laboratory analytical results is attached.

If you have any questions please feel free to call us or the WDNR contacts listed below:

- Well water/sample results: Jim Kasdorf (920) 387-7872
WDNR, Drinking & Groundwater
- Investigation/future activities: Tauren Beggs (920) 662-5178
WDNR, Remediation & Redevelopment
- Health Questions: Sarah Yang, Ph.D. (608) 266-9337
Wisconsin Department of Health Services

Again, we very much appreciate your concern while we gather data in order to ensure the best possible solution to the water quality issue. If you have any questions in the meantime, please do not hesitate to call Kathleen McDaniel at 686-6990.

Sincerely,

Kathleen McDaniel
City Attorney
City of Manitowoc

Dan Koski, P.E.
Director of Public Infrastructure
City of Manitowoc

Attachment: Laboratory Data



Project Name NEWTON
Project # 60135471

Invoice # E35526

Lab Code 5035526B
Sample ID 3128 ORCHARD
Sample Matrix Water
Sample Date 11/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		11/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		11/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		11/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		11/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		11/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		11/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		11/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		11/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		11/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		11/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		11/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		11/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		11/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		11/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		11/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		11/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		11/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		11/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		11/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		11/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		11/28/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		11/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		11/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		11/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		11/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		11/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		11/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		11/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		11/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		11/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		11/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		11/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		11/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		11/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		11/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		11/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		11/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		11/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		11/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		11/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		11/28/2018	CJR	1

Project Name NEWTON
Project # 60135471

Invoice # E35526

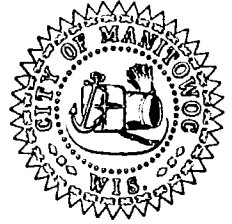
Lab Code 5035526B
Sample ID 3128 ORCHARD
Sample Matrix Water
Sample Date 11/19/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		11/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		11/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		11/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		11/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		11/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		11/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		11/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		11/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		11/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		11/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	122	REC %			1	8260B		11/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	98	REC %			1	8260B		11/28/2018	CJR	1
SUR - Dibromofluoromethane	113	REC %			1	8260B		11/28/2018	CJR	1
SUR - Toluene-d8	97	REC %			1	8260B		11/28/2018	CJR	1

CITY OF MANITOWOC

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December 21, 2018

Mr. Paul Rathsack
4722 Whitetail Ct.
Manitowoc, WI 54220

COPY

RE: 2716 CTH CR

Dear Mr. Rathsack:

The City has been conducting sampling of the private potable wells in the vicinity of the Former Newton Gravel Pit. Your private well was included in the sampling that took place on Tuesday, November 20, 2018.

The City is in receipt of the sample results for your property. The results confirm that water from your well does not indicate the presence of volatile organic compounds (VOCs). According to DNR guidelines the well water remains fit for consumption, and you can continue using it with no limitations. A copy of your laboratory analytical results is attached.

If you have any questions please feel free to call us or the WDNR contacts listed below:

- Well water/sample results: Jim Kasdorf (920) 387-7872
WDNR, Drinking & Groundwater
- Investigation/future activities: Tauren Beggs (920) 662-5178
WDNR, Remediation & Redevelopment
- Health Questions: Sarah Yang, Ph.D. (608) 266-9337
Wisconsin Department of Health Services

Again, we very much appreciate your concern while we gather data in order to ensure the best possible solution to the water quality issue. If you have any questions in the meantime, please do not hesitate to call Kathleen McDaniel at 686-6990.

Sincerely,

Kathleen McDaniel
City Attorney
City of Manitowoc

Dan Koski, P.E.
Director of Public Infrastructure
City of Manitowoc

Attachment: Laboratory Data



Project Name NEWTON
Project # 60135471

Invoice # E35526

Lab Code 5035526C
Sample ID 2716 CTHCR
Sample Matrix Water
Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		11/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		11/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		11/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		11/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		11/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		11/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		11/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		11/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		11/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		11/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		11/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		11/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		11/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		11/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		11/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		11/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		11/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		11/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		11/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		11/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		11/28/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		11/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		11/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		11/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		11/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		11/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		11/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		11/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		11/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		11/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		11/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		11/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		11/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		11/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		11/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		11/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		11/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		11/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		11/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		11/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		11/28/2018	CJR	1

Project Name NEWTON
Project # 60135471

Invoice # E35526

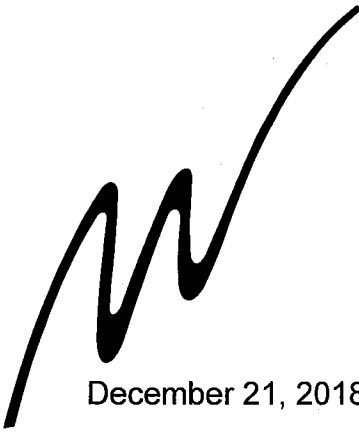
Lab Code 5035526C
Sample ID 2716 CTHCR
Sample Matrix Water
Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		11/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		11/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		11/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		11/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		11/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		11/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		11/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		11/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		11/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		11/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	99	REC %			1	8260B		11/28/2018	CJR	1
SUR - Dibromofluoromethane	114	REC %			1	8260B		11/28/2018	CJR	1
SUR - Toluene-d8	98	REC %			1	8260B		11/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	123	REC %			1	8260B		11/28/2018	CJR	1

CITY OF MANITOWOC

WISCONSIN, USA

www.manitowoc.org



December 21, 2018

COPY

Mr. & Mrs. William Gamble
4159 Silver Creek Rd
Manitowoc, WI 54222

Dear Mr. & Mrs. Gamble:

The City has been conducting sampling of the private potable wells in the vicinity of the Former Newton Gravel Pit. Your private well was included in the sampling that took place on Tuesday, November 20, 2018.

The City is in receipt of the sample results for your property. The results indicate the presence of cis-1-2-Dichloroethene, detected by the laboratory at levels below the drinking water standard of 70 micrograms per liter (ug/l). According to DNR guidelines the well water remains fit for consumption, and you can continue using it with no limitations. A copy of your laboratory analytical results is attached.

If you have any questions please feel free to call us or the WDNR contacts listed below:

- Well water/sample results: Jim Kasdorf (920) 387-7872
WDNR, Drinking & Groundwater
- Investigation/future activities: Tauren Beggs (920) 662-5178
WDNR, Remediation & Redevelopment
- Health Questions: Sarah Yang, Ph.D. (608) 266-9337
Wisconsin Department of Health Services

If you have any questions, please do not hesitate to call Kathleen McDaniel at 686-6990.

