

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Thursday, April 02, 2015 8:17 AM
To: Antil, Jeffrey (DEQ); Brennan, Patrick (DEQ); Drake, Jerry (DEQ); DuMont, Ralph (DEQ); Joseph, Mark (DEQ); Prysby, Mike (DEQ); Rennaker, Joanne (DEQ); Rosenthal, Adam (DEQ); Skinker, Bethel (DEQ); Swendsen, Kurt (DEQ)
Subject: FW: Synthesis of State Reports from March ASDWA Board Meeting
Attachments: SYNTHESIS OF STATE REPORTS (From March 2015 ASDWA Board Meeting).docx

FYI. There is a lot of material but this report gives a flavor of things going on in other states. Richard's email below hits on the more interesting stuff.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Benzie, Richard (DEQ)
Sent: Wednesday, April 01, 2015 5:06 PM
To: Bloemker, Jon (DEQ); Busch, Stephen (DEQ); Donaldson, Kristina (DEQ); Lachance, Amy (DEQ); Thomas, Chuck (DEQ); DeBruyn, Dana (DEQ)
Cc: Berndt, Jason (DEQ); Cook, Pat (DEQ); Fisher, Brant (DEQ); Kukuk, Wayne (DEQ); Philip, Kris (DEQ); Schmidt, Scott (DEQ); Shekter, Jean (DEQ); Shekter Smith, Liane (DEQ); Monosmith, Carrie (DEQ); Butler, Sonya (DEQ); Hoeh, Jeremy (DEQ); Green, Kelly (DEQ); Fitzner, Wendy (DEQ)
Subject: FW: Synthesis of State Reports from March ASDWA Board Meeting

This synthesis of state PWSS program activities can be lengthy but often has interesting tidbits. In this edition, I noted a few:

- Some interesting things in both the Resources and DWSRF summary paragraphs.
- Under implementation, some states noting problems arising with Stage 2 DBP monitoring results, especially in consecutive systems.
- In Data Management, lots of complaining as usual. I also noted that a couple of states were moving away from EPA developed electronic sanitary survey software to a GEC developed SWIFT application.
- Under Security and Data Management, one state is voicing concerns about giving any locational data to EPA that they cannot keep secure. Most states are going in the other direction – making the data more readily accessible.
- Lots of Source Water stuff, including one state requiring above ground (chemical) storage tanks in Source Water Protection Areas to be registered.
- Under "Hot Topics:"
 - Both Alabama and Florida are dealing with premise plumbing and secondary treatment system issues – Alabama issued their first construction permit to a hospital to install treatment to deter *Legionella*.
 - Severe and/or worsening drought issues in several states (you know what I tell them - come on back for a long, cool drink of water when you-all get thirsty!).
 - New York is developing a template for the "Value of Water" Brochure that would allow for the input of state or water system specific information. I am hoping we can utilize that brochure and/or that function in the upcoming drinking water week.
 - Washington state has returned to producing hard copies of their newsletter based on stakeholder feedback. Apparently, not everyone wants to use a smartphone to read their newsletters.
 - Wisconsin initiated a requirement for a HEAT EXCHANGE DRILLER'S LICENSE today – April 1st. No Joke.

From: Taft, Jim [<mailto:jtaft@asdwa.org>]
Sent: Wednesday, April 01, 2015 4:09 PM
To: Jim Taft
Subject: Synthesis of State Reports from March ASDWA Board Meeting

Good afternoon State Drinking Water Administrators --

Please find attached a synthesis of the individual reports that you provided to your ASDWA Board representatives for their March 4-5, 2015 Board Meeting. I'm always impressed by the span and scope of the programs that you and your staffs implement every day -- and by your steadfast dedication and commitment to public health protection. Thanks for preparing these reports to help us keep our fingers on the pulse. We hope this summary is valuable to you also.

Jim Taft
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jim

**SYNTHESIS OF STATE REPORTS
ASDWA BOARD MEETING
March 4-5, 2015**

Resources:

Human/Programmatic: While some states reported being fully staffed, several states reported being understaffed and under continuing hiring freezes, especially for state-funded positions. Some noted, with chagrin, the retirement of long-tenured managers or subject matter experts. One program reported going through serious internal upheaval and reorganization – prompted by departures of some key staff. Some states were hopeful of being able to do some limited hiring to backfill critical positions. One state had conducted a staffing survey to help realign staff experience with program priorities. One state had entered into a contract with the state Center for Environmental Training to take on some primacy tasks. One state reported having recently established a HQ section of advanced engineering capacity in water treatment distribution, surface water program implementation, needs assessment, interagency coordination, and emergency preparedness. Two states mentioned needing to transition, due to flat or declining resources, toward a principal focus on the core program – while giving up some elements of a comprehensive state drinking water program. Virtual meetings and teleconferencing were mentioned by one state as a means to stretch program dollars. One state expressed cautious optimism that a number of progressive legislative proposals -- that would bolster various elements of the drinking water program and that had been approved by the Governor – would be enacted by the state’s legislature.

