



October 23, 2015

FOIA Coordinator
Department of Environmental Quality
P.O. Box 30457
Lansing, MI 48909-7957

0609-16
RMO-EXEC
Lansing
Due: 11-24-15

To Whom It May Concern:

FEE WAIVER DENIED
RW

Under the Michigan Freedom of Information Act § 15.231 et seq., I am requesting an opportunity to inspect or obtain copies of public records, created between January 1, 2011 and October 23, 2015, in paper or electronic form, of:

- (1) any documents containing information regarding the water testing standards and protocols used to test the community water supply in Flint, including but not limited to those standards or protocols used to comply with the EPA's Community Water Supply Program and the Michigan Safe Drinking Water Act;
- (2) any documents containing information regarding the DEQ's efforts to comply with the EPA's Lead and Copper Rule with respect to the community water supply in Flint, including but not limited to information regarding corrosion control efforts, and sampling or testing protocols or instructions sent by DEQ to local water system officials or employees; and
- (3) any correspondence with the EPA regarding the DEQ's monitoring, testing, or treatment of the community water supply in Flint, including but not limited to information regarding water testing standards or protocols used to test the community water supply, and efforts to comply with the EPA's Lead and Copper Rule.

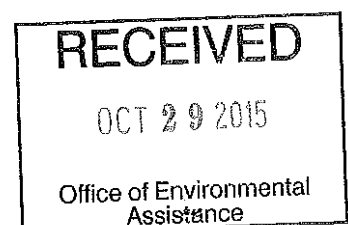
The Michigan Freedom of Information Act requires a response to this request within five days. If access to the records I am requesting will take longer than this amount of time, please contact me with information about when I might expect copies or the ability to inspect the requested records.

If you deny any or all of this request, please cite each specific exemption you feel justifies the refusal to release the information and notify me of the appeal procedures available to me under the law.

I request a waiver of all fees as disclosure of the information sought is in the public interest.

Sincerely,

John VanDeventer
Farough & Associates, LLC
1000 S. Washington Ave. Ste. 101
Lansing, MI 48910
(517) 862-4897
vandev10@gmail.com



Shekter Smith, Liane (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Thursday, February 26, 2015 11:48 AM
To: Sygo, Jim (DEQ); Wurfel, Brad (DEQ)
Cc: Benzie, Richard (DEQ); Busch, Stephen (DEQ); Shaler, Karen (DEQ); Feuerstein, Heather (DEQ); Devereaux, Tracy Jo (DEQ)
Subject: FW: HIGH LEAD: FLINT Water testing Results

FYI – just a heads up.

Begin forwarded message:

From: "Prysby, Mike (DEQ)" <PRYSBYM@michigan.gov>
Date: February 26, 2015 at 11:24:32 AM EST
To: "Crooks, Jennifer" <crooks.jennifer@epa.gov>
Cc: "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov>, "Rosenthal, Adam (DEQ)" <ROSENTHALA@michigan.gov>
Subject: RE: HIGH LEAD: FLINT Water testing Results

Jennifer,

I recall Adam showing me a high lead/copper sample result (perhaps it was this one)....as part of the city's routine lead-copper monitoring. If so, it was a stagnated sample as part of the sampling protocol. Adam mentioned that all other samples were below the AL...and the city will not exceed the lead AL. I will confirm this. The city; however, needs to take further action to help address Ms. Walter's concern. The type of plumbing needs to be identified and sample tap location within the premise plumbing. They should offer to re-sample for PB after flushing the tap to demonstrate that flushing the tap will reduce the lead concentration. The city also needs to provide other lead-reduction strategies to Mrs. Walters.

Michael Prysby, P.E.
 District Engineer
 Office of Drinking Water and Municipal Assistance
 517 290-8817

From: Crooks, Jennifer [<mailto:crooks.jennifer@epa.gov>]
Sent: Thursday, February 26, 2015 10:53 AM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Poy, Thomas; Deltoral, Miguel
Subject: HIGH LEAD: FLINT Water testing Results

Hi, Steve and Mike. Thanks for talking with me yesterday, Steve, about the most recent TTHM results. We'll look forward to receiving them whenever you get them back from the lab.

However, the main purpose of my email is to alert you to the high lead levels reported to a citizen yesterday by Flint Water Dept. I have been discussing the water situation with LeeAnn Walters since January, and she has been talking with Mike Glasgow at the plant about the black sediment in her water. (HUGE KUDOs to MIKE!!) He did test it to find that the iron levels were greater than his test would go; GT 3.3. But, because the iron levels were so high, he suggested testing for lead and copper. WOW!!!! Did he find the LEAD! **104 ppb**. She has 2 children under the age of 3... Big worries here.

So, Steve, this goes back to what you and I were talking about yesterday. That the different chemistry water is leaching out contaminants from the insides of the biofilms inside the pipes. I think Lead is a good indication that other contaminants are also present in the tap water, that obviously were not present in the compliance samples taken at the plant. VOC/SOC and inorganics/metals would be good samples to start with to take at the tap. And since Ms. Walters' drinking water is showing the high lead levels, her tap water would be a good place to start, I think.

We also talked about Dr. Joan Rose from Michigan State being on the Flint Tech Advisory Committee—you also mentioned that someone from the Dept of Community Health was on the Committee. I'm thinking that Dr. Rose would want to dive further into this, since there's actual evidence that the water is leaching contaminants from the biofilms; or Dept of Community Health would want to get involved and look at this from an epidemiological perspective. (She and her family are also exhibiting the rashes when exposed to the water, and her daughter's hair is falling out in clumps.)

Maybe MSU could authorize the payment of the analyses for these samples? Or Dept of Community Health?

The citizen's name is:
 LeeAnn Walters
 212 Browning Ave
 Flint, MI 48507
 616-212-6233
lwalters313@gmail.com

Jennifer

From: Lea Moste [<mailto:lwalters313@gmail.com>]
Sent: Thursday, February 26, 2015 9:08 AM
To: Crooks, Jennifer
Subject: Fwd: Re: Water testing Results

----- Forwarded message -----

From: "Michael Glasgow" <mglasgow@cityofflint.com>
 Date: Feb 26, 2015 7:55 AM
 Subject: Re: Water testing Results
 To: "Lea Moste" <lwalters313@gmail.com>
 Cc:

Lee,

Here are your Lead & Copper Results. This number is very high, 104 ppb of lead. In the last few months over 100 samples have been tested and only 2 were over the 15 ppb regulatory limit, and the highest level I have seen is 37 ppb. I will pass this info to Mr. Croft so he is aware. I will send the sample I collected from your kitchen faucet today for a complete metals test (12 different metals), to see what the level is without letting the water stagnate over night. I'm hoping that value will be much, but we will have to see. Sorry for this news, but I wanted to let you know right away.

Mike

On Tue, Feb 24, 2015 at 1:50 PM, Michael Glasgow <mglasgow@cityofflint.com> wrote:

Lee,

I will bring a copy of last years annual report when I stop by tomorrow. The annual report from 2014 must be delivered to residents by July 1st of this year. I imagine we may have it complete by June.

Mike

On Fri, Feb 20, 2015 at 1:00 AM, Lea Moste <lwalters313@gmail.com> wrote:

Mike,

Thank you for the water reports and we already planned to see you on the 25th at 10:00am. I was wondering if you know who I need to talk to in the water plant to obtain the Annual Drinking Water Report from last year. According to the EPA website there is link to access but when you click on it, it cannot be accessed. Was also curious if there is an expected time frame for this years report due to the switch. If you can be of any assistance I would appreciate it.

Thank You

LeeAnne Walters

On Thu, Feb 19, 2015 at 12:47 PM, Michael Glasgow <mglasgow@cityofflint.com> wrote:

Lee & Dennis,

Here is a list of test results from water sampled at your home over the last 2 weeks. I have sent in your lead and copper sample, and also a sample from the toilet tank for manganese. I should hopefully have results from this testing early next week. I'll plan on stopping over on Wednesday (the 25th) around 10 am again to give you these results & sample again.

Mike

Shekter Smith, Liane (DEQ)

From: Crooks, Jennifer <crooks.jennifer@epa.gov>
Sent: Monday, June 08, 2015 11:19 AM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Philip, Kris (DEQ); Cook, Pat (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); DeBruyn, Dana (DEQ); Monosmith, Carrie (DEQ); Dettweiler, Dan (DEQ)
Cc: Poy, Thomas; Bair, Rita; Damato, Nicholas; Shoven, Heather; Murphy, Thomas; Porter, Andrea; Deltoral, Miguel; Kuefler, Janet; McElhinney, Cary; Noureldin, Mostafa
Subject: Agenda for MI Semi-Annual Call on Wed 6/10 at 10am EST; 9am CST
Importance: High

Good morning! Below is the Agenda I came up with for our semi-annual call this Wed morning. Please let me know if you would like to add additional items for us to discuss. Please note that I have invited Steve Busch, Mike Prysby and Pat Cook to discuss item no. 3 regarding Flint.

Jennifer

Agenda Topics for Michigan Semi-Annual Call on Wednesday June 10, 9am CST

Call-in no: 877-226-9607

Code: 1896350612

1. Changes in Lead Disinvestments and Commitments for FY 2016 ARDP—for discussion: Due to our extreme focus on lead in drinking water, this is the consensus here.
 - a. Consumer notification of tap results at NTNCWSs:
 (Suggested wording) The NCWS program commits to full implementation of the lead consumer notification of tap results requirement, to begin in CY 2016. Region 5 will assist in a notification outreach effort in late FY 2015 to remaining 698 NTNCWSs that are not schools/daycares, to begin providing lead consumer notice in CY 2016. NCWS program commits to include information on providing lead consumer notice in the annual monitoring letter sent to all NTNCWSs for CY 2016.
 - b. Collection of Lead samples at NTNCWSs during June – September 2016 timeframe
 (Suggested wording) NCWS program commits to including information in the applicable NTNCWS annual monitoring letters of the requirement to collect their annual/triennial lead sample between June and September only, during CY 2016. The MDEQ currently does not have the capability to track lead sampling compliance within this specific timeframe.
 - c. Follow-up Actions for NTNCWSs that sample outside of June-September 2015 timeframe
 (From 5/5/15 call notes w/EPA) MDEQ commits to providing Region 5 with all CY 2015 lead (and copper?) sample data for all NTNCWSs by March 2016 so that EPA can analyze how many PWSs monitored outside the June through October timeframe. EPA commits to follow-up with MDEQ to discuss follow-up actions.
 - d. Submittal of the lead and copper reporting form
 (Suggested wording) MDEQ commits to requiring CWSs and NTNCWSs to submit the lead and copper reporting form via the annual monitoring letters to each system, tracking CWSs and NTNCWSs submittal of the lead and copper reporting form, and commits to issuing violations for failure to submit the lead and copper reporting form. The reporting form provides the address of the sample site, designates sampling site selection criteria, and explanation(s) for any changes in sampling sites.
2. Enforcement Update with Heather
 - NTNCWSs under Bottled Water agreements due to Arsenic MCL violations:

Per discussions with Region 5 and the February 2014 EPA/OECA memo, MDEQ has closed the old Arsenic open-ended MCL violations; however, no further quarterly monitoring is being conducted at the (± 27) systems that are still under bottled water agreements. Thus, no more arsenic MCL violations will be reported for these systems and these systems will not become priority systems (ETT score of 11 or more) since only one arsenic MCL violation will be reported (5 points) even though they have a longstanding issue with arsenic noncompliance. The Region would like to discuss the pros and cons of placing these PWSs with arsenic MCL violations on quarterly monitoring as required under 40 CFR Section 141.23(c)(7); and brainstorm possible solutions.

3. Status of Flint

- a. TTHM levels for May—Due to MDEQ district engineer June 10
- b. Lead in Flint

Our discussions with MDEQ indicate that no phosphates/corrosion control has been added to the system since April 2014 when the source of drinking water changed to the Flint River. We understand that the City is just finishing up its second set of 6-month initial monitoring for lead; where the results will probably warrant a Corrosion Control Study to be conducted. Since Flint has lead service lines, we understand some citizen-requested lead sampling is exceeding the Action Level, and the source of drinking water will be changing again in 2016, so to start a Corrosion Control Study now doesn't make sense. The idea to ask Flint to simply add phosphate may be premature; there are many other issues and factors that must be taken into account which would require a comprehensive look at the water quality and the system before any treatment recommendations can/should be made. Miguel is recommending MDEQ and EPA approach Flint about formally requesting EPA's Office of Research and Development in Cincinnati support on the lead in Flint drinking water issue, and request that Mike Schock, ORD, and possibly Darren Lytle, ORD, to participate in Flint's drinking water advisory committee so that a comprehensive evaluation on how to proceed can be discussed.

4. Update on WaterTrack to SDWIS-State: The migration of WaterTrack data to SDWIS-State was number 39 on the Dept of Technology Management and Budget's (DTMB) project list last year; this year it is number 30. It doesn't appear this project has a high priority. Does the State have any new information on the progress of this project?

5. Consequences of cutting the State drinking water program to a "minimal program"

Jennifer had a discussion with Richard Benzie regarding the possibility of the Michigan State Legislature looking to have just a minimal drinking water program, meaning only a program with activities that are required by the Federal SDWA. Jennifer ultimately discussed this internally with Tom Poy. The minimal program suggested would cut out Operator Certification, Capacity Development, Plan Review, Cross Connection Control, Source Water Protection, among other programs that are State required. Operator Certification and Capacity Development, while not required by the Federal regulations, do have financial strings attached. And Plan review/construction permits are required by the SRF program for a loan. Any recent communication with the State Legislature that they might proceed and make this possibility a reality?

6. EPA's Resource Message at the LHD Workshop in April

From the 2014 analysis of Shared Goals 2013 data, which is compliance data, for noncommunity systems, there are increasing trends of nitrate M/R violations for both NTNCWSs and TNCWSs. We discussed this on the last semi-annual call. Analysis of the 2015 Shared Goals 2014 data (April 2015) shows an improvement—that of decreasing numbers of bacti/nitrate M/R violations.

However, in light of the upcoming implementation of RTCR in 2016, the question raised here in the Region is: Does the State have a plan with the LHDs as to what activities must be prioritized, and what will fall off the plate? Not all LHDs will need to disinvest based upon each LHD's resources, but some poorly funded LHDs may have to disinvest in some activities/drop activities that have no risk to public health.

Jennifer

Shekter Smith, Liane (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, July 01, 2015 8:31 AM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Sygo, Jim (DEQ)
Cc: Shaler, Karen (DEQ); Devereaux, Tracy Jo (DEQ); Monosmith, Carrie (DEQ)
Subject: Fw: Flint

We'll need to discuss after we receive Miguel's report, but before the call later this month.

From: Hyde, Tinka <hyde.tinka@epa.gov>
Sent: Tuesday, June 30, 2015 4:40 PM
To: Shekter Smith, Liane (DEQ)
Cc: Monosmith, Carrie (DEQ); Henry, Timothy; Poy, Thomas; Bair, Rita; Damato, Nicholas
Subject: Flint

Hi Liane – I'm following up on the voicemail I left for you earlier today. I'm also copying Carrie Monosmith as I did get a chance to chat with her. In advance of our call scheduled for 7/21/15, I wanted to provide you with an update related to water quality challenges in Flint. I understand that some discussion occurred on June 10th with Tom Poy and staff during the semi-annual call regarding MDEQ's implementation of the LCR rule and the status of Flint. The Region is concerned about the lead situation in Flint and suggested that additional ORD assistance could be provided to Flint's Advisory Committee. We understand that the city is finishing up its second set of 6-month initial monitoring and I have scheduled a call with you on July 21st so we can discuss the Flint situation in more detail.

As you know, my staff have been out to Flint to collect samples and data which we felt could uniquely inform the NDWAC process and ultimately better inform the LCR rulemaking. Tom Poy asked Miguel Del Toral to prepare a report summarizing the visits and findings. Last week Miguel completed a draft interim report and provided it to management. Once Miguel addresses our comments, we will provide you with a copy of that report. In most cases, an internal EPA memo would not be distributed outside the agency, but given his interaction with the homeowner for one of the sampling locations, Miguel has shared a copy of the draft interim report as a courtesy with this Flint resident. Based on Miguel's initial analysis, elevated lead levels were found at this residence. In addition, it appears that the source of the lead may be from outside the home (Note: plumbing in the home is largely plastic).

Please know that Region 5 management is still being briefed on the lead issues in Flint and we look forward to the opportunity to discuss the situation with you in more detail so we can better characterize what MDEQ is already doing in Flint and how public health protection can best be provided to the citizens of Flint. If you would like to discuss this in advance of our call, please feel free to contact myself, or Tim Henry (312-886-6107). Thanks

Tinka G. Hyde
 Water Division Director
 USEPA W-15J
 77 W. Jackson Blvd
 Chicago, IL 60604

Office: 312-886-9296
 Cell: 312-735-9428

Shekter Smith, Liane (DEQ)

From: Crooks, Jennifer <crooks.jennifer@epa.gov>
Sent: Wednesday, July 01, 2015 6:31 PM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Philip, Kris (DEQ); Monosmith, Carrie (DEQ); DeBruyn, Dana (DEQ); Dettweiler, Dan (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Cook, Pat (DEQ); Holdwick, Kevin (DEQ)
Cc: Poy, Thomas; Bair, Rita; Damato, Nicholas; Shoven, Heather; Kuefler, Janet; Murphy, Thomas; Porter, Andrea; Deltoral, Miguel
Subject: Draft Notes from Michigan semi-annual call on 6/10

All—Below are my draft notes from our call last week, June 10, 2015. Thank you all for participating. I apologize for the delay in getting these out in draft to you all for review—I was hoping to get a couple of items ironed out that were fuzzy during our discussions, but hasn't happened yet. Several ACTION items below. So, please review to make sure I documented our discussion/agreements correctly, and feel free to edit as needed. I you could get back to me by July 13, that would be great. Thank you!

Jennifer

Attendees:

MDEQ: Liane Shekter-Smith, Richard Benzie, Carrie Monosmith, Kris Philip, Dan Dettweiler, Marjorie Rodriguez (Student), Kevin Holdwick, Mike Prysby, Dana DeBruyn, Steve Busch
 EPA Region 5: Tom Poy, Rita Bair, Nick Damato, Janet Kuefler, Michele Palmer, Tom Murphy, Heather Shoven, Cary McElhinney, Andrea Porter, Miguel Deltoral, Mostafa Nouredin

Summary:

1.Changes in Lead Disinvestments and Commitments for FY 2016 ARDP—for discussion: Due to our extreme focus on lead in drinking water, this is the consensus here.

a. Consumer notification of tap results at NTNCWSs:

(Suggested wording) The NCWS program commits to full implementation of the lead consumer notification of tap results requirement, to begin in CY 2016. Region 5 will assist in a notification outreach effort in late FY 2015 to remaining 698 NTNCWSs that are not schools/daycares, to begin providing lead consumer notice in CY 2016. NCWS program commits to include information on providing lead consumer notice in the annual monitoring letter sent to all NTNCWSs for CY 2016.

STATE: The State found this change in the wording acceptable.

b. Collection of Lead samples at NTNCWSs during June – September 2016 timeframe

(Suggested wording) NCWS program commits to including information in the applicable NTNCWS annual monitoring letters of the requirement to collect their annual/triennial lead sample between June and September only, during CY 2016. The MDEQ NCWS program currently does not have the capability to easily track lead sampling compliance within this specific timeframe.

STATE: The State found this change in the wording acceptable.

c. Follow-up Actions for NTNCWSs that sample outside of June-September 2015 timeframe

(From 5/5/15 call notes w/EPA) MDEQ commits to providing Region 5 with all CY 2015 lead (and copper?) sample data for all NTNCWSs by March 2016 so that EPA can analyze how many PWSs monitored outside the June through October timeframe. EPA commits to follow-up with MDEQ to discuss follow-up actions.

STATE: The State agreed to providing EPA R5 the raw lead and copper data for all CY 2015 for all NTNCWSs. The WaterTrack database does have data, but it can't generate violations. MDEQ doesn't commit to enforcing against 2016 violators in FY 2016. The State said, it is planning on disinvesting in enforcing against these violators due to limited capability of WaterTrack; however, if the State's noncommunity data management capabilities improve during FY 2016, implementation of this disinvestment may become a reality. The State has not designated an alternate timeframe, or done system specific documentation as to why the system qualifies for a different timeframe.

d. Submittal of the lead and copper reporting form

(Suggested wording) MDEQ commits to requiring CWSs and NTNCWSs to submit the lead and copper reporting form via the annual monitoring letters to each system, tracking CWSs and NTNCWSs submittal of the lead and copper reporting form, and commits to issuing violations for failure to submit the lead and copper reporting form. The reporting form provides the address of the sample site, designates sampling site selection criteria, and explanation(s) for any changes in sampling sites.

STATE: Dan Dettweiler stated that the NCWS program was not in a position to do this for the NTNCWSs at this time. Tom Murphy asked how does WaterTrack handle/track high lead results? Tom M said there is a truncation issue on the sample location name field. Dan acknowledged that this problem has been identified, and the Department of Technology Management and Budget (DTMB) has been trying to fix this problem, but it is a challenging problem. Dan stated that sample sites for NTNCWSs are actually identified by LHDs during the sanitary survey and are documented in the sanitary survey. The LHDs check the pdf of the laboratory results that clearly states where the sample was taken, and calculates the 90th percentile. However, Dan stated that the requirement to send in the lead and copper reporting form is not currently in the LHD annual monitoring letter sent to each system. The NTNCWSs do not couple this form to the Lead Consumer Notice, as does the CWSs. Kris Philip pointed out that the LHDs select the sample sites, thus when they are calculating the 90th percentile, they are actually double checking the sites with the results.

From our discussion, the Region concluded that at this time, the LHDs are actively reviewing the lead and copper results and the sample locations when they calculate the 90th percentiles to ensure proper LCR monitoring is conducted by ALL NTNCWSs at the proper sample sites. After our call, I asked for verification of this statement, and Dan Dettweiler responded, "Just as with an exceeding value of an MCL, WaterTrack alerts the LHD when at least one sample for a water system exceeds the AL. A 90th percentile calculation is made only when an exceeding result alerts the LHD. For cases where there are no exceeding results, private lab samples are reviewed at the time LHDs hand-enter them into WaterTrack. State lab samples, which flow electronically via nightly downloads from the state lab database, are reviewed when pdfs of the analysis reports are, routinely, emailed by the state lab to LHDs. Beyond that, MDEQ's annual evaluation of the LHDs provides another opportunity for us to oversee the proper assigning and use of designated sampling locations."

ACTION: The Region will discuss Dan's response internally, and get back to the State with any issues/concerns.

Kris Philip said that the CWS program is requiring that the systems submit the form, but they are not enforcing whether or not the system submits the form. Often, the CWS will submit the Lead Consumer Notice and the Lead and Copper reporting form together. Kris said if 90%+ are already submitting the forms, then the State will agree to follow-up and enforce this requirement. But, if less than that, will probably be too much of a burden. Kris said they may change the way DEQ is tracking in SDWIS during FY 2016. But, the Region said SDWIS-Prime probably won't be available until 2017 at the earliest.

ACTION: Kris Philip will research with the District Offices to determine the current submittal rate of the lead and copper reporting form from CWSs; and report back to the Region.

2. Enforcement Update with Heather

NTNCWSs under Bottled Water agreements due to Arsenic MCL violations:

Per discussions with Region 5 and the February 2014 EPA/OECA memo, MDEQ has closed the old Arsenic open-ended MCL violations; however, no further quarterly monitoring is being conducted at the (± 27) systems that are still under bottled water agreements. Thus, no more arsenic MCL violations will be reported for these systems and these systems will not become priority systems (ETT score of 11 or more) since only one arsenic MCL violation will be reported (5 points) even though they have a longstanding issue with arsenic noncompliance. The Region would like to discuss the pros and cons of placing these PWSs with arsenic MCL violations on quarterly monitoring as required under 40 CFR Section 141.23(c)(7); and brainstorm possible solutions.

Heather provided an update on how the State is doing in returning ETT systems to compliance; the State is doing very well in achieving its commitment for FY 2015. Heather said the Region is glad to see the State and LHD prioritization of implementation of the drinking water program and NTNCWS schools and daycares.

Referring to the NTNCWSs under BW agreements that are in violation of the Arsenic MCL, Heather said that since there are no more open-ended MCL violations in SDWIS, that no MCL violations can be reported to SDWIS unless there is monitoring to show the system is in non-compliance. Even though the LHD has indicated that these systems are drinking bottled water for public health protection, the use of bottled water cannot be a permanent solution to the fact that the system's drinking water at the tap continues to exceed the MCL for arsenic. Dan said there are 22 systems, where 8 are schools, that should be conducting quarterly monitoring. Dana said that letters have been sent (OR drafted?) to these 22 systems to require quarterly sampling for arsenic; these 22 systems are in 10 different counties so the message from the State is consistent. A secondary effect of this new requirement for the systems, may be that they transition to another water source or install treatment sooner.

The State voiced a concern that multiple quarterly violations could potentially affect the State's relationship with the LHDs financially. Genesee and Oakland Counties have quite a number of noncommunity water systems. Multiple quarterly violations could affect the Dept of Community Health's determination as to whether the LHDs are meeting their minimum program requirements; thus receive full funding for their work with the noncommunity systems for the drinking water program. The LHDs cannot have more than 20% of their systems with violations. The Region wonders how much funding would be cut from a LHD contract if it exceeds the 20% noncompliance level set in the contract?

3. Status of Flint

a. TTHM levels for May—Due to MDEQ district engineer June 10-RECEIVED; see link to results

<https://www.cityofflint.com/2015/06/01/may-water-testing-results-show-all-locations-are-within-acceptable-limits-for-tthm/>

All samples below the TTHM MCL; one site still has an LRAA above the MCL but decreased from 105 ppb in Feb to 93.5 ppb in May.

Mike Prysby said he is getting ready to issue the construction permit to the City of Flint to install a GAC filter in July, that will remove more TOC to further reduce the potential of developing TTHMs. Mike said he has already issued a construction permit for a transmission line within the City that will help reduce water age.

b. Lead in Flint

Our discussions with MDEQ indicate that no phosphates/corrosion control has been added to the system since April 2014 when the source of drinking water changed to the Flint River. We understand that the City is just finishing up its second set of 6-month initial monitoring for lead; where the results will probably warrant a Corrosion Control Study to be conducted. Since Flint has lead service lines, we understand some citizen-requested lead sampling is exceeding the Action Level, and the source of drinking water will be changing again in 2016, so to start a Corrosion Control Study now doesn't make sense. The idea to ask Flint to simply add phosphate may be premature; there are many other issues and factors that must be taken into account which would require a comprehensive look at the water quality and the system before any treatment recommendations can/should be made. Miguel is recommending MDEQ and EPA? approach Flint about formally requesting EPA's Office of Research and Development in Cincinnati support on the lead in Flint drinking water issue, and request that Mike Schock, ORD, and possibly Darren Lytle, ORD, to participate in Flint's drinking water advisory committee so that a comprehensive evaluation on how to proceed can be discussed.

Miguel provided a brief summary of the high lead results found at the residence of Ms. Leeanne Walters in Flint. Miguel will follow up with a written summary of the work conducted, sample results, and conclusions.

Miguel believes that lead levels in Flint are being affected by the lack of Corrosion Control being conducted by the City, since the LCR requires 2 6-month initial monitoring for a new source. Steve Busch stated that in the Lead sampling pool, almost all of the lead sample sites are lead service lines, and the State is not seeing large increases in lead levels at the tap. Miguel suggested that EPA experts in Lead, Mike Schock; and in distribution systems, Darren Lytle, be added to the Flint drinking water advisory committee to assist the City/State in determining the best way to proceed to minimize lead in the City's drinking water during the interim use of the Flint River, and subsequent use of Lake Huron water.

Miguel said he will send Mike Schock and Darren Lytle's contact information to Steve and Mike. Steve pointed out that the City is following the LCR requirements, and completing the requirements in a timely manner. Miguel's point is that since the LCR was promulgated 20+ years ago, that research and different situations, like Washington D.C., have educated scientists, experts, and regulators that the existing requirements in the LCR may not be as protective as previously thought. Thus, he can only make recommendations as to how to revise sampling protocols. And Miguel acknowledges that it may be another year before these regulation changes are promulgated in the Long-Term Lead and Copper Rule. In December 2015, the NDWAC recommendation is expected.