Sincerely,

Kathleen McDaniel
City Attorney
City of Manitowoc

Dan Koski, P.E.
Director of Public Infrastructure
City of Manitowoc

Attachment: Laboratory Data



Project Name NEWTON
Project # 60135471

Invoice # E35526

Lab Code 5035526E
Sample ID 4159 SILVERCREEK
Sample Matrix Water
Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		11/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		11/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		11/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		11/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		11/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		11/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		11/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		11/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		11/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		11/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		11/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		11/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		11/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		11/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		11/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		11/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		11/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		11/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		11/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		11/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		11/28/2018	CJR	1
cis-1,2-Dichloroethene	0.77 "J"	ug/l	0.37	1.16	1	8260B		11/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		11/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		11/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		11/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		11/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		11/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		11/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		11/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		11/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		11/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		11/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		11/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		11/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		11/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		11/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		11/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		11/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		11/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		11/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		11/28/2018	CJR	1

Project Name NEWTON

Invoice # E35526

Project # 60135471

Lab Code 5035526E

Sample ID 4159 SILVERCREEK

Sample Matrix Water

Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		11/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		11/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		11/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		11/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		11/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		11/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		11/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		11/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		11/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		11/28/2018	CJR	1
SUR - Dibromofluoromethane	111	REC %			1	8260B		11/28/2018	CJR	1
SUR - Toluene-d8	99	REC %			1	8260B		11/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	99	REC %			1	8260B		11/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	118	REC %			1	8260B		11/28/2018	CJR	1

CITY OF MANITOWOC

WISCONSIN, USA

www.manitowoc.org



December 21, 2018

Ms. Brenda Birringer
3027 Orchard Lane
Manitowoc, WI 54220

COPY

Dear Ms. Birringer:

The City has been conducting sampling of the private potable wells in the vicinity of the Former Newton Gravel Pit. Your private well was included in the sampling that took place on Wednesday, November 21, 2018.

The City is in receipt of the sample results for your property. The results indicate the presence of cis-1-2-Dichloroethene, detected by the laboratory at levels below the drinking water standard of 70 micrograms per liter (ug/l). According to DNR guidelines the well water remains fit for consumption, and you can continue using it with no limitations. A copy of your laboratory analytical results is attached.

If you have any questions please feel free to call us or the WDNR contacts listed below:

- Well water/sample results: Jim Kasdorf (920) 387-7872
WDNR, Drinking & Groundwater
- Investigation/future activities: Tauren Beggs (920) 662-5178
WDNR, Remediation & Redevelopment
- Health Questions: Sarah Yang, Ph.D. (608) 266-9337
Wisconsin Department of Health Services

If you have any questions, please do not hesitate to call Kathleen McDaniel at 686-6990.

Sincerely,

Kathleen McDaniel
City Attorney
City of Manitowoc

Dan Koski, P.E.
Director of Public Infrastructure
City of Manitowoc

Attachment: Laboratory Data



Project Name NEWTON
Project # 60135471

Invoice # E35526

Lab Code 5035526I
Sample ID 3027 ORCHARD
Sample Matrix Water
Sample Date 11/21/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		12/4/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		12/4/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		12/4/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		12/4/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		12/4/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		12/4/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		12/4/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		12/4/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		12/4/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		12/4/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		12/4/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		12/4/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		12/4/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		12/4/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		12/4/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		12/4/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		12/4/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		12/4/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		12/4/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		12/4/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		12/4/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		12/4/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		12/4/2018	CJR	1
cis-1,2-Dichloroethene	0.57 "J"	ug/l	0.37	1.16	1	8260B		12/4/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		12/4/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		12/4/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		12/4/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		12/4/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		12/4/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		12/4/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		12/4/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		12/4/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		12/4/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		12/4/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		12/4/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		12/4/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		12/4/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		12/4/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		12/4/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		12/4/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		12/4/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		12/4/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		12/4/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		12/4/2018	CJR	1

Project Name NEWTON
Project # 60135471

Invoice # E35526

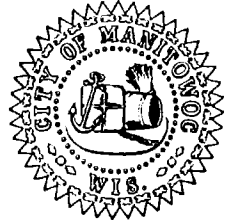
Lab Code 5035526I
Sample ID 3027 ORCHARD
Sample Matrix Water
Sample Date 11/21/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		12/4/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		12/4/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		12/4/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		12/4/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		12/4/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		12/4/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		12/4/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		12/4/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		12/4/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		12/4/2018	CJR	1
SUR - Toluene-d8	96	REC %			1	8260B		12/4/2018	CJR	1
SUR - Dibromofluoromethane	105	REC %			1	8260B		12/4/2018	CJR	1
SUR - 4-Bromofluorobenzene	98	REC %			1	8260B		12/4/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	111	REC %			1	8260B		12/4/2018	CJR	1

CITY OF MANITOWOC

WISCONSIN, USA

www.manitowoc.org



December 21, 2018

Ms. Louise E. Ropp
3412 CTH CR
Manitowoc, WI 54220

COPY

Dear Ms. Ropp:

The City has been conducting sampling of the private potable wells in the vicinity of the Former Newton Gravel Pit. Your private well was included in the sampling that took place on Tuesday, November 20, 2018.

The City is in receipt of the sample results for your property. The results confirm that water from your well does not indicate the presence of volatile organic compounds (VOCs). According to DNR guidelines the well water remains fit for consumption, and you can continue using it with no limitations. A copy of your laboratory analytical results is attached.

If you have any questions please feel free to call us or the WDNR contacts listed below:

- Well water/sample results: Jim Kasdorf (920) 387-7872
WDNR, Drinking & Groundwater
- Investigation/future activities: Tauren Beggs (920) 662-5178
WDNR, Remediation & Redevelopment
- Health Questions: Sarah Yang, Ph.D. (608) 266-9337
Wisconsin Department of Health Services

If you have any questions, please do not hesitate to call Kathleen McDaniel at 686-6990.