Financial: One state reported using ASDWA’s state resource needs model to reassess their needs. One state reported claiming more set-asides than they have historically claimed to make up for the lack of a fee increase. One state mentioned plans for initial meetings with stakeholders to garner support for a drinking water fee; another mentioned beginning the process of a significant increase in fees (last updated in the mid-2000s) to account for increased workloads and flat or declining federal support; and a third noted that a legislative proposal to increase service connection fees had moved forward for consideration. Several states mentioned increased dependency on DWSRF set-asides. Two states mentioned decreasing state revenues -- with corresponding impacts on drinking water program budgets -- due to the lower oil and gas prices.

DWSRF: One state observed that prospective loan project demand outstrips available funds and that transfers from the CWSRF to the DWSRF had taken place. Both New York and New Jersey continue to be active in implementing the Disaster Recovery & Investment Act (i.e., Superstorm Sandy funding). One state reported that its DWSRF program had been moved to the state’s infrastructure financing authority (called Division of Financial Assistance) which was expected to make funding of projects more efficient and expeditious (given the handbook that governs their operations). One state reported on a citizen’s complaint about a project (the charge was later determined to be spurious) that triggered an EPA-IG investigation. One state was establishing a very small system “put-aside” grant program (modeled after Maine’s successful program). Several states mentioned ongoing efforts to liquidate ULOs, including new

accounting methodologies, tools to accelerate the pace of infrastructure projects, and priority given to ready-to-proceed projects. Several states mentioned ongoing concerns about the various cross-cutters and other program impediments (e.g., Davis-Bacon; Buy American Iron & Steel) that tend to make DWSRF loans less attractive to prospective borrowers than other forms of financing. One cited an uptick in USDA Rural Development loans, as a result of the DWSRF program's red tape. As an illustration, one state cited delays in construction start time and the need for additional surveys to assess the habitat of the American Burying Beetle, an endangered species. Several states mentioned concerns about possible future reductions in the DWSRF appropriations as a result of Congressional funding for WIFIA – especially, given many states heavy reliance on set-asides. One state reported on several recent program revisions/areas of emphasis: providing for two rounds of planning & design grants; offering grant funding for waterline extension projects in the case of failing private wells; revising its disadvantaged loan criteria; and revising its administrative fee in order to be less reliant on DWSRF set-asides; emphasis on consolidation of small systems grant incentives; and requesting state legislative changes to create a more efficient and effective administrative structure. At least one state mentioned ongoing challenges in coming up with the DWSRF match funds. One state described internal reforms that will expedite the transfer of project funds to set-aside funds, where warranted. One state was very successfully using set-asides to provide grants to small systems willing to consider consolidation with larger systems. That state was also implementing a very successful pre-construction grant program to help small systems prepare projects for loans. One state reported on innovative uses of DWSRF funds which included a loan with an 8% loan forgiveness provision, based on the facility gaining LEED certification; and, in another case, use of set-asides to purchase land for well protection. One state reported having initiated a pilot state water loss accounting program using set-aside funds. One state had changed their interest rate-setting procedures to establish long term rates based on an eight week daily average of the Municipal Market Data index.

Implementation:

- **Arsenic:** One state was continuing to work with several water systems that still out of compliance with the arsenic MCL.
- **Capacity Development:** One state reported on several developments including approving a package funding design engineering services for nine projects; developing an article on debt refinancing in the state's AWWA affiliate magazine; and hosting a seminar for consultants on enhancing the technical, managerial, and financial capacity of water systems.
- **Lead Reduction Act:** One state discovered, in their efforts to ensure that state regulations continue to require those devices exempted from the new requirements (e.g., hydrants) to meet the old 8% lead content requirement, that NSF Standard 60 can no longer be used to certify 8% content.
- **LT 2/Stage 2:** Several states mentioned that they were gearing up for the second round of *Cryptosporidium* monitoring, and planning to assist water systems in that process. At least two states mentioned that they were seeing ongoing MCL or Treatment Technique violations of the Stage 2 DBP rule at large number of systems, particularly consecutive systems. The states were providing technical assistance. One state was seeking

assistance, in connection with LT2 implementation, of its review of membrane challenge test protocols and UV verification results.

- **Optimization/Data Integrity:** On state recently expanded their examination of surface water treatment data integrity to include the disinfection process, similar to how the state approached turbidity measurements.
- **Primacy Packages/Regulations:** In addition to the RTCR, several states reported on primacy packages for other recent rules as being in various stages of review by their Regional offices (e.g., Ground Water Rule, LCR short term revisions, etc.). One state reported on a new state legislative requirement that requires all new regulations to include a full cost analysis of the financial impacts of the rule on the regulated entities as well as local and state government.
- **RTCR:** States reported being in various stages of preparing or submitting primacy packages as well as preparing to implement the rule -- including developing state regulations; holding trainings/workshops of various types; and devising approaches for conducting (or having conducted) Level 1 and 2 assessments. One state that adopts all rules by reference was in discussion with their EPA Regional office about how to deal with those parts of the rule that require state-specific elements. Several had submitted or were planning to submit primacy extension requests; although some mentioned that they don't anticipate needing a full two year extension. Some mentioned a daunting expected new workload as a result of the rule, particularly at small non-community water systems. One state noted that the meaning of "significant deficiency" for the GWR and "sanitary defects" for the RTCR needed to be reconciled. One state had instituted a small administrative penalty program (\$150 for each coliform or nitrate violation) in an effort to boost overall compliance (it's working) in preparation for RTCR implementation.
- **UV Validations:** One state was challenged by the need to determine whether or not UV validations are adequate in the absence of an independent 3rd part validator. The state was in the process of developing a policy for acceptance of UV validations.
- **Miscellaneous:** One state was working with its sister CWA agency to deploy one comprehensive statewide groundwater well completion report form -- to be completed and submitted by well drillers on the web. One state reported on having adopted their own storage tank rule as well as a minimum disinfectant residual requirement (of 0.2 mg/L). One state was continuing to improve their operator certification testing program by developing their own tests (rather than ABC's) and featuring on demand testing, rather than testing on a fixed schedule.