The Region asked the State if the Flint River will be a permanent supplemental source of drinking water, once the City of Flint connects with the Karegdodi pipeline from Lake Huron. Mike Prysby said that the City is currently pumping 22MGD, but the City has 40-50 MG of storage. The City is currently working on reducing its unaccounted for water losses, and these water losses are dropping. The State, through the Governor's office, provided disadvantaged system funding, \$2M which includes \$900K for lead detection, and pipe inspection.

4. Update on WaterTrack to SDWIS-State: The migration of WaterTrack data to SDWIS-State was number 39 on the Dept of Technology Management and Budget's (DTMB) project list last year; this year it is

number 30. It doesn't appear this project has a high priority. Does the State have any new information on the progress of this project?

Dan said that the migration of WaterTrack data to SDWIS-State has moved to a priority of 26 with DTMB so far this year. But Dan said they are going to take this project out of the queue, since Ronda Page has returned to the drinking water program from DTMB. Ronda said she re-estimated DTMB's involvement in this project to be far less than originally thought, so there is no need for any program developers or the tech team. This project will only need the Data Team and the web designers only. Ronda said they can set-up on a new server and migrate the data from WaterTrack to SDWIS-State themselves; in-house. Kris Philip remembers migrating the CWS data to SDWIS-State, so she can be a resource for this project. The parts that are needed to be completed by DTMB could be contracted out. Cary McElhinney said that there is a process of withholding PWSS grant funds and re-directing the funds to a HQ contract with SAIC. Richard Benzie said the process worked well last year when MI used PWSS funds to contract with a HQ contractor to conduct NEEDS survey training.

ACTION: Jen will follow up with State and Tribal Programs Branch about the process and timing of holding back funds from the PWSS grant for the purpose of contracting with SAIC.

5. Consequences of cutting the State drinking water program to a “minimal program”

Jennifer had a discussion with Richard Benzie regarding the possibility of the Michigan State Legislature looking to have just a minimal drinking water program, meaning only a program with activities that are required by the Federal SDWA. Jennifer ultimately discussed this internally with Tom Poy. The minimal program suggested would cut out Operator Certification, Capacity Development, Plan Review, Cross Connection Control, Source Water Protection, among other programs that are State required. Operator Certification and Capacity Development, while not required by the Federal regulations, do have financial strings attached. And Plan review/construction permits are required by the SRF program for a loan. Any recent communication with the State Legislature that they might proceed and make this possibility a reality?

Richard and Liane said there is no current threat from the State Legislature to cut the State-funded PWSS program activities. But there is a State-wide impetus to delete old programs and regulations, so this could lead to questioning the purpose of State-funded PWSS program activities. Richard is just being proactive in preparing a justification. Richard remembers a discussion many years ago about what constitutes a “comprehensive drinking water program”. Tom Poy and Jennifer commented in a previous communication with Richard that the EPA PWSS primacy program and the State-funded activities in the drinking water program were meant to complement each other. To support this statement, Jennifer sent Richard some PWSS Priority guidance from the 90’s, some preamble language from the 1976 SDWA found by our attorney, and language from Section 142 of the SDWA regulations from 1976 that might assist him in his justification.

6. EPA’s Resource Message at the LHD Workshop in April

From the 2014 analysis of Shared Goals 2013 data, which is compliance data, for noncommunity systems, there are increasing trends of nitrate M/R violations for both NTNCWSs and TNCWSs. We discussed this on the last semi-annual call. Analysis of the 2015 Shared Goals 2014 data (April 2015) shows an improvement—that of decreasing numbers of bacti/nitrate M/R violations.

However, in light of the upcoming implementation of RTCR in 2016, the question raised here in the Region is: Does the State have a plan with the LHDs as to what activities must be prioritized, and what will fall off the plate? Not all LHDs will need to disinvest based upon each LHD’s resources, but some poorly funded LHDs may have to disinvest in some activities/drop activities that have no risk to public health.

Carrie Monosmith said that she met with the RTCR workgroup, comprised of LHD Directors/sanitararians, last fall to identify activities that the state can disinvest in during the next several years as the LHDs begin implementation of RTCR. They could not identify any activity that could be dropped. The main thing that will help the LHDs save time is to get the electronic DWR (eDWR) going, or the CMD portal, which will drastically reduce the LHDs time in inputting laboratory data into WaterTrack/SDWIS-State. From there, they can develop electronic data forms (CROMEER compliant) that the systems can submit.

Thank you!

Jennifer

shekterl@michigan.gov; 'Richard Benzie' <benzier@michigan.gov>; 'kris philip' <philipk@michigan.gov>; 'Monosmith, Carrie (DNRE)' <MONOSMITHC@michigan.gov>; 'DeBruyn, Dana (DEQ)' <DebruynD@michigan.gov>; Dettweiler, Dan

(DEQ) <DETTWEILERD@michigan.gov>; Poy, Thomas <poy.thomas@epa.gov>; Kuefler, Janet <kuefler.janet@epa.gov>; Damato, Nicholas <damato.nicholas@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Murphy, Thomas <murphy.thomas@epa.gov>; Bair, Rita <bair.rita@epa.gov>; McElhinney, Cary <mcelhinney.cary@epa.gov>; Pniak, Edward <pniak.edward@epa.gov>; 'cookp@michigan.gov'; 'Prysby, Mike (DEQ)' <PRYSBYM@michigan.gov>; Busch, Stephen (DEQ) <BUSCHS@michigan.gov>

Shekter Smith, Liane (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Tuesday, July 07, 2015 5:16 PM
To: Cook, Pat (DEQ)
Cc: Benzie, Richard (DEQ); Busch, Stephen (DEQ); Philip, Kris (DEQ)
Subject: FW: Lead results in Flint - Call in # 312-353-4768 Code: 372928
Attachments: FW: Lead results in Flint - Call in # 312-353-4768 Code: 372928

Pat – please plan to participate if you are available. Thanks.

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
517-284-6543

Shekter Smith, Liane (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, July 08, 2015 2:57 PM
To: Busch, Stephen (DEQ)
Cc: Benzie, Richard (DEQ)
Subject: FW: Flint

Liane J. Shekter Smith, P.E., Chief
 Office of Drinking Water and Municipal Assistance
 Michigan Department of Environmental Quality
 517-284-6543

From: Hyde, Tinka [<mailto:hyde.tinka@epa.gov>]
Sent: Tuesday, June 30, 2015 4:41 PM
To: Shekter Smith, Liane (DEQ)
Cc: Monosmith, Carrie (DEQ); Henry, Timothy; Poy, Thomas; Bair, Rita; Damato, Nicholas
Subject: Flint

Hi Liane – I'm following up on the voicemail I left for you earlier today. I'm also copying Carrie Monosmith as I did get a chance to chat with her. In advance of our call scheduled for 7/21/15, I wanted to provide you with an update related to water quality challenges in Flint. I understand that some discussion occurred on June 10th with Tom Poy and staff during the semi-annual call regarding MDEQ's implementation of the LCR rule and the status of Flint. The Region is concerned about the lead situation in Flint and suggested that additional ORD assistance could be provided to Flint's Advisory Committee. We understand that the city is finishing up its second set of 6-month initial monitoring and I have scheduled a call with you on July 21st so we can discuss the Flint situation in more detail.

As you know, my staff have been out to Flint to collect samples and data which we felt could uniquely inform the NDWAC process and ultimately better inform the LCR rulemaking. Tom Poy asked Miguel Del Toral to prepare a report summarizing the visits and findings. Last week Miguel completed a draft interim report and provided it to management. Once Miguel addresses our comments, we will provide you with a copy of that report. In most cases, an internal EPA memo would not be distributed outside the agency, but given his interaction with the homeowner for one of the sampling locations, Miguel has shared a copy of the draft interim report as a courtesy with this Flint resident. Based on Miguel's initial analysis, elevated lead levels were found at this residence. In addition, it appears that the source of the lead may be from outside the home (Note: plumbing in the home is largely plastic).

Please know that Region 5 management is still being briefed on the lead issues in Flint and we look forward to the opportunity to discuss the situation with you in more detail so we can better characterize what MDEQ is already doing in Flint and how public health protection can best be provided to the citizens of Flint. If you would like to discuss this in advance of our call, please feel free to contact myself, or Tim Henry (312-886-6107). Thanks

Tinka G. Hyde
 Water Division Director
 USEPA W-15J
 77 W. Jackson Blvd

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Shekter Smith, Liane (DEQ)

From: Hyde, Tinka <hyde.tinka@epa.gov>
Sent: Tuesday, July 21, 2015 9:07 AM
To: Shekter Smith, Liane (DEQ)
Cc: Poy, Thomas; Bair, Rita; Damato, Nicholas
Subject: AGENDA for Today's Call on Flint
Attachments: Agenda for MDEQ Call on Flint 7-21-15.docx

Hi Liane – In preparation for our call today we've prepared an agenda (attached) with some background and discussion points. Please let me know if you have other items you wish to discuss. Thanks

Tinka G. Hyde
Water Division Director
USEPA W-15J
77 W. Jackson Blvd
Chicago, IL 60604

Office: 312-886-9296
Cell: 312-735-9428

Briefing Paper for Call with MDEQ on July 21, 2015

MDEQ Implementation of LCR Rule and Flint Issues

Issue #1: Is there a public health concern regarding lead in Flint or other regulatory requirements?

- Under State policy ODWMA-399-027, the wholesale system is responsible for corrosion control treatment. Detroit, as the wholesale system, was providing this for Flint. When Flint changed to no longer be a consecutive system, and instead using the Flint River as its water source, it did not begin its own corrosion control program and is not currently practicing corrosion control treatment at the Water Treatment Plant.
- Prior to the change from being a consecutive public water system to the Detroit Water and Sewerage Department (DWSD) system and associated switch in source water, the City of Flint was conducting LCR sampling every three years. Due to the switch in water sources, the Michigan Department of Environmental Management (MDEQ) required the City of Flint to increase the number of monitoring sites from 50 to 100 sites for two consecutive rounds of monitoring (July through December 2014 and January through June 2015).
- The first round of samples after switch-over from DWSD (July 1, 2014 – Dec 31, 2014) had 90th percentiles of 6 ppb for Lead and 110 ppb for Copper.
- As of June 30, 2015, we believe MDEQ received all 100 sample results from the second round of monitoring and is incorporating citizen-requested sample results that meet the Tier 1 criteria.
- HQ confirmed, per the Water Supply Guidance #174 that citizen-requested sample results should be included in the 90th percentile calculations.
- We believe that the results of the two rounds of sampling will support an exceedance of 5 ug/l. This will result in the need for a corrosion control study, but not public education.
- Flint plans to switch to another source in 2016 making the corrosion control study timing complicated.
- Compliance with other regulatory requirements: Appears to be doing fine with Stage 2 DBP rule and re-characterizing the distribution system based on the new source of water, but not sure about LT2 compliance for first round monitoring for cryptosporidium. We'd want to ask if Flint had existing data on Crypto for the Flint River (they would be allowed to grandfather data for the 1st round of sampling). If not, they'd need to start sampling as soon as possible to get 1st round crypto results). If they did have old data, they'd still be expected to start a 2nd round of Crypto monitoring already (April 2015 – since Flint's population is still above 100,000).

Discussion Items:

- **Discuss most recent 2 rounds of 6-months monitoring results and 90th percentile calculations and inclusion of the citizen-requested samples.**
- **Based on results, what are the next steps?**
- **Set the stage for why we are concerned about lead levels – since Flint is not feeding phosphate and the lead, phosphate, and cadmium are tracking, the phosphate is likely coming off the pipes.**
- **Is there anything we should do now to reduce the exposure risk to lead?**
- **Discuss possibly accelerating a corrosion control study for Flint. However, this should be done with a comprehensive look at all rule requirements and treatment needs. EPA/ORD expert are available to assist.**
- **How is Flint doing with meeting all the other regulatory requirements? Are they meeting LT2 requirements for crypto monitoring?**

Criteria for large systems (serving >50,000 persons) to install/maintain corrosion control treatment:	Action Level (AL) Exceedance: If exceed Pb AL of 0.015 mg/L expressed as 90 th percentile level based on samples at tap:
If 90 th percentile tap lead value minus source water lead value greater than or equal to 0.005 mg/L	• Corrosion control treatment steps • Source water treatment steps • Public education • Lead service line replacement (if continue to exceed Pb AL after installing treatment)

Issue #2: Discuss optimal corrosion control requirements

- The federal regulations governing lead and copper in drinking water, which all States are required to adopt, require all large public water systems (those serving greater than 50,000 persons (Flint's population is 99,002 (2014)) to install and maintain optimal corrosion control. The federal citation (requirement) requiring optimal corrosion control treatment can be found at Title 40 Code of Federal Regulations (CFR), Subpart I, Section 141.80, paragraph (d), as follows:
 - "(d) Corrosion control treatment requirements.
 - (1) All water systems shall install and operate optimal corrosion control treatment as defined in 141.2.
 - (2) Any water system that complies with the applicable corrosion control treatment requirements specified by the State under 141.81 and 141.82 shall be deemed in compliance with the treatment requirement contained in paragraph (d)(1) of this section."
- Paragraph (1) above requires systems to have installed treatment unless they have low lead levels (defined in other parts of the rule), but based on the Flint's current 90th percentile lead level, they would not meet that criteria and must have optimal corrosion control in place. Title 40 CFR Section 141.2 defines optimal corrosion control treatment as follows:
 - "Optimal corrosion control treatment, for the purpose of subpart I of this part only, means the corrosion control treatment that minimizes the lead and copper concentrations at users' taps while insuring that the treatment does not cause the water system to violate any national primary drinking water regulations."
- HQ memorandum of January 10, 1992 titled, "Consecutive Systems Regulated under the National Primary Drinking Water Regulations for Lead and Copper" reinforces the position that "optimal corrosion control treatment is properly installed and maintained". Further, the LCR Short-term Revisions (2007) Preamble (starting on page 57788) states, "State notification and approval of long-term treatment changes is important because these changes could adversely impact optimal corrosion control. As EPA noted in the proposed rule, this approach allows the State to evaluate the change prior to implementation and, if needed, to design a monitoring program to ensure that optimal corrosion control is maintained after the change..... EPA will provide guidance to help systems identify source water changes (such as changing the mixture) that could impact optimal corrosion control."
- MDEQ's Policy also describes under 5.c. Change in Treatment or Addition of a New Source that "Field staff may require the water supply to conduct additional monitoring or take other actions to ensure that CCT (corrosion control treatment) remains optimized".

Discussion Items:

- MDEQ made decision that Flint would be treated as a "new system" rather than an existing system changing their source of water. Discuss EPA (Region & HQ) interpretation of regulations that systems need to "maintain" corrosion control.
- Are there any other communities that may leave the Detroit system for other sources like Lake Huron that would be viewed as new systems or should be doing something about now to collect needed information to maintain corrosion control?

Issue #3: Discuss Pre-flushing (as time allows)

- Lead compliance sampling procedures in the state of Michigan comply with Federal SDWA requirements which calls for a minimum of 6 hours during which there is no water used from the tap the sample is taken from. While pre-flushing may fall within a strict legal interpretation of the regulations, we believe that it goes against the intent of the monitoring protocol, since it changes the normal water use of the homeowner in the sample.
- Michigan is the only Region 5 State that requires pre-flushing.
- Attachment 1 provides a brief description of pre-flushing.

Pre-flushing

The issue of pre-flushing came up regarding compliance sampling protocol used in Washington DC and was addressed by Cynthia Dougherty/OGWDW(see below/attached docs) in a letter to a resident in DC. It was not addressed in the Grumbles memo as the pre-flushing was discovered after the Grumbles memo had been written. To date, it has not been addressed on a national basis but it is one of the issues being discussed as part of the LCR Long-term revisions.

"The purpose of the monitoring protocol is to determine if corrosion control is effective in reducing lead and copper leaching at times and locations where we would expect levels to be greatest under normal conitions. Therefore, we believe that homeowners collecting samples should use their water as they would normally, with the exception that the regulations require the water to stagnate for a minimum of six hours prior to collection of the sample."

"We do not understand why DC WASA believes it should be necessary to request flushing only in households participating in the sampling. While this may fall within a strict legal interpretation of the regulations, we believe that it goes against the intent of the monitoring protocol, since it changes the normal water use of the homeowner in the sample. We will discuss this matter with their water quality manager to determine if there is a rationale that we should consider as we evaluate this issue. We also want to make sure that you are aware that we are considering additional actions we can take to further reduce lead and copper in drinking water and will be holding a stakeholder meeting on October 14-15 to initiate the effort."

Shekter Smith, Liane (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Tuesday, July 21, 2015 10:52 AM
To: 'Hyde, Tinka'
Cc: Poy, Thomas; Bair, Rita; Damato, Nicholas; Busch, Stephen (DEQ); Cook, Pat (DEQ); Benzie, Richard (DEQ)
Subject: RE: AGENDA for Today's Call on Flint

Thanks Tinka.

During discussion issue #1, we would like to discuss our (hopefully, mutual) understanding of the timeline for next steps.

Also, while we understand your concerns with the overall implementation of the lead and copper rule(s); we think it is appropriate for EPA to indicate in writing (an e-mail would be sufficient) your concurrence that the city is in compliance with the lead and copper rule as implemented in Michigan. This would help distinguish between our goals to address important public health issues separately from the compliance requirements of the actual rule which we believe have been and continue to be met in the city of Flint.

And finally, we would also like to discuss our concern that the draft report was released by EPA and that we (DEQ) obtained a copy of the report from an outside (ACLU) website.

Liane J. Shekter Smith, P.E., Chief
 Office of Drinking Water and Municipal Assistance
 Michigan Department of Environmental Quality
 517-284-6543

From: Hyde, Tinka [<mailto:hyde.tinka@epa.gov>]
Sent: Tuesday, July 21, 2015 9:07 AM
To: Shekter Smith, Liane (DEQ)
Cc: Poy, Thomas; Bair, Rita; Damato, Nicholas
Subject: AGENDA for Today's Call on Flint

Hi Liane – In preparation for our call today we've prepared an agenda (attached) with some background and discussion points. Please let me know if you have other items you wish to discuss. Thanks

Tinka G. Hyde
 Water Division Director
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 77 W. Jackson Blvd
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Shekter Smith, Liane (DEQ)

From: Crooks, Jennifer <crooks.jennifer@epa.gov>
Sent: Tuesday, July 28, 2015 9:47 AM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Philip, Kris (DEQ); Monosmith, Carrie (DEQ); DeBruyn, Dana (DEQ); Dettweiler, Dan (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Cook, Pat (DEQ); Holdwick, Kevin (DEQ)
Cc: Poy, Thomas; Bair, Rita; Damato, Nicholas; Shoven, Heather; Kuefler, Janet; Murphy, Thomas; Porter, Andrea; Deltoral, Miguel
Subject: Final Notes from Michigan semi-annual call on 6/10

I was supposed to finalize these in mid-July, but I didn't receive any changes from anyone, so these notes are final now. Thank you all again for participating.

Jennifer

From: Crooks, Jennifer
Sent: Wednesday, July 01, 2015 5:31 PM
To: Shekter Smith, Liane (DNRE); Richard Benzie; kris philip; Monosmith, Carrie (DNRE); DeBruyn, Dana (DEQ); Dettweiler, Dan (DEQ); Busch, Stephen (DEQ); 'Prysby, Mike (DEQ)'; 'cookp@michigan.gov'; Holdwick, Kevin (DEQ)
Cc: Thomas Poy; Bair, Rita; Damato, Nicholas; Shoven, Heather; Kuefler, Janet; Murphy, Thomas; Porter, Andrea; Deltoral, Miguel
Subject: Draft Notes from Michigan semi-annual call on 6/10

All—Below are my draft notes from our call last week, June 10, 2015. Thank you all for participating. I apologize for the delay in getting these out in draft to you all for review—I was hoping to get a couple of items ironed out that were fuzzy during our discussions, but hasn't happened yet. Several ACTION items below. So, please review to make sure I documented our discussion/agreements correctly, and feel free to edit as needed. I you could get back to me by July 13, that would be great. Thank you!

Jennifer

Attendees:

MDEQ: Liane Shekter-Smith, Richard Benzie, Carrie Monosmith, Kris Philip, Dan Dettweiler, Marjorie Rodriguez (Student), Kevin Holdwick, Mike Prysby, Dana DeBruyn, Steve Busch
 EPA Region 5: Tom Poy, Rita Bair, Nick Damato, Janet Kuefler, Michele Palmer, Tom Murphy, Heather Shoven, Cary McElhinney, Andrea Porter, Miguel Deltoral, Mostafa Nouredin

Summary:

1.Changes in Lead Disinvestments and Commitments for FY 2016 ARDP—for discussion: Due to our extreme focus on lead in drinking water, this is the consensus here.

a. Consumer notification of tap results at NTNCWSs:

(Suggested wording) The NCWS program commits to full implementation of the lead consumer notification of tap results requirement, to begin in CY 2016. Region 5 will assist in a notification outreach effort in late FY 2015 to remaining 698 NTNCWSs that are not schools/daycares, to begin providing lead consumer notice in CY 2016. NCWS program commits to include information on providing lead consumer notice in the annual monitoring letter sent to all NTNCWSs for CY 2016.

STATE: The State found this change in the wording acceptable.

b. Collection of Lead samples at NTNCWSs during June – September 2016 timeframe

(Suggested wording) NCWS program commits to including information in the applicable NTNCWS annual monitoring letters of the requirement to collect their annual/triennial lead sample between June and September only, during CY 2016. The MDEQ NCWS program currently does not have the capability to easily track lead sampling compliance within this specific timeframe.

STATE: The State found this change in the wording acceptable.

c. Follow-up Actions for NTNCWSs that sample outside of June-September 2015 timeframe

(From 5/5/15 call notes w/EPA) MDEQ commits to providing Region 5 with all CY 2015 lead (and copper?) sample data for all NTNCWSs by March 2016 so that EPA can analyze how many PWSs monitored outside the June through October timeframe. EPA commits to follow-up with MDEQ to discuss follow-up actions.

STATE: The State agreed to providing EPA R5 the raw lead and copper data for all CY 2015 for all NTNCWSs. The WaterTrack database does have data, but it can't generate violations. MDEQ doesn't commit to enforcing against 2016 violators in FY 2016. The State said, it is planning on disinvesting in enforcing against these violators due to limited capability of WaterTrack; however, if the State's noncommunity data management capabilities improve during FY 2016, implementation of this disinvestment may become a reality. The State has not designated an alternate timeframe, or done system specific documentation as to why the system qualifies for a different timeframe.

d. Submittal of the lead and copper reporting form

(Suggested wording) MDEQ commits to requiring CWSs and NTNCWSs to submit the lead and copper reporting form via the annual monitoring letters to each system, tracking CWSs and NTNCWSs submittal of the lead and copper reporting form, and commits to issuing violations for failure to submit the lead and copper reporting form. The reporting form provides the address of the sample site, designates sampling site selection criteria, and explanation(s) for any changes in sampling sites.

STATE: Dan Dettweiler stated that the NCWS program was not in a position to do this for the NTNCWSs at this time. Tom Murphy asked how does WaterTrack handle/track high lead results? Tom M said there is a truncation issue on the sample location name field. Dan acknowledged that this problem has been identified, and the Department of Technology Management and Budget (DTMB) has been trying to fix this problem, but it is a challenging problem. Dan stated that sample sites for NTNCWSs are actually identified by LHDs during the sanitary survey and are documented in the sanitary survey. The LHDs check the pdf of the laboratory results that clearly states where the sample was taken, and calculates the 90th percentile. However, Dan stated that the requirement to send in the lead and copper reporting form is not currently in the LHD annual monitoring letter sent to each system. The NTNCWSs do not couple this form to the Lead Consumer Notice, as does the CWSs. Kris Philip pointed out that the LHDs select the sample sites, thus when they are calculating the 90th percentile, they are actually double checking the sites with the results.

From our discussion, the Region concluded that at this time, the LHDs are actively reviewing the lead and copper results and the sample locations when they calculate the 90th percentiles to ensure proper LCR monitoring is conducted by ALL NTNCWSs at the proper sample sites. After our call, I asked for verification of this statement, and Dan Dettweiler responded, "Just as with an exceeding value of an MCL, WaterTrack alerts the LHD when at least one sample for a water system exceeds the AL. A 90th percentile calculation is made only when an exceeding result alerts the LHD. For cases

where there are no exceeding results, private lab samples are reviewed at the time LHDs hand-enter them into WaterTrack. State lab samples, which flow electronically via nightly downloads from the state lab database, are reviewed when pdfs of the analysis reports are, routinely, emailed by the state lab to LHDs. Beyond that, MDEQ's annual evaluation of the LHDs provides another opportunity for us to oversee the proper assigning and use of designated sampling locations."

ACTION: The Region will discuss Dan's response internally, and get back to the State with any issues/concerns.

Kris Philip said that the CWS program is requiring that the systems submit the form, but they are not enforcing whether or not the system submits the form. Often, the CWS will submit the Lead Consumer Notice and the Lead and Copper reporting form together. Kris said if 90%+ are already submitting the forms, then the State will agree to follow-up and enforce this requirement. But, if less than that, will probably be too much of a burden. Kris said they may change the way DEQ is tracking in SDWIS during FY 2016. But, the Region said SDWIS-Prime probably won't be available until 2017 at the earliest.

ACTION: Kris Philip will research with the District Offices to determine the current submittal rate of the lead and copper reporting form from CWSs; and report back to the Region.

2. Enforcement Update with Heather

NTNCWSs under Bottled Water agreements due to Arsenic MCL violations:

Per discussions with Region 5 and the February 2014 EPA/OECA memo, MDEQ has closed the old Arsenic open-ended MCL violations; however, no further quarterly monitoring is being conducted at the (± 27) systems that are still under bottled water agreements. Thus, no more arsenic MCL violations will be reported for these systems and these systems will not become priority systems (ETT score of 11 or more) since only one arsenic MCL violation will be reported (5 points) even though they have a longstanding issue with arsenic noncompliance. The Region would like to discuss the pros and cons of placing these PWSs with arsenic MCL violations on quarterly monitoring as required under 40 CFR Section 141.23(c)(7); and brainstorm possible solutions.

Heather provided an update on how the State is doing in returning ETT systems to compliance; the State is doing very well in achieving its commitment for FY 2015. Heather said the Region is glad to see the State and LHD prioritization of implementation of the drinking water program and NTNCWS schools and daycares.

Referring to the NTNCWSs under BW agreements that are in violation of the Arsenic MCL, Heather said that since there are no more open-ended MCL violations in SDWIS, that no MCL violations can be reported to SDWIS unless there is monitoring to show the system is in non-compliance. Even though the LHD has indicated that these systems are drinking bottled water for public health protection, the use of bottled water cannot be a permanent solution to the fact that the system's drinking water at the tap continues to exceed the MCL for arsenic. Dan said there are 22 systems, where 8 are schools, that should be conducting quarterly monitoring. Dana said that letters have been sent (OR drafted?) to these 22 systems to require quarterly sampling for arsenic; these 22 systems are in 10 different counties so the message from the State is consistent. A secondary effect of this new requirement for the systems, may be that they transition to another water source or install treatment sooner.

The State voiced a concern that multiple quarterly violations could potentially affect the State's relationship with the LHDs financially. Genesee and Oakland Counties have quite a number of noncommunity water systems. Multiple quarterly violations could affect the Dept of Community Health's determination as to whether the LHDs are meeting their minimum program requirements; thus receive full funding for their work with the noncommunity systems for the drinking water program. The LHDs cannot have more than 20% of their systems with violations. The Region wonders how much funding would be cut from a LHD contract if it exceeds the 20% noncompliance level set in the contract?

3. Status of Flint

- a. TTHM levels for May—Due to MDEQ district engineer June 10-RECEIVED; see link to results

<https://www.cityofflint.com/2015/06/01/may-water-testing-results-show-all-locations-are-within-acceptable-limits-for-tthm/>

All samples below the TTHM MCL; one site still has an LRAA above the MCL but decreased from 105 ppb in Feb to 93.5 ppb in May.

Mike Prysby said he is getting ready to issue the construction permit to the City of Flint to install a GAC filter in July, that will remove more TOC to further reduce the potential of developing TTHMs. Mike said he has already issued a construction permit for a transmission line within the City that will help reduce water age.