Sincerely,

Kathleen McDaniel
City Attorney
City of Manitowoc

Dan Koski, P.E.
Director of Public Infrastructure
City of Manitowoc

Attachment: Laboratory Data



Project Name NEWTON
 Project # 60135471

Invoice # E35526

Lab Code 5035526K
 Sample ID 3412 CTH CR
 Sample Matrix Water
 Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		12/1/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		12/1/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		12/1/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		12/1/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		12/1/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		12/1/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		12/1/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		12/1/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		12/1/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		12/1/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		12/1/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		12/1/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		12/1/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		12/1/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		12/1/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		12/1/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		12/1/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		12/1/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		12/1/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		12/1/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		12/1/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		12/1/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		12/1/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		12/1/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		12/1/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		12/1/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		12/1/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		12/1/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		12/1/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		12/1/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		12/1/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		12/1/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		12/1/2018	CJR	4
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		12/1/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		12/1/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		12/1/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		12/1/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		12/1/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		12/1/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		12/1/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		12/1/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		12/1/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		12/1/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		12/1/2018	CJR	1

Project Name NEWTON
Project # 60135471

Invoice # E35526

Lab Code 5035526K
Sample ID 3412 CTH CR
Sample Matrix Water
Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		12/1/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		12/1/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		12/1/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		12/1/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		12/1/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		12/1/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		12/1/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		12/1/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		12/1/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		12/1/2018	CJR	1
SUR - Toluene-d8	96	REC %			1	8260B		12/1/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	116	REC %			1	8260B		12/1/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		12/1/2018	CJR	1
SUR - Dibromofluoromethane	109	REC %			1	8260B		12/1/2018	CJR	1

"J" Flag: Analyte detected between LOD and LOQ

LOD Limit of Detection

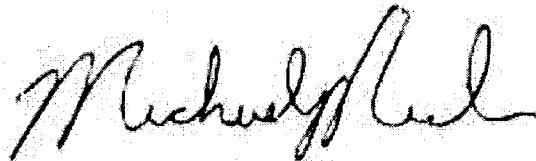
LOQ Limit of Quantitation

Code **Comment**

- 1 Laboratory QC within limits.
- 4 The continuing calibration standard not within established limits.

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

Authorized Signature





CITY OF MANITOWOC

WISCONSIN, USA
www.manitowoc.org



December 31, 2018

Mr. Joseph Mancheski
3320 Hecker Rd
Manitowoc, WI 54220

COPY

Dear Mr. Joseph Mancheski:

The City has been conducting sampling of the private potable wells in the vicinity of the Former Newton Gravel Pit. Your private well was included in the sampling that took place on Tuesday, November 20, 2018.

The City is in receipt of the sample results for your property. The volatile organic compound (VOC) results do not indicate the presence of VOCs in your potable water.

As a precautionary measure, the City also tested for an emerging group of contaminants, per and polyfluoroalkyl substances (PFAS). It is not uncommon to find low levels of PFAS in drinking water, as PFAS can be found in fire-fighting foams, stain repellants, nonstick cookware, waterproof clothing, food wrappers, and many other household products.

The State of Wisconsin does not currently have drinking water standards for PFAS. The U.S. Environmental Protection Agency (EPA) set a Lifetime Health Advisory (LHA) level for two PFAS in drinking water, perfluorooctanoic acid (PFOA CAS No. 335-67-1) and perfluorooctane sulfonate (PFOS CAS No. 1763-23-1) of 70 parts per trillion (ppt, equal to 70 ng/L). The EPA has not set health advisory levels for other PFAS compounds.

Results from your property do not indicate the presence of PFOA or PFOS in your potable water. Enclosed is an EPA Fact Sheet with more information regarding PFOA and PFOS in drinking water.

According to state and federal guidelines you can continue using your water with no limitations. A copy of your laboratory analytical results is attached.

If you have any questions please feel free to call us or the WDNR contacts listed below:

- Well water/sample results: Jim Kasdorf (920) 387-7872
WDNR, Drinking & Groundwater
- Investigation/future activities: Tauren Beggs (920) 662-5178
WDNR, Remediation & Redevelopment



- Health Questions: Adam Streiffer (608) 266-3393
Wisconsin Department of Health Services

If you have any questions, please do not hesitate to call Kathleen McDaniel at 686-6990.

Sincerely,



Kathleen McDaniel
City Attorney
City of Manitowoc



Dan Koski, P.E.
Director of Public Infrastructure
City of Manitowoc

Attachment: Laboratory Data

Cc: Wisconsin Department of Natural Resources

Project Name NEWTON
 Project # 60135471

Invoice # E35526

Lab Code 5035526G
 Sample ID 3320 HECKER
 Sample Matrix Water
 Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		11/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		11/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		11/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		11/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		11/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		11/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		11/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		11/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		11/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		11/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		11/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		11/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		11/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		11/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		11/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		11/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		11/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		11/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		11/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		11/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		11/28/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		11/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		11/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		11/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		11/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		11/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		11/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		11/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		11/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		11/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		11/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		11/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		11/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		11/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		11/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		11/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		11/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		11/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		11/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		11/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		11/28/2018	CJR	1

Project Name NEWTON
Project # 60135471

Invoice # E35526

Lab Code 5035526G
Sample ID 3320 HECKER
Sample Matrix Water
Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		11/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		11/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		11/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		11/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		11/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		11/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		11/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		11/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		11/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		11/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	113	REC %			1	8260B		11/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	99	REC %			1	8260B		11/28/2018	CJR	1
SUR - Dibromofluoromethane	108	REC %			1	8260B		11/28/2018	CJR	1
SUR - Toluene-d8	98	REC %			1	8260B		11/28/2018	CJR	1

Sample Description: 3320 Hecker (320-45516-4) Water
Newton PW - 60135471

TestAmerica University Park, IL
ELLE Sample #: PW 9917111
ELLE Group #: 2013410
Matrix: Water

Project Name: Newton PW - 60135471

Submittal Date/Time: 11/29/2018 10:30
Collection Date/Time: 11/20/2018 09:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1						
14070	NEiFOSAA	2991-50-6	< 0.45	0.45	1.8	1
	NEiFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14070	NMeFOSAA	2355-31-9	< 0.45	0.45	1.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14070	Perfluorobutanesulfonate	375-73-5	< 0.45	0.45	1.8	1
14070	Perfluorodecanoic acid	335-76-2	< 0.45	0.45	1.8	1
14070	Perfluorododecanoic acid	307-55-1	< 0.45	0.45	1.8	1
14070	Perfluoroheptanoic acid	375-85-9	< 0.45	0.45	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	< 0.45	0.45	1.8	1
14070	Perfluorohexanoic acid	307-24-4	< 0.45	0.45	1.8	1
14070	Perfluorononanoic acid	375-95-1	< 0.45	0.45	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	< 0.45	0.45	1.8	1
14070	Perfluorooctanoic acid	335-67-1	< 0.45	0.45	1.8	1
14070	Perfluorotetradecanoic acid	376-06-7	< 0.45	0.45	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	< 0.45	0.45	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	< 0.45	0.45	1.8	1

Laboratory Sample Analysis Record

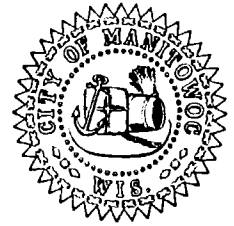
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	18335002	12/04/2018 01:10	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18335002	12/02/2018 14:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result



CITY OF MANITOWOC

WISCONSIN, USA
www.manitowoc.org



COPY

December 31, 2018

Mr. Allen Braun
414 Magnolia Ave.
Manitowoc, WI 54220

RE: 3461(3417) Hecker Road

Dear Mr. Braun:

The City has been conducting sampling of the private potable wells in the vicinity of the Former Newton Gravel Pit. Your private well was included in the sampling that took place on Wednesday, November 20, 2018.