Data Management: Several states noted that their staffs were spending time providing input into the SDWIS Prime development process through one of the various workgroups under the Prime governance structure. Three states reported on activities relative to their legacy data systems: one was in the process of transferring from the state's legacy database to SDWIS-State as well as building a new data management system for water appropriations; one was exploring converting to a SQL.net system in lieu of or in addition to converting over to SDWIS Prime; and another was in the process of moving to SDWIS-State but encountering considerable challenges. One state was upgrading its various interfacing applications in preparation for eventually converting to SDWIS Prime and several were concerned about whether or not key state applications and automated routines will be able to satisfactorily interface with Prime. At least one state expressed concerns about the Prime development process, citing the fact that the only

avenue for Prime production feedback in the Sharepoint site – and, that relatively few states are providing feedback. This state's concerns with workflow and user interface had not been adequately addressed by EPA's contractor. One state was working with GEC on a modified "Drinking Water Watch" for state staff. Several states were moving to SDWIS 3.2 and were experiencing some transition "pains." One state expressed the view that all locational data should be protected – not just locations of wells and intakes. Several states mentioned concerns about the adequacy and future Agency support of the RTCR conversion software (i.e., the SDIWS "patch" that will enable data managing of the rule until Prime is completed). Two states mentioned working on data discrepancies that arose in transferring data from SDWIS-State to SDWIS-Fed. One state had recently successfully tested and installed a SDWIS patch that correctly calculates locational running annual averages for TTHM and HAA5 at PWSs that are sampling at more than one site and were monitoring under Stage 1 requirements. One state reported on putting automated capabilities in place for several aspects of tracking and reporting elements of the Stage 2 DBP rule. Several states mentioned ongoing efforts (involving training both state staff and lab staff) to move to electronic transfer of data from labs to states as well as work with systems to facilitate the allowable electronic options for posting CCRs. One state was also considering using a Laboratory Information Management System (LIMS) for environmental data. Two states reported on transitioning away from the EPA-developed Electronic Sanitary Survey software to a GEC-developed "SWIFT" (Safe Water Information Field Tool) application.

Drinking Water Security/Resiliency:

- One state reported that its state WARN program was floundering due to lack of sustained interest/commitment on the part of participating utilities.
- One state mentioned ongoing concerns about sharing locational data with EPA unless the Agency could guarantee that the data would not be publically released. Another state was evaluating what would be required to load locational data into SDWIS. Along similar lines, another state was in consultation with its Attorney General's office, as a result of FOIA requests for locational data on wells and intakes. Thus far, such data have been determined to be "restricted" under the state's FOIA statutes.
- One state has been collaborating with its EPA Regional office in an All Hazards Water Resiliency Training Program – a performance-based training approach.
- Two states mentioned the challenges of continuing to operate state drinking water security activities in the absence of a supportive grant. Activities have tended include critical, core-type security efforts only.
- One state reported on its requirement that all PWSs file emergency preparedness plans.
- One state had initiated pre-hurricane season emergency response and mitigation activities. They were also preparing to offer cyber security awareness training for PWS owners, operators, and managers.
- One state was actively participating in the state's Water Emergency Response Planning Team that is preparing a workshop/exercise to be held in a region of the state in May.
- One state contracted with the state's geology department to conduct a pilot evaluation of earthquake risk to hospitals and water systems in two communities. The pilot's

findings (posted to the state's website) will be used to encourage other communities to conduct such contingency planning.

Source Water Assessment and Protection:

- Several states reported that they have been involved in variety of activities to update source water assessments and work with water systems on source water protection plans:
 - One state was encouraging PWSs to use source water assessment reports to develop or update protection plans, including inviting the PWS to update the land uses in their source water areas.
 - One state was on the verge of hiring a contractor to update source water protection plans last completed in 2003.
 - One state was working with a specialist from the state's rural water affiliate to update source water assessments and plans.
 - One state reported on several recent initiatives, including updating contaminant inventory data through a contractual agreement with a university; collaboration with the state's emergency response section to perform aerial surveys of potential sources of contamination proximal to surface water intakes; and incorporating that information into updated source water assessment reports.
 - One state reported on its efforts to complete source water assessments for new water systems and to revise reports for existing systems. They're also exploring approaches for using SDWIS to track and display source water assessment reports; and, are concerned about how migration to Prime may affect these efforts.
 - One state recently conducted four full day training workshops to assist local governments with the tools, resources, and organizations needed to protect sources of drinking water. The state also recently launched a new online source water assessment application. Another state was preparing to update, in cooperation with the state CWA agency, all source water assessments.
 - One state reported on continuing to refine their source water assessment and protection GIS mapping tool to house more accurate and complete data as well as enhance mapping functionality. The state had also recently collaborated with sister state agencies in offering a watershed protection workshop for water systems and representatives of other agencies.
 - One state was implementing a requirement for PWSs to update their source water protection programs every 6 years. The state is also updating assessments older than ten years old.
 - One state's Governor had approved a legislative proposal that calls for development of a program to provide local resources to integrate groundwater information into watershed planning efforts for source water protection.
 - One state was gearing up for the possible passage of a new mandatory source water protection planning bill.
 - One state was making good use of set-asides to fund their source water protection efforts by funding non-capital protection projects at several water systems.