- b. Lead in Flint

Our discussions with MDEQ indicate that no phosphates/corrosion control has been added to the system since April 2014 when the source of drinking water changed to the Flint River. We understand that the City is just finishing up its second set of 6-month initial monitoring for lead; where the results will probably warrant a Corrosion Control Study to be conducted. Since Flint has lead service lines, we understand some citizen-requested lead sampling is exceeding the Action Level, and the source of drinking water will be changing again in 2016, so to start a Corrosion Control Study now doesn't make sense. The idea to ask Flint to simply add phosphate may be premature; there are many other issues and factors that must be taken into account which would require a comprehensive look at the water quality and the system before any treatment recommendations can/should be made. Miguel is recommending MDEQ and EPA? approach Flint about formally requesting EPA's Office of Research and Development in Cincinnati support on the lead in Flint drinking water issue, and request that Mike Schock, ORD, and possibly Darren Lytle, ORD, to participate in Flint's drinking water advisory committee so that a comprehensive evaluation on how to proceed can be discussed.

Miguel provided a brief summary of the high lead results found at the residence of Ms. LEEANNE Walters in Flint. Miguel will follow up with a written summary of the work conducted, sample results, and conclusions.

Miguel believes that lead levels in Flint are being affected by the lack of Corrosion Control being conducted by the City, since the LCR requires 2 6-month initial monitoring for a new source. Steve Busch stated that in the Lead sampling pool, almost all of the lead sample sites are lead service lines, and the State is not seeing large increases in lead levels at the tap. Miguel suggested that EPA experts in Lead, Mike Schock; and in distribution systems, Darren Lytle, be added to the Flint drinking water advisory committee to assist the City/State in determining the best way to proceed to minimize lead in the City's drinking water during the interim use of the Flint River, and subsequent use of Lake Huron water.

Miguel said he will send Mike Schock and Darren Lytle's contact information to Steve and Mike. Steve pointed out that the City is following the LCR requirements, and completing the requirements in a timely manner. Miguel's point is that since the LCR was promulgated 20+ years ago, that research and different situations, like Washington D.C., have educated scientists, experts, and regulators that the existing requirements in the LCR may not be as protective as previously thought. Thus, he can only make recommendations as to how to revise sampling protocols. And Miguel acknowledges that it may be another year before these regulation changes are promulgated in the Long-Term Lead and Copper Rule. In December 2015, the NDWAC recommendation is expected.

The Region asked the State if the Flint River will be a permanent supplemental source of drinking water, once the City of Flint connects with the Karegdodi pipeline from Lake Huron. Mike Prysby said that the City is currently pumping 22MGD, but the City has 40-50 MG of storage. The City is currently working on reducing its unaccounted for water losses, and these water losses are dropping. The State, through the Governor's office, provided disadvantaged system funding, \$2M which includes \$900K for lead detection, and pipe inspection.

4. Update on WaterTrack to SDWIS-State: The migration of WaterTrack data to SDWIS-State was number 39 on the Dept of Technology Management and Budget's (DTMB) project list last year; this year it is

number 30. It doesn't appear this project has a high priority. Does the State have any new information on the progress of this project?

Dan said that the migration of WaterTrack data to SDWIS-State has moved to a priority of 26 with DTMB so far this year. But Dan said they are going to take this project out of the queue, since Ronda Page has returned to the drinking water program from DTMB. Ronda said she re-estimated DTMB's involvement in this project to be far less than originally thought, so there is no need for any program developers or the tech team. This project will only need the Data Team and the web designers only. Ronda said they can set-up on a new server and migrate the data from WaterTrack to SDWIS-State themselves; in-house. Kris Philip remembers migrating the CWS data to SDWIS-State, so she can be a resource for this project. The parts that are needed to be completed by DTMB could be contracted out. Cary McElhinney said that there is a process of withholding PWSS grant funds and re-directing the funds to a HQ contract with SAIC. Richard Benzie said the process worked well last year when MI used PWSS funds to contract with a HQ contractor to conduct NEEDS survey training.

ACTION: Jen will follow up with State and Tribal Programs Branch about the process and timing of holding back funds from the PWSS grant for the purpose of contracting with SAIC.

5. Consequences of cutting the State drinking water program to a "minimal program"

Jennifer had a discussion with Richard Benzie regarding the possibility of the Michigan State Legislature looking to have just a minimal drinking water program, meaning only a program with activities that are required by the Federal SDWA. Jennifer ultimately discussed this internally with Tom Poy. The minimal program suggested would cut out Operator Certification, Capacity Development, Plan Review, Cross Connection Control, Source Water Protection, among other programs that are State required. Operator Certification and Capacity Development, while not required by the Federal regulations, do have financial strings attached. And Plan review/construction permits are required by the SRF program for a loan. Any recent communication with the State Legislature that they might proceed and make this possibility a reality?

Richard and Liane said there is no current threat from the State Legislature to cut the State-funded PWSS program activities. But there is a State-wide impetus to delete old programs and regulations, so this could lead to questioning the purpose of State-funded PWSS program activities. Richard is just being proactive in preparing a justification. Richard remembers a discussion many years ago about what constitutes a "comprehensive drinking water program". Tom Poy and Jennifer commented in a previous communication with Richard that the EPA PWSS primacy program and the State-funded activities in the drinking water program were meant to complement each other. To support this statement, Jennifer sent Richard some PWSS Priority guidance from the 90's, some preamble language from the 1976 SDWA found by our attorney, and language from Section 142 of the SDWA regulations from 1976 that might assist him in his justification.

6. EPA's Resource Message at the LHD Workshop in April

From the 2014 analysis of Shared Goals 2013 data, which is compliance data, for noncommunity systems, there are increasing trends of nitrate M/R violations for both NTNCWSs and TNCWSs. We discussed this on the last semi-annual call. Analysis of the 2015 Shared Goals 2014 data (April 2015) shows an improvement—that of decreasing numbers of bacte/nitrate M/R violations.

However, in light of the upcoming implementation of RTCR in 2016, the question raised here in the Region is: Does the State have a plan with the LHDs as to what activities must be prioritized, and what will fall off the plate? Not all LHDs will need to disinvest based upon each LHD's resources, but some poorly funded LHDs may have to disinvest in some activities/drop activities that have no risk to public health.

Carrie Monosmith said that she met with the RTCR workgroup, comprised of LHD Directors/sanitarions, last fall to identify activities that the state can disinvest in during the next several years as the LHDs begin implementation of RTCR. They could not identify any activity that could be dropped. The main thing that will help the LHDs save time is to get the electronic DWR (eDWR) going, or the CMD portal, which will drastically reduce the LHDs time in inputting laboratory data into WaterTrack/SDWIS-State. From there, they can develop electronic data forms (CROMEER compliant) that the systems can submit.

Thank you!

Jennifer

shakterl@michigan.gov; 'Richard Benzie' <benzier@michigan.gov>; 'kris philip' <philipk@michigan.gov>; 'Monosmith, Carrie (DNRE)' <MONOSMITHC@michigan.gov>; 'DeBruyn, Dana (DEQ)' <DebruynD@michigan.gov>; Dettweiler, Dan (DEQ) <DETTWEILERD@michigan.gov>; Poy, Thomas <poy.thomas@epa.gov>; Kuefler, Janet <kuefler.janet@epa.gov>; Damato, Nicholas <damato.nicholas@epa.gov>; Shoven, Heather <shoven.heather@epa.gov>; Murphy, Thomas <murphy.thomas@epa.gov>; Bair, Rita <bair.rita@epa.gov>; McElhinney, Cary <mcelhinney.cary@epa.gov>; Pniak, Edward <pniak.edward@epa.gov>; 'cookp@michigan.gov'; 'Prysby, Mike (DEQ)' <PRYSBYM@michigan.gov>; Busch, Stephen (DEQ) <BUSCHS@michigan.gov>

Shekter Smith, Liane (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Monday, August 03, 2015 3:34 PM
To: Cook, Pat (DEQ); Busch, Stephen (DEQ)
Subject: FW: FOR REVIEW: MDEQ - Flint Call Notes
Attachments: MDEQ Call on July 21_call notes v4.docx

Just received the attached. Haven't reviewed it yet.

From: Hyde, Tinka [<mailto:hyde.tinka@epa.gov>]
Sent: Monday, August 03, 2015 3:31 PM
To: Shekter Smith, Liane (DEQ)
Cc: Poy, Thomas; Bair, Rita
Subject: FOR REVIEW: MDEQ - Flint Call Notes

Hi Liane – Attached are our notes from our call on 7/21 regarding Flint Drinking Water System. Please take a look and let me know if you have any questions or comments. Thanks

Notes on Call with MDEQ on July 21, 2015

MDEQ Implementation of LCR Rule and Flint Issues

Issue #1: Is there a public health concern regarding lead in Flint or other regulatory requirements?

- The 90th percentile results of the 2nd round of monitoring was 11 ppb.
- The population has dropped to under 100,000 and therefore the 1st round of 6-month monitoring was done for 100 samples, but the 2nd round only needed 60 samples.
- Customer-requested samples were included, but MDEQ did not have specifics on how many there were.
- Tinka asked about the timeline for Flint to switch over to the Lake Huron water source. MDEQ said the pipeline is under construction and scheduled to be complete by July 2016. MDEQ expects some delays and thinks a more realistic timeframe is October 2016.
- MDEQ explained that Flint would have 18 months to complete the corrosion control study and the complicating factor of switching over to Lake Huron. Should the corrosion control study be based on the Lake Huron source? MDEQ also explained that once Flint is using Lake Huron water that they would then need to complete 2 more rounds of 6-month monitoring to assess whether any adjustments to the corrosion control treatment was needed.
- MDEQ will be sending a letter to Flint telling them they need to complete a corrosion control study – based on results they are not optimized. Given the timing of completing a corrosion control study and the anticipated switch to Lake Huron water, MDEQ will have discussions with Flint and request that they start corrosion control treatment as soon as possible.
- MDEQ asked for Region 5's opinion on whether the regulations allow for the study requirement for Flint to be waived if MDEQ has Flint start pH adjustments and adding phosphates. Region 5 will look into this and get back to MDEQ with an answer. All acknowledged that if Flint initiated corrosion control treatment and continued to evaluate the system to ensure optimization that these efforts would essentially equate to a corrosion control study.
- The Region raised its concern about looking at treatment more comprehensively to ensure problems with DBPs didn't occur. MDEQ stated that Flint is on the brink of DBP compliance and that bacteriological issues haven't occurred since last year. Any adjustments for corrosion control treatment would need to make sure the other issues weren't exacerbated.
- Region 5 again offered the assistance of ORD staff, Darren Lytle and Mike Schock which MDEQ said they had shared with Flint already.

Issue #2: Discuss optimal corrosion control requirements

Discussion Items:

- MDEQ explained that they did not treat the switch to Flint River water as a "new system", but as a new source. It is their understanding that 2 rounds of 6-month monitoring is still needed to characterize the water quality. They don't know what is optimized until those 2 rounds of 6-month monitoring are completed.

- Region 5 noted that under 141.81(b)(3)(iii) that any system that has been deemed optimized must notify the State of any long-term change in treatment or the addition of a new source. The State must review and approve the change and may require any such system to conduct additional monitoring or other action to ensure that the system maintains minimal levels of corrosion in the distribution system. The State's requirement for 2 additional rounds of 6-month monitoring would fall under the "additional monitoring" prescribed by the State and not the initial 2 rounds of 6-month monitoring for new systems.
- Region 5 explained that they have talked to HQ about the interpretation of regulations and believes that systems that have been deemed optimized need to "maintain" corrosion control. The Region agreed to provide supporting regulatory citations for the language about maintaining corrosion control. Ed Moriarty in OGWDW is also consulting OGC on this topic and the OGC opinion will also be shared.
- MDEQ mentioned that there are other communities that may leave the Detroit system or connect to the new Lake Huron pipeline, but many of those either don't need to treat for corrosion control or will be building new treatment plants. Requirements for maintaining corrosion control for additional communities connecting to the Lake Huron pipeline will be discussed further after receipt of the HQ/OGC opinion.

Issue #3: Discuss Pre-flushing (as time allows)

- Lead compliance sampling procedures in the state of Michigan comply with Federal SDWA requirements which calls for a minimum of 6 hours during which there is no water used from the tap the sample is taken from.
- MDEQ is not interested in changing its position on pre-flushing until new regulations come out. They also pointed out that the pre-flushing instructions are not requirements, but suggestions.
- The Michigan pre-flushing instructions were developed as a way to ensure that sampled faucets were not stagnant for an excessive period of time beyond the targeted 6 hour (i.e., rarely used faucets or when a homeowner has been gone for an extended period of time).

Next Steps:

- MDEQ will send a letter to Flint regarding the 2 rounds of 6-month monitoring results that exceed 5 ppb and the need for a corrosion control study. They will have discussions with Flint to request that they start corrosion control treatment as soon as possible rather than waiting for the completion of a study that can take 18 months.
- MDEQ and the Region were in agreement that it is important to get phosphate addition going in Flint as soon as possible. MDEQ mentioned tapping Mike Shock for help with this in the interim.
- Region 5 commented that we now have a path forward for Flint despite a difference of opinion on whether the regulations required Flint to "maintain" corrosion control treatment when they started serving treated water from the Flint River.
- MDEQ and Region 5 agreed that after Flint implements corrosion control treatment, when they switch back to Lake Huron water, they will need to continue the corrosion control treatment while conducting monitoring to determine if this treatment is optimized with the new Lake Huron water quality.

- Region 5 will get back to MDEQ once it gets HQ/OGC's opinion on the need to "maintain" corrosion control treatment once a system is deemed optimized.
- MDEQ and Region 5 agreed that other communities currently implementing corrosion control treatment and change sources will need to continue to provide corrosion control treatment and conduct monitoring to determine whether the treatment is optimized with the new source water quality.
- Region 5 will research and get back to MDEQ on the 141.81 (3)(b)(5) citation and the ability to waive a CCT study.

RF

Shekter Smith, Liane (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Monday, August 10, 2015 10:53 AM
To: Busch, Stephen (DEQ)
Cc: Benzie, Richard (DEQ)
Subject: RE: Flint

Steve - can you provide a response/update for EPA?

I also have a voicemail message from Tom asking basically the same questions.

-----Original Message-----

From: Poy, Thomas [<mailto:poy.thomas@epa.gov>]
Sent: Monday, August 10, 2015 8:05 AM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Busch, Stephen (DEQ)
Cc: Crooks, Jennifer
Subject: Flint

Liane: Any news on Flint since our call a couple of weeks ago? Has the letter been sent to inform them that they are not optimized for lead based on their monitoring? Have they been approached about starting corrosion control sooner rather than later?

Tom

Tom Poy
Chief, Ground and Drinking Water Branch
USEPA - Region 5
(312) 886-5991

Shekter Smith, Liane (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Friday, August 28, 2015 1:12 PM
To: Busch, Stephen (DEQ)
Cc: Benzie, Richard (DEQ)
Subject: FW: Flint Citizen Sampling

From: Poy, Thomas [mailto:poy.thomas@epa.gov]
Sent: Friday, August 28, 2015 12:35 PM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ)
Cc: Hyde, Tinka; Crooks, Jennifer
Subject: Flint Citizen Sampling

Liane/Richard: FYI... Marc Edwards (Virginia Tech) is working with some of the citizens in Flint and they are finding lead at levels above 5 ppb and some above 15 ppb. There's no indication of whether any of these homes were also sampled and analyzed by Flint and will now part of their compliance calculations. Virginia Tech sent out 300 bottles and have gotten 48 back. We are not involved in this effort by Dr. Edwards.

<https://flintwaterstudyupdates.wordpress.com/>

Tom

Tom Poy
Chief, Ground Water and Drinking Water Branch
USEPA - Region 5
(312) 886-5991

Shekter Smith, Liane (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Friday, August 28, 2015 3:33 PM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Benzie, Richard (DEQ)
Subject: FW: Flint

Any word?

From: Poy, Thomas [<mailto:poy.thomas@epa.gov>]
Sent: Friday, August 28, 2015 3:29 PM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ)
Subject: Flint

Liane/Richard: Has Flint replied yet on how they plan to comply with the corrosion control requirements of the 8/17 letter? Susan Hedman will be at a Brownfields meeting next week along with the Flint mayor and the subject of lead will likely come up.

Tom

Tom Poy
Chief, Ground Water and Drinking Water Branch
USEPA - Region 5
(312) 886-5991

Shekter Smith, Liane (DEQ)

From: Crooks, Jennifer <crooks.jennifer@epa.gov>
Sent: Thursday, September 03, 2015 2:51 PM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Poy, Thomas; Porter, Andrea
Subject: Draft Notes from call Tuesday with MI DEQ RE: Flint
Importance: High

All—these are the notes I jotted down during our call this past Tuesday when we discussed Flint. Any edits?
Jennifer

Date: August 31, 2015

Present: Liane Shekter Smith, Richard Benzie, Steve Busch, (2 other MDEQ staff?), Tom Poy, Andrea Porter, Janet Kuefler, Jennifer Crooks

STRATEGIC NEXT STEPS FOR FLINT TO ADDRESS LEAD CORROSION CONCERNS

Tom Poy discussed Marc Edwards' website, "Flint, MI Water Study Updates" (<https://flintwaterstudyupdates.wordpress.com/>). The discussion focused on the lead sampling and analytical results Marc Edwards' team posted to their website. Tom emphasized that EPA is not involved with Marc Edwards' work in Flint. Tom mentioned that the Edwards team's samples may not have been analyzed by a certified lab (which is only required for compliance samples) nor taken from sites that qualify as Tier 1 for LCR compliance sampling, but the results give further evidence that lead levels in Flint are trending upward. (The conclusion that there is an increasing trend of lead concentrations at consumer taps builds upon earlier compliance sampling taken by Flint in 2014 and 2015 that showed the 90th percentile of the 1st 6-month sampling period at 6ppb, then the 90th percentile of the 2nd 6-month sampling period at 11ppb.)

The "Flint, MI Water Study Updates" website is putting added pressure on MDEQ and EPA to ensure that Flint addresses their lack of optimized corrosion control treatment in an expedited manner in order to protect the residents from exposure to high lead levels. Richard noted that there are numerous systems across the country that have installed corrosion control treatment, have optimized their corrosion control, but continue to have high lead levels. We all acknowledged that this is true, but we all also acknowledged that to delay installation of corrosion control treatment in Flint would likely cause even higher levels of lead over time as Flint's approximately 15,000 lead service lines are continuously in contact with corrosive water.

Region 5 and MDEQ brainstormed on strategic next steps for Flint to address lead corrosion concerns. These steps included:

1. **Public Education for Flint Residents.** Liane has contacted the Department of Community Health to discuss developing a consumer lead education piece outlining the consumer's responsibilities to lower the lead in their drinking water. The Region was glad to hear of a plan to initiate Lead Public Education since this will provide the public immediate actions they can take. The educational material could include steps consumers can take immediately to reduce their exposure to lead in drinking water (flushing their lines after long stagnation periods, using filters certified to remove lead, etc.) as well as longer term fixes to remove lead sources (for example, financing the cost to remove any part of a lead service line on the owner's property at the same time as Flint is replacing its portion of the lead service line).

2. **Gathering Information on Flint's Future Treatment Plans.** Steve Busch said Flint and their engineering consultants were meeting this week (Sept 1) to discuss conceptually the necessary optimized corrosion control treatment at Flint. Tom Poy shared EPA lead experts' (Mike Schock and Darren Lytle of EPA's Office of Research and Development in Cincinnati) caution against simply adding orthophosphate without first studying the water quality and existing distribution system conditions to ensure that any installed treatment has a good chance of working. EPA lead experts have research and field experience showing the complexity of optimizing corrosion control treatment when water quality is significantly changed, as is the case for Flint.
3. **Offering Flint Free Help from EPA Experts.** Steve Busch has already provided the names of EPA lead experts (Mike Schock and Darren Lytle) to Flint, as has Susan Hedman, R5 Administrator. MDEQ and Region 5 agree that, to successfully control lead corrosion in the distribution system, Flint needs to review this situation holistically, while also addressing the lead issue in an expedited manner.
4. **Laying Groundwork for MDEQ/EPA Collaboration with Flint.** If Flint accepts the offer of technical assistance for optimizing corrosion control, Tom Poy suggested that MDEQ and EPA lead experts (Mike Schock and Darren Lytle) form a partnership to provide such help. EPA experts are able to provide pipe scale analyses, as well as other laboratory support. Although Flint (using their consultant) bears the ultimate responsibility for designing and installing corrosion control, MDEQ and EPA experts are willing and able to provide advice throughout the process.

END

Jennifer

Shekter Smith, Liane (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Friday, September 04, 2015 4:25 PM
To: Crooks, Jennifer (crooks.jennifer@epa.gov)
Cc: Benzie, Richard (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ); Poy, Thomas; 'porter.andrea@epa.gov'; Devereaux, Tracy Jo (DEQ)
Subject: RE: Draft Notes from call Tuesday with MI DEQ RE: Flint

Jennifer – my suggestions are shown below in yellow. Mike and Steve are both out. Not sure anyone else has had a chance to review.

Liane

From: Crooks, Jennifer [mailto:crooks.jennifer@epa.gov]
Sent: Thursday, September 03, 2015 2:51 PM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Cc: Poy, Thomas; Porter, Andrea
Subject: Draft Notes from call Tuesday with MI DEQ RE: Flint
Importance: High

All—these are the notes I jotted down during our call this past Tuesday when we discussed Flint. Any edits?
 Jennifer

Date: August 31, 2015
 Present: Liane Shekter Smith, Richard Benzie, Steve Busch, (2 other MDEQ staff?), Tom Poy, Andrea Porter, Janet Kuefler, Jennifer Crooks

STRATEGIC NEXT STEPS FOR FLINT TO ADDRESS LEAD CORROSION CONCERNS

Tom Poy discussed Marc Edwards' website, "Flint, MI Water Study Updates" (<https://flintwaterstudyupdates.wordpress.com/>). The discussion focused on the lead sampling and analytical results Marc Edwards' team posted to their website. Tom emphasized that EPA is not involved with Marc Edwards' work in Flint. Tom mentioned that the Edwards team's samples may not have been analyzed by a certified lab (which is only required for compliance samples) nor taken from sites that qualify as Tier 1 for LCR compliance sampling, but the results give further evidence that lead levels in Flint are trending upward. (The conclusion that there is an increasing trend of lead concentrations at consumer taps builds upon earlier compliance sampling taken by Flint in 2014 and 2015 that showed the 90th percentile of the 1st 6-month sampling period at 6ppb, then the 90th percentile of the 2nd 6-month sampling period at 11ppb.) Everyone agreed that Flint is in compliance with the Safe Drinking Water Act action level for lead. However, because the city's population exceeds 50,000 persons, they need to additionally optimize their treatment process to reduce lead levels further, if possible.

The "Flint, MI Water Study Updates" website is putting added pressure on MDEQ and EPA to ensure that Flint addresses their lack of optimized corrosion control treatment in an expedited manner in order to protect the residents from exposure to high lead levels. Richard noted that there are numerous systems across the country that have installed corrosion control treatment, have optimized their corrosion control, but did not necessarily reduce their lead levels. We all acknowledged that this is true, but we all also acknowledged that implementing installation of corrosion control

treatment in Flint is prudent to protect public health since there are approximately 15,000 lead service lines within the city.

Region 5 and MDEQ brainstormed on strategic next steps for Flint to address lead corrosion concerns. These steps included:

1. **Public Education for Flint Residents.** Liane has contacted the Department of Community Health to discuss developing a consumer lead education piece outlining the consumer's options to lower the lead in their drinking water. The Region was glad to hear of a plan to initiate Lead Public Education since this will provide the public immediate actions they can take. The educational material could include steps consumers can take to (delete immediately here – these are steps that work no matter how quickly they are implemented) reduce their exposure to lead in drinking water (flushing their lines after long stagnation periods, using filters certified to remove lead, etc.) as well as longer term fixes to remove lead sources (for example, financing the cost to remove any part of a lead service line on the owner's property at the same time as Flint is replacing its portion of the lead service line).
2. **Gathering Information on Flint's Future Treatment Plans.** Steve Busch said Flint and their engineering consultants were meeting this week (Sept 1) to discuss conceptually the necessary optimized corrosion control treatment at Flint. Tom Poy shared EPA lead experts' (Mike Schock and Darren Lytle of EPA's Office of Research and Development in Cincinnati) caution against simply adding orthophosphate without first studying the water quality and existing distribution system conditions to ensure that any installed treatment has a good chance of working. EPA lead experts have research and field experience showing the complexity of optimizing corrosion control treatment when water quality is significantly changed, as is the case for Flint.
3. **Offering Flint Free Help from EPA Experts.** Steve Busch has already provided the names of EPA lead experts (Mike Schock and Darren Lytle) to Flint, as has Susan Hedman, R5 Administrator. MDEQ and Region 5 agree that, to successfully control lead corrosion in the distribution system, Flint needs to review this situation holistically, while also addressing the lead issue in an expedited manner.
4. **Laying Groundwork for MDEQ/EPA Collaboration with Flint.** If Flint accepts the offer of technical assistance for optimizing corrosion control, Tom Poy suggested that MDEQ and EPA lead experts (Mike Schock and Darren Lytle) form a partnership to provide such help. EPA experts are able to provide pipe scale analyses, as well as other laboratory support. Although Flint (using their consultant) bears the ultimate responsibility for designing and installing corrosion control, MDEQ and EPA experts are willing and able to provide advice throughout the process.

END

Jennifer

Shekter Smith, Liane (DEQ)

From: Shekter Smith, Liane (DEQ)
Sent: Thursday, September 10, 2015 5:04 PM
To: 'Poy, Thomas'
Cc: Hyde, Tinka; Benzie, Richard (DEQ); Busch, Stephen (DEQ)
Subject: RE: Letter Regarding Water in the City of Flint

I think that's a good idea. Let's talk tomorrow morning. Are you in?

Liane J. Shekter Smith, P.E., Chief
 Office of Drinking Water and Municipal Assistance
 Michigan Department of Environmental Quality
 517-284-6543

From: Poy, Thomas [<mailto:poy.thomas@epa.gov>]
Sent: Thursday, September 10, 2015 2:43 PM
To: Shekter Smith, Liane (DEQ)
Cc: Hyde, Tinka
Subject: RE: Letter Regarding Water in the City of Flint

Liane: I see that we are both cc'd on this letter from members of the Michigan Legislature. There are questions that you may not be able to answer, esp. some specific to the internal memo. Lets talk.

Tom

Tom Poy
 Chief, Ground Water and Drinking Water Branch
 USEPA - Region 5
 (312) 886-5991

From: The Office of Senator Ananich [<mailto:SenJAnanich@senate.michigan.gov>]
Sent: Thursday, September 10, 2015 11:57 AM
To: WyantD@michigan.gov; pallonem@michigan.gov
Cc: Jordan.Dickinson@mail.house.gov; mayor@cityofflint.com; HCroft@cityofflint.com; Hedman, Susan; Poy, Thomas; Schock, Michael; Lytle, Darren; Fortin, Denise; shekterl@michigan.gov; Cookp@michigan.gov; BuschS@michigan.gov; Wurfelb@michigan.gov; Edwardsm@vt.edu
Subject: Letter Regarding Water in the City of Flint

Director Wyant,

Please see the attached letter regarding water in the City of Flint. For your convenience, we are also mailing a hard copy of this letter to your office.

Thank you for your prompt consideration of this urgent matter impacting our community.

Sincerely,

Jim Ananich

Senate Democratic Leader
District 27

Sheldon Neeley
State Representative
District 34

Phil Phelps
State Representative
District 49

Shekter Smith, Liane (DEQ)

From: Poy, Thomas <poy.thomas@epa.gov>
Sent: Thursday, September 17, 2015 3:49 PM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ)
Subject: Flint Sample Results

Liane/Richard: Can you please send me copies of Flint's lead compliance monitoring sampling results for 2014? I've got the January – June 2015 sample results from you last week. I want to take a look at the results and the locations.

Thanks.