The City is in receipt of the sample results for your property. The results indicate the presence of cis-1-2-Dichloroethene, detected by the laboratory at levels below the drinking water standard of 70 micrograms per liter (ug/l).

As a precautionary measure, the City also tested for an emerging group of contaminants, perfluoroalkyl substances (PFAS). It is not uncommon to find low levels of PFAS in drinking water, as PFAS can be found in fire-fighting foams, stain repellants, nonstick cookware, waterproof clothing, food wrappers, and many other household products. The State of Wisconsin does not currently have drinking water standards for PFAS. The EPA set a Lifetime Health Advisory (LHA) level for two PFAS in drinking water, perfluorooctanoic acid (PFOA) (CAS 335-67-1) and perfluorooctane sulfonate (PFOS) (CAS 1763-23-1) of 70 parts per trillion (ppt, equal to 70 ng/L). The EPA has not set health health advisory levels for other PFAS compounds. Results indicate the presence of PFOA at 1.1 ng/l and PFOS at <.44, totaling 1.54 ng/l which is below the U.S. Environmental Protection Agency's (EPA) lifetime health advisory of 70 ng/l. Enclosed is an EPA Fact Sheet with more information regarding PFOA and PFOS in drinking water.

According to state and federal guidelines you can continue using it with no limitations. A copy of your laboratory analytical results is attached.

If you have any questions please feel free to call us or the WDNR contacts listed below:

- Well water/sample results: Jim Kasdorf (920) 387-7872
WDNR, Drinking & Groundwater
- Investigation/future activities: Tauren Beggs (920) 662-5178
WDNR, Remediation & Redevelopment

DEPARTMENT OF PUBLIC INFRASTRUCTURE • 900 QUAY STREET, MANITOWOC, WI 54220

ENGINEERING (920) 686-6910 • STREETS & SANITATION (920) 686-6550 • PARKS (920) 686-3580 • CEMETERY (920) 686-3570

FAX (920) 686-6906 • (920) 686-6525



- Health Questions: Sarah Yang, Ph.D. (608) 266-9337
Wisconsin Department of Health Services

If you have any questions, please do not hesitate to call Kathleen McDaniel at 686-6990.

Sincerely,



Kathleen McDaniel
City Attorney
City of Manitowoc



Dan Koski, P.E.
Director of Public Infrastructure
City of Manitowoc

Attachment: Laboratory Data

Project Name NEWTON
 Project # 60135471

Invoice # E35526

Lab Code 5035526H
 Sample ID 3461 HECKER
 Sample Matrix Water
 Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		12/1/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		12/1/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		12/1/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		12/1/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		12/1/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		12/1/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		12/1/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		12/1/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		12/1/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		12/1/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		12/1/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		12/1/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		12/1/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		12/1/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		12/1/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		12/1/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		12/1/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		12/1/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		12/1/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		12/1/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		12/1/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		12/1/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		12/1/2018	CJR	1
cis-1,2-Dichloroethene	1.75	ug/l	0.37	1.16	1	8260B		12/1/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		12/1/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		12/1/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		12/1/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		12/1/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		12/1/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		12/1/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		12/1/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		12/1/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		12/1/2018	CJR	4
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		12/1/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		12/1/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		12/1/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		12/1/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		12/1/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		12/1/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		12/1/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		12/1/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		12/1/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		12/1/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		12/1/2018	CJR	1

Project Name NEWTON
Project # 60135471

Invoice # E35526

Lab Code 5035526H
Sample ID 3461 HECKER
Sample Matrix Water
Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		12/1/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		12/1/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		12/1/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		12/1/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		12/1/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		12/1/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		12/1/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		12/1/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		12/1/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		12/1/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	118	REC %			1	8260B		12/1/2018	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		12/1/2018	CJR	1
SUR - Dibromofluoromethane	110	REC %			1	8260B		12/1/2018	CJR	1
SUR - Toluene-d8	95	REC %			1	8260B		12/1/2018	CJR	1

Sample Description: 3461 Hecker (320-45516-5) Water
Newton PW - 60135471

TestAmerica University Park, IL
ELLE Sample #: PW 9917112
ELLE Group #: 2013410
Matrix: Water

Project Name: Newton PW - 60135471

Submittal Date/Time: 11/29/2018 10:30

Collection Date/Time: 11/20/2018 15:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1			ng/l	ng/l	ng/l	
14070	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	< 0.44	0.44	1.8	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	< 0.44	0.44	1.8	1
14070	Perfluorobutanesulfonate	375-73-5	0.89 J	0.44	1.8	1
14070	Perfluorodecanoic acid	335-76-2	< 0.44	0.44	1.8	1
14070	Perfluorododecanoic acid	307-55-1	< 0.44	0.44	1.8	1
14070	Perfluoroheptanoic acid	375-85-9	0.57 J	0.44	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	< 0.44	0.44	1.8	1
14070	Perfluorohexanoic acid	307-24-4	3.0	0.44	1.8	1
14070	Perfluorononanoic acid	375-95-1	< 0.44	0.44	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	< 0.44	0.44	1.8	1
14070	Perfluorooctanoic acid	335-67-1	1.1 J	0.44	1.8	1
14070	Perfluorotetradecanoic acid	376-06-7	< 0.44	0.44	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	< 0.44	0.44	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	< 0.44	0.44	1.8	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	18335002	12/04/2018 01:21	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18335002	12/02/2018 14:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result



CITY OF MANITOWOC

WISCONSIN, USA
www.manitowoc.org



December 31, 2018

Mr. & Mrs. Edward G. Miller
3327 Hecker Road
Manitowoc, WI 54220

COPY

Dear Mr. & Mrs. Miller:

The City has been conducting sampling of the private potable wells in the vicinity of the Former Newton Gravel Pit. Your private well was included in the sampling that took place on Wednesday, November 20, 2018.

The City is in receipt of the sample results for your property. The results indicate the presence of cis-1-2-Dichloroethene, detected by the laboratory at levels below the drinking water standard of 70 micrograms per liter (ug/l).