- One state had recently revamped its source water protection program in several ways, including clarifying the definition of what constitutes “significant implementation” of a source water protection program; refocusing effort and resources on those activities; and revamping their web page.
- One state was evaluating UCMR 3 data that showed a significant spike in 1,4, dioxane in the groundwater in one portion of the state.
- One state was planning to actively pursue, with the advent of warmer weather, rehabilitation and abandonment of drinking water and irrigation wells. Along similar lines, another state was drafting, with the assistance of a stakeholder group, best practices for both well decommissioning as well as new well construction. Similarly, another state was planning expand its use of the 15% set-aside for its well abandonment program.
- One state reported that actions are being taken to ensure that drinking water uses are considered in CWA-related tasks, such as modeling and TMDL development. Due to drought, some state-specific water quality standards are being revised to allow for augmentation (i.e., through NPDES discharges) of drinking water reservoirs.
- Several states reported on investing heavily – in both time and resources – in preparing to cope with the next algal bloom season. Their efforts included enhancing lab capabilities and working with Federal, state, and local stakeholders to enhance early warning predictive capability and coordination/communication.
- One state reported on introduced legislation that would require registration of above ground storage tanks (ASTs) storing over 200 gallons of liquid in source water protection areas; the legislation would also require PWSs to undertake threat assessments and response plans. Along similar lines, another state had identified options for improving its state rules that apply to ASTs and had sent letters to all PWSs requesting review and updating of contingency and source water protection plans. The state provided guidance for doing so.

Hot Topics:

Alabama: The state recently issued its first PWS permit to a hospital, based on treatment in the facility’s premise plumbing designed to remove and deter *Legionella* formation.

Florida: The state indicates that it is opposed to a future possible storage tank rule. The state also eagerly awaits EPA guidance applicable to health care facilities relative to premise plumbing challenges.

Illinois: With the recent election of a new Governor, the drinking water program anticipates a period of adjustment, including no new legislation for the next year or so, strict limitations on out of state travel, and possible revisitation of state employee benefits.

Iowa: One of the state’s primary deep aquifers, the Cambrian-Ordovician, is under stress from overuse in some regions of the state and rulemaking is proposed to require conservation action at specified trigger levels.

Kentucky: The state faces the challenge of coping with significant leadership changes involving departures of key staff and acclimating to new managers and supervisors.

Maryland: Work continued on the Marcellus Shale Safe Drilling Initiative and regulations were published on January 9, 2015. Please see:

<http://www.mde.state.md.us/programs/Land/mining/marcellus/Pages/index.aspx>

Massachusetts: The program required all PWSs to take a baseline sample for manganese at the entry points to distribution systems as part of a new initiative to address elevated levels of manganese in drinking water. Manganese was most commonly found at TNCs or NTNCs.

Michigan: The city of Flint decided, in early 2013, to end their contract for supply of water from the city of Detroit and, instead, to join with the surrounding county to construct a separate source from Lake Huron. The latter source is not yet ready and, in the interim, the city has withdrawn water, on a temporary basis from the Flint River. The city has experience microbiological, DBP and taste & odor problems as a result of the interim solution.

Minnesota: Plans to convert thousands of acres of forest lands to row crop production in northern Minnesota are receiving a lot of media, legislative, and state agency attention. These areas currently have high quality groundwater vulnerable to impacts from land use activities.

Montana: Another oil pipeline break recently occurred under the Yellowstone River, contaminating the water supply of the city of Glendive. The episode was exacerbated by freezing conditions (both in terms of recovery and in terms of lack of evaporation of volatiles).

Nebraska: Declining water levels and declining water quality due to drought conditions continues to be a major concern, despite some timely precipitation last year.

New York: The state is in the process of development of a “template” for the Value of Water children’s brochure that would allow for the input of state or water system specific information into the brochure.

North Carolina: As required by recent state law, all rules must be fully reviewed or automatically sunsetted. As a result of that review process, approximately 20% of the rules pertinent to the drinking water program must undergo a full, revised rulemaking. Some of the 20% were for rules that some stakeholders wished to see revisited – a position not necessarily by the state drinking water program.

Oklahoma: Drought continues and reservoirs are down 25-30% in western Oklahoma and 90-100% in the eastern part of the state. The western cities are exploring an array of options, including indirect and direct potable reuse.

Ohio: The state is gearing up for the next algal bloom season by providing input on several state and federal legislative initiatives; providing funding for testing and infrastructure improvements; refining analytical methods; coordinating with federal & state agencies, researchers, and PWSs; and updating their cyanotoxin treatment white paper.