Tom

Tom Poy
Chief, Ground Water and Drinking Water Branch
USEPA - Region 5
(312) 886-5991

Shekter Smith, Liane (DEQ)

From: Poy, Thomas <poy.thomas@epa.gov>
Sent: Monday, September 21, 2015 12:19 PM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Busch, Stephen (DEQ)
Subject: FW: Flint MI: LCR Enforcement Issues
Attachments: Flint LCR for FOIA 6429-15 (5).pdf; FOIA 15-585 Part 2 55pgs (12).pdf

Liane/Richard/Steve: Marc Edwards sent the email below to a number of EPA addressees. You probably want to forward this to Dan Wyant too.

Tom

Tom Poy
 Chief, Ground Water and Drinking Water Branch
 USEPA - Region 5
 (312) 886-5991

From: Shoven, Heather
Sent: Monday, September 21, 2015 7:33 AM
To: Bair, Rita; Damato, Nicholas; Poy, Thomas
Cc: Deltoral, Miguel
Subject: FW: Flint MI: LCR Enforcement Issues

Hi Tom, Nick, and Rita --

I will set up a meeting to discuss this email. Let me know if you would like me to include HQ. Thanks!

Best wishes,
 Heather

Heather A. Shoven | Enforcement Team Leader | U.S. Environmental Protection Agency, Region 5
 Ground Water and Drinking Water Branch | 77 W. Jackson Blvd (WG-15J) | Chicago, IL 60604 | 312-886-0153

From: Marc Edwards [<mailto:edwardsm@vt.edu>]
Sent: Sunday, September 20, 2015 9:30 PM
To: Schock, Michael; Lytle, Darren; kempic.jeffrey@epa.gov; Burneson, Eric; demarco.carol@epa.gov; Murphy, Thomas; Shoven, Heather; Deltoral, Miguel
Subject: Flint MI: LCR Enforcement Issues

Mike, Darren, Jeff, Eric, Carol and Miguel and R5 MI/Enforcement personnel (as listed on the R5 webpage).

In this e-mail, I am making you aware of what we know regarding the Flint lead situation.

1) They do not have an approved lead sampling pool. Only 13 of the lowest lead sampled homes from 2014, were resampled in 2015.

The homes sampling high in 2014, were not asked to be resampled.

At best, their program is sending out sampling bottles at random across the city.

2) This message exemplifies the type of site selection, that they are doing to satisfy their high risk LCR monitoring pool site.

That is, none. They are not even hiding it.

<http://www.flintneighborhoodsunited.org/drinking-water-testing/>.

3) Furthermore, in a video now on the ACLU website, at the end of the interview, Mike Glasgow (Flint LCR program) notes what is perfectly obvious from looking at the MDEQ FOIA materials.

"we threw out bottles everywhere just to collect as many as we can, just to hit our number, and we just turn in every result we get in."

Moreover, they do not have the records to show the homes have lead pipe. *"we are still looking for the records"*

See video here. Start at 4 minutes and 13 seconds to see the admission. <https://vimeo.com/139882021>

4) On top of that, according to my count, MDEQ covered up no fewer than 5 violations in the 2015 sample round. These include:

a) Technical violation in that what they now stamp as the "draft" report (attached) is late (the signed date is 7/28/2015). It was due 7/10/2015. The final "revised" report is dated 8/20/2015 (also attached), which is 40 days late.

b) Although 87 sites from 2014 were not resampled, no written justification for the site changes was provided in the FOIA materials, and this is required by law.

The statement given today by Flint, that residents were not resampled because they did not want to participate, is contradicted by my conversations with residents.

c) In the original 71 samples Flint submitted late, the lead 90%ile action level was exceeded. MDEQ took the initiative to invalidate 2 samples, dropping Flint below the Action Level.

Flint never requested in writing that any of the samples be invalidated (see the comments written in the box of page 1, FOIA 15-585).

Mike Glasgow says that the 2 high samples were deleted based on the conference call. Only the high samples were scrutinized for meeting the sample pool criteria.

No low samples were investigated. I have the e-mails.

4) The "Draft 7/28/2015" and "revised 8/20/2015" LCR reports, on page 1, check boxes that note Tier 1 sites are not used. MDEQ asks no questions about that. In video Mike admits he has no knowledge of what sites actually have lead pipe or not.

5) Flint did not achieve the minimum number of samples as determined before the sampling round. In his e-mail Mike Glasgow (see below, and see FLINT LCR FOR FOIA...pdf) acknowledges this will be a technical violation. The draft LCR clearly indicates that the minimum was not achieved. MDEQ responds "we are discussing options" to handle this technical violation. In the August 20th revised final report, even this technical violation magically disappears (see comments box on page 1....).

From: Rosenthal, Adam (DEQ)
Sent: Friday, July 10, 2015 11:28 AM
To: 'Michael Glasgow'
Cc: Brent Wright
Subject: RE: lead/copper

we are discussing options regarding this and future rounds of monitoring and will get back with you.

thanks,

Adam Rosenthal, EQA
 MDEQ – Office of Drinking Water and Municipal Assistance
 Lansing District – Constitution Hall 1SW
 PO Box 30242
 Lansing, MI 48909
 517-284-6644
 fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Michael Glasgow [<mailto:mglasgow@cityoffilnt.com>]
Sent: Thursday, July 09, 2015 2:19 PM
To: Rosenthal, Adam (DEQ)
Cc: Brent Wright
Subject: Re: lead/copper

Adam,

I just sent the last of the samples to the lab today. Unfortunately we did not reach 100 samples. I believe the count I have is 76 total. Since we have had a few more hits this round, we are going to continue to solicit samples for our own informational purposes. I am disappointed in the turnout of sampling, we distributed close to 200 sample bottles. With this monitoring violation will we be required to collect another round of 100 samples?

KEY POINTS:

- 1) FLINT HAS LOTS OF LEAD PIPE, NO CORROSION CONTROL TREATMENT, AND HAS HAD NO LEGITIMATE LCR TESTING FOR AT LEAST A YEAR.
- 2) AMONGST LOW INCOME INFANTS, BREAST FEEDING RATES ARE LOWER, AND FORMULA USE IS HIGHER. MANY FLINTS RESIDENTS CANNOT AFFORD TO FLUSH DUE TO HIGH WATER RATES. THEY CANNOT AFFORD BOTTLED WATER. THIS IS AN UNPRECEDENTED SITUATION AND EPA NEEDS TO TAKE THIS SERIOUSLY. NOW.
- 3) WE HAVE ONE CHILD WITH ELEVATED BLOOD LEAD ALREADY...IN FACT, THAT IS THE ONLY REASON WE KNOW ABOUT ANY OF THE ABOVE.
- 4) MDEQ IS STILL PUBLICLY INSISTING FLINT WATER HAS TESTED SAFE, IS SAFE, AND THAT FLINT HAS **NO VIOLATIONS** of any sort.

I believe that someone at HQ or in R5 should immediately take decisive action on this issue to protect the public.

Marc

DEPARTMENT OF ENVIRONMENTAL QUALITY
OF DRINKING WATER AND MUNICIPAL ASSISTANCE
AND COPPER REPORT AND
CONSUMER NOTICE OF LEAD RESULT
CERTIFICATE FOR COMMUNITY WATER SUPPLY

DRAFT



Issued under authority of 1976 PA 399, MCL 325.1001 *et al.*, and Administrative Rules, as amended.

Failure to submit this information is a violation of Act 399 and may subject the water supply to enforcement penalties.

Administrative Rule R 325.10710d requires water supplies to report lead and copper monitoring information within 10 days after the end of the monitoring period. This form may be used to meet this requirement. Submit the information to the appropriate Department of Environmental Quality (DEQ) district office. For district office addresses, visit www.michigan.gov/deq and click on Locations.

1. Water Supply Name: City of Flint Water Plant
 2. County: Genesee 3. WSSN: 2310
 4. Population: 99,763 5. Monitoring Period: From: 1/1/15 To: 6/30/15
 6. Minimum # of Samples Required: 10060 7. # of Samples Taken: 11969
 8. Name of Certified Laboratory: DEQ Drinking Water Laboratory

9. SAMPLE CRITERIA:

Yes	No	Explain No responses in Comments block.	
☐	☒	a. Are the same sampling points used as in the previous monitoring period?	
☐	☒	b. Are all samples from Tier 1 sites?	For more information see <i>Instructions</i> paragraph 11, subparagraph "Sample Category."
☒	☐	c. Are all samples from Tier 1, 2, or 3 sites giving Tier 1 priority?	
☒	☐	d. If no Tier 1, 2, or 3 sites are available, do all sites have plumbing materials commonly found at other locations in the system?	
☒	☐	e. Is the minimum number of lead service line samples taken (when applicable)?	
Comments: A total of 175 sample bottles and instructions were distributed to city residents. We are continuing to solicit samples due to the fact that we did not reach the minimum number for this monitoring period. <i>Lead service - majority (30,000?)</i>			

10. NAME:

Name: Michael Glasgow
 Title: Utilities Administrator Phone: 810-766-7135 Date: 7/28/2015

11. TAP SAMPLING DATA: (Use additional sheets as needed)

DRAFT

Water Supply Name/County City of Flint Water PlantWSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumb-ing ²	Lead (ppb)	Copper (ppb)	Lab #
2205 Flusing Rd	2/15/15	1	L	C,P	N.D.	0.13	54663
212 Browning Ave.	2/18/15	1	L	P	104	N.D.	54945
1809 Stevenson St.	2/10/15	1	L	P	10	N.D.	54956
4202 Custer Ave.	3/4/15	1	L	C,P	6	0.27	56223
401 E. Newall St.	3/2/15	1	L	P	5	N.D.	56225
215 Browning Ave. <i>ok</i>	3/21/15	1	L	C,P	N.D.	0.16	56226
2615 Trumbull Ave.	2/27/15	1	L	C,P	3	N.D.	56227
201 Browning Ave. <i>ok</i>	3/5/15	1	L	P	N.D.	N.D.	56228
1224 Decker St.	3/17/15	1	L	C,P	13	0.10	57728
1220 Decker St.	3/17/15	1	L	P	4	N.D.	57730
1379 Washington Ave.	3/19/15	1	L	P	8	N.D.	57731
1383 Washington Ave.	3/19/15	1	L	C,P	6	0.17	57734
1372 Washington Ave.	3/19/15	1	L	C,P	2	0.14	57733
1367 Washington Ave.	3/17/15	1	L	P	1	N.D.	57735
1701 Marquette Dr.	3/14/15	1	L	C,P	1	0.19	57736
778 Bundy Ave.	3/24/15	1	L	P	N.D.	N.D.	58413
3714 Beecher Rd.	3/24/15	1	L	C	2	0.52	58414
1016 Ingleside Ave.	4/9/15	1	L	C,P	7	0.07	59749
1818 Rock Creek Ln.	4/6/15	1	L	C,P	3	0.11	59750
3010 Cheyenne St.	4/3/15	1	L	C,P	5	0.10	59751

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

² Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90 th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

DRAFT

Water Supply Name/County City of Flint Water Plant

WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumb-ing ²	Lead (ppb)	Copper (ppb)	Lab #
2606 Mountain Ave.	4/15/15	1	L	P	N.D.	N.D.	60546
2020 Crooked Ln.	4/24/15	1	L	C,P	5	0.10	61845
310 E. Moore St.	4/22/15	1	L	P	5	N.D.	61846
631 Alvord Ave.	5/6/15	1	L	P	42	N.D.	63410
216 Browning Ave.	5/7/15	1	L	C,P	22	0.31	63411
3714 Beecher Rd.	5/14/15	1	L	C,P	8	0.15	64283
625 S. Grand Traverse	5/18/15	5	L	C,P	20	0.14	64284 X
912 Lexington Ave.	5/15/15	1	L	P	6	N.D.	64285
349 Robbie Ln.	5/31/15	1	L	P	2	N.D.	67428
353 Robbie Ln.	5/30/15	1	L	C,P	5	0.11	67427
341 Robbie Ln.	5/31/15	1	L	C,P	3	0.05	67426
328 Robbie Ln.	5/30/15	1	L	C,P	2	0.09	67425
357 Robbie Ln.	5/31/15	1	L	C	3	0.20	67424
344 Robbie Ln.	5/31/15	1	L	C,P	4	0.11	67423
1807 Oren Ave.	6/8/15	1	L	P	21	N.D.	68023
421 Lyon St.	6/14/15	1	L	C,P	7	0.14	68788
1528 Delaware Ave.	6/12/15	1	L	P	3	N.D.	68789
3811 Brentwood Dr.	6/14/15	1	L	P	42	N.D.	68790
1615 S. Franklin Ave.	6/14/15	1	L	P	N.D.	N.D.	68791
853 E. 7 th St.	6/12/15	1	L	C,P	7	0.07	68792

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

² Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90 th percentile	Ave	Max	# > AL
Pb				
Cu				

19

2

DRAFT

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water Plant WSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumb-ing ²	Lead (ppb)	Copper (ppb)	Lab #
1150 Woodside Dr.	6/14/15	1	L	P	29	N.D.	68793
547 Copeman Blvd.	6/14/15	1	L	P	18	N.D.	68794
920 Stocker Ave.	6/21/15	1	L	P	1	N.D.	69622
742 Lincoln Ave.	6/19/15	1	L	P	2	N.D.	69623
3517 Bennett Ave.	6/24/15	1	L	C,P	3	0.06	69624
1730 Overhill Dr.	6/22/15	1	L	C,P	1	0.08	69625
2117 Stanford Ave.	6/23/15	1	L	C,P	5	0.08	69626
2432 Beta Ln.	6/21/15	1	L	P	N.D.	N.D.	69627
2023 Miller Rd.	6/21/15	1	L	C,P	3	0.06	69628
721 East St. Apt #2	6/25/15	4	L	C,P	10	0.16	70222
3814 Whitter	6/25/15	1	L	P	2	N.D.	70223
3120 Norwood	6/24/15	1	L	P	5	N.D.	70224
2122 Pierce St.	6/21/15	1	L	P	2	N.D.	70225
3521 Bennett Ave.	6/25/15	1	L	P	3	N.D.	70226
1602 Raspberry Ln.	6/24/15	1	L	P	N.D.	N.D.	70227
1809 Lynbrook	6/26/15	1	L	P	3	N.D.	70228
2112 Sherff	6/24/15	1	L	C,P	9	0.06	70229
1205 Blanchard Ave.	6/24/15	1	L	C,P	11	0.05	70230
860 Schafer St.	6/26/15	1	L	C,P	N.D.	0.06	70231
2110 Flushing Rd.	6/30/15	1	L	C	N.D.	0.10	71158

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

² Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90 th percentile	Ave	Max	# > AL
Pb				
Cu				

20

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water PlantWSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumb-ing ²	Lead (ppb)	Copper (ppb)	Lab #
2300 Flushing Rd.	6/29/15	1	L	C	3	0.28	71159
2130 Flushing Rd.	6/28/15	1	L	C,P	6	0.05	71160
2202 Flushing Rd.	6/29/15	1	L	C,P	2	0.06	71162
2429 Flushing Rd.	6/30/15	1	L	C,P	N.D.	0.06	71163
4013 Brownell Blvd.	6/29/15	1	L	C,P	2	0.08	71165
2414 Flushing Rd.	6/30/15	1	L	P	N.D.	N.D.	71166
1914 Penbrook Ln	6/29/15	1	L	P	2	N.D.	71167
3901 Leedra St.	6/26/15	1	L	P	N.D.	N.D.	71168
3142 McClure	6/26/15	1	L	P	3	N.D.	71169
2114 Flushing Rd.	6/30/15	1	L	C,P	5	0.05	71170
709 Frost St.	6/30/15	1	L	P	2	N.D.	72033

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

² Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90 th percentile	Ave	Max	# > AL
Pb				
Cu				

Consumer Notice of Lead Result in Drinking Water

DRAFT

Water Supply Name: City of Flint
 County: Genesee WSSN: 2310
 Sample Location: 401 E. Newall St. Date Sampled: 3/2/15

Thank you for participating in the lead and copper monitoring of drinking water. The levels of lead and copper found at your location are in the table below.

Key to Table	Contaminant	AL	MCLG	Your Result
Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. ppb: parts per billion or micrograms per liter.	Lead (ppb)	15	0	5
	Copper (ppb)	1300	1300	Not Detected

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and it can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

To reduce exposure to lead in drinking water:

- *Run your water to flush out lead.* Run the water until it becomes cold.
- *Use cold water for cooking and preparing baby formula.* Do not cook with or drink water from the hot water tap; lead dissolves more easily in hot water.
- *Do not boil water to remove lead.* Boiling water will not reduce lead levels.
- *Look for alternative sources or treatment of water.* If your lead result is above 15 ppb, you may want to consider purchasing bottled water or a water filter. Read the package to be sure the filter is approved to reduce lead or contact NSF International at 800-NSF-8010, or www.nsf.org for information on performance standards for water filters.
- *Identify if your plumbing fixtures contain lead.* New faucets, fittings, and valves, may contain up to 8 percent lead including those advertised or labeled as "lead-free" and may contribute lead to drinking water. Consumers should be aware of this when choosing fixtures and take appropriate precautions.

Although the primary sources of lead exposure for most children are deteriorating lead-based paint, lead-contaminated dust, and lead-contaminated soil, the U.S. EPA estimates that 10 to 20 percent of human exposure to lead may come from drinking water.

For more information, contact us at: City of Flint Water Plant (810) 787-6537
 For more information on reducing lead exposure around your home and the health effects of lead, visit the U.S. EPA's Web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, or contact your health care provider.

Certification: WSSN: 2310
 I certify that this public water supply has provided the consumer notice of lead result to persons served at each of the taps that was tested, either by mail or by another method approved by the DEQ, within 30 days of knowing the result. The Notice includes required content.
Michael Flanagan UTILITIES ADMINISTRATOR 3/17/15
 Signature Title Date Sent to Consumer
 Reminder to water supplier: Complete this certification on only one (1) example copy of a notice sent to a consumer and submit it to the DEQ.

Rosenthal, Adam (DEQ)

From: Rosenthal, Adam (DEQ)
Sent: Monday, August 03, 2015 9:57 AM
To: 'Michael Glasgow'
Subject: RE: PbCu Cert form

Morning Mike, I also need copies of all 68 consumer notices. I have 1 from 401 E. Newall St., so 67 more.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Michael Glasgow [<mailto:mglasgow@cityoffilint.com>]
Sent: Friday, July 31, 2015 10:28 AM
To: Rosenthal, Adam (DEQ)
Subject: Re: PbCu Cert form

Adam,

Here is the lead & copper report. I have also sent a hard copy out via USPS.

On Thu, Jul 30, 2015 at 9:33 AM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Morning Mike, I'm preparing the 90th percentile letter and I need your lead copper certification form with the cert of notification to the customers. What I have are 68 results that are routine from 1/1 – 6/30/15. The link below is for the form if you don't have one.

http://www.michigan.gov/deq/0,4561,7-135-3313_3675_3691-61640--,00.html

thanks,

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:

DEQ-DWMA-Lansing@michigan.gov

--

Mike Glasgow
Utilities Administrator
City of Flint
1101 S. Saginaw St.
Flint, MI 48502
(810)766-7135 ext. 2602

Rosenthal, Adam (DEQ)

From: Rosenthal, Adam (DEQ)
Sent: Friday, July 10, 2015 11:28 AM
To: 'Michael Glasgow'
Cc: Brent Wright
Subject: RE: lead/copper

we are discussing options regarding this and future rounds of monitoring and will get back with you.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

From: Michael Glasgow [<mailto:mglasgow@cityofflint.com>]
Sent: Thursday, July 09, 2015 2:19 PM
To: Rosenthal, Adam (DEQ)
Cc: Brent Wright
Subject: Re: lead/copper

Adam,

I just sent the last of the samples to the lab today. Unfortunately we did not reach 100 samples. I believe the count I have is 76 total. Since we have had a few more hits this round, we are going to continue to solicit samples for our own informational purposes. I am disappointed in the turnout of sampling, we distributed close to 200 sample bottles. With this monitoring violation will we be required to collect another round of 100 samples?

Also, I have attached a copy of our June bromate test results.

On Thu, Jul 9, 2015 at 9:55 AM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Morning Mike, do you have a count on how many lead/copper samples were turned in? I know they all haven't been run at the lab yet, but if I can verify how many there will be, that would be good. So far I have 70 results and the City is below the AL for lead – current 90th = 13 ppb. All the copper results are below.

thanks,

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water and Municipal Assistance

Lansing District – Constitution Hall 1SW

PO Box 30242

Lansing, MI 48909

517-284-6644

fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:

DEQ-DWMA-Lansing@michigan.gov

--

Mike Glasgow
Utilities Administrator
City of Flint
1101 S. Saginaw St.
Flint, MI 48502
(810)766-7135 ext. 2602

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE
**LEAD AND COPPER REPORT AND
CONSUMER NOTICE OF LEAD RESULT
CERTIFICATE FOR COMMUNITY WATER SUPPLY**



Issued under authority of 1976 PA 399, MCL 325.1001 *et al.*, and Administrative Rules, as amended.
Failure to submit this information is a violation of Act 399 and may subject the water supply to enforcement penalties.

Administrative Rule R 325.10710d requires water supplies to report lead and copper monitoring information within 10 days after the end of the monitoring period. This form may be used to meet this requirement. Submit the information to the appropriate Department of Environmental Quality (DEQ) district office. For district office addresses, visit www.michigan.gov/deq and click on Locations.

1. Water Supply Name: City of Flint Water Plant
2. County: Genesee 3. WSSN: 2310
4. Population: 99,763 5. Monitoring Period: From: 1/1/15 To: 6/30/15
6. Minimum # of Samples Required: 60 7. # of Samples Taken: 69
8. Name of Certified Laboratory: DEQ Drinking Water Laboratory

9. SAMPLE CRITERIA:

Yes	No	Explain No responses in Comments block.
☐	☒	a. Are the same sampling points used as in the previous monitoring period?
☐	☒	b. Are all samples from Tier 1 sites?
☒	☐	c. Are all samples from Tier 1, 2, or 3 sites giving Tier 1 priority?
☒	☐	d. If no Tier 1, 2, or 3 sites are available, do all sites have plumbing materials commonly found at other locations in the system?
☒	☐	e. Is the minimum number of lead service line samples taken (when applicable)?

For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

Comments: Revised report after conference call with DEQ staff. Two samples were removed from list for not meeting sample criteria, and due to population the number of samples required was reduced to 60.

10. NAME:

Name: Michael Glasgow
Title: Utilities Administrator Phone: 810-766-7135 Date: 8/20/2015

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water PlantWSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumbing ²	Lead (ppb)	Copper (ppb)	Lab #
2205 Flusing Rd	2/15/15	1	L	C,P	N.D.	0.13	54663
1809 Stevenson St.	2/10/15	1	L	P	10	N.D.	54956
4202 Custer Ave.	3/4/15	1	L	C,P	6	0.27	56223
401 E. Newall St.	3/2/15	1	L	P	5	N.D.	56225
215 Browning Ave.	3/21/15	1	L	C,P	N.D.	0.16	56226
2615 Trumbull Ave.	2/27/15	1	L	C,P	3	N.D.	56227
201 Browning Ave.	3/5/15	1	L	P	N.D.	N.D.	56228
1224 Decker St.	3/17/15	1	L	C,P	13	0.10	57728
1220 Decker St.	3/17/15	1	L	P	4	N.D.	57730
1379 Washington Ave.	3/19/15	1	L	P	8	N.D.	57731
1383 Washington Ave.	3/19/15	1	L	C,P	6	0.17	57734
1372 Washington Ave.	3/19/15	1	L	C,P	2	0.14	57733
1367 Washington Ave.	3/17/15	1	L	P	1	N.D.	57735
1701 Marquette Dr.	3/14/15	1	L	C,P	1	0.19	57736
778 Bundy Ave.	3/24/15	1	L	P	N.D.	N.D.	58413
3714 Beecher Rd.	3/24/15	1	L	C	2	0.52	58414
1016 Ingleside Ave.	4/9/15	1	L	C,P	7	0.07	59749
1818 Rock Creek Ln.	4/6/15	1	L	C,P	3	0.11	59750
3010 Cheyenne St.	4/3/15	1	L	C,P	5	0.10	59751
2606 Mountain Ave.	4/15/2015	1	L	P	N.D.	N.D.	60546

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

² Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90 th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water PlantWSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumb-ing ²	Lead (ppb)	Copper (ppb)	Lab #
2020 Crooked Ln.	4/24/15	1	L	C,P	5	0.10	61845
310 E. Moore St.	4/22/15	1	L	P	5	N.D.	61846
631 Alvord Ave.	5/6/15	1	L	P	42	N.D.	63410
216 Browning Ave.	5/7/15	1	L	C,P	22	0.31	63411
3714 Beecher Rd.	5/14/15	1	L	C,P	8	0.15	64283
912 Lexington Ave.	5/15/15	1	L	P	6	N.D.	64285
349 Robbie Ln.	5/31/15	1	L	P	2	N.D.	67428
353 Robbie Ln.	5/30/15	1	L	C,P	5	0.11	67427
341 Robbie Ln.	5/31/15	1	L	C,P	3	0.05	67426
328 Robbie Ln.	5/30/15	1	L	C,P	2	0.09	67425
357 Robbie Ln.	5/31/15	1	L	C	3	0.20	67424
344 Robbie Ln.	5/31/15	1	L	C,P	4	0.11	67423
1807 Oren Ave.	6/8/15	1	L	P	21	N.D.	68023
421 Lyon St.	6/14/15	1	L	C,P	7	0.14	68788
1528 Delaware Ave.	6/12/15	1	L	P	3	N.D.	68789
3811 Brentwood Dr.	6/14/15	1	L	P	42	N.D.	68790
1615 S. Franklin Ave.	6/14/15	1	L	P	N.D.	N.D.	68791
853 E. 7th St.	6/12/15	1	L	C,P	7	0.07	68792
1150 Woodside Dr.	6/14/15	1	L	P	29	N.D.	68793
547 Copeman Blvd.	6/15/14	1	L	P	18	N.D.	68794

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

² Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90 th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water PlantWSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumb-ing ²	Lead (ppb)	Copper (ppb)	Lab #
2114 Flushing Rd.	6/30/15	1	L	P	5	0.05	71170
709 Frost St.	6/30/15	1	L	P	2	N.D.	72033
920 Stocker Ave.	6/21/15	1	L	P	1	N.D.	69622
742 Lincoln Ave.	6/19/15	1	L	P	2	N.D.	69623
3517 Bennett Ave.	6/24/15	1	L	C,P	3	0.06	69624
1730 Overhill Dr.	6/22/15	1	L	C,P	1	0.08	69625
2117 Stanford Ave.	6/23/15	1	L	C,P	5	0.08	69626
2432 Beta Ln.	6/21/15	1	L	P	N.D.	N.D.	69627
2023 Miller Rd.	6/21/15	1	L	C,P	3	0.06	69628
721 East St. Apt #2	6/25/15	4	L	C,P	10	0.16	70222
3814 Whitter	6/25/15	1	L	P	2	N.D.	70223
3120 Norwood	6/24/15	1	L	P	5	N.D.	70224
2122 Pierce St.	6/21/15	1	L	P	2	N.D.	70225
3521 Bennett Ave.	6/25/15	1	L	P	3	N.D.	70226
1602 Raspberry Ln.	6/24/15	1	L	P	N.D.	N.D.	70227
1809 Lynbrook	6/26/15	1	L	P	3	N.D.	70228
2112 Sherff	6/24/15	1	L	C,P	9	0.06	70229
1205 Blanchard Ave.	6/24/15	1	L	C,P	11	0.05	70230
860 Schafer St.	6/26/15	1	L	C,P	N.D.	0.06	70231
2110 Flushing Rd.	6/30/15	1	L	C	N.D.	0.10	71158

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

² Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90 th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water PlantWSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumbing ²	Lead (ppb)	Copper (ppb)	Lab #
2300 Flushing Rd.	6/29/15	1	L	C	3	0.28	71159
2130 Flushing Rd.	6/28/15	1	L	C,P	6	0.05	71160
2202 Flushing Rd.	6/29/15	1	L	C,P	2	0.06	71162
2429 Flushing Rd.	6/30/15	1	L	C,P	N.D.	0.06	71163
4013 Brownell Blvd.	6/29/15	1	L	C,P	2	0.08	71165
2414 Flushing Rd.	6/30/15	1	L	P	N.D.	N.D.	71166
1914 Penbrook Ln	6/29/15	1	L	P	2	N.D.	71167
3901 Leedra St.	6/26/15	1	L	P	N.D.	N.D.	71168
3142 McClure	6/26/15	1	L	P	3	N.D.	71169

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

² Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90 th percentile	Ave	Max	# > AL
Pb				
Cu				

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF DRINKING WATER AND MUNICIPAL ASSISTANCE



**LEAD AND COPPER REPORT AND
CONSUMER NOTICE OF LEAD RESULT
CERTIFICATE FOR COMMUNITY WATER SUPPLY**

Issued under authority of 1976 PA 399, MCL 325.1001 et al., and Administrative Rules, as amended.
Failure to submit this information is a violation of Act 399 and may subject the water supply to enforcement penalties.