As a precautionary measure, the City also tested for an emerging group of contaminants, perfluoroalkyl substances (PFAS). It is not uncommon to find low levels of PFAS in drinking water, as PFAS can be found in fire-fighting foams, stain repellants, nonstick cookware, waterproof clothing, food wrappers, and many other household products. The State of Wisconsin does not currently have drinking water standards for PFAS. The EPA set a Lifetime Health Advisory (LHA) level for two PFAS in drinking water, perfluorooctanoic acid (PFOA) (CAS 335-67-1) and perfluorooctane sulfonate (PFOS) (CAS 1763-23-1) of 70 parts per trillion (ppt, equal to 70 ng/L). The EPA has not set health health advisory levels for other PFAS compounds. Results indicate the presence of PFOA at 2.5 ng/l and PFOS at <.43, totaling 2.93 ng/l which is below the U.S. Environmental Protection Agency's (EPA) lifetime health advisory of 70 ng/l. Enclosed is an EPA Fact Sheet with more information regarding PFOA and PFOS in drinking water.

According to state and federal guidelines you can continue using it with no limitations. A copy of your laboratory analytical results is attached.

If you have any questions please feel free to call us or the WDNR contacts listed below:

- Well water/sample results: Jim Kasdorf (920) 387-7872
WDNR, Drinking & Groundwater
- Investigation/future activities: Tauren Beggs (920) 662-5178
WDNR, Remediation & Redevelopment



- Health Questions: Sarah Yang, Ph.D. (608) 266-9337
Wisconsin Department of Health Services

If you have any questions, please do not hesitate to call Kathleen McDaniel at 686-6990.

Sincerely,



Kathleen McDaniel
City Attorney
City of Manitowoc



Dan Koski, P.E.
Director of Public Infrastructure
City of Manitowoc

Attachment: Laboratory Data

Project Name NEWTON
 Project # 60135471

Invoice # E35526

Lab Code 5035526F
 Sample ID 3327 HECKER
 Sample Matrix Water
 Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		12/1/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		12/1/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		12/1/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		12/1/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		12/1/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		12/1/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		12/1/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		12/1/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		12/1/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		12/1/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		12/1/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		12/1/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		12/1/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		12/1/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		12/1/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		12/1/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		12/1/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		12/1/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		12/1/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		12/1/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		12/1/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		12/1/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		12/1/2018	CJR	1
cis-1,2-Dichloroethene	4.0	ug/l	0.37	1.16	1	8260B		12/1/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		12/1/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		12/1/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		12/1/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		12/1/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		12/1/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		12/1/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		12/1/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		12/1/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		12/1/2018	CJR	4
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		12/1/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		12/1/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		12/1/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		12/1/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		12/1/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		12/1/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		12/1/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		12/1/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		12/1/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		12/1/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		12/1/2018	CJR	1

Project Name NEWTON
Project # 60135471

Invoice # E35526

Lab Code 5035526F
Sample ID 3327 HECKER
Sample Matrix Water
Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		12/1/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		12/1/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		12/1/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		12/1/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		12/1/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		12/1/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		12/1/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		12/1/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		12/1/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		12/1/2018	CJR	1
SUR - Toluene-d8	96	REC %			1	8260B		12/1/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	114	REC %			1	8260B		12/1/2018	CJR	1
SUR - 4-Bromofluorobenzene	98	REC %			1	8260B		12/1/2018	CJR	1
SUR - Dibromofluoromethane	108	REC %			1	8260B		12/1/2018	CJR	1

Sample Description: 3327 Hecker (320-45516-3) Water
Newton PW - 60135471

TestAmerica University Park,IL
ELLE Sample #: PW 9917110
ELLE Group #: 2013410
Matrix: Water

Project Name: Newton PW - 60135471

Submittal Date/Time: 11/29/2018 10:30
Collection Date/Time: 11/20/2018 09:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1			ng/l	ng/l	ng/l	
14070	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	< 0.43	0.43	1.7	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	< 0.43	0.43	1.7	1
14070	Perfluorobutanesulfonate	375-73-5	1.2 J	0.43	1.7	1
14070	Perfluorodecanoic acid	335-76-2	< 0.43	0.43	1.7	1
14070	Perfluorododecanoic acid	307-55-1	< 0.43	0.43	1.7	1
14070	Perfluoroheptanoic acid	375-85-9	0.75 J	0.43	1.7	1
14070	Perfluorohexanesulfonate	355-46-4	0.57 J	0.43	1.7	1
14070	Perfluorohexanoic acid	307-24-4	2.6	0.43	1.7	1
14070	Perfluorononanoic acid	375-95-1	< 0.43	0.43	1.7	1
14070	Perfluoro-octanesulfonate	1763-23-1	< 0.43	0.43	1.7	1
14070	Perfluorooctanoic acid	335-67-1	2.5	0.43	1.7	1
14070	Perfluorotetradecanoic acid	376-06-7	< 0.43	0.43	1.7	1
14070	Perfluorotridecanoic acid	72629-94-8	< 0.43	0.43	1.7	1
14070	Perfluoroundecanoic acid	2058-94-8	< 0.43	0.43	1.7	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	18335002	12/04/2018 00:58	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18335002	12/02/2018 14:00	Anthony C Polaski	1

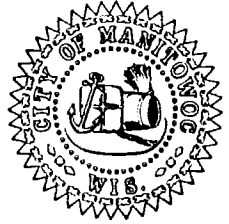
*=This limit was used in the evaluation of the final result



CITY OF MANITOWOC

WISCONSIN, USA

www.manitowoc.org



December 31, 2018

COPY

Mr. & Mrs. Richard Breunig
3720 Hecker Rd
Manitowoc, WI 54220

RE: 3702 Hecker Road

Dear Mr. & Mrs. Breunig:

The City has been conducting sampling of the private potable wells in the vicinity of the Former Newton Gravel Pit. Your private well was included in the sampling that took place on Tuesday, November 20, 2018.

The City is in receipt of the sample results for your property. The volatile organic compound (VOC) results do not indicate the presence of VOCs in your potable water.

As a precautionary measure, the City also tested for an emerging group of contaminants, per and polyfluoroalkyl substances (PFAS). It is not uncommon to find low levels of PFAS in drinking water, as PFAS can be found in fire-fighting foams, stain repellants, nonstick cookware, waterproof clothing, food wrappers, and many other household products.

The State of Wisconsin does not currently have drinking water standards for PFAS. The U.S. Environmental Protection Agency (EPA) set a Lifetime Health Advisory (LHA) level for two PFAS in drinking water, perfluorooctanoic acid (PFOA CAS No. 335-67-1) and perfluorooctane sulfonate (PFOS CAS No. 1763-23-1) of 70 parts per trillion (ppt, equal to 70 ng/L). The EPA has not set health advisory levels for other PFAS compounds.