Oregon: The state was closely watching various state bills related to recreational and medical marijuana for possible impacts on the state drinking water program’s budget, which has received fee transfers from medical marijuana sales in recent years.

Utah: The state released a document entitled, “Drinking Water Energy (Cost) Savings Handbook” which takes the next step after performing energy audits. (See www.drinkingwater.utah.gov and click “Drinking Water Energy (Cost) Savings Program.”)

Virginia: The state has fairly narrowly written FOIA exclusions regarding both sensitive data/records as well as proprietary information. They’re interested in examining more broadly written FOIA exclusions used by other states.

Washington: The drinking water program recently returned to producing hard copies of its popular newsletter, *Water Tap*, based on feedback from stakeholders. The state also reported that the Tacoma Surface Water Filtration Plant came online in December 2014, which will, at full capacity, be the largest of its kind in Region 10.

Wisconsin: Effective April 1st, a Heat Exchange Driller’s License is required to drill a heat exchange borehole in the state.

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Monday, March 30, 2015 7:48 AM
To: Cook, Pat (DEQ)
Cc: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ)
Subject: RE: Schedule 2 plants

Pat,

Your note serves as a reminder for me to confirm Flint's population (<100,000). I requested the city to provide us with the most recent number of residential accounts ...if which they have responded. Flint's most recent estimate of residential accounts shows further loss of customer base...and is below 100K. I will tally up the numbers, compare against their most recent Sanitary Survey and provide an updated population estimate for Adam to enter into SDWIS.

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

From: Cook, Pat (DEQ)
Sent: Friday, March 27, 2015 4:02 PM
To: Bolf, Michael (DEQ); Brennan, Patrick (DEQ); Bridges, Jeriesha (DEQ); Brookens, Todd (DEQ); Chooi, Wood (DEQ); Conradson, Scott (DEQ); Dehtiar, Luke (DEQ); Drake, Jerry (DEQ); Esparsa, Brian (DEQ); Gotham, Daryl (DEQ); Islam, Abuzoha (DEQ); Johnson, Stephanie (DEQ); Joseph, Mark (DEQ); London, Bob (DEQ); Lopez, Amber (DEQ); Pascoe, Doug (DEQ); Prysby, Mike (DEQ); Reinke, Joseph (DEQ); Reyes, Katelyn (DEQ); Sarkipato, Ernest (DEQ); Skinker, Bethel (DEQ); Slater, Brad (DEQ); Swendsen, Kurt (DEQ); Swenor, Scott (DEQ); Thurston, Brian (DEQ); Wozniak, Gary (DEQ)
Subject: Schedule 2 plants

Hi All,

According to the population figures in SDWIS, below is a list of Schedule 2 water plants that will have to conduct a second round of Crypto, E. coli and turbidity sampling from their raw water source(s) starting in October, 2015. This monitoring is required by the Long Term 2 Enhanced Surface Water Treatment Rule and Act 399. As a reminder, a Schedule 2 water plant serves 50,000 to 99,999 people OR belongs to a Combined Distribution System in which the largest system serves 50,000 to 99,999.

The plan is to forward to the appropriate district engineers a sample letter and Monitoring Plan template that they in turn will have to mail to the plants. The letter explains the source water sampling requirements while also reminding them that the monitoring plans have to be completed/submitted to the district office's by July 1st.

Please look at the below list and let me know if any plants meeting the Schedule 2 definition are missing or need to be added.

Schedule 2 Plants

- All plants receiving raw water from the Saginaw Midland pipeline: Au Gres, Linwood, Omer, Saginaw, Sims-Whitney, Standish, Midland
- Flint
- Wyoming

Patrick Cook, P.E.
Community Drinking Water Unit
Office of Drinking Water & Municipal Assistance
Michigan Department of Environmental Quality
Phone: (517) 284-6514
cookp@michigan.gov

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, March 24, 2015 10:38 AM
To: Rosenthal, Adam (DEQ)
Subject: FW: TTHM Health Effects
Attachments: TTHM PN template.pdf

Hope this doesn't turn into a pissing match between us and Region 5.

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: Monday, March 23, 2015 5:06 PM
To: Prysby, Mike (DEQ)
Cc: Busch, Stephen (DEQ); Poy, Thomas; Deltoral, Miguel; Shoven, Heather
Subject: FW: TTHM Health Effects

Hi, Mike and Steve. Mike, as I recall from our phone call in February about the TTHM health effects with Tom Poy (see below), we talked about the State including the "pregnant" in your sample PN you send to the system with the TTHM violation letter. Rather than ask the City to re-issue the PN with the "pregnant", you said the next violation would include the "pregnant" in your sample PN. I see the PN in your March 5 violation letter to Flint; but I'm not seeing the word "pregnant" added to the PN. Can the City add "pregnant" to its PN now?
 Jennifer

From: Crooks, Jennifer
Sent: Thursday, February 12, 2015 2:36 PM
To: Prysby, Mike (DEQ)
Cc: Busch, Stephen (DEQ); Poy, Thomas; Deltoral, Miguel
Subject: TTHM Health Effects

Mike—Good talking with you this morning. I'm so glad I was able to snag Tom Poy to discuss the TTHM health effects issue with you.

Miguel said that TTHMs *MAY* cause miscarriages, which is more of an acute risk. Thus, the "pregnant" should be in the PN, so women know there could be risk, and can make their own decisions.