Administrative Rule R 325.10710d requires water supplies to report lead and copper monitoring information within 10 days after the end of the monitoring period. This form may be used to meet this requirement. Submit the information to the appropriate Department of Environmental Quality (DEQ) district office. For district office addresses, visit www.michigan.gov/deq and click on Locations.

1. Water Supply Name: City of Flint Water Plant
2. County: Genesee 3. WSSN: 2310
4. Population: 99,763 5. Monitoring Period: From: 1/1/15 To: 6/30/15
6. Minimum # of Samples Required: 100 7. # of Samples Taken: 71
8. Name of Certified Laboratory: DEQ Drinking Water Laboratory

9. SAMPLE CRITERIA:

Yes	No	Explain No responses in Comments block.
☐	☒	a. Are the same sampling points used as in the previous monitoring period?
☐	☒	b. Are all samples from Tier 1 sites?
☒	☐	c. Are all samples from Tier 1, 2, or 3 sites giving Tier 1 priority?
☒	☐	d. If no Tier 1, 2, or 3 sites are available, do all sites have plumbing materials commonly found at other locations in the system?
☒	☐	e. Is the minimum number of lead service line samples taken (when applicable)?

For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

Comments:
A total of 175 sample bottles and instructions were distributed to city residents. We are continuing to solicit samples due to the fact that we did not reach the minimum number for this monitoring period.

10. NAME:

Name: Michael Glasgow
Title: Utilities Administrator Phone: 810-766-7135 Date: 7/28/2015

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water PlantWSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumb-ing ²	Lead (ppb)	Copper (ppb)	Lab #
2205 Flusing Rd	2/15/15	1	L	C,P	N.D.	0.13	54663
212 Browning Ave.	2/18/15	1	L	P	104	N.D.	54945
1809 Stevenson St.	2/10/15	1	L	P	10	N.D.	54956
4202 Custer Ave.	3/4/15	1	L	C,P	6	0.27	56223
401 E. Newall St.	3/2/15	1	L	P	5	N.D.	56225
215 Browning Ave.	3/21/15	1	L	C,P	N.D.	0.16	56226
2615 Trumbull Ave.	2/27/15	1	L	C,P	3	N.D.	56227
201 Browning Ave.	3/5/15	1	L	P	N.D.	N.D.	56228
1224 Decker St.	3/17/15	1	L	C,P	13	0.10	57728
1220 Decker St.	3/17/15	1	L	P	4	N.D.	57730
1379 Washington Ave.	3/19/15	1	L	P	8	N.D.	57731
1383 Washington Ave.	3/19/15	1	L	C,P	6	0.17	57734
1372 Washington Ave.	3/19/15	1	L	C,P	2	0.14	57733
1367 Washington Ave.	3/17/15	1	L	P	1	N.D.	57735
1701 Marquette Dr.	3/14/15	1	L	C,P	1	0.19	57736
778 Bundy Ave.	3/24/15	1	L	P	N.D.	N.D.	58413
3714 Beecher Rd.	3/24/15	1	L	C	2	0.52	58414
1016 Ingleside Ave.	4/9/15	1	L	C,P	7	0.07	59749
1818 Rock Creek Ln.	4/6/15	1	L	C,P	3	0.11	59750
3010 Cheyenne St.	4/3/15	1	L	C,P	5	0.10	59751

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

² Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90 th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water PlantWSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumbing ²	Lead (ppb)	Copper (ppb)	Lab #
2606 Mountain Ave.	4/15/15	1	L	P	N.D.	N.D.	60546
2020 Crooked Ln.	4/24/15	1	L	C,P	5	0.10	61845
310 E. Moore St.	4/22/15	1	L	P	5	N.D.	61846
631 Alvord Ave.	5/6/15	1	L	P	42	N.D.	63410
216 Browning Ave.	5/7/15	1	L	C,P	22	0.31	63411
3714 Beecher Rd.	5/14/15	1	L	C,P	8	0.15	64283
625 S. Grand Traverse	5/18/15	5	L	C,P	20	0.14	64284
912 Lexington Ave.	5/15/15	1	L	P	6	N.D.	64285
349 Robble Ln.	5/31/15	1	L	P	2	N.D.	67428
353 Robbie Ln.	5/30/15	1	L	C,P	5	0.11	67427
341 Robbie Ln.	5/31/15	1	L	C,P	3	0.05	67426
328 Robbie Ln.	5/30/15	1	L	C,P	2	0.09	67425
357 Robbie Ln.	5/31/15	1	L	C	3	0.20	67424
344 Robble Ln.	5/31/15	1	L	C,P	4	0.11	67423
1807 Oren Ave.	6/8/15	1	L	P	21	N.D.	68023
421 Lyon St.	6/14/15	1	L	C,P	7	0.14	68788
1528 Delaware Ave.	6/12/15	1	L	P	3	N.D.	68789
3811 Brentwood Dr.	6/14/15	1	L	P	42	N.D.	68790
1615 S. Franklin Ave.	6/14/15	1	L	P	N.D.	N.D.	68791
853 E. 7 th St.	6/12/15	1	L	C,P	7	0.07	68792

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

² Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90 th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water PlantWSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumb-ing ²	Lead (ppb)	Copper (ppb)	Lab #
1150 Woodside Dr.	6/14/15	1	L	P	29	N.D.	68793
547 Copeman Blvd.	6/14/15	1	L	P	18	N.D.	68794
920 Stocker Ave.	6/21/15	1	L	P	1	N.D.	69622
742 Lincoln Ave.	6/19/15	1	L	P	2	N.D.	69623
3517 Bennett Ave.	6/24/15	1	L	C,P	3	0.06	69624
1730 Overhill Dr.	6/22/15	1	L	C,P	1	0.08	69625
2117 Stanford Ave.	6/23/15	1	L	C,P	5	0.08	69626
2432 Beta Ln.	6/21/15	1	L	P	N.D.	N.D.	69627
2023 Miller Rd.	6/21/15	1	L	C,P	3	0.06	69628
721 East St. Apt #2	6/25/15	4	L	C,P	10	0.16	70222
3814 Whitter	6/25/15	1	L	P	2	N.D.	70223
3120 Norwood	6/24/15	1	L	P	5	N.D.	70224
2122 Pierce St.	6/21/15	1	L	P	2	N.D.	70225
3521 Bennett Ave.	6/25/15	1	L	P	3	N.D.	70226
1602 Raspberry Ln.	6/24/15	1	L	P	N.D.	N.D.	70227
1809 Lynbrook	6/26/15	1	L	P	3	N.D.	70228
2112 Sherff	6/24/15	1	L	C,P	9	0.06	70229
1205 Blanchard Ave.	6/24/15	1	L	C,P	11	0.05	70230
860 Schafer St.	6/26/15	1	L	C,P	N.D.	0.06	70231
2110 Flushing Rd.	6/30/15	1	L	C	N.D.	0.10	71158

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

² Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90 th percentile	Ave	Max	# > AL
Pb				
Cu				

11. TAP SAMPLING DATA: (Use additional sheets as needed)

Water Supply Name/County City of Flint Water PlantWSSN 2310

RESULTS:

Sample Location	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumbing ²	Lead (ppb)	Copper (ppb)	Lab #
2300 Flushing Rd.	6/29/15	1	L	C	3	0.28	71159
2130 Flushing Rd.	6/28/15	1	L	C,P	6	0.05	71160
2202 Flushing Rd.	6/29/15	1	L	C,P	2	0.06	71162
2429 Flushing Rd.	6/30/15	1	L	C,P	N.D.	0.06	71163
4013 Brownell Blvd.	6/29/15	1	L	C,P	2	0.08	71165
2414 Flushing Rd.	6/30/15	1	L	P	N.D.	N.D.	71166
1914 Penbrook Ln	6/29/15	1	L	P	2	N.D.	71167
3901 Leedra St.	6/26/15	1	L	P	N.D.	N.D.	71168
3142 McClure	6/26/15	1	L	P	3	N.D.	71169
2114 Flushing Rd.	6/30/15	1	L	C,P	5	0.05	71170
709 Frost St.	6/30/15	1	L	P	2	N.D.	72033

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 11, subparagraph "Sample Category."

² Materials used for service line and building plumbing: Enter C = copper; G = galvanized; L = lead; or P = plastic.

TO BE DETERMINED BY DEQ

	90 th percentile	Ave	Max	# > AL
Pb				
Cu				

Consumer Notice of Lead Result in Drinking Water

Water Supply Name:	City of Flint		
County:	Genesee	WSSN:	2310
Sample Location:	401 E. Newall St.	Date Sampled:	3/2/15

Thank you for participating in the lead and copper monitoring of drinking water. The levels of lead and copper found at your location are in the table below.

Key to Table	Contaminant	AL	MCLG	Your Result
Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety. ppb: parts per billion or micrograms per liter.	Lead (ppb)	15	0	5
	Copper (ppb)	1300	1300	Not Detected

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and it can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

To reduce exposure to lead in drinking water:

- *Run your water to flush out lead.* Run the water until it becomes cold.
- *Use cold water for cooking and preparing baby formula.* Do not cook with or drink water from the hot water tap; lead dissolves more easily in hot water.
- *Do not boil water to remove lead.* Boiling water will not reduce lead levels.
- *Look for alternative sources or treatment of water.* If your lead result is above 15 ppb, you may want to consider purchasing bottled water or a water filter. Read the package to be sure the filter is approved to reduce lead or contact NSF International at 800-NSF-8010, or www.nsf.org for information on performance standards for water filters.
- *Identify if your plumbing fixtures contain lead.* New faucets, fittings, and valves, may contain up to 8 percent lead including those advertised or labeled as "lead-free" and may contribute lead to drinking water. Consumers should be aware of this when choosing fixtures and take appropriate precautions.

Although the primary sources of lead exposure for most children are deteriorating lead-based paint, lead-contaminated dust, and lead-contaminated soil, the U.S. EPA estimates that 10 to 20 percent of human exposure to lead may come from drinking water.

For more information, contact us at: City of Flint Water Plant (810) 787-6537.
 For more information on reducing lead exposure around your home and the health effects of lead, visit the U.S. EPA's Web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, or contact your health care provider.

Certification: I certify that this public water supply has provided the consumer notice of lead result to persons served at each of the taps that was tested, either by mail or by another method approved by the DEQ, within 30 days of knowing the result. The Notice includes required content.	WSSN: <u>2310</u>
<u>Michael Flanagan</u> Signature	<u>UTILITIES ADMINISTRATOR</u> Title
<u>3/7/15</u> Date Sent to Consumer	

Reminder to water supplier: Complete this certification on only one (1) example copy of a notice sent to a consumer and submit it to the DEQ.



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF58413**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner: CITY OF FLINT
Collection Address: 778 E BUNDY AVE, FLINT
Collected By: SANDRA HULL
Township/Well#/Section: //
County: Genesee
Sample Point: MAIN BATHROOM
Water System: Treated Public Distribution System

WSSN/Pool ID: 2310
Source: TYPE I
Site Code:
Collector: Private Citizen
Date Collected: 03/24/2015 06:25
Date Received: 03/31/2015 11:11
Purpose: Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	04/01/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	Not detected	04/01/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270

Lansing, MI 48909

TEL: (517) 335-8184

FAX: (517) 335-8562

Sample Number

LF58414

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner: CITY OF FLINT
Collection Address: 3714 BEECHER RD, FLINT
Collected By: MELISSA MAYES
Township/Well#/Section: //
County: Genesee
Sample Point: KITCHEN
Water System: Treated Public Distribution System

WSSN/Pool ID: 2310
Source: TYPE I
Site Code:
Collector: Private Citizen
Date Collected: 03/24/2015 06:30
Date Received: 03/31/2015 11:11
Purpose: Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.52	04/01/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.002	04/01/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF59749

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner: CITY OF FLINT
Collection Address: 1016 INGLESIDE AVE, FLINT
Collected By: JAMES D JARVIS
Township/Well#/Section: //
County: Genesee
Sample Point: KITCHEN
Water System: Treated Public Distribution System

WSSN/Pool ID: 2310
Source: Single Family Dwelling
Site Code:
Collector: Private Citizen
Date Collected: 04/09/2015 07:00
Date Received: 04/14/2015 11:07
Purpose: Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.07	04/15/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.007	04/15/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**



USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270

Lansing, MI 48909

TEL: (517) 335-8184

FAX: (517) 335-8582

Sample Number

LF59750

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1818 ROCK CREEK LN, FLINT	Source:	Single Family Dwelling
Collected By:	HELEN HUNTER	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	04/06/2015 06:50
Sample Point:	MAIN BATHROOM	Date Received:	04/14/2015 11:07
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.11	04/15/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.003	04/15/2015	0.001	0.015	EPA 200.8	7439-92-1

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**Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

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MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF59751**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	3010 CHEYENNE ST, FLINT	Source:	Single Family Dwelling
Collected By:	GERTRUDE MARSHALL	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	04/03/2015 08:50
Sample Point:	KITCHEN	Date Received:	04/14/2015 11:07
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.10	04/15/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.005	04/15/2015	0.001	0.015	EPA 200.8	7439-92-1

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF61845**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	2020 CROOKED LN, FLINT	Source:	Single Family Dwelling
Collected By:	TRACY & MIKE SARGENT	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	04/24/2015 07:00
Sample Point:	KITCHEN	Date Received:	05/04/2015 10:21
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.10	05/05/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.005	05/05/2015	0.001	0.015	EPA 200.8	7439-92-1

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pleper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF61846

Official Laboratory Report

Report To: **MIKE GLASGOW**
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	310 E MOORE ST, FLINT	Source:	Single Family Dwelling
Collected By:	HUSTON BOLDEN	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	04/22/2015 07:00
Sample Point:	KITCHEN	Date Received:	05/04/2015 10:21
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	05/05/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.005	05/05/2015	0.001	0.015	EPA 200.8	7439-92-1

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Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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P.O. Box 30270

Lansing, MI 48909

TEL: (517) 335-8184

FAX: (517) 335-8562

Sample Number

LF67423

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	344 ROBBIE LN, FLINT	Source:	Single Family Dwelling
Collected By:	CASSANDRA BROWN	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	05/31/2015 08:15
Sample Point:	BATHROOM	Date Received:	06/11/2015 10:51
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.11	06/12/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.004	06/12/2015	0.001	0.015	EPA 200.8	7439-92-1

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**Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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P.O. Box 30270

Lansing, MI 48909

TEL: (517) 335-8184

FAX: (517) 335-8562

Sample Number

LF67424

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner: CITY OF FLINT
Collection Address: 357 ROBBIE LN, FLINT
Collected By: FRANK EVANS
Township/Well#/Section: //
County: Genesee
Sample Point: KITCHEN
Water System: Treated Public Distribution System

WSSN/Pool ID: 2310
Source: Single Family Dwelling
Site Code:
Collector: Private Citizen
Date Collected: 05/31/2015 08:00
Date Received: 06/11/2015 10:51
Purpose: Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.20	06/12/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.003	06/12/2015	0.001	0.015	EPA 200.8	7439-92-1

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AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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Lansing, MI 48909

TEL: (517) 335-8184

FAX: (517) 335-8562

Sample Number

LF67425

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	328 ROBBIE LN, FLINT	Source:	Single Family Dwelling
Collected By:	WILLIE TURNER	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	05/30/2015 06:00
Sample Point:	KITCHEN	Date Received:	06/11/2015 10:51
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.09	06/12/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.002	06/12/2015	0.001	0.015	EPA 200.8	7439-92-1

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630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF67426**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	
Collection Address:	341 ROBBIE LN, FLINT	Source:	Single Family Dwelling
Collected By:	FLORISSA STEBBINS	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	05/31/2015 06:00
Sample Point:	KITCHEN	Date Received:	06/11/2015 10:51
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.05	06/12/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.003	06/12/2015	0.001	0.015	EPA 200.8	7439-92-1

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Flint, MI 48502-1540
810 257-3603

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MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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P.O. Box 30270

Lansing, MI 48909

TEL: (517) 335-8184

FAX: (517) 335-8562

Sample Number
LF67427

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner: CITY OF FLINT
Collection Address: 353 ROBBIE LN, FLINT
Collected By: ZETAN EVANS
Township/Well#/Section: //
County: Genesee
Sample Point: BATHROOM
Water System: Treated Public Distribution System

WSSN/Pool ID: 2310
Source: Single Family Dwelling
Site Code:
Collector: Private Citizen
Date Collected: 05/30/2015 06:45
Date Received: 06/11/2015 10:51
Purpose: Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.11	06/12/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.005	06/12/2015	0.001	0.015	EPA 200.8	7439-92-1

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810 257-3603

CAS#: Chemical Abstract Service Registry Number
MCL: Maximum Contaminant Level
AL: Action Level
RL: Reporting Limit

mg/L: milligrams / Liter (ppm)
ppm: parts per million
MPN: Most Probable Number
CFU: Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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P.O. Box 30270

Lansing, MI 48909

TEL: (517) 335-8184

FAX: (517) 335-8562

Sample Number

LF67428

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	349 ROBBIE LN, FLINT	Source:	Single Family Dwelling
Collected By:	DORIS NUNN	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	05/31/2015 08:00
Sample Point:	KITCHEN	Date Received:	06/11/2015 10:51
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	06/12/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.002	06/12/2015	0.001	0.015	EPA 200.8	7439-92-1

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**Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

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MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270

Lansing, MI 48909

TEL: (517) 335-8184

FAX: (517) 335-8562

Sample Number
LF63410

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	631 ALVORD AVE, FLINT	Source:	Single Family Dwelling
Collected By:	JANICE BERRYMAN	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	05/06/2015 07:00
Sample Point:	MAIN BATHROOM	Date Received:	05/13/2015 11:26
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	05/14/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.042	05/14/2015	0.001	0.015	EPA 200.8	7439-92-1

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Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF63411

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	216 BROWNING AVE, FLINT	Source:	Single Family Dwelling
Collected By:	DEB	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	05/07/2015 08:00
Sample Point:	KITCHEN	Date Received:	05/13/2015 11:26
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.31	05/14/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.022	05/14/2015	0.001	0.015	EPA 200.8	7439-92-1

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**Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

DRINKING WATER LABORATORY

USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270

Lansing, MI 48909

TEL: (517) 335-8184

FAX: (517) 335-8562

Sample Number

LF59748

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	212 BROWNING AVE, FLINT	Source:	Single Family Dwelling
Collected By:	LEEANNE WALTERS	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	04/02/2015 08:00
Sample Point:	PRE P O S FILTER	Date Received:	04/14/2015 11:07
Water System:	Treated Public Distribution System	Purpose:	Other

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.11	04/16/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.707	04/16/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**



USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF54663**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	2205 FLUSHING RD, FLINT	Source:	TYPE I
Collected By:	CHRIS BEATENHEAD	Site Code:	
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	02/15/2015 06:00
Sample Point:	KITCHEN	Date Received:	02/17/2015 10:47
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.13	02/18/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	Not detected	02/18/2015	0.001	0.015	EPA 200.8	7439-92-1

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**Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF56223**

Official Laboratory Report

Report To: **MIKE GLASGOW**
4500 N DORT HWY
FLINT MI 48505

System Name/Owner: **CITY OF FLINT**
Collection Address: **4202 CUSTER AVE, FLINT**
Collected By: **JACQUELINE PEMBERTON**
Township/Well#/Section: **//**
County: **Genesee**
Sample Point: **KITCHEN**
Water System: **Treated Public Distribution System**

WSSN/Pool ID: **2310**
Source: **Single Family Dwelling**
Site Code:
Collector: **Private Citizen**
Date Collected: **03/04/2015 08:00**
Date Received: **03/06/2015 11:33**
Purpose: **Routine Monitoring**

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.27	03/10/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.006	03/10/2015	0.001	0.015	EPA 200.8	7439-92-1

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Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

**Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF56224

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	212 BROWNING AVE, FLINT	Source:	Single Family Dwelling
Collected By:	LEEANNE WALTERS	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	03/03/2015 06:00
Sample Point:	KITCHEN	Date Received:	03/06/2015 11:33
Water System:	Treated Public Distribution System	Purpose:	Other

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/10/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.397	03/10/2015	0.001	0.015	EPA 200.8	7439-92-1

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Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF56225**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	401 E NEWALL ST, FLINT	Source:	Single Family Dwelling
Collected By:	MARK CROMWELL SR	Site Code:	
Township/Well#/Section:	//	Collector:	Other
County:	Genesee	Date Collected:	03/02/2015 09:30
Sample Point:	KITCHEN	Date Received:	03/06/2015 11:33
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/10/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.005	03/10/2015	0.001	0.015	EPA 200.8	7439-92-1

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF56226

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	215 BROWNING AVE, FLINT	Source:	Single Family Dwelling
Collected By:	KEVIN & JENNIFER STARNES	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	03/02/2015 06:30
Sample Point:	KITCHEN	Date Received:	03/06/2015 11:33
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.16	03/10/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	Not detected	03/10/2015	0.001	0.015	EPA 200.8	7439-92-1

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Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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Lansing, MI 48909

TEL: (517) 335-8184

FAX: (517) 335-8562



**Sample Number
LF56227**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	2615 TRUMBULL AVE, FLINT	Source:	Single Family Dwelling
Collected By:	JENNIFER PEDERSON	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	02/27/2015 10:00
Sample Point:	KITCHEN	Date Received:	03/06/2015 11:33
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/10/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.003	03/10/2015	0.001	0.015	EPA 200.8	7439-92-1

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630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF56228**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	201 BROWNING AVE, FLINT	Source:	Single Family Dwelling
Collected By:	FLOYD BELL	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	03/05/2015 09:30
Sample Point:	KITCHEN	Date Received:	03/06/2015 11:33
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/10/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	Not detected	03/10/2015	0.001	0.015	EPA 200.8	7439-92-1

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630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**



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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF54945**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	212 BROWNING AVE, FLINT	Source:	TYPE I
Collected By:	LEANNE WALTERS	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	02/18/2015 07:15
Sample Point:	KITCHEN	Date Received:	02/19/2015 11:13
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	02/20/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.104	02/20/2015	0.001	0.015	EPA 200.8	7439-92-1

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**Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

DRINKING WATER LABORATORY

USEPA Region V Drinking Water Cert. No. MI00003

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Lansing, MI 48909

TEL: (517) 335-8184

FAX: (517) 335-8562

Sample Number

LF54946

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1809 STEVENSON ST, FLINT	Source:	TYPE I
Collected By:	MIKE TAYLOR	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	02/10/2015 06:30
Sample Point:	KITCHEN SINK	Date Received:	02/19/2015 11:13
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	02/20/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.010	02/20/2015	0.001	0.015	EPA 200.8	7439-92-1

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Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF57728**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1224 DECKER ST, FLINT	Source:	Single Family Dwelling
Collected By:	LOU ANNE MALIS	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	03/17/2015 06:00
Sample Point:	KITCHEN	Date Received:	03/24/2015 11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.10	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.013	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

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**Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF57729

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	212 BROWNING AVE, FLINT	Source:	Single Family Dwelling
Collected By:	MIKE GLASGOW	Site Code:	
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	03/18/2015 11:10
Sample Point:	KITCHEN	Date Received:	03/24/2015 11:05
Water System:	Treated Public Distribution System	Purpose:	Other

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.004	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF57730**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1220 DECKER ST, FLINT	Source:	Single Family Dwelling
Collected By:	CARMEN PULIDO	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	03/17/2015 06:00
Sample Point:	KITCHEN	Date Received:	03/24/2015 11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.004	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

**Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**



USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF57731**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1379 WASHINGTON, FLINT	Source:	Single Family Dwelling
Collected By:	ROXANNE PUTMAN	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	03/19/2015 08:30
Sample Point:	KITCHEN	Date Received:	03/24/2015 11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.008	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

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**Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

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MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF57732**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1383 WASHINGTON AVE, FLINT	Source:	Single Family Dwelling
Collected By:	ANTHONY PALLADENO	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	03/09/2015 08:00
Sample Point:	KITCHEN	Date Received:	03/24/2015 11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.16	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.007	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. M100003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF57733**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1372 WASHINGTON AVE, FLINT	Source:	Single Family Dwelling
Collected By:	ANTHONY PALLADENO JR	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	03/19/2015 08:00
Sample Point:	KITCHEN	Date Received:	03/24/2015 11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.14	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.002	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

**Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603**

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF57734**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1383 WASHINGTON AVE, FLINT	Source:	Single Family Dwelling
Collected By:	ANTHONY PALLADENO III	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	03/19/2015 08:00
Sample Point:	KITCHEN	Date Received:	03/24/2015 11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.17	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.006	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270

Lansing, MI 48909

TEL: (517) 335-8184

FAX: (517) 335-8562

Sample Number

LF57735

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1367 WASHINGTON AVE, FLINT	Source:	Single Family Dwelling
Collected By:	LEAH PALLADENO	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	03/17/2015 06:00
Sample Point:	MAIN BATHROOM	Date Received:	03/24/2015 11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.001	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF57736

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1701 MARQUETTE DR, FLINT	Source:	Single Family Dwelling
Collected By:	CHARMA DOMPREH	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	03/14/2015 09:40
Sample Point:	KITCHEN	Date Received:	03/24/2015 11:05
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.19	03/25/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.001	03/25/2015	0.001	0.015	EPA 200.8	7439-92-1

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF68791



Official Laboratory Report

Report To: **MIKE GLASGOW**
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1615 S FRANKLIN AVE, FLINT	Source:	Single Family Dwelling
Collected By:	VIVAN GRIER	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	06/14/2015 09:45
Sample Point:	KITCHEN	Date Received:	06/19/2015 11:02
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	06/22/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	Not detected	06/22/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

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Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**



USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF68792**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	853 E 7TH ST, FLINT	Source:	Single Family Dwelling
Collected By:	LAURA STUDACHER	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	06/12/2015 06:30
Sample Point:	BATHROOM	Date Received:	06/19/2015 11:02
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.07	06/22/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.007	06/22/2015	0.001	0.015	EPA 200.8	7439-92-1

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630 South Saginaw
Flint, MI 48502-1540
810 257-3603

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ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF68793**

Official Laboratory Report

Report To: **MIKE GLASGOW**
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1150 WOODSIDE DR, FLINT	Source:	Single Family Dwelling
Collected By:	DEBORAH CONRAD	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	06/14/2015 07:30
Sample Point:	KITCHEN	Date Received:	06/19/2015 11:02
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	06/22/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.029	06/22/2015	0.001	0.015	EPA 200.8	7439-92-1

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Flint, MI 48502-1540
810 257-3603

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RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF68794

Official Laboratory Report

Report To: **MIKE GLASGOW**
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	547 COPEMAN BLVD, FLINT	Source:	Single Family Dwelling
Collected By:	LINDA LEE	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	06/14/2015 09:00
Sample Point:	KITCHEN	Date Received:	06/19/2015 11:02
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	06/22/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.018	06/22/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

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RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003
P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF68023**

Official Laboratory Report

Report To: **MIKE GLASGOW**
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	1807 OREN AVE, FLINT	Source:	Single Family Dwelling
Collected By:	MARK RUSSEL	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	06/08/2015 07:30
Sample Point:	BATHROOM	Date Received:	06/16/2015 11:11
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	06/17/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.021	06/17/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF64282

Official Laboratory Report

Report To: **MIKE GLASGOW**
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	625 S GRAND TRAVERSE, FLINT	Source:	TYPE III
Collected By:	MIKE GLASGOW	Site Code:	
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	05/15/2015 13:00
Sample Point:	BATHROOM	Date Received:	05/20/2015 11:24
Water System:	Treated Public Distribution System	Purpose:	Other

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.14	05/21/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.017	05/21/2015	0.001	0.015	EPA 200.8	7439-92-1

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Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS#: Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL: Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF64283

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner: CITY OF FLINT
Collection Address: 3714 BEECHER RD, FLINT
Collected By: MELISSA MAYS
Township/Well#/Section: //
County: Genesee
Sample Point: MAIN BATHROOM
Water System: Treated Public Distribution System

WSSN/Pool ID: 2310
Source: Single Family Dwelling
Site Code:
Collector: Private Citizen
Date Collected: 05/14/2015 06:00
Date Received: 05/20/2015 11:24
Purpose: Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.15	05/21/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.008	05/21/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
810 257-3603

CAS# : Chemical Abstract Service Registry Number
MCL : Maximum Contaminant Level
AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pleper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

**Sample Number
LF64284**

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	625 S GRAND TRAVERSE, FLINT	Source:	TYPE III
Collected By:	MIKE SARGENT	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	05/18/2015 08:30
Sample Point:	UTILITY SINK	Date Received:	05/20/2015 11:24
Water System:	Treated Public Distribution System	Purpose:	Other

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	0.14	05/21/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.020	05/21/2015	0.001	0.015	EPA 200.8	7439-92-1

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AL : Action Level
RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER LABORATORY**

USEPA Region V Drinking Water Cert. No. MI00003

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-8184
FAX: (517) 335-8562

Sample Number
LF64285

Official Laboratory Report

Report To: MIKE GLASGOW
4500 N DORT HWY
FLINT MI 48505

System Name/Owner:	CITY OF FLINT	WSSN/Pool ID:	2310
Collection Address:	912 LEXINGTON AVE, FLINT	Source:	Single Family Dwelling
Collected By:	LAURA HATT	Site Code:	
Township/Well#/Section:	//	Collector:	Private Citizen
County:	Genesee	Date Collected:	05/15/2015 09:00
Sample Point:	MAIN BATHROOM	Date Received:	05/20/2015 11:24
Water System:	Treated Public Distribution System	Purpose:	Routine Monitoring

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Copper	Not detected	05/21/2015	0.05	1.3	EPA 200.8	7440-50-8
Lead	0.006	05/21/2015	0.001	0.015	EPA 200.8	7439-92-1

The analyses performed by the MDEQ Drinking Water Laboratory were conducted using methods approved by the U.S. Environmental Protection Agency in accordance with the Safe Drinking Water Act, 40 CFR parts 141-143, and other regulatory agencies as appropriate.