Results from your property do not indicate the presence of PFOA or PFOS in your potable water. Enclosed is an EPA Fact Sheet with more information regarding PFOA and PFOS in drinking water.

According to state and federal guidelines you can continue using your water with no limitations. A copy of your laboratory analytical results is attached.

If you have any questions please feel free to call us or the WDNR contacts listed below:

- Well water/sample results: Jim Kasdorf (920) 387-7872
WDNR, Drinking & Groundwater
- Investigation/future activities: Tauren Beggs (920) 662-5178
WDNR, Remediation & Redevelopment



- Health Questions: Adam Streiffer (608) 266-3393
Wisconsin Department of Health Services

If you have any questions, please do not hesitate to call Kathleen McDaniel at 686-6990.

Sincerely,



Kathleen McDaniel
City Attorney
City of Manitowoc



Dan Koski, P.E.
Director of Public Infrastructure
City of Manitowoc

Attachment: Laboratory Data

Cc: Wisconsin Department of Natural Resources

Project Name NEWTON
Project # 60135471

Invoice # E35526

Lab Code 5035526D
Sample ID 3702 HECKER
Sample Matrix Water
Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.22	ug/l	0.22	0.71	1	8260B		11/28/2018	CJR	1
Bromobenzene	< 0.44	ug/l	0.44	1.38	1	8260B		11/28/2018	CJR	1
Bromodichloromethane	< 0.33	ug/l	0.33	1.06	1	8260B		11/28/2018	CJR	1
Bromoform	< 0.45	ug/l	0.45	1.44	1	8260B		11/28/2018	CJR	1
tert-Butylbenzene	< 0.25	ug/l	0.25	0.8	1	8260B		11/28/2018	CJR	1
sec-Butylbenzene	< 0.79	ug/l	0.79	2.53	1	8260B		11/28/2018	CJR	1
n-Butylbenzene	< 0.71	ug/l	0.71	2.25	1	8260B		11/28/2018	CJR	1
Carbon Tetrachloride	< 0.31	ug/l	0.31	0.98	1	8260B		11/28/2018	CJR	1
Chlorobenzene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
Chloroethane	< 0.61	ug/l	0.61	1.95	1	8260B		11/28/2018	CJR	1
Chloroform	< 0.26	ug/l	0.26	0.82	1	8260B		11/28/2018	CJR	1
Chloromethane	< 0.54	ug/l	0.54	1.72	1	8260B		11/28/2018	CJR	1
2-Chlorotoluene	< 0.31	ug/l	0.31	0.98	1	8260B		11/28/2018	CJR	1
4-Chlorotoluene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
1,2-Dibromo-3-chloropropane	< 2.96	ug/l	2.96	9.43	1	8260B		11/28/2018	CJR	1
Dibromochloromethane	< 0.22	ug/l	0.22	0.69	1	8260B		11/28/2018	CJR	1
1,4-Dichlorobenzene	< 0.7	ug/l	0.7	2.22	1	8260B		11/28/2018	CJR	1
1,3-Dichlorobenzene	< 0.85	ug/l	0.85	2.7	1	8260B		11/28/2018	CJR	1
1,2-Dichlorobenzene	< 0.86	ug/l	0.86	2.74	1	8260B		11/28/2018	CJR	1
Dichlorodifluoromethane	< 0.32	ug/l	0.32	1.02	1	8260B		11/28/2018	CJR	1
1,2-Dichloroethane	< 0.25	ug/l	0.25	0.78	1	8260B		11/28/2018	CJR	1
1,1-Dichloroethane	< 0.36	ug/l	0.36	1.14	1	8260B		11/28/2018	CJR	1
1,1-Dichloroethene	< 0.42	ug/l	0.42	1.34	1	8260B		11/28/2018	CJR	1
cis-1,2-Dichloroethene	< 0.37	ug/l	0.37	1.16	1	8260B		11/28/2018	CJR	1
trans-1,2-Dichloroethene	< 0.34	ug/l	0.34	1.07	1	8260B		11/28/2018	CJR	1
1,2-Dichloropropane	< 0.44	ug/l	0.44	1.39	1	8260B		11/28/2018	CJR	1
1,3-Dichloropropane	< 0.3	ug/l	0.3	0.94	1	8260B		11/28/2018	CJR	1
trans-1,3-Dichloropropene	< 0.32	ug/l	0.32	1.01	1	8260B		11/28/2018	CJR	1
cis-1,3-Dichloropropene	< 0.26	ug/l	0.26	0.81	1	8260B		11/28/2018	CJR	1
Di-isopropyl ether	< 0.21	ug/l	0.21	0.66	1	8260B		11/28/2018	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		11/28/2018	CJR	1
Ethylbenzene	< 0.26	ug/l	0.26	0.83	1	8260B		11/28/2018	CJR	1
Hexachlorobutadiene	< 1.34	ug/l	1.34	4.28	1	8260B		11/28/2018	CJR	1
Isopropylbenzene	< 0.78	ug/l	0.78	2.47	1	8260B		11/28/2018	CJR	1
p-Isopropyltoluene	< 0.24	ug/l	0.24	0.76	1	8260B		11/28/2018	CJR	1
Methylene chloride	< 1.32	ug/l	1.32	4.21	1	8260B		11/28/2018	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.28	ug/l	0.28	0.89	1	8260B		11/28/2018	CJR	1
Naphthalene	< 2.1	ug/l	2.1	6.65	1	8260B		11/28/2018	CJR	1
n-Propylbenzene	< 0.61	ug/l	0.61	1.95	1	8260B		11/28/2018	CJR	1
1,1,2,2-Tetrachloroethane	< 0.3	ug/l	0.3	0.97	1	8260B		11/28/2018	CJR	1
1,1,1,2-Tetrachloroethane	< 0.35	ug/l	0.35	1.13	1	8260B		11/28/2018	CJR	1
Tetrachloroethene	< 0.38	ug/l	0.38	1.21	1	8260B		11/28/2018	CJR	1
Toluene	< 0.19	ug/l	0.19	0.6	1	8260B		11/28/2018	CJR	1
1,2,4-Trichlorobenzene	< 1.15	ug/l	1.15	3.67	1	8260B		11/28/2018	CJR	1

Project Name NEWTON
Project # 60135471

Invoice # E35526

Lab Code 5035526D
Sample ID 3702 HECKER
Sample Matrix Water
Sample Date 11/20/2018