I included the link for PN Handbook, and a PDF of the PN template for TTHMs.
 See page 104 of the PN Handbook (I also included as a PDF attached); here is the link:
<http://water.epa.gov/lawsregs/rulesregs/sdwa/publicnotification/upload/PNrevisedPNHandbookMarch2010.pdf>

Paul Joice, Paul.A.Joice@hud.gov
 I don't have his phone number—perhaps you could call the Mayor's office to get Paul's phone number?

Eric Burneson, burneson.eric@epa.gov

202-564-5250

I think the Key Message here is that there are other studies out there that point to other Health Effects from TTHMs, but there's not enough information for EPA to say that these are definitely additional Health Effects to be concerned about, so EPA cannot put this in writing/in the PN.

Jennifer

312-886-0244

Stage 2 DBPR TTHM or HAA5 MCL Violation Notice – Template 2-19

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

[Contaminant, i.e., Total Trihalomethanes (TTHM) or Haloacetic Acid 5 (HAA5)] MCL Violation at [System]

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we did (are doing) to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Testing results from [provide date range] show that our system exceeds the standard, or maximum contaminant level (MCL), for [TTHM/HAA5]. The standard for [TTHM/HAA5] is [MCL]. It is determined by averaging all the samples collected at each sampling location for the past 12 months. The level of [TTHM/HAA5] averaged at one of our system's locations for [provide date range] was [level].

What should I do?

- There is nothing you need to do. You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.
- If you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from your health care providers about drinking this water.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

[TTHM are four volatile organic chemicals] [HAA5 are five haloacetic acid compounds] which form when disinfectants react with natural organic matter in the water.

*[*People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.*] Or*

*[*People who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.*]*

What is being done?

[Describe corrective action.] We anticipate resolving the problem within [estimated time frame] (or the problem was resolved on [give date]).

For more information, please contact [name of contact] at [phone number] or [mailing address].

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by [system]. State Water System ID#: _____.

Date distributed: _____.

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Thursday, March 19, 2015 10:24 AM
To: Howard Croft
Cc: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ)
Subject: RE: HC Letter & FAQ's

Howard,

It appears that my edits were not included in the final letter. The 6th paragraph down should be revised such that residents understand the difference between the Locational Running Annual Average (LRAA) and the results from the individual quarter (Feb 2015) ...to avoid possible confusion when they read the DEQ PN template which states that two of the eight sites are above the TTHM standard (this being based on the LRAA). Also, the words "annual average" needs to be replaced with Locational Running Annual Average (LRAA).

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

From: Howard Croft [<mailto:hcroft@cityofflint.com>]
Sent: Thursday, March 19, 2015 9:09 AM
To: Brent Wright; Daugherty Johnson; Dayne Walling; donna. cole; gdn2@aol.com; Howard Croft; James Henry; jmikewright; JoAnne Herman; John O'Brien; Kirk Smith; larry.koehler@mcc.edu; Laura Sullivan; Michael Glasgow; Mike Lane; Prysby, Mike (DEQ); Natasha Henderson; Norb Birchmeier; Pete Levine; Robert Nicholas; rosejo@msu.edu; Russell Hudson; Samir Matta; Warren Green; Elizabeth Murphy; Robert Bincsik; Robert Case; Jason Lorenz; Kelly Rossman-McKinney; Sharon Emery; Gerald Ambrose
Subject: HC Letter & FAQ's

Technical Team Members,

Attached please find the final copy of a letter to the health community along with a Frequently Asked Question list.

These documents are ready for distribution among your peers and others. We anticipate mailing out the actual violation notice at the beginning of next week.

I will email everyone on this list when we determine a date for the next Technical Committee Meeting.

Thank you,

--

Howard Croft
Public Works Director
City of Flint
1101 S. Saginaw Street
Flint, MI 48502
PH# 810.766.7135 Ext.2043
hcroft@cityofflint.com

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, March 17, 2015 12:21 PM
To: Rosenthal, Adam (DEQ)
Subject: FW: SDWA Violations - Flint

Importance: High

As I indicated the info you provided was transmitted to the Governor's office. Excellent work in a short time frame. Well done!

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Thelen, Mary Beth (DEQ)
Sent: Tuesday, March 17, 2015 11:39 AM
To: Hollins, Harvey (GOV); Clayton, Stacie (GOV)
Cc: Wyant, Dan (DEQ); Wurfel, Brad (DEQ); Sygo, Jim (DEQ); Thelen, Mary Beth (DEQ)
Subject: SDWA Violations - Flint
Importance: High

Dear Harvey,

Director Dan Wyant asked that I send you the following information regarding Flint.

As requested, the following information has been gleaned from our database regarding violations:

In calendar years 2013 and 2014, we've identified 1100 violations (200 are standards violations, i.e., MCLs; and 910 other violations).

This represents 326 community water supplies that had violations over these two years.

Flint has 5 violations in those 2 years (TTHM MCLs at 2 sites and 2 bacti MCLs (1 with E. coli that counts as an additional violation)).

Please let us know if you need anything further. Thank you.