Your local health department has detailed information about the quality of drinking water in your area. If you have concerns about the health risks related to the test results of your sample, please contact the Environmental Health Section through the address and telephone number listed below:

**Genesee County Health Dept.
630 South Saginaw
Flint, MI 48502-1540
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RL : Reporting Limit

mg/L : milligrams / Liter (ppm)
ppm : parts per million
MPN : Most Probable Number
CFU : Colony Forming Unit

Laboratory Contacts
Drinking Water Unit Mgr: Julia Pieper
Systems Mgmt. Unit Mgr: George Krisztian

8/20/2015

lead/copper - mglasgow@cityofflint.com - City of Flint Mail

lead/copper

Inbox x

Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov>
to me

Jul 9

Morning Mike, do you have a count on how many lead/copper samples were turned in? I know they all haven't been run at the lab yet, but if I can verify how many there will be, that would be good. So far I have 70 results and the City is below the AL for lead – current 90th = 13 ppb. All the copper results are below.

thanks,

Adam Rosenthal, EQA
MDEQ – Office of Drinking Water and Municipal Assistance
Lansing District – Constitution Hall 1SW
PO Box 30242
Lansing, MI 48909
517-284-6644
fax: 517-241-3571

For MORs, Lab Results & Reporting Forms:
DEQ-DWMA-Lansing@michigan.gov

Michael Glasgow <mglasgow@cityofflint.com>
to Brent, Adam

Jul 9

Adam,

I just sent the last of the samples to the lab today. Unfortunately we did not reach 100 samples. I believe the count I have is 76 total. Since we have had a few more hits this round, we are going to continue to solicit samples for our own informational purposes. I am disappointed in the turnout of sampling, we distributed close to 200 sample bottles. With this monitoring violation will we be required to collect another round of 100 samples?

Also, I have attached a copy of our June bromate test results.



NSF International
1715 North 17th Street
Ann Arbor, MI 48106-3000
Phone: 734.769.7000
Fax: 734.769.7001
www.nsf.org

TEST REPORT

Sample Name
Sample ID
Sample Date
Sample Location

Sample Name
Sample ID
Sample Date
Sample Location



June 2015 Brom...



Shekter Smith, Liane (DEQ)

From: Poy, Thomas <poy.thomas@epa.gov>
Sent: Monday, September 28, 2015 9:55 AM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ)
Subject: FW: ACTION: MDEQ request for technical assistance

Liane/Richard: Dan Wyant and Susan Hedman spoke yesterday and Dan asked that ORD be put in contact with MDEQ. Mike Schock and Darren Lytle are already on the Technical Advisory Committee along with Mike Pryzby. But it looks like they want the technical experts to talk. Should it just be Mike, Darren and Mike? Or should Steve Busch and others be included too? I will provide Mike and Darren with contact info and ask that they talk prior to the TAC meeting on Oct 7th.

Tom

Tom Poy
 Chief, Ground Water and Drinking Water Branch USEPA - Region 5
 (312) 886-5991

-----Original Message-----

From: Hyde, Tinka
Sent: Monday, September 28, 2015 8:37 AM
To: Poy, Thomas
Subject: ACTION: MDEQ request for technical assistance

Tom - Please arrange with ORD experts to work directly with MDEQ and provide Tim & I a status update by 3:00 pm today. Thanks

-----Original Message-----

From: Hedman, Susan
Sent: Sunday, September 27, 2015 3:29 PM
To: Hyde, Tinka; Henry, Timothy
Cc: Williams, Felicia
Subject: MDEQ request for technical assistance

I had a conversation with Dan Wyant today about the situation in Flint. We talked about the need for expedited implementation of corrosion control and making sure that appropriate testing protocols are used. He asked that EPA provide technical assistance to MDEQ to do this. Would you please arrange for the ORD people on the Flint Technical Advisory Committee to reach out to provide direct assistance to MDEQ, as well?

Also -- please work with Felicia to find a time at the end of the day tomorrow to check in on Flint.

Thanks.

Sent from my iPhone

Shekter Smith, Liane (DEQ)

From: Crooks, Jennifer <crooks.jennifer@epa.gov>
Sent: Thursday, October 01, 2015 5:32 PM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Monosmith, Carrie (DEQ); Philip, Kris (DEQ); Shekter, Jean (DEQ); Dettweiler, Dan (DEQ); DeBruyn, Dana (DEQ)
Cc: Poy, Thomas; Damato, Nicholas; Bair, Rita; Kuefler, Janet; Murphy, Thomas; Shoven, Heather; Rouhani, Sahba; Werbach, Kristine; Spaulding, William
Subject: Final FY 2014 End-of-Year Evaluation for the Michigan PWSS program
Attachments: FY2014 Overall Summary Final FY 2014 EOY.docx; FY 2014 PWSS EOY Measures Indicators Summary July 2015.doc

All—Attached, please find the annual End-of-Year Evaluation of Michigan DEQ's implementation of the PWSS in Michigan for FY 2014; and the Measures and Indicators page which is a compilation of the most recent data for all quantitative measures that Region 5 uses to regularly assess State program performance. Thank you for your comments and edits, which I have included.

If you have any comments or questions regarding the Evaluation or the Measures and Indicators page, please let me know.

Thank you for all your hard work!

Jennifer

Jennifer Kurtz Crooks
Michigan Program Manager
Ground Water and Drinking Water Branch
U.S. EPA Region 5
77 West Jackson Blvd.
Chicago, Illinois 60604
312.886.0244
crooks.jennifer@epa.gov
312.582.5853 (fax)

**Michigan Department of Environmental Quality (Michigan DEQ), Office of Drinking Water and
Municipal Assistance, Public Water System Supervision (PWSS) Program Work Plan Summary and**

FY 2014 End-of-Year Evaluation

Contacts:

Michigan DEQ Field Operations Section Chief: Richard Benzie, benzier@michigan.gov, (517) 284-6512;
Michigan DEQ Environmental Health Section Chief: Carrie Monosmith, monosmithc@michigan.gov,
(517) 290-2601.

U.S. EPA Region 5 Michigan State Program Manager, Ground Water and Drinking Water Branch
(GWDWB): Jennifer Kurtz Crooks, crooks.jennifer@epa.gov, (312) 886-0244

Federal funding used: PWSS grant; Drinking Water State Revolving Fund (DWSRF) Set-asides: 1) Small System Technical Assistance set-aside, 2) PWSS Program set-asides to supplement the PWSS program, and 3) Local Assistance set-asides that includes Wellhead Protection and Capacity Development.

FY 2014 End-of-Year Evaluation Synopsis: Analysis of the various programs within Michigan's drinking water program (below), and the data gleaned from implementation of these programs (see attached Measures and Indicators page), show many program improvements by Michigan DEQ. It is important to note that Michigan DEQ does not currently have adequate electronic reporting capabilities, due to competing priorities and resource limitations. Information Technology (IT) support from the Department of Technology, Management and Budget (DTMB) is now being provided to support WaterTrack until the noncommunity water system (NCWS) data moves to SDWIS/State or SDWIS-Prime. Financial/staff limitations within the Michigan PWSS program are an ongoing obstacle.

For FY 2014, Region 5 commends Michigan DEQ for exceeding its targets for all National Drinking Water and Source Water Protection Measures, which include those from U.S. EPA's Office of Ground Water and Drinking Water (OGWDW) and the Office of Enforcement and Compliance Assurance (OECA). During the most recent Drinking Water State Revolving Fund (DWSRF) Performance Evaluation in May 2015, the Region noted Michigan DEQ's continued use of set-asides for innovative purposes and projects. The DWSRF set-aside workplans are very well written from a technical and financial perspective. Progress is noted in all activities funded with DWSRF set-asides. The FY 2014 Program Evaluation Report (PER) for the Michigan State Revolving Fund Programs, prepared by Region 5 State and Tribal Programs Branch and dated July 27, 2015, should be consulted for more information regarding the State's DWSRF program.

The most recent Regional Shared Goals, which represent CY 2014 (final data as of April 2015), show Michigan DEQ met 6 milestones of the 7 goals. The non-transient noncommunity water system (NTNCWS) goal not met indicated that more than 5% (5.2%) NTNCWSs have significant/major monitoring violations for acute-based standards; namely for total coliform and nitrate.

Resources and Expertise: Michigan DEQ employs a highly trained staff with the technical expertise to carry out all mandatory components of the PWSS program (including engineering plan and specification review, sanitary surveys and emergency response.) However, due to lack of adequate funding, the drinking water program cannot hire sufficient staff to accomplish all program activities. As a result, the PWSS program prioritizes activities, placing emphasis on those with direct impact on public health. Contracts with the Local Health Departments (LHD) to conduct the PWSS program at NCWSs, have been successful in ensuring public health is protected. However, the upcoming implementation of the Federal Revised Total Coliform Rule (RTCR) in FY 2016 with no additional Federal funding, may force the Michigan DEQ to prioritize LHD activities, and could increase the number of primacy activities the LHDs will be unable to complete. Michigan DEQ has indicated that if the Federal PWSS grant continues to be reduced or if the DWSRF set-asides are reduced, adequate staffing levels may be difficult to maintain and Michigan DEQ's ability to meet federal PWSS primacy requirements could be jeopardized. The Region continues to offer assistance to the State, which includes compliance assistance and enforcement partnership.

Rules and Primacy: Michigan DEQ has been granted primacy for all Federal drinking water regulations, and is implementing all drinking water rules. The State submitted its draft RTCR for Region 5 review, and the Region provided comments for public hearing in February 2015. The Region looks forward to receipt of the RTCR primacy package in FY 2016.

For the past several years, Michigan DEQ disinvested in a number of program activities that were partially implemented in FY 2014. Partial implementation includes:

1. Lead Consumer Notification of tap results at NTNCWSs:
From FY 2013 – FY 2015, Michigan DEQ phased-in the notification of schools and daycares of the lead consumer notice requirement. The Michigan DEQ is commended for achieving over 99% of the NTNCWSs compliance with this requirement, as noted in spring 2015. Michigan DEQ has agreed to fully implement the lead consumer notice requirement at the remaining NTNCWSs during the next 3-year compliance period, FY 2016 – FY 2018, with Region 5 assistance.
2. Lead Annual/Triennial Sampling at NTNCWSs during June – September Timeframe: The number of NTNCWSs conducting lead sampling during the required months of June – September has been increasing over the past several years, and the Region is glad to see that the State will be including this requirement in the CY 2016 annual monitoring letters.
3. Consumer Confidence Report (CCR):
Michigan DEQ continues to notify community water systems (CWS) of the CCR requirements, and issued/reported violations in FY 2014 for failure to produce and distribute a CCR.
4. Submittal of lead and copper rule reporting forms: During FY 2014, Michigan DEQ committed to issuing violations for failure to conduct required lead and copper monitoring, but did not commit to issuing violations for failure to submit the lead and copper reporting form. The Region is glad to see that the State will be tracking the submittal of the lead and copper reporting forms from CWSs during FY 2016.

The Region would like to thank Michigan DEQ for providing example CCRs this past year to include in updates to HQ- produced guidance documents.

Regarding implementation of the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2), EPA Headquarters issued guidance dated February 4, 2010, recommending a revised *E.coli* trigger value of 100 cfu/100 mL for small systems to conduct *Cryptosporidium* monitoring. This guidance was released after Michigan DEQ submitted its LT2 primacy application to Region 5. Region 5 allowed this trigger level (February 26, 2010) during Early Implementation in Michigan during Round 1 LT2 monitoring for Schedule 4 systems. Michigan DEQ is allowed to use this trigger level during Round 2 for Schedule 4 systems, which begins October 2017. This paragraph serves to document a change to the ongoing implementation of LT2, which will be filed with the original primacy application at Region 5.

The Region acknowledges the effort and resources Michigan DEQ have used to assist the City of Flint in addressing compliance issues and distribution system issues that have arisen since the City of Flint changed its source of drinking water in April 2014.

Sanitary Surveys: Michigan DEQ ensures that sanitary surveys are conducted periodically that, at a minimum, meet frequency requirements specified by rule. The LHDs are under contract by the State to perform sanitary surveys at all NCWS. Each LHD's sanitary survey efforts are reviewed by the State periodically, but not less than annually. Region 5 tracks State commitments to conduct sanitary surveys within the federally required intervals.

The April 2015 numbers provided for the time period ending December 31, 2014 report that:

- SURFACE WATER SYSTEMS: 92.54% (251 out of 273) of CWSs surface water sanitary surveys were completed for the time period CY 2012 - CY 2014; and 100% (11/11) of transient noncommunity (TNCWS) sanitary surveys were completed for the time period CY 2010 – CY 2014. The State is commended for meeting the National measure.
- GROUND WATER SYSTEMS: 92.16% (904/988) of CWS ground water sanitary surveys were completed for the time period CY 2012 - CY 2014; 98.72% (1,216/1,232) of NTNCWS ground water sanitary surveys were completed for the time period CY 2010 - CY 2014; and, 98.4% (7,489/7,613) of TNCWS sanitary surveys were completed for the time period CY 2010 – CY 2014. Commendable!

Michigan DEQ has successfully maintained a very high percentage of completion of sanitary surveys at its NCWSs for many years. This high compliance rate is most likely the result of Michigan DEQ's annual evaluation process when any survey backlog is highlighted; and, national/Regional emphasis not to exceed the 5-year mark which has led to closer scrutiny by the LHDs and the State. The State's practice of distributing each LHD's progress to all LHDs quarterly may contribute to maintain or continue to decrease the number of sanitary surveys older than 5 years. Region 5 applauds Michigan DEQ's efforts!

Laboratory Certification: The State is expected to maintain: (1) certification for the principal State laboratory, (2) a certification program to certify commercial labs within the State, and (3) a process for ensuring capacity to analyze at the principal State lab or commercial labs for all parameters that are required to be sampled in the State. Laboratory certification responsibilities in Michigan are undertaken by the Michigan DEQ Laboratory and radiological parameters are analyzed by the Wisconsin State Lab of

Hygiene. Michigan DEQ ensures all results used for compliance with the Safe Drinking Water Act (SDWA) are analyzed by certified labs. Michigan DEQ agrees to ensure all laboratories that produce results for compliance with the SDWA are recertified at least once every three years and will meet all requirements of 40 CFR parts 141 and 142.

In March 2012, the Region 5 Certification Team conducted an on-site review of the Michigan Laboratory Certification Program. Findings were addressed by the Laboratory Director. After an on-site evaluation by U.S. EPA Region 5 in March 2012, Michigan DEQ Laboratory was granted full certification for chemical and microbiological analyses on December 21, 2012. This certification will last for 3 years, and will expire on December 21, 2015. A laboratory certification visit is being planned for spring 2016.

Michigan DEQ has been developing Electronic Drinking Water Reports (eDWR), a data system that will report data from private laboratories to the State. In the March 2012 Laboratory audit, U.S. EPA found that a large portion of the non-community sample data from private laboratories were hand-entered by LHD staff, and the community program was having issues with mapping and importing data into SDWIS/State, so data needed to be entered into program databases manually. Michigan DEQ is strongly encouraged to focus IT resources to complete eDWR. Implementation of eDWR should ensure that Michigan DEQ and the LHDs will be notified more quickly of hold time exceedances, so there will be more opportunity to notify the water supply in order to obtain a replacement sample before the monitoring period ends. Upon completion, eDWR will improve the timeliness issue of State's receipt of private labs results, of reporting positives to the State promptly, and improve data quality.

Compliance and Enforcement Management: Region 5 tracks State commitments under the OECA measure SDWA02 and updates Michigan DEQ quarterly. Michigan committed to address 13 systems in FY 2014, and Michigan has addressed 31 systems. Commendable!

Michigan DEQ is commended for providing detailed system specific compliance/enforcement updates in response to the quarterly letter/report and using this report to communicate system-specific implementation and enforcement response instructions to LHDs.

Michigan DEQ CWS Program issued First Formal Enforcement actions during FY 2014 to 13 CWSs, and only 1 system has not addressed its monitoring/reporting (M/R) violations. The 12 systems with violations that were returned to compliance include: TCR maximum contaminant level (MCL) violations (2 systems); TCR MCL/Ground Water Rule (GWR) failure to address significant deficiencies violations (1 system); TCR M/R violations (3 systems); GWR failure to respond/consult with State; GWR failure to address significant deficiencies, Lead and Copper Rule (LCR) M/R, and Public Notice (PN) violations (1 system); CCR violation (4 systems); Lead Consumer Notice violation (1 system); and M/R violations for multiple rules (1 system). One of the 13 systems was referred to the Region and the Region has coded the return to compliance into the Federal database, SDWIS.

Michigan DEQ NCWS Program issued First Formal Enforcement actions during FY 2014 to 27 NCWSs, and all of these violations were returned to compliance. The violations that were returned to compliance include TCR M/R violations (17 systems); Nitrate M/R violations (6 systems); TCR and Nitrate M/R violations (2 systems); TCR and Arsenic M/R violations (1 system), and Arsenic M/R violation (1 system).

The Region notes progress in changing the NCWS inventory, primary service area, to reflect “school” and “daycare”. Six out of 18 churches that had a primary service area of “other area” have been changed to “school” or “day care”, and 1 NTNCWS church has been re-classified as a TNCWS.

The Region is pleased to see that Michigan DEQ has ended the interim use of bottled water for arsenic noncompliance at NTNCWSs, and the number of NTNCWSs currently using bottled water for arsenic noncompliance has decreased by over 25%. No new systems are allowed to go on bottled water. Due to a change in reporting of violations to SDWIS/Fed, the NCWS program has notified these systems that they must begin quarterly monitoring for arsenic. Michigan DEQ is working with these systems to replace bottled water with a permanent solution to arsenic exceedances that will bring these systems back into compliance.

Data Management and Reporting: Michigan DEQ maintains a data management system that tracks requirements for all rules and serves as the central store of data reported by laboratories, field offices and LHDs. However, Michigan DEQ does not currently have adequate electronic reporting capabilities, due to competing priorities and resource limitations. Information Technology (IT) support from the Department of Technology, Management and Budget (DTMB) is being provided to support WaterTrack until the NCWS data moves to Prime. Financial/staff limitations within DTMB and the drinking water program are an ongoing obstacle.

The CWS program uses SDWIS/State 3.22, and FedRep 3.4, and the NCWS program uses WaterTrack and FedRep 3.4 to report actions and sample data to U.S. EPA quarterly, and inventory data at least annually, in accordance with 40 CFR 142.15. Also, SDWIS/State 3.3 came out at the end of April 2015 and FedRep 3.5 came out in June 2015. The Region recommends that MDEQ move to the latest versions of SDWIS/State and FedRep as soon as possible following appropriate testing.

CWS program is using SDWIS Compliance Decision Support (CDS) for TCR, GWR, LCR; Stage 1 monitoring; Stage 2 Trihalomethane/Haloacetic Acids (TTHM/HAA5) reporting; lead consumer notice; Operation Evaluation (OEL) reporting; and sanitary survey and site visit tracking. We encourage the State to move to full automation of CDS for all rules.

The CWS program does not track entry point chemical monitoring in SDWIS/State because SDWIS/State does not handle schedules the same way Michigan DEQ does, and electronic reporting is still unavailable. The CWS program expects to transition entry point tracking to SDWIS/State to prepare for future transition to SDWIS/Prime.

As of July 2015, Michigan DEQ reported for new rules at CWSs prior to April 2015:

- 7 Treatment Technique (TT) and 50 GWR M/R violations;
- 6 Stage 1 Disinfection By-Product rule (DBPR) TT violations;
- 169 Stage 2 DBPR M/R violations and 13 MCL violations; and,
- 11 Lead and Copper Rule Short-Term Revisions (LCRSTR) consumer notification M/R violations.

The NCWS program is continuing its use of WaterTrack, with support from DTMB. WaterTrack is unable to report new rule data for the Lead and Copper Rule due to data management limitations of

WaterTrack; and WaterTrack can only partially support tracking and reporting for the GWR and the DBPR. Thus, no GWR violations or other new rule violations are being reported to the Federal database, for NCWS, due to data management issues. However, State staff is manually tracking these violations. For details regarding Michigan DEQ's Data Management Limitations, see Attachment D of the Annual Resource Deployment Plan (ARDP).

In order for the NCWS program to report GWR or DBPR violations at this time, changes to WaterTrack would have had to be made so these violations could be reported. Waiting for SDWIS/State and/or Prime is the only reasonable decision for the NCWS program to make at this time. Region 5 will continue to track violation reporting to the Federal database for GWR, LCRSTR, LT2SWTR, Stage 1, and Stage 2 DBPR.

In January 2014, a plan was agreed to by Michigan DEQ drinking water program and DTMB to support WaterTrack so it is usable for the next 2 years, and included a project to migrate data from WaterTrack to SDWIS-State. However, the NCWS program plans to set up a new server and migrate WaterTrack data to SDWIS-State in-house during FY 2016. The Region strongly recommends the continued effort to address the reporting limitations and offers assistance to the State.

The reporting schedule for States to the national database, SDWIS/Fed, is quarterly. If the data is not reported within 60 days, Region 5 raises the issue to the State Director's attention. Michigan DEQ continues to meet most of the quarterly reporting dates.

It is also important for the State to correct identified errors in the database in a timely manner. The Region requests that the State prioritize correcting inventory errors, open-ended violations linked to SOX (return to compliance) codes in ODS, and reporting the required missing location data. Note: The CWSs have 12 sources and NCWSs have 9 sources without locational data, as of the February 2015 data submission.

The joint Region 5/MI DEQ Deleted Source Project described in FY 2014 ARDP cannot be completed. Region 5 no longer has access to the data in SDWIS/Fed Mainframe needed to restore the actions data.

Region 5 is tracking late reporting of TCR and nitrate violations, and arsenic non-compliance at CWSs and NTNCWSs. Michigan DEQ timeliness in reporting these violations has improved from 2013 to 2014. As of April 2015 for CY 2014, 96.3% of the TCR M/R violations were reported on-time, (and 3.4% were reported up to 2 quarters late); and 100% of the nitrate M/R violations were reported on-time. For CY 2013, 89.6% of TCR M/R violations were reported on-time, (and 8.1% were reported up to 2 quarters late); and 93% of the nitrate M/R violations were reported on-time, (and 5.1% were reported up to 2 quarters late). Regarding arsenic MCL violations, the data as of January 2015 indicates 99.78% CWSs were in compliance, where 3 CWSs with a population of 217 had arsenic MCLs that were not returned to compliance.

Operator Certification: Michigan DEQ established and implemented minimum professional standards for the operation and maintenance of public water systems to ensure that trained and certified professionals are overseeing the treatment and distribution of safe drinking water and to promote compliance. Michigan DEQ provides documentation to U.S. EPA annually, to show the ongoing implementation of the operator certification program to avoid 20% withholding of the DWSRF grant.

The FY 2014 Operator Certification report was received by the deadline of September 30, 2014, and approved. Highlights include:

- Excellent compliance rates regarding the number of CWSs, NTNCWSs, and TNCWSs with an Operator-in-Responsible Charge.
- Practical follow-up and enforcement with systems with a compliance issue, such as not having a properly certified operator.
- Strong stakeholder involvement in developing exam questions and validation process.

Capacity Development: Michigan DEQ ensures that new and existing CWSs/NTNCWSs can demonstrate technical, managerial, and financial capacity to operate in compliance with Federal and State regulations. Michigan DEQ provides documentation to U.S. EPA annually by December 30th, to show the ongoing implementation of the new systems program and the existing systems strategy to avoid 20% withholding of the DWSRF grant. Michigan DEQ met the December 30, 2014 deadline, and the 2014 Capacity Development Annual Report was approved, dated April 1, 2015. Only one new system within the last three years was considered a high priority for enforcement [had a score of 11 or more on the Enforcement Tracking Tool (ETT)].

Michigan DEQ is commended for several regulatory initiatives to promote asset management at water supplies. Drinking water administrative rules were amended to strengthen capacity development and asset management principles, by requiring all municipal public water systems designed to provide fire protection to complete a more comprehensive Asset Inventory, and prepare 5-year and 20-year Capital Improvement Plans (CIP) by January 2016. Additionally, previously exempt facilities (those licensed annually by the state, including manufactured housing communities and health care facilities), are required to prepare a general plan by January 2016. A second set of amendments to the drinking water administrative rules has been drafted which will require CWSs, including municipal and private, with a population greater than 1,000, to implement an Asset Management Plan by January 2018. Promulgation is expected in early 2016. The Asset Management Plan required in the draft amendments, includes an Asset Inventory, 5-year and 20-year CIPs, and a summary of the funding structure and rate methodology that provides sufficient resources to implement the Asset Management Plan. The Revolving Loan Section within the Office of Drinking Water and Municipal Assistance works with water systems to develop Financial Action Plans, and promotes the development of Asset Management Plans and CIPs.

Ground Water and Source Water Protection: Michigan DEQ annually reports to U.S. EPA the number of CWSs with Source Water Protection (SWP) plans and the population served by CWSs with minimized risk due to SWP. Even though source water protection is voluntary in Michigan, Michigan DEQ exceeded its 31% target (32.2%) in FY 2014 to ensure CWSs have SWP plans. Michigan DEQ met its target of 79% (80.2%) of the population served by CWSs with minimized risk due to SWP. Michigan DEQ recommends that SWP plans be updated every 6 years, especially in prioritized areas, to be considered as substantially implementing SWP. Michigan DEQ expects these target levels to potentially drop the next fiscal year if CWSs do not update their SWP program plans. Michigan DEQ has continued to contract with Michigan State University (MSU) to continually improve the Michigan Ground Water Management Tool (MGMT), an innovative tool that uses information from the Wellogic water well record system to perform particle tracking and delineate Wellhead Protection Areas (WHPAs). Michigan DEQ has used MGMT to delineate WHPAs for CWSs that had previously not completed WHPA delineations. This effort has resulted in WHPAs for:

- 3,440 wells serving a total of 1,264 CWSs, where 1,276 total WHPAs consist of 379 WHPAs that have been identified by traditional means, and 897 WHPAs that have been identified using MGMT; and,
- 1,926 NTNCWSs wells corresponding to approximately 1,420 WHPA delineations.