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,2,3-Trichlorobenzene	< 1.71	ug/l	1.71	5.43	1	8260B		11/28/2018	CJR	1
1,1,1-Trichloroethane	< 0.33	ug/l	0.33	1.05	1	8260B		11/28/2018	CJR	1
1,1,2-Trichloroethane	< 0.42	ug/l	0.42	1.32	1	8260B		11/28/2018	CJR	1
Trichloroethene (TCE)	< 0.3	ug/l	0.3	0.94	1	8260B		11/28/2018	CJR	1
Trichlorofluoromethane	< 0.35	ug/l	0.35	1.1	1	8260B		11/28/2018	CJR	1
1,2,4-Trimethylbenzene	< 0.8	ug/l	0.8	2.55	1	8260B		11/28/2018	CJR	1
1,3,5-Trimethylbenzene	< 0.63	ug/l	0.63	2	1	8260B		11/28/2018	CJR	1
Vinyl Chloride	< 0.2	ug/l	0.2	0.65	1	8260B		11/28/2018	CJR	1
m&p-Xylene	< 0.43	ug/l	0.43	1.38	1	8260B		11/28/2018	CJR	1
o-Xylene	< 0.29	ug/l	0.29	0.93	1	8260B		11/28/2018	CJR	1
SUR - 1,2-Dichloroethane-d4	116	REC %			1	8260B		11/28/2018	CJR	1
SUR - Toluene-d8	97	REC %			1	8260B		11/28/2018	CJR	1
SUR - 4-Bromofluorobenzene	98	REC %			1	8260B		11/28/2018	CJR	1
SUR - Dibromofluoromethane	111	REC %			1	8260B		11/28/2018	CJR	1

Sample Description: 3702 Hecker (320-45516-1) Water
Newton PW - 60135471

TestAmerica University Park, IL
ELLE Sample #: PW 9917108
ELLE Group #: 2013410
Matrix: Water

Project Name: Newton PW - 60135471

Submittal Date/Time: 11/29/2018 10:30

Collection Date/Time: 11/20/2018 08:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1			ng/l	ng/l	ng/l	
14070	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	< 0.46	0.46	1.8	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	< 0.46	0.46	1.8	1
14070	Perfluorobutanesulfonate	375-73-5	< 0.46	0.46	1.8	1
14070	Perfluorodecanoic acid	335-76-2	< 0.46	0.46	1.8	1
14070	Perfluorododecanoic acid	307-55-1	< 0.46	0.46	1.8	1
14070	Perfluoroheptanoic acid	375-85-9	< 0.46	0.46	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	< 0.46	0.46	1.8	1
14070	Perfluorohexanoic acid	307-24-4	< 0.46	0.46	1.8	1
14070	Perfluorononanoic acid	375-95-1	< 0.46	0.46	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	< 0.46	0.46	1.8	1
14070	Perfluorooctanoic acid	335-67-1	< 0.46	0.46	1.8	1
14070	Perfluorotetradecanoic acid	376-06-7	< 0.46	0.46	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	< 0.46	0.46	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	< 0.46	0.46	1.8	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	PFAS in Drinking Water	EPA 537 Version 1.1	1	18335002	12/04/2018 00:24	Marissa C Drexinger	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18335002	12/02/2018 14:00	Anthony C Polaski	1

*=This limit was used in the evaluation of the final result



Overview

EPA has established health advisories for PFOA and PFOS based on the agency's assessment of the latest peer-reviewed science to provide drinking water system operators, and state, tribal and local officials who have the primary responsibility for overseeing these systems, with information on the health risks of these chemicals, so they can take the appropriate actions to protect their residents. EPA is committed to supporting states and public water systems as they determine the appropriate steps to reduce exposure to PFOA and PFOS in drinking water. As science on health effects of these chemicals evolves, EPA will continue to evaluate new evidence.

Background on PFOA and PFOS

PFOA and PFOS are fluorinated organic chemicals that are part of a larger group of chemicals referred to as perfluoroalkyl substances (PFASs). PFOA and PFOS have been the most extensively produced and studied of these chemicals. They have been used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials (e.g., cookware) that are resistant to water, grease or stains. They are also used for firefighting at airfields and in a number of industrial processes.

Because these chemicals have been used in an array of consumer products, most people have been exposed to them. Between 2000 and 2002, PFOS was voluntarily phased out of production in the U.S. by its primary manufacturer. In 2006, eight major companies voluntarily agreed to phase out their global production of PFOA and PFOA-related chemicals, although there are a limited number of ongoing uses. Scientists have found PFOA and PFOS in the blood of nearly all the people they tested, but these studies show that the levels of PFOA and PFOS in blood have been decreasing. While consumer products and food are a large source of exposure to these chemicals for most people, drinking water can be an additional source in the small percentage of communities where these chemicals have contaminated water supplies. Such contamination is typically localized and associated with a specific facility, for example, an industrial facility where these chemicals were produced or used to manufacture other products or an airfield at which they were used for firefighting.

EPA's 2016 Lifetime Health Advisories

EPA develops health advisories to provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's health advisories are non-enforceable and non-regulatory and provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. In 2009, EPA published provisional health advisories for PFOA and PFOS based on the evidence available at that time. The science has evolved since then and EPA is now replacing the 2009 provisional advisories with new, lifetime health advisories.

FACT SHEET

PFOA & PFOS Drinking Water Health Advisories

EPA's 2016 Lifetime Health Advisories, continued

To provide Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to PFOA and PFOS from drinking water, EPA established the health advisory levels at 70 parts per trillion. When both PFOA and PFOS are found in drinking water, the combined concentrations of PFOA and PFOS should be compared with the 70 parts per trillion health advisory level. This health advisory level offers a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOA and PFOS in drinking water.

How the Health Advisories were developed

EPA's health advisories are based on the best available peer-reviewed studies of the effects of PFOA and PFOS on laboratory animals (rats and mice) and were also informed by epidemiological studies of human populations that have been exposed to PFASs. These studies indicate that exposure to PFOA and PFOS over certain levels may result in adverse health effects, including developmental effects to fetuses during pregnancy or to breastfed infants (e.g., low birth weight, accelerated puberty, skeletal variations), cancer (e.g., testicular, kidney), liver effects (e.g., tissue damage), immune effects (e.g., antibody production and immunity), thyroid effects and other effects (e.g., cholesterol changes).

EPA's health advisory levels were calculated to offer a margin of protection against adverse health effects to the most sensitive populations: fetuses during pregnancy and breastfed infants. The health advisory levels are calculated based on the drinking water intake of lactating women, who drink more water than other people and can pass these chemicals along to nursing infants through breastmilk.

Recommended Actions for Drinking Water Systems

Steps to Assess Contamination

If water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than 70 parts per trillion, water systems should quickly undertake additional sampling to assess the level, scope and localized source of contamination to inform next steps

Steps to Inform

If water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than 70 parts per trillion, water systems should promptly notify their State drinking water safety agency (or with EPA in jurisdictions for which EPA is the primary drinking water safety agency) and consult with the relevant agency on the best approach to conduct additional sampling.