Mary Beth

Mary Beth Thelen
 Management Assistant to Director Dan Wyant
 Department of Environmental Quality
 Constitution Hall, 6th Floor South
 Phone: 517-284-6712 or 284-6700 (new numbers)
 Fax: 517-241-7401
Thelenm2@michigan.gov

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Thursday, March 05, 2015 1:59 PM
To: Howes, Sarah (DEQ); Wurfel, Brad (DEQ); Datema, Maggie (DEQ)
Cc: Prysby, Mike (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ)
Subject: Flint Drinking Water TTHM Standard Violation - 1st quarter 2015
Attachments: City of Flint VN - MCL TTHM 3-5-15.pdf
Importance: High

Attached is a copy of the Violation Notice and Public Notice Template being mailed to the City of Flint by the DEQ Office of Drinking Water and Municipal Assistance regarding an exceedance of the Maximum Contaminant Level (MCL) standard for Total Trihalomethanes at certain locations within the City's drinking water distribution system.

This violation notice is in response to updated monitoring completed in February 2015, which shows the locational running annual average for two of the City's eight compliance sampling locations continue to exceed MCL standard of 0.080 mg/L. It is however, important to note that all individual compliance sample results collected in February were well below the 0.080 mg/L levels.

You are being provided an electronic copy of this notice as exceedance of this drinking water standard is expected to generate inquiries from water system customers, news media, and the general public.

Sarah Howes will be informing members of the Michigan legislature.

If you have any questions or would like any additional information, you may contact Michael Prysby, District Engineer, DEQ-ODWMA at 517-290-8817, or you may contact me at the number below.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

March 5, 2015

Mr. Brent Wright, Operations Supervisor
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice (VN) – Maximum Contaminant Level for Total
Trihalomethanes (TTHM)
Operational Evaluation – Total Trihalomethanes
1st Quarter 2015 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the city of Flint (City) is in violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels for disinfection byproducts (MCLs)*, of the 1979 Administrative Code.

In accordance with R 325.10610, *MCLs*, of the 1979 Administrative Code, the MCL for disinfection byproduct TTHM is 0.080 milligrams per liter (mg/L) as a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the City's highest TTHM locational running annual average (LRAA), based on the last four quarters, ending February 28, 2015, is 0.105 mg/L which exceeds the standard, and that two of the eight sample site locations exceed the standard of 0.080 mg/L.

Further, in accordance with R 325.10719I, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, when an operational evaluation level (OEL) at a monitoring location for TTHM exceeds 0.080 mg/L, a supply shall conduct an operational evaluation and submit a written report of the evaluation to the DEQ not later than 90 days after being notified of the analytical result that causes the supply to exceed the operational evaluation level. As listed in the table below, our records show that the TTHM OELs for the City exceed 0.080 mg/L at one of the City's eight sample site locations.

Mr. Brent Wright

2

March 5, 2015

TTHM Results (mg/L)						
	5/21/14	8/21/14	11/20/14	2/17/15	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.162	0.145	0.059	0.0162	0.096	0.059
DBP2 Liquor Palace 3302 S. Dort Highway	0.112	0.127	0.033	0.0168	0.072	0.049
DBP3 North Flint Auto 6204 N. Saginaw St.	0.097	0.118	0.041	0.0149	0.068	0.047
DBP4 University Market 2501 Flushing Road	0.106	0.196	0.094	0.0245	0.105	0.085
DBP5 Taco Bell 3606 Corunna Road	0.079	0.181	0.034	0.0151	0.078	0.063
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.088	0.144	0.054	0.0192	0.076	0.059
DBP7 Salem Housing 3216 MLK Boulevard	0.082	0.112	0.050	0.0285	0.068	0.055
DBP8 BP Gas Station 822 S. Dort Highway	0.075	0.112	0.036	0.0199	0.061	0.047

Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on March 1, 2015, and will continue until TTHM LRAA is below the MCL at all sample sites.

We are encouraged by the results from the most recent round of compliance samples collected on February 17, 2015, which now show individual TTHM levels at less than half of the 0.080 mg/L standard at all locations throughout the City's system. Operational Evaluation Reports from December 2014, and February 2015, have identified possible causes and corrective measures for the previous elevated TTHM levels which we encourage the City to continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard at all sites by continuing these efforts.

Our office is currently reviewing the Operational Evaluation Report dated February 27, 2015, and will provide the City and their consultant with comments, as needed, to help address this MCL violation.

Water systems that exceed the OEL must complete and submit an Operational Evaluation in accordance with Administrative Rule 719I (R 325.10719I) within 90 days of being notified of the violation. **An updated Operational Evaluation report, which incorporates the most recent sample results, must now be completed and received by our office by no later than Friday, May 29, 2015.**

If you have any other factual information you would like us to consider regarding the violation identified in this VN, please provide them in a written response by March 19, 2015.

Mr. Brent Wright

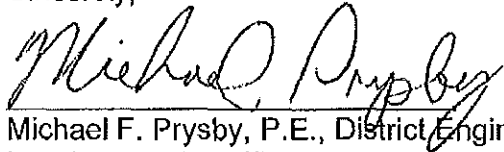
3

March 5, 2015

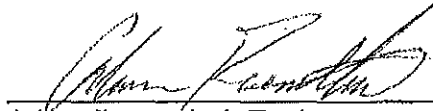
Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of this type of violation, by mail or direct delivery **and** by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample PN which contains the minimum required language. The City is encouraged to include additional information regarding its response efforts to this violation. **Please notify your consumers by April 1, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the public notice.** This violation must also be included in your 2015 Consumer Confidence Report, due by July 1, 2016. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least \$1,000 per event, with a maximum of \$5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below; at prysbym@michigan.gov; or rosenthala@michigan.gov; or at DEQ, P.O. Box 30242, Lansing, Michigan 48909-7742.