MSU has successfully created a spatially accurate groundwater database from Wellogig data, to refine the delineation process using MGMT, and to better determine the drift thickness of the aquifer. Michigan DEQ is also focusing on outreach to CWSs and NTNCWSs to train on MGMT and its capabilities related to delineations of WHPAs. Two workshops have been scheduled in the Lower Peninsula, Midland and Novi, and one workshop will be held in the Upper Peninsula.

Michigan DEQ has a Wellhead Protection (WHP) Program which offers a 50/50 grant to CWSs to develop a WHP plan. This program has been very successful, though funding for this program has decreased over the past 13 years. Using the WHP 50/50 Grant Program as a template, Michigan DEQ developed a Surface Water Intake Protection (SWIP) Program that incentivizes participation in the development of a SWIP plan with 50/50 grants (through the Local Assistance Capacity Development set-aside). Implementation of the SWIP grant program began in FY 2014.

Michigan revised its substantial implementation definition in 2012 to include more specific requirements that systems must meet before the definition could be applied. The new requirements include: municipal systems with approved SWP plans must review their SWP plans at least once every six years in order to keep them current; non-municipal systems must complete a SWP guide based on their provisional delineation; and, surface water systems along the Lake St. Clair/Lake Erie shoreline from the Marysville intake to the Monroe intake, participate in the Real-Time Monitoring network). These revisions illustrate Michigan DEQ's commitment to ensure that systems are actively working to implement their approved SWP plans.

Challenges to implementing SWP in Michigan include the loss of State source water staff due to budget cuts and retirements.

Measures and Indicators: The enclosed Measures and Indicators page is a compilation of the most recent data for all quantitative measures that Region 5 uses to regularly assess State program performance, including the National Program Measures, the Logic Model Reporting Tool (LMRT) measures, Regional Shared Goals, and Regional High Priority queries. The most recent data from the LMRT was provided in July 2014 for the time period 2009-2013; however, Headquarters' funding for the LMRT was not renewed. The Region is currently evaluating other sources of data to replace the LMRT data.

Michigan DEQ met all of the National Program Measures from U.S. EPA's Office of Ground Water and Drinking Water (OGWDW) and the Office of Enforcement and Compliance Assurance (OECA).

The most recent Regional Shared Goals, which represent CY 2014 (final data as of April 2015), show Michigan DEQ met 6 milestones of the 7 goals; improvement noted from CY 2013. The NTNCWS goal not met, indicated that more than 5% (5.2%) of NTNCWSs have significant/major monitoring violations for acute-based standards; namely total coliform and nitrate.

July 2015

FY2014 Michigan PWSS Indicators and Measures
October 1, 2013 through September 30, 2014

NOTE: To access the Quickr links in the "File" column, place cursor over the link and hold down the "Ctrl" key while clicking the left mouse button.

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
Office of Water National Program Measures								
1	% of pop. served by CWS that receive DW that meet health based standards	NPM/GPRA	PWSS overall	SDW-2.1.1 (Updated quarterly by HQ—NPM Measures Tables filtered for active, non-RTC'd MCL violations)	Quickr: National Water Program (NWP) measures—2.1.1, SP1.N11, and SP-2	FY10: 95% FY11: 95% FY12: 95% FY13: 94% FY14: 94%	FY ¹ (e.g., for FY12, the measure is calculated as of October 2012 for the period 7/1/11 to 6/30/12)	FY11: EOY: 96.6% (met) FY12: EOY: 99.0% (met) FY13: EOY: 99.3% (met) FY14: EOY: 99.2% (met) (FYI: first half of FY 2015 reports 93.1% of SDW-2.1.1)
2	% of CWS that meet health based standards	NPM/GPRA	PWSS overall	SDW-SP1.N11 (Updated quarterly by HQ—NPM Measures Tables)	Quickr: National Water Program (NWP) measures—2.1.1, SP1.N11, and SP-2	FY10: 90% FY11: 91% FY12: 93% FY13: 93% FY14: 93%	same as item #1 above	FY11: EOY: 94.4% (met) FY12: EOY: 95.1% (met) FY13: EOY: 96.0% (met) FY14: EOY: 95.9% (met)
3	% of "person months" in which CWS are meeting health-based standards	NPM/GPRA	PWSS overall	SDW-SP2 (Updated quarterly by HQ—NPM Measures Tables)	Quickr: National Water Program (NWP) measures—2.1.1, SP1.N11, and SP-2	FY10: 96% FY11: 96% FY12: 96% FY13: 96% FY14: 96%	same as item #1 above	FY11: EOY: 99% (met) FY12: EOY: 99.8% (met) FY13: EOY: 99.5% (met) FY14: EOY: 99.8% (met)
4	% of CWS with minimized	NPM/GPRA	PWSS	SDW-SP4a	Quickr: NWP	FY11: 31%	same as item	FY11: 30.8% (not met)*

¹ However, due to the lag between when data are submitted and when the FY ends, the actual date range of the data used for these measures is one quarter off from the FY.

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#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
	risk b/c of SWP		GW SWP	(Updated annually in October by States)	<u>measures—4a and 4b</u>	FY12: 31% FY13: 31% FY14: 31%	#1 above	FY12: 32.4% (met) FY13: 32% (met) FY14: 32.2% (met) *SWP voluntary in MI
5	% of population served by CWSs with minimized risk b/c of SWP	NPM/GPRA	PWSS GW SWP	SDW-SP4b	Quickr: <u>NWP measures—4a and 4b</u>	FY11: 87% FY12: 87% FY13: 76% FY14: 79%	same as item #1 above	FY11: 76.8% (not met)* FY12: 79.8% (not met)* FY13: 80% (met) FY14: 80.2% (met) *SWP voluntary in MI
6	% of CWS with san. survey w/in the past 3 yrs +NOTE: This national measure was modified in FY14 to include both surface water and ground water systems. In prior years, this measure only reported “% of CWS with san survey within the past 3 years for Subpart H systems”.	NPM/GPRA	PWSS SS	SDW-01a (Updated annually in July by HQ – Status queries updated by Region 5 in April and October)	Quickr: <u>NWP measure—01a</u> +NOTE: This national measure was modified in FY14 to include both surface water and ground water systems.	FY10: 90% FY11: 94% FY12: 94% FY13: 94% FY14: 75%+	CY (e.g., July 2014 data includes sanitary surveys at CWSs completed between 1/1/11 and 12/31/13; R5 also looks at NCWSs completed between 1/1/09 and 12/31/13, but this is not part of the national measure)	FY11: 92.93% *(276 out of 297) of the sanitary surveys at CWSs were completed between CY 2009 and CY 2011. Commitment not met due to staff turnover and possibly State procedures/policy. FY12: 96.3% (285 out of 296) of the sanitary surveys at SW CWSs were completed between CY 2010 and CY 2012. 100% of 11 TNCWSs w/SW surveyed on time. Commendable! FY13: 96.3% (285 out of 296) of sanitary surveys at SW CWSs completed between CY 2011 and CY 2013. Excellent! FY14: 91.5% (1253/1370) of sanitary surveys at CWSs (GW and SW) completed between CY 2012 and CY 2014. Excellent!
7	Fund Utilization Rate for DW SRF	NPM/GPRA	DWSRF	SDW-04 (Updated annually as of June 30 by HQ)	Quickr: <u>NWP measures—4 and 5</u>	FY10: 75% FY11: 75% fund utilization	The FY12 EOY data are cumulative as of 6/30/12.	FY11: EOY: Michigan's fund utilization rate through 6/30/11—the cumulative dollar amount of loan agreements

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#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
				and tracked through DWNIMS database)		rate for both ARRA and base funds, as well as for base only funds FY12: 85% fund utilization rate for both ARA and base funds, as well as for base only funds FY13: 85% fund utilization rate for both ARA and base funds, as well as for base only funds FY 14: 80%		divided by cumulative funds available for projects—for the DWSRF was 78% for ARRA- and base-funded projects, and 77% for base-funded projects only. Michigan surpassed the target. FY12: 77% ARRA, 76% base* (not met) FY13: 78.3% (not met) FY14: N/A (State-specific numbers removed. Not including State-specific targets.
8	# of DWSRF projects that have initiated operations (cumulative)* *NOTE: as of FY 2014, OGWDW is no longer tracking base only (w/o ARRA)	NPM/GPRA	DWSRF	SDW-05 (Updated annually as of June 30 by HQ and tracked through DWNIMS database)	Quickr: <u>NWP measures—4 and 5</u>	FY10: 180 FY11: 160 ARRA- and base-funded projects, and 140 base-	The EOY data are cumulative as of June 30 of the same year as EOY. *NOTE: as of FY 2014,	FY14: N/A (State-specific numbers removed. Not including State-specific targets.

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
						funded only projects FY12: 170 ARRA- and base-funded projects, and 150 base-funded only projects FY13: 180 w/ARRA; 160 Base FY 14: 240*	OGWDW is no longer tracking base only (w/o ARRA)	
9	% of DWSRF projects awarded to PWS serving <500, 501-3,300, & 3,301-10,000	NPM/GPRA	DWSRF	SDW-11 (Updated annually as of June 30 by HQ)	Quickr: <u>NWP measure—11</u>	This is an indicator.	The FY13 EOY data are cumulative as of 6/30/13.	FY11: Through 6/30/11, 56% (cumulative) of total DWSRF assistance agreements were with public water systems serving less than 10,001 people. FY12: Through 6/30/12, 56% (cumulative) of total DWSRF assistance agreements were with public water systems serving less than 10,001 people. FY13: Through 6/30/13, 55% (cumulative) of total DWSRF assistance agreements were with public water systems serving less than 10,001 people. FY14: Overall Commitment for R5 is 71%. HQ is not reporting to the Region state-specific or Regional EOY numbers.
10	# & % of small CWS and	NPM/GPRA	PWSS	SDW-15	Quickr: <u>NWP</u>	This is an	Same as item	FY11: In FY11, there were 13

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#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
	NTNCWS (<500, 501-3,300, & 3,301-10,000) w/repeat health-based NO ₃ & NO ₂ , Stage 1 D/DBP, SWTR, & TCR violations			(Updated annually in October by HQ)	<u>measures—15 and 17</u>	indicator.	#1 above	small CWSs and NTNCWs (LT 10K pop) with repeat health-based NO ₃ and NO ₂ , Stage 1 D/DBP, SWTR, and TCR violations. FY12: In FY12, there were 18 small CWSs and NTNCWs (LT 10K pop) with repeat health-based NO ₃ and NO ₂ , Stage 1 D/DBP, SWTR, and TCR violations. FY13: In FY13, there were 7 small CWSs and NTNCWs (LT 10K pop) with repeat health-based NO ₃ and NO ₂ , Stage 1 D/DBP, SWTR, and TCR violations. FY14: In FY14, there were 13 small CWSs and NTNCWs (LT 10K pop) with repeat health-based NO ₃ and NO ₂ , Stage 1 D/DBP, SWTR, and TCR violations.
11	# & % of schools and childcare centers that meet all health-based DW standards	NPM/GPRA	PWSS	SDW-17 (Updated annually in October by HQ, but can be generated from quarterly NPM measure)	Quickr: <u>NWP measures—15 and 17</u>	This is an indicator.	Same as item #1 above	FY11: In FY11, 621 out of 660 (94%) of schools and childcare centers meet all health-based drinking water standards. FY12: In FY12, 617 out of 646 (95.5%) of schools and childcare centers meet all health-based drinking water standards. FY13: In FY 13, 615 out of 644 (95.7%) schools/ childcare centers met all health-based drinking water standards. FY14 In FY 14, 598 out of 625 (95.5%) schools/ childcare centers met all health-based drinking water standards.

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#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
12	Number of drinking water and wastewater utilities and local, state, and federal officials receiving training and technical assistance to enhance emergency preparedness and resiliency to reduce risk from all hazards including those attributed to climate change impacts.	NPM/GPRA	PWSS	SDW-21 (Updated annually in October by HQ)		This a new indicator beginning in FY 2015.	FY ² (e.g., for FY15, the measure is calculated as of October 2015 for the period 1/1/14 to 6/30/15)	Jan14-June15: to be reported Oct15.
Office of Enforcement and Compliance Assistance National Program Measure								
13	During FY2012, the primacy agency must address with a formal enfmt action or RTC the # of priority systems equal to the # of its PWSs that have a score of 11 or higher on the July 2011 ETT report	NPM/OECA	PWSS ECA	SDWA02 (Updated quarterly by HQ at http://www.epa-otis.gov/otis/sdw_a_home.html)	ETT website: <u>ETT</u> (OECA's OTIS drinking water data website) ETT (R5 PWSS programs Quickr website)	FY11: 26 of the 26 systems on the 2011 fixed base list FY12: 18 of the 18 systems on the 2011 fixed base list FY13: Michigan's FY 2013 commitment is to address/res	The ETT is generated on a quarterly basis with the measure based on FY ³	FY11: EOY: In July 2010, MI had 26 systems with scores of 11 or more on the ETT. MI's 2011 commitment was to address or resolve 20 systems and MI intended to address all 26 systems. The July 2011 Freeze showed 55 systems addressed; 25 from the original 26 plus an additional 30 that were more recently>=11. Commendable! FY12: Michigan's 2012 commitment is to address/resolve 18 systems. As of April 2012, Michigan has addressed 24 systems. Commendable! As of April 2012, 30 systems have ETT scores of 11

² However, due to the lag between when data are submitted and when the FY ends, the actual date range of the data used for these measures is one quarter off from the FY.

³ Each quarterly ETT calculation includes the most current data in the associated SDWIS/FED data freeze. For example, the October 2012 ETT includes data through 6/30/2012. The ETT retrieves addressed violations going back 5 years from the most current data (i.e., for October 2012, the ETT retrieves addressed violations from 7/1/2007 to 6/30/2012). Note that addressed violations do not contribute to ETT scores. In addition, the ETT score includes all un-addressed violations, even if they are more than 5 years old.

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#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
						olve 19 systems.		or more. FY13: As of Oct 2013, Michigan has addressed 35 systems; 184% of its commitment. Commendable! FY14: Michigan committed to address with formal enforcement or RTC 13 systems in FY 2014. During FY 2014, Michigan RTC'd 31 PWSs. FY15: (FYI-In FY15, Michigan committed to address 31 systems. 75% thru the year, Michigan has addressed 28 systems, or met 90% of its commitment)
Regional Shared Goals								
14	1. % of NTNCWSs receive water that meets health-based drinking water standards 2.% of <u>TNCWSs</u> meeting all health based standards 3. % of population served by CWSs with <u>significant/major monitoring violations</u> 4. % of CWSs with <u>significant/major monitoring violations</u> 5. % of NTNCWSs with significant/major monitoring violations for <u>acute</u> health risks 6. % of NTNCWSs with	Shared Goals		(Updated annually in April by Region 5)	Quickr: <u>Regional shared goals</u>	By CY 2012: 1 = ≥95% 2 = ≥95% 3 = <5% 4= <10% 5 = <5% 6 = <10% 7 = <10%	CY	CY 2012: See SDW SP1.N11 (also below): NOTE: Asterisk (*) indicates target not met. CY 2012: 1. 94.5%* 2. 97.6% 3. 4% (inc) 4. 7.1% (inc). 5. 5.2%* 6. 4.5% 7. 7.5% CY2012 EOY: As of April 2013, of the 7 goals for CY 2012, MI met 5 milestones. Issues with NTNCWSs

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
	significant/major monitoring violations for <u>chronic</u> health risks 7. % of <u>TNCWSs</u> with significant/major monitoring violations.							meeting health-based standards/acute health risks appear to exist; namely TCR/nitrate. Increases noted for CWSs and related population for significant/major monitoring violations. CY 2013: 1= 94.6%* 2. 97.1% (met) 3. 13.3% * 4. 8.8% (inc) (met) 5. 5.8%* 6. 8.3% (met) 7. 8.8% (met) CY2013 EOY: As of May 2014, of the 7 goals for CY 2013, MI met 4 milestones; 3 milestones not met. Issues with exist; namely TCR/nitrate. Increases noted for CWSs and related population for significant/major monitoring violations. CY 2014: 1. 95.5% (met) 2. 97.7% (met) 3. 4.6% (met) 4. 6.6% (met) 5. 5.2%* 6. 5.4% (met) 7. 8.0% (met) CY2014 EOY: Much improvement noted from CY 2013. Only 1 goal not met-very close; for NTNCWSs

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								with significant/major monitoring violations for acute contaminants (nitrate/TCR).
Regional Program Oversight Measures								
15	# & % Violations/Yr	Logic Model Reporting Tool (LMRT)		A6(1) (Updated annually in July by HQ)	Quickr: <u>LMRT</u>	None	CY—the LRMT captures 5 calendar years of data (e.g., the July 2013 dataset includes data from January 2008 to December 2012) ⁴	July 2012: Logic model queries from the 2007 to 2011 period demonstrate low numbers of Tier 1 violations (range from 17-29/yr). Slight increase in Tier 1 CWS/ TNCWS violations. Small CWS/NTNCW/TNCWS systems make up the bulk of Tier 1, 2, 3 violations. Slight increase in Nitrate MCL violations in 2010 (8) and 2011 (11). TNCWS Nitrate MCL violations fairly static (<10). Slight decrease in Tier 2 violations, from 349 in 2007 to 325 in 2011. Arsenic and Stage 1 DBPR violations at CWS/NTNC decreasing. Tremendous decrease in M/R violations (from 3205 in 2007, to 1535 in 2011). July 2013: Logic model queries from the 2008 to 2012 period demonstrate continued low numbers of Tier 1 violations, ranging from 16 – 26/yr, and decreasing numbers of Tier 2

⁴ The LMRT is violation-based and pulls violations for 5 years from SDWIS/FED and assigns each violation a year in which it occurred, based on the various dates reported to us generally as compliance period begin dates. For 2007-2011, all violations that occurred in one of those years would be included. Long-term, open-ended violations that occurred before 2007 would not be included, even if they were still open at that time. A violation that occurs during the 5-year period is included in the LMRT, regardless of its enforcement status.

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#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								violations; 422 (2008) to 277 (2012). Decrease in Tier 3 (M/R) violations; 1462 (2008), to 1218 (2012). Decrease in As, TCR, Stage 1/2 MCLs at CWSs. 25% decrease in nitrate MCL, M/R violations at TNCWSs, where there were zero nitrate MCL violations for NTNCWSs in 2011/2012. 25% decrease in nitrate M/R violations at NTNCWSs. Overall improvement! Note: data in SDWIS/pivot table after 2008 doesn't reflect the 34 NTNCWSs using bottled water for arsenic compliance-these 34 systems are technically ongoing open-ended As MCL violations, in addition to Tier 2 violations reported. July 2014: Logic model queries from the 2009 to 2013 period demonstrate continued low numbers of Tier 1 violations, ranging from 13 – 25/yr, very consistent with past years' analysis. Tier 2 violations overall remain fairly consistent at approximately 360/year; slight increase noted over the 5-year period in TCR violations at CWSs, and variations seen throughout the 5-year period in TCR violations at NTNCWSs and TNCWSs. Tier 3: Approximately 25% increase noted in the 2013

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#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								data from 2012 data, in overall Tier 3 (M/R) violations. From 2009 to 2013, increases in Tier 3 violations noted at CWSs for TCR and TTHM/HAA5, NTNCWSs for Arsenic, TNCWSs for nitrate and TCR, with the largest increases noted at TNCWSs for nitrate and TCR violations.
16	Cumulative # & % Non-TCR/SWTR (Chem/Rad/DBP) Violations Responded to/Yr	LMRT		O6(1) (Updated annually in July by HQ)	Quickr: <u>LMRT</u>	None	CY—see explanation above	July 2012: All Tier 1 Chem/Rad/DBP MCL violations responded to during the year violation occurred. Only 1-3 CWS Tier 2 MCL violations not responded to each year from 2007-2011. LCR/Stage 2 DBPR rules at issue. Tier 3 M/R violations: 3 yr sample years for VOC/SOC are 2007 and 2010, so VOC/SOC M/R violations spiked in these years. But, over 900 more VOC/SOC M/R violations at NTNCWSs not responded to in 2010 than 2007. Why? Specifically, at NTNCWS, improved response time noted for “other SOC” violations; 1033 M/R violations “no response reported” in 2007, and 370 M/R violations “no response reported” in 2010. 1100 more SOC M/R violations not responded to in 2010 than 2007. Over 700 more VOC M/R violations not responded to in 2010 than 2007.

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#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								Decrease in Nitrate M/R violations not responded to at TNCWSs, thus showing much quicker response times in 2010 compared to 2007. July 2013: MDEQ and LHDs do a good job in resolving Tier1 & 2 violations. Very few CWSs w/Tier 3 (M/R) violations, except for 2010, and then State only resolved 77% by 2012. From 2008 to 2010, LHDs responded to approx 96% TNCWSs with NO₃ M/R violations in 1st yr and 99% of these violations addressed in 2nd yr; in 2011-2012, LHDs responded to 98.7% TNCWSs with NO₃/NO₂ M/R violations in first year. From 2008-2010, LHDs responded to 96% of NTNCWSs with M/R violations in 1st yr, and increased to 100% 2nd yr. In 2011-2012, LHDs responded to 97.3% NTNCWSs with M/R violations. Data trend shows improvement! July 2014: All Tier 1 and Tier 2 violations responded to immediately by State/LHD and addressed. At the end of 5-year period (2009-2013), only 1% of Tier 3 violations not responded to by 2013. Only 3% of 2012 Tier 3 violations not responded to in 2013.
17	Cumulative # & % TCR/SWTR Violations	LMRT		O6(1b) (Updated)	Quickr: <u>LMRT</u>	None	CY—see explanation	July 2012: For Tier 1 and 2 TCR/SWTR violations, there is a

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#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
	Responded to/Yr			annually in July by HQ)			above	very good response reported for all water supplies. All Tier 1 violations responded to within the first year of violation. The number of systems with no response reported ranges from 7 to 13 per year from 2007 to 2011. Tier 3 violations: Very good response reported in second year of the violation for TCR M/R violations. Slight increase in "no response reported" the first year of a M/R violation in 2010 and 2011. Improvement noted in reduction of NTNCWS "no response reported" TCR M/R violations and response time, ranging from 52 in 2007 to 20 in 2011. Very good responses to TCR M/R within 1st year of violation. For NTNC/TNC M/R violations, 95.4%-100% of violations responded to within 1st year of violation. July 2013: Starting in 2010, there are several acute (Tier 1) and monthly (Tier 2) bacti violations each year showing up unresolved, which is an increase from 2008/2009. All but 1 violation was resolved within the violation year. Tier 3 violations: Decreasing numbers of CWS M/R violations initially reported from 2008 to 2012. From 2008 to 2012: LHDs resolved approx 96% of bacti

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								M/R violations at TNCWSs in 1 st yr reported as unresolved; and LHDs resolved approx 98% of bacti M/R violations at NTNCWSs in 1 st yr reported as unresolved. July 2014: Data not provided by HQ.
18	Cumulative # & % "other" Violations Responded to/Yr	LMRT		O6(1c) (Updated annually in July by HQ)	Quickr: <u>LMRT</u>	None	CY—see explanation above	July 2012/July 2013/July 2014: Beginning in 2007, Michigan did not report CCR violations or Tier 3 PN violations to SDWIS-Fed due to EPA/State agreed disinvestment/ no public health threat. In FY 2012, MDEQ agreed to begin reporting violations for failure to produce/distribute CCR, 71 violation. However, no change in CCR violation reporting noted in FY 2012, so no verification that CCR reporting of 71 violations began in FY 2012. Since this set of data is all Tier 3/CCR-PN related, this pivot table does not provide current accurate data over 5-yr period for Michigan.
19	<u>Violation Response Rate:</u> Estimated Median Time (in days) Between Vio Awareness Date & Vio Response, over the most recent 5 yrs	LMRT		O6(2) (Updated annually in July by HQ)	Quickr: <u>LMRT</u>	None	CY—see explanation above	July 2012: From 2007 to 2011, MI reported a first response to 97% (102/105 systems) of the MCL or TT (PN Tier 1) violations within 30 days or less. First response within 1 day increased from 82% in 2007 to 90% in 2011. MI reported a first response to 97% of the Tier 2 violations within 30 days or less. MI reported a first response to

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments																																	
								69% of Tier 3 violations within 30 days or less, and 98% of the Tier 3 violations within 1 year or less. July 2013: percentage of violations responded to by State within 1 month: <table><tr><td><u>CWS</u></td><td><u>2008</u></td><td><u>2012</u></td></tr><tr><td>Tier 1</td><td>100%*</td><td>100%</td></tr><tr><td>Tier 2</td><td>92%</td><td>100%</td></tr><tr><td>Tier 3</td><td>46%</td><td>60%</td></tr></table> <u>NCWS</u> <table><tr><td>Tier 1</td><td>100%**</td><td>100%</td></tr><tr><td>Tier 2</td><td>97%</td><td>97%</td></tr><tr><td>Tier 3</td><td>73%</td><td>96%</td></tr></table> *percentage of violations responded to by State within 1 day or less **percentage of violations responded to by State within 1 day Excellent improvement from 2008 to 2012, especially NCWSs. Excellent improvement by State in responding to violations at CWSs and NCWSs. Also note the large decrease in violations from 2008 to 2012. July 2014: percentage of violations responded to by State within 1 month: <table><tr><td><u>CWS</u></td><td><u>2009</u></td><td><u>2013</u></td></tr><tr><td>Tier 1</td><td>100%*</td><td>100%</td></tr><tr><td>Tier 2</td><td>95.9%</td><td>86.7%</td></tr><tr><td>Tier 3</td><td>59.8%</td><td>64.7%</td></tr></table>	<u>CWS</u>	<u>2008</u>	<u>2012</u>	Tier 1	100%*	100%	Tier 2	92%	100%	Tier 3	46%	60%	Tier 1	100%**	100%	Tier 2	97%	97%	Tier 3	73%	96%	<u>CWS</u>	<u>2009</u>	<u>2013</u>	Tier 1	100%*	100%	Tier 2	95.9%	86.7%	Tier 3	59.8%	64.7%
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July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								NCWS 2009 2013 Tier 1 100%* 88.9%** Tier 2 98.9% 99.3% Tier 3 73.4% 89.8% *percentage of violations responded to by State within 1 day or less **100% responded to within 1 week CWS: Response to Tier 1 violations excellent. Response time to Tier 2 violations increased from 2012 to 2013. Improvement in response time to Tier 3 (M/R) violations noted. NCWS: response time increased at 2 NCWS Tier 1 violations, from 1 day or less, to 1 week. Response time at NCWSs for Tier 2 and Tier 3 violations decreased/ improvement noted.
20	<u>Violation RTC Rate:</u> Time (in days) between proxy vio awareness date and RTC date, over the most recent 5 yrs	LMRT		O6(2b) (Updated annually in July by HQ)	Quickr: <u>LMRT</u>	None	CY—see explanation above	July 2013: percentage of systems RTC'd within 4months: <u>CWS</u> <u>2008</u> <u>2012</u> Tier 1 100% 100% Tier 2 83% 100% Tier 3 82% 98% <u>NCWS</u> Tier 1 42% 100%* Tier 2 83% 98% Tier 3 82% 93% *percentage RTC'd within 2 mos Excellent improvement from 2008 to 2012, especially NCWSs.