Drinking water systems and public health officials should also promptly provide consumers with information about the levels of PFOA and PFOS in their drinking water. This notice should include specific information on the risks to fetuses during pregnancy and breastfed and formula-fed infants from exposure to drinking water with an individual or combined concentration of PFOA and PFOS above EPA's health advisory level of 70 parts per trillion. In addition, the notification should include actions they are taking and identify options that consumers may consider to reduce risk such as seeking an alternative drinking water source, or in the case of parents of formula-fed infants, using formula that does not require adding water.

FACT SHEET

PFOA & PFOS Drinking Water Health Advisories

Recommended Actions for Drinking Water Systems, continued

Steps to Limit Exposure

A number of options are available to drinking water systems to lower concentrations of PFOA and PFOS in their drinking water supply. In some cases, drinking water systems can reduce concentrations of perfluoroalkyl substances, including PFOA and PFOS, by closing contaminated wells or changing rates of blending of water sources. Alternatively, public water systems can treat source water with activated carbon or high pressure membrane systems (e.g., reverse osmosis) to remove PFOA and PFOS from drinking water. These treatment systems are used by some public water systems today, but should be carefully designed and maintained to ensure that they are effective for treating PFOA and PFOS. In some communities, entities have provided bottled water to consumers while steps to reduce or remove PFOA or PFOS from drinking water or to establish a new water supply are completed.

Many home drinking water treatment units are certified by independent accredited third party organizations against American National Standards Institute (ANSI) standards to verify their contaminant removal claims. NSF International (NSF®) has developed a protocol for NSF/ANSI Standards 53 and 58 that establishes minimum requirements for materials, design and construction, and performance of point-of-use (POU) activated carbon drinking water treatment systems and reverse osmosis systems that are designed to reduce PFOA and PFOS in public water supplies. The protocol has been established to certify systems (e.g., home treatment systems) that meet the minimum requirements. The systems are evaluated for contaminant reduction by challenging them with an influent of $1.5 \pm 30\%$ $\mu\text{g/L}$ (total of both PFOA and PFOS) and must reduce this concentration by more than 95% to $0.07 \mu\text{g/L}$ or less (total of both PFOA and PFOS) throughout the manufacturer's stated life of the treatment system. Product certification to this protocol for testing home treatment systems verifies that devices effectively reduces PFOA and PFOS to acceptable levels.

Other Actions Relating to PFOA and PFOS

Between 2000 and 2002, PFOS was voluntarily phased out of production in the U.S. by its primary manufacturer, 3M. EPA also issued regulations to limit future manufacturing, including importation, of PFOS and its precursors, without first having EPA review the new use. A limited set of existing uses for PFOS (fire resistant aviation hydraulic fluids, photography and film products, photomicroolithography process to produce semiconductors, metal finishing and plating baths, component of an etchant) was excluded from these regulations because these uses were ongoing and alternatives were not available.

In 2006, EPA asked eight major companies to commit to working toward the elimination of their production and use of PFOA, and chemicals that degrade to PFOA, from emissions and products by the end of 2015. All eight companies have indicated that they have phased out PFOA, and chemicals that degrade to PFOA, from emissions and products by the end of 2015. Additionally, PFOA is included in EPA's proposed Toxic Substance Control Act's Significant New Use Rule (SNUR) issued in January 2015 which will ensure that EPA has an opportunity to review any efforts to reintroduce the chemical into the marketplace and take action, as necessary, to address potential concerns.

FACT SHEET

PFOA & PFOS Drinking Water Health Advisories

Other Actions Relating to PFOA and PFOS, continued

EPA has not established national primary drinking water regulations for PFOA and PFOS. EPA is evaluating PFOA and PFOS as drinking water contaminants in accordance with the process required by the Safe Drinking Water Act (SDWA). To regulate a contaminant under SDWA, EPA must find that it: (1) may have adverse health effects; (2) occurs frequently (or there is a substantial likelihood that it occurs frequently) at levels of public health concern; and (3) there is a meaningful opportunity for health risk reduction for people served by public water systems.

EPA included PFOA and PFOS among the list of contaminants that water systems are required to monitor under the third Unregulated Contaminant Monitoring Rule (UCMR 3) in 2012. Results of this monitoring effort are updated regularly and can be found on the publicly-available National Contaminant Occurrence Database (NCOD) (<https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule#3>). In accordance with SDWA, EPA will consider the occurrence data from UCMR 3, along with the peer reviewed health effects assessments supporting the PFOA and PFOS Health Advisories, to make a regulatory determination on whether to initiate the process to develop a national primary drinking water regulation.

In addition, EPA plans to begin a separate effort to determine the range of PFAS for which an Integrated Risk Information System (IRIS) assessment is needed. The IRIS Program identifies and characterizes the health hazards of chemicals found in the environment. IRIS assessments inform the first two steps of the risk assessment process: hazard identification, and dose-response. As indicated in the 2015 IRIS Multi-Year Agenda, the IRIS Program will be working with other EPA offices to determine the range of PFAS compounds and the scope of assessment required to best meet Agency needs. More about this effort can be found at <https://www.epa.gov/iris/iris-agenda>.

Non-Drinking Water Exposure to PFOA and PFOS

These health advisories only apply to exposure scenarios involving drinking water. They are not appropriate for use, in identifying risk levels for ingestion of food sources, including: fish, meat produced from livestock that consumes contaminated water, or crops irrigated with contaminated water.

The health advisories are based on exposure from drinking water ingestion, not from skin contact or breathing. The advisory values are calculated based on drinking water consumption and household use of drinking water during food preparation (e.g., cooking or to prepare coffee, tea or soup). To develop the advisories, EPA considered non-drinking water sources of exposure to PFOA and PFOS, including: air, food, dust, and consumer products. In January 2016 the Food and Drug Administration amended its regulations to no longer allow PFOA and PFOS to be added in food packaging, which will likely decrease one source of non-drinking water exposure.

Where Can I Learn More?

- EPA's Drinking Water Health Advisories for PFOA and PFOS can be found at: <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>
- PFOA and PFOS data collected under EPA's Unregulated Contaminant Monitoring Rule are available: <https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule>
- EPA's stewardship program for PFAS related to TSCA: <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/and-polyfluoroalkyl-substances-pfass-under-tsca>
- EPA's research activities on PFASs can be found at: <http://www.epa.gov/chemical-research/perfluorinated-chemical-pfc-research>
- The Agency for Toxic Substances and Disease Registry's Perfluorinated Chemicals and Your Health webpage at: <http://www.atsdr.cdc.gov/PFC/>