July 2015

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								July 2014: percentage of systems RTC'd within 4 months: <table><tr><td><u>CWS</u></td><td><u>2009</u></td><td><u>2013</u></td></tr><tr><td>Tier 1</td><td>100%*</td><td>100%*</td></tr><tr><td>Tier 2</td><td>74.3%</td><td>100%</td></tr><tr><td>Tier 3</td><td>84.1%</td><td>95.5%</td></tr></table> <u>NCWS</u> <table><tr><td>Tier 1</td><td>58.3%</td><td>76.9%</td></tr><tr><td>Tier 2</td><td>86.4%</td><td>97.7%</td></tr><tr><td>Tier 3</td><td>70.0%</td><td>91.2%</td></tr></table> *percentage RTC'd within 1 mos Improvement noted from 2009 to 2013, though there was a drop in RTC of Tier 1 (acute violations) at NCWSs from 2012 to 2013.	<u>CWS</u>	<u>2009</u>	<u>2013</u>	Tier 1	100%*	100%*	Tier 2	74.3%	100%	Tier 3	84.1%	95.5%	Tier 1	58.3%	76.9%	Tier 2	86.4%	97.7%	Tier 3	70.0%	91.2%
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21	# & % of Systems in Compliance with TT, MCL, and MRDL Requirements/Yr	LMRT		S5(1) (Updated annually in July by HQ)	Quickr: <u>LMRT</u>	None	CY—see explanation above	July 2012: Between 2007 and 2011, the number of systems in violation of MCL/TT/MRDL (Tier 1) requirements ranged from: 13-21 for Tier 1 and 282-382 for Tier 2 (w/282 violations in 2011). For Tier 2, notable decreases in TCR violations at TNCWS and notable decreases in Arsenic violations at NTNCWSs. July 2013: Between 2008 and 2012, the number of systems in violation of MCL/TT/MRDL(Tier 1) requirements ranged from: 14-19 for Tier 1 (w/ 14 violations found in 2012; and 262-374 for Tier 2 (w/262 violations in 2012). For Tier 2, notable decreases in TCR violations at noncommunity systems. July 2014: Between 2009 and																					

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								2013, the number of systems in violation of MCL/TT/MRDL(Tier 1) requirements ranged from: 13-19 for Tier 1 (w/19 violations found in 2013. The number of systems in violation of MCL/TT/MRDL (Tier 2) ranged from 251-324 (w/313 violations in 2013). Tier 2 TCR violations at TNCWSs ranged from 160-223, (where 223 was reported in 2013).
22	# & % of Systems in Compliance with M/R Requirements/Yr	LMRT		S5(2) (Updated annually in July by HQ)	Quickr: <u>LMRT</u>	None	CY—see explanation above	July 2012: Between 2007 and 2011, the number of systems in violation of M/R requirements decreased from 1248 in 2007 to 836 in 2011. CWS trend gradually decreasing from 114 violations in 2007 to 80 violations in 2011. TNCWS violation decrease from 856 violations in 2007 to 645 violations in 2011. NTNCWS violation decrease noted from 278 violations in 2007 to 111 violations in 2011. (Exception: All contaminants for NTNCWSs in 2010 increased—Spike may be due to 2010 being a 3-year sample year for SOC/VOC/IOC/LCR.) July 2013: Between 2008 and 2012, the number of systems in violation of M/R requirements decreased from 1068 in 2008 to 843 in 2012. CWS trend gradually decreasing from 110 violations in 2008 to 93 violations in 2012.

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								TNCWS violations decreased from 786 violations in 2008 to 635 violations in 2012. NTNCWS violations decrease noted from 172 violations in 2008 to 115 violations in 2012. (Exception: All contaminants for NTNCWSs in 2010 increased—Spike may be due to 2010 being a 3-year sample year for SOC/VOC/IOC/LCR.) July 2014: Between 2009 and 2013, the number of systems in violation of M/R requirements increased from 899 in 2009 to 1045 in 2013. CWS M/R violations consistent until 2011 (89); increase noted in 2012(103), and jump to 145 M/R violations in 2013. CWS TCR M/R violations consistent until 2012(56), and jump to 77 CWS TCR M/R violations in 2013. TNCWS violations decreased from 680 in 2009 to 587 in 2012, then jumped to 757 in 2013. NTNCWS violations appear to remain fairly consistent; 136 M/R violations in 2009 to 142 M/R violations in 2013; with the exception: All contaminants for NTNCWSs in 2010 increased—Spike may be due to 2010 being a 3-year sample year for SOC/VOC/IOC/LCR. But this spike is not seen in 2013, thus

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								SOC/VOC/IOC/LCR monitoring violations have decreased since 2010.
23	# & % of Systems in Compliance with 'Other' Requirements/Yr	LMRT		S5(4) (Updated annually in July by HQ)	Quickr: <u>LMRT</u>	None	CY—see explanation above	July 2012/July 2013/July 2014: Since FY 2007, MI has disinvested in tracking/reporting PN violations and full implementation of CCR rule, including reporting violations. Thus, not all violations reported for PN rule and CCR.
24	New Rule Violation Completeness Reporting (GWR, LCRSTR, Stage 2, LT2). For Type 12 TT violations, see item 28. In Michigan, these numbers are for CWSs only.	R5 High Priority	PWSS DM	(Updated in April and October by Region 5)	Quickr: <u>R5 high priority query—new rule completeness reporting</u>	None	N/A—this query pulls all violations for the new rules ever reported for any system type.	*Only CWSs reporting new rule violations FY11: October 2011*: <u>LT2</u> : no violations reported <u>GWR</u> : 8 GWR M/R violations and 1 GWR TT violation <u>Stage 2</u> : no violations reported <u>LCRSTR</u> : no violations reported FY12: April 2012*: <u>LT2</u> : no violations reported <u>GWR</u> : 15 GWR M/R violations and 1 GWR TT violation <u>Stage 2</u> : no violations reported <u>LCRSTR</u> : no violations reported FY13: April 2014*: <u>LT2</u> : no violations reported. <u>GWR</u> : 42 GWR M/R violations, 7 TT violations. <u>Stage 1</u> : 6 <u>Stage 2</u> : 69 M/R violations <u>LCRSTR</u> : 6 consumer notification M/R violations FY14: July 2015*: <u>LT2</u> : no

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								violations reported. <u>GWR</u> : 50 GWR M/R violations, 7 TT violations. <u>Stage 1</u> : 6 TT violations. <u>Stage 2</u> : 13 MCL violations. <u>Stage 2</u> : 169 M/R violations. <u>LCRSTR</u> : 11 consumer notification M/R violations.
25	GW Sanitary Survey Completeness (not a national measure yet)	R5 High Priority	PWSS Sanitary Surveys GWR	(Updated in April and October by Region 5)	Quickr: <u>R5 high priority query—ground water sanitary survey completeness</u>	None.	CY (e.g., July 2013 data will include sanitary surveys completed between 1/1/10 and 12/31/12) ⁵	FY12 : CWS program not able to report ground water sanitary surveys in FY 2012. During FY 2011, for the time period 2007-2011, ground water sanitary surveys for TNCWSs have been reported at 97.4%, and NTNCWSs have been reported at 97.8%. Commendable! FY13 : CWS GW systems: 95.2% complete (1021/1073). NTNCWS GW systems: 98.9% complete (1240/1260). TNCWS GW systems: 98.3% complete (7632/7765). Commendable! FY14 : As of April 2015, 92.54% (251 out of 273) of CWS SW sanitary surveys were completed, and 92.16% (904/988) of CWS GW sanitary surveys were completed between CY 2012 and CY 2014.

⁵ This will be measured in July 2013 for CWSs surveys completed between 1/1/10 to 12/31/12, in 2014 for NCWSs surveys completed between 1/1/10 to 12/31/14, and then every year after that (with rolling three-year periods).

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								During CY 2012 – CY 2014: 100% (11/11) of TNCWS SW sanitary surveys were completed. 98.72% (1216/1232) of NTNCWS GW sanitary surveys were completed. 98.4% (7489/7613) of TNCWS GW sanitary surveys were completed.
26	Late TCR Rule Reporting	R5 High Priority	PWSS DM TCR	(Updated annually in October by Region 5)	Quickr: <u>R5 high priority query—late TCR reporting</u>	None	CY	FY12: As of October 2013, the CY2012 TCR late reporting query indicates that in 2012, 92.8% of TCR violations (999/1076) were reported on time, and 6.3% (68 violations) were reported up to 2 quarters late. In 2011, 89.4% of TCR violations (917/1026) were reported on time and 6.7% (68 violations) reported up to 2 quarters late. FY 13: As of April 2014, the CY2013 TCR late reporting query indicates that in 2013, 94.3% of TCR MCL/MR violations (1216/1290) were reported on-time and 5.4% of TCR violations (70 violations) were reported up to 2 quarters late. In 2012, 92% of TCR MCL/MR violations (953/1066) were reported on time and 6.3% (66 violations) were reported up to 2 quarters late. FY14: As of April 2015, for CY 2014, 96.3% of TCR violations were reported on-time, and an

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								additional 3.4% were reported up to 2 quarters late. For CY 2013, 89.6% of TCR violations were reported on-time, and an additional 8.1% were reported up to 2 quarters late.
27	Late Nitrate Rule Reporting	R5 High Priority	PWSS DM NO ₂ /NO ₃	(Updated annually in October by Region 5)	Quickr: <u>R5 high priority query—late nitrate rule reporting</u>	None	CY	FY12: As of October 2013, the CY2012 nitrate late reporting query shows that in 2012, 98.8% of nitrate MCL/MR violations were reported on time, and 1.2% of nitrate violations were reported up to 2 quarters late. In 2011, 89.2% M/R violations were reported on time, and 4.4% of nitrate violations were reported one quarter late. FY13: As of April 2014, the CY 2013 nitrate late reporting query shows that in 2013, 99.8% of nitrate MCL/MR violations (499/500) were reported on-time. The CY 2012 nitrate late reporting query shows that in 2012, 95.8% of nitrate MCL/MR violations (322/336) were reported on-time, and 1.2% of violations (4 violations) were reported up to 2 quarters late. FY14: As of April 2015, for CY 2014, 100% of nitrate/nitrite violations were reported on-time. For CY 2013, 93% of nitrate/nitrite violations were reported on-time, and an

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								additional 5.1% violations were reported up to 2 quarters late.
28	Arsenic MCL Non-compliance (% CWS/NTNCWS systems in violation)	NEW R5 High Priority	PWSS As	(Updated quarterly by HQ—NPM Measures Tables filtered for active, non-RTC'd arsenic MCL violations)	Quickr: <u>R5 high priority query—arsenic MCL non-compliance</u>	None	This query is based on data in the 4th quarter national program measure tables (e.g., the January 2013 query covers the period from 10/1/2011 to 9/30/2012).	FY11: Data as of 1/2012, indicates 99.36% CWSs and 96.84% NTNCWSs were in compliance, where 9 CWSs (pop 2,184), and 45 NTNCWSs (pop 4,430) had arsenic MCLs that were not RTC'd. FY12: Data as of January 2013, indicates 99.71% CWSs and 97.3% NTNCWSs were in compliance, where 4 CWSs (pop 1058) and 36 NTNCWSs (pop 3088) had arsenic MCLs that were not RTC'd. Improvement noted in RTC'ing Arsenic MCL violations. FY 13: Data as of January 2014, indicates 99.71% CWSs and 97.26% NTNCWSs were in compliance, where 4 CWSs (pop 351) and 36 NTNCWSs (pop 3762) had arsenic MCLs that were not RTC'd. FY14: Data as of January 2015 indicates 99.78% CWSs were in compliance where 4 CWSs (total pop 265) had arsenic MCLs that were not RTC'd. The State has successfully reduced its number of NTNCWSs under bottled water

July 2015

#	Description	Type	Used For	Name and Update Schedule	File	Target	Applicable period (CY/FY)	Results and Comments
								agreements from 36 to 27; a 25% decrease.
29	Failure to have a certified Operator per Stage 1 DBPR (141.130(c) operator certification treatment technique requirements)	NEW for 2012 R5 High Priority	PWSS Op Cert	(Updated annually in October by Region 5)	Quickr: <u>R5 high priority query—Failure to have a certified operator</u>	None.	N/A—this query pulls all violations for the new rules ever reported for any system type.	FY13: Michigan is 1 of 2 States in Region 5 that has reported Type 12 violations; Failure to have a certified Operator, though only 3 violations have been reported in the last 3 years. The most recent Type 12 violation was reported March 2013. FY14: Above still accurate. Michigan has committed to reporting Type 12 violations when they occur.

Shekter Smith, Liane (DEQ)

From: Sygo, Jim (DEQ)
Sent: Friday, October 23, 2015 5:17 PM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ); Cook, Pat (DEQ); Shekter Smith, Liane (DEQ)
Subject: FW: Flint WTP PH2 SEG4 - Corrosion Control

This is Bob Kaplan's latest note. Let me know if you have any concerns with the highlighted additions.

From: Kaplan, Robert [mailto:kaplan.robert@epa.gov]
Sent: Friday, October 23, 2015 4:23 PM
To: Sygo, Jim (DEQ)
Subject: RE: Flint WTP PH2 SEG4 - Corrosion Control

Jim –

We are very close. I checked with the Task Force on the plan you sent to us incorporating EPA's comments. See annotations below. There are several changes (in red italics) that EPA feels need to be incorporated into the text to reflect our earlier comments (from Mike and Darren) and the subsequent call. Additionally, there is a recommendation at the end that was discussed but not incorporated into the writeup you sent which we also feel should be incorporated.

Please feel free to get back with me if you have any questions. We appreciate the opportunity to provide input and your willingness to address our comments.

- Bob

This will summarize our phone conversation of 10/19 and provide clarification regarding the previous comments.

The City of Flint converted back to purchasing of Detroit Water and Sewerage Department water on Friday October 16, 2015. No indications of upset in the distribution system have been reported to date.

Detroit Water and Sewerage Department (DWSD) has confirmed the use of Innophos "Phosphoric Acid 75% Technical" product which is NSF Standard 60 certified with a maximum allowable feed rate of 13 mg/L as product.

The City of Flint will need to supply a similar phosphoric acid product, NSF Standard 60 approved with allowable maximum dosage.

DWSD supplied water is currently dosed at 0.39 mg/L as P (1.2 mg/L as PO₄) slightly above DWSD's OCCT requirement to dose a minimum of 0.9 mg/L as PO₄ and have a minimum plant tap residual of 0.8 mg/L as PO₄. DWSD plant tap residuals have been shown to consistently be at 0.39 mg/L as P (1.2 mg/L as PO₄). In addition water supply entering Flint has been tested and so far shown to contain approximately 0.39 mg/L as P (1.2 mg/L as PO₄) as well. *Flint will need to test to ensure that pH is not significantly affected at the PO₄ target dosage.*

To achieve pipe passivation Flint will boost orthophosphate dosage to establish a minimum distribution residual of 1.0 mg/L as P (3.1 mg/L as PO₄). The chemical feed system will be sized to achieve a dose up to 2.0 mg/L as P (6.1 mg/L as PO₄) in case orthophosphate loss is observed.

Flint will continue Water Quality Parameter Monitoring in accordance with the LCR at the same 25 distribution locations used under the Flint River. In addition 10 of these locations also serve as total coliform monitoring sites, including disinfectant residual, and Flint will be told to, for the purpose of assessing water stability, conduct water quality parameter monitoring *for pH, alkalinity, orthophosphate*, along with turbidity and iron sampling will be at these 10

locations on a weekly basis as suggested. This will also ensure that a minimum recommended pH levels are being maintained throughout the system.

EPA ORD staff will provide instructions to the City of Flint for creating test loops to help confirm effectiveness of the corrosion control treatment. This data will help in rebuilding public trust.

The County Health Department and MI Department of Health and Human Services will be conducting blood lead level testing of children in Flint. Children with elevated blood lead levels will be offered exposure assessments of their homes. These assessments should include the contribution of lead from service line and interior plumbing sources. Such diagnostic testing should help further substantiate the effectiveness of corrosion control treatment. Procedures recommended by EPA should be shared with the Michigan Department of Health and Human Services.

The University of Michigan in Ann Arbor had previously expressed interest in assisting the City of Flint. Both the Department of Civil and Environmental Engineering, and School of Public Health should be contacted to determine if that interest still exists with potential to assist in both test loop construction and monitoring, and exposure assessment monitoring in homes. Any water analysis should occur at a certified laboratory.

The City will be required to complete a 6 month round of lead and copper compliance monitoring in the January – June 2016 period. The City continues to offer all residents a first draw lead sample collection and analysis. Any additional staggered monitoring suggestions should be brought before the City's Technical Advisory Committee.

Criteria for deeming the treatment optimized must be established as the LCR only requires compliance with the lead and copper Action Levels once this determination has been made.

The City of Flint is continuing to digitize service line index card records into a Geographic Information System to confirm the location of lead service lines. EPA can provide additional information to the City regarding a sampling procedure to verify lead service line sites.

The City's engineering consultant will need to evaluate KWA water in conjunction with the City of Flint treatment plant processes to determine any necessary adjustments in optimized corrosion control treatment prior to initiating service to customers. Full scale testing may not be feasible.

Lastly, we discussed additional lead drinking water monitoring Flint should do to better assess lead exposure, determine effectiveness of water source change and corrosion control, and identify lead sources. That discussion does not appear to be captured here.

Robert Kaplan
Deputy Regional Administrator
U.S. EPA Region 5
Phone: (312) 886-1499
Cell: (312) 515-9827
Fax: (312) 692-2075

From: Sygo, Jim (DEQ) [<mailto:SygoJ@michigan.gov>]
Sent: Friday, October 23, 2015 11:39 AM
To: Kaplan, Robert <kaplan.robert@epa.gov>
Subject: RE: Flint WTP PH2 SEG4 - Corrosion Control

Sounds Good.

Met with the Mayor today and he seems to be under the impression that the City Administrator is on this task force as well. I told him I would check but this was intended to make sure that the state and EPA are taking consistent technical positions. Let me know if I'm wrong about that.

From: Kaplan, Robert [<mailto:kaplan.robert@epa.gov>]
Sent: Friday, October 23, 2015 10:37 AM
To: Sygo, Jim (DEQ)
Subject: RE: Flint WTP PH2 SEG4 - Corrosion Control

Jim,

Thanks for the note. There does appear to be agreement. I will confirm that with the Task Force team members today just to make certain we haven't missed anything.

This is good news. I'm glad we're moving quickly, and working together. The Task Force will discuss the "test loops" and make sure we have agreement on the protocol.

I'm setting up a call for next week to discuss this weekend's school sampling effort.

- Bob

Robert Kaplan
 Deputy Regional Administrator
 U.S. EPA Region 5
 Phone: (312) 886-1499
 Cell: (312) 515-9827
 Fax: (312) 692-2075

From: Sygo, Jim (DEQ) [<mailto:SygoJ@michigan.gov>]
Sent: Thursday, October 22, 2015 4:39 PM
To: Kaplan, Robert <kaplan.robert@epa.gov>
Subject: FW: Flint WTP PH2 SEG4 - Corrosion Control

Bob,

There appears to be agreement on the optimization of corrosion control for the City of Flint. This is the note provided to me by staff after a discussion with members of your task force.

From: Busch, Stephen (DEQ)
Sent: Thursday, October 22, 2015 12:58 PM
To: Schock, Michael; Lytle, Darren
Cc: Kempic, Jeffrey; Prysby, Mike (DEQ); kaplan.robert@epa.gov; Krisztian, George (DEQ); Sygo, Jim (DEQ)
Subject: RE: Flint WTP PH2 SEG4 - Corrosion Control

This will summarize our phone conversation of 10/19 and provide clarification regarding the previous comments.

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The City of Flint will need to supply a similar phosphoric acid product, NSF Standard 60 approved with allowable maximum dosage.

DWSD supplied water is currently dosed at 0.39 mg/L as P (1.2 mg/L as PO₄) slightly above DWSD's OCCT requirement to dose a minimum of 0.9 mg/L as PO₄ and have a minimum plant tap residual of 0.8 mg/L as PO₄. DWSD plant tap residuals have been shown to consistently be at 0.39 mg/L as P (1.2 mg/L as PO₄). In addition water supply entering Flint has been tested and so far shown to contain approximately 0.39 mg/L as P (1.2 mg/L as PO₄) as well.

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Stephen Busch, P.E.
MDEQ Lansing District Coordinator
Office of Drinking Water and Municipal Assistance
Lansing and Jackson District Supervisor
517-643-2314
buschs@michigan.gov

From: Lytle, Darren [<mailto:Lytle.Darren@epa.gov>]
Sent: Monday, October 19, 2015 12:05 PM
To: Prysby, Mike (DEQ)
Cc: Schock, Michael; Kempic, Jeffrey; Busch, Stephen (DEQ)
Subject: RE: Flint WTP PH2 SEG4 - Corrosion Control

Mike,

Thank-you for giving us the opportunity to review the city of Flint's corrosion control plan.

We believe it is necessary that Flint boosts orthophosphate dosage. Given that the distribution system has not received orthophosphate in over a year, we expect that orthophosphate will need to be boosted to 1) meet the demand of the distribution system, 2) reach the service lines and other lead-containing components in premise plumbing, and 3) accelerate lead reduction at the consumer's taps. Orthophosphate should preferably be added in the same form as the Detroit source which is phosphoric acid from our understanding. This is the proposed case here, however, a simple test should be performed to make sure that the pH is not impacted in a significant way at the desired target dose.

We have not been able to obtain comprehensive water quality data for the finished water characteristics of the Detroit water that will be fed to Flint, to assess ranges of major chemical characteristic fluctuations. However, based upon the email trail, Detroit water entering the Flint system appears to only contain around 0.4 PO₄/L. This concentration range is entirely too low compared to that needed in studies presented and published in the last 20+ years that have focused on lead released directly from lead pipes, and the solubility of the most likely lead orthophosphate pipes scales. We also strongly feel that targeted dose of 0.8 mg PO₄/L is also too low, for the very same reason. We would be glad to share with you numerous standard corrosion control and treatment reference works, best practices guides and published results from US and international lead corrosion control field and pilot studies. Secondly, the basis for that target (other communities using Lake Huron source use the same dose) is not scientifically derived nor does it consider water quality and the current state of Flint's distribution system. We have reviewed the original Detroit corrosion study and have seen some of the LCR monitoring data, and besides the fact that it did not directly pertain to this water source, few dosages were tested in the cited 1994 pipe loop study, and the higher dosage than the one implemented in the field currently was more effective. Based on the limited amount of data on the quality of Detroit water, what we know about the history of Detroit corrosion control, we think an orthophosphate residual of 3 to 4 mg PO₄/L should be the minimum starting test target residual for pipe passivation. It is likely that, at least initially a higher dosage will be necessary to reach the far ends of the distribution system and sufficiently reduce lead solubility and release from all lead sources. To allow flexibility, we feel the design of the chemical feed and storage systems should be able to consistently deliver a maximum dose of 5 to 6 mg PO₄/L, if substantial orthophosphate loss is observed, if the starting dose is set for the desired residual level of 3 to 4 mg/L as PO₄. We suggest that jar tests be

performed in advance of orthophosphate addition to Detroit water to evaluate the impact of orthophosphate dose on turbidity that could result from interactions between orthophosphate and background Detroit water quality parameters (e.g., aluminum, calcium, etc.).

We want to stress that immediately shifting to Detroit water and adding orthophosphate will not necessarily translate to immediate improvements. Furthermore, this is a change, albeit a return to past conditions. Nonetheless, a period of system upset should be anticipated. The need for a communication strategy and a distribution system plan are critical.

Lastly, we see no mention of a water quality monitoring program. Two programs need to be put in place immediately (before return to Detroit water) to 1) identify lead sources, 2) assess treatment effectiveness against lead release from all of the simultaneously operating mechanisms (solubility, particulate release, galvanic corrosion), and 3) assess orthophosphate levels and stability of water quality in the distribution system.

There are multiple sources of lead in the Flint distribution system to the consumers' taps, such as: pipes; leaded brass; leaded solder; accumulations on old galvanized steel pipes; possibly accumulated on copper or some plastic pipes. It is critical that the fate of orthophosphate in the distribution system is understood, and how effective it is against each type of lead source, so dosing adjustment can be properly made. For this purpose, we recommend that a number of residences throughout Flint that meet the following plumbing criteria, be identified for an assessment of the contribution lead from the different potential service line and interior plumbing sources, through detailed mapping of plumbing materials, lengths, sizes, and location and type of inline devices and faucets using profile sampling. For confidence in interpretation, probably at least 5 sites from each of the configurations will be necessary. The configurations we would estimate to be most important (but should be changed or added to if local construction practice indicates it's necessary): Lead service line, galvanized steel interior plumbing; lead service line, copper with leaded solder joints; lead service line, plastic interior plumbing. It is also possible that interior plumbing may differ from the material used for the customer-side service line segment. We would be glad to discuss the specifics of this sampling effort. For the purpose of assessing stability of water quality in the distribution system and to inform on orthophosphate residual adjustment, we suggest that 8 to 10 locations in the distribution system be selected to measure pH, alkalinity, orthophosphate, turbidity and iron on a weekly basis. These could be collected from TCR sampling locations, or other readily-accessible buildings, should be located at a distribution of locations in the distribution system and should be collected after a flush sufficiently long to assure that "fresh" distribution system water is being measured. Research has shown that over time, orthophosphate can reduce disinfectant demand associated with corroding metallic distribution system materials. These measurements need to be performed in the field and can simply be done with a portable HACH test kit or spectrophotometer.

A lead sampling plan needs to be in place to assess the effectiveness of water change and treatment boost. LCR monitoring sites with confirmed lead service lines can be in the sampling pool. Sampling should consist of a 1 liter first draw sample (LCR sample without 5 minute pre-flush), followed by an additional flushed sample or two depending on profile sample results which is intended to capture major lead source(s). The specific details of this effort need to be worked out by the technical committee as soon as possible. We would gladly work with Flint on establishing a water sampling program to identify and verify lead service line sites. The plan and initial sampling effort should be performed before the switch so that one baseline sample set is collected.

Lastly, our strength does not fall under full-scale pump and chemical feed delivery systems. We would only say that the systems need to be scaled-up in size to accommodate our suggested dosing needs. Also, there is some discussion about diverting water to the Dort reservoir and an associated

orthophosphate feed system. We are not familiar with the reservoir but are wondering if it is an open reservoir?

Of course this is a lot of information to share and we would gladly be available to discuss the technical and scientific basis for our suggestions.

Let us know if you have any questions and thanks again,

Darren and Mike

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From: Prysby, Mike (DEQ) [<mailto:PRYSBYM@michigan.gov>]
Sent: Friday, October 16, 2015 1:32 PM
To: Lytle, Darren <Lytle.Darren@epa.gov>; Schock, Michael <Schock.Michael@epa.gov>
Cc: Busch, Stephen (DEQ) <BUSCHS@michigan.gov>
Subject: FW: Flint WTP PH2 SEG4 - Corrosion Control

Darren, Michael

We have received Flint's corrosion control proposal from their consultant. If you have comments, please provide them to me by Monday morning.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

From: Matta, Samir [<mailto:SFMatta@lan-inc.com>]
Sent: Friday, October 16, 2015 12:02 AM
To: Prysby, Mike (DEQ)
Subject: Flint WTP PH2 SEG4 - Corrosion Control

Hi Mike,

Please see attached plans for the Corrosion Control Plan for the City of Flint. I will have the official submittal package to you tomorrow afternoon after I get Brent or Mike's signature on the permit application. I will call you when I get back in Lansing to drop the package. Are three sets of full size plans adequate? Would you like some half size plans? Let me know.

Basis of Design

Given that Flint will require lead and copper corrosion control and given that Detroit utilizes orthophosphate for their corrosion control methodology, and that Flint will be receiving Detroit water for the immediate future, orthophosphate is the appropriate corrosion control methodology for Flint. A dosage of 0.8 mg/l as PO_4 has been recommended for the Detroit water. Numerous utilities utilizing Lake Michigan water have a target dosage of 0.9 mg/l as PO_4 . Therefore, a target dosage in the range of 0.8 to 0.9 mg/l appears appropriate.

It is expected that, at least initially, there will be a significant PO_4 demand in the system. This will require a significantly higher dosage until this demand is satisfied and the target residual can be maintained. We are therefore designing for capability of a maximum dosage of 1.5 mg/l. The arriving Detroit water will likely have some residual PO_4 when it arrives at Flint. It has been reported that this residual will be approximately 0.4 mg/l. The system must therefore be capable of a minimum dosage of 0.4 mg/l.

Based upon the usage of 75% Phosphoric Acid and a flow range of 4 MGD to 25 MGD, with an average day of 16 MGD, the expected feed rate will be 1.35 to 32 gpd. Average Phosphoric Acid feed is expected to be 10.8 gpd, requiring 30 days storage of 325 gal.

Orthophosphate will need to be applied at two locations. Detroit water will enter the Flint system at Control Station CS2, and supplementary phosphate will be applied there. However, on occasion some incoming water may need to be diverted to the Dort Reservoir, bypassing CS2. This water would then be introduced to the system through High Service Pump Station PS4 and phosphate would be introduced at this location.

Please let me know if the information is adequate or you require additional information.

Thanks.

Samir F. Matta, PE
Team Leader



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& Newnam, Inc.**
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