Sincerely,



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



Adam Rosenthal, Environmental Quality
Analyst
Lansing District Office
Office of Drinking Water and Municipal
Assistance
517-284-6644

Enclosure

cc: Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Mr. Jerry Ambrose, Emergency Manager, City of Flint
Mr. Robert Bincsik, City of Flint
Mr. Howard Croft, City of Flint
Mr. Daughtry Johnson, City of Flint
Genesee County Health Department
Ms. Liane Shekter Smith, DEQ
Mr. Richard Benzie, DEQ
Mr. Stephen Busch, DEQ

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, November 20 of 2014, and February 17, 2015). The average of the results at ANY of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the MCL. The standard for TTHMs is 80 micro grams per liter ($\mu\text{g/L}$). The location reporting the highest TTHM level was 105 $\mu\text{g/L}$; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem in 2015. Our most recent individual sample results were all less than half the 80 $\mu\text{g/L}$ standard, however since compliance is calculated using a locational running annual average (LRAA) of the most recent four quarters, we are still out of compliance with the MCL at two of eight locations.

For more information, please contact Mr. Brent Wright at 517-787-6537, or the Flint Water Plant at 4500 North Dort Highway, Flint, Michigan 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION:

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature	Title	Date Distributed
Reminder to water supplier: This notice/certification must be sent to the Department of Environmental Quality.		

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Thursday, March 05, 2015 10:46 AM
To: Rennaker, Joanne (DEQ)
Cc: Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Subject: RE: Flint VN letter to final

Has this been signed yet? I would like to get it over to Sarah this morning if possible.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Busch, Stephen (DEQ)
Sent: Wednesday, March 04, 2015 3:46 PM
To: 'Rennaker, Joanne (DEQ) (RENNAKERJ@michigan.gov)'
Cc: prysbym@michigan.gov; Adam Rosenthal (rosenthala@michigan.gov)
Subject: Flint VN letter to final

Jo Anne,

Attached is the Flint Violation notice letter.

Please final the letter and have Mike and Adam sign it.
Then scan and email me a signed copy.
I will be emailing Sarah Howes for legislative distribution
Hold off on mailing the letter until the end of the day so we can be sure to allow Sarah time to inform legislative members. Thanks.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, March 04, 2015 3:46 PM
To: Rennaker, Joanne (DEQ)
Cc: Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Subject: Flint VN letter to final
Attachments: Flint DBP MCL 1Q15.doc

Jo Anne,

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Stephen Busch, P.E.

Lansing and Jackson District Supervisor

Office of Drinking Water and Municipal Assistance

MDEQ

517-643-2314



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

March 5, 2015 - DRAFT

Mr. Brent Wright, Operation Supervisor
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, MI 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice – Maximum Contaminant Level for Total Trihalomethanes
Operational Evaluation – Total Trihalomethanes
1st Quarter 2015 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the City of Flint is in violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels (MCL) for disinfection byproducts*, of the 1979 Administrative Code.

In accordance with R.325.10610, *MCLs for disinfection byproducts*, of the 1979 Administrative Code, the MCL for disinfection byproduct total trihalomethanes (TTHM) is 0.080 milligrams per liter (mg/L) as a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the City of Flint's highest TTHM locational running annual average (LRAA), based on the last four quarters, ending February 28, 2015, is 0.105 mg/l which exceeds the standard, and that two of the eight sample site locations exceed the standard of 0.080 mg/L.

Further, in accordance with R325.10719l, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, when an operational evaluation level (OEL) at a monitoring location for TTHM exceeds 0.080 mg/L, a supply shall conduct an operational evaluation and submit a written report of the evaluation to the department not later than 90 days after being notified of the analytical result that causes the supply to exceed the operational evaluation level. As listed in the table below, our records show that TTHM operational evaluation levels for the City of Flint exceed 0.080 mg/L at one of the City's eight sample site locations.

TTHM Results (mg/L)						
	5/21/14	8/21/14	11/20/14	2/17/15	LRAA	OEL
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Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on March 1, 2015, and will continue until TTHM LRAA is below the MCL at all sample sites.

We are encouraged by the results from the most recent round of compliance samples collected on February 17, 2015, which now show individual TTHM levels at less than half of the 0.080 mg/L standard at all locations throughout the City's system. Operational Evaluation Reports from December 2014 and February 2015 have identified possible causes and corrective measures for the previous elevated TTHM levels which we encourage the City continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard at all sites by continuing these efforts.

Our office is currently reviewing the Operational Evaluation report dated February 27, 2015, and will provide the City and their consultant comments as needed to help address this MCL violation.

Water systems that exceed the OEL must complete and submit an Operational Evaluation in accordance with Administrative Rule 719I (R325.10719I) within 90 days of being notified of the violation. **An updated Operational Evaluation report, which incorporates the most recent sample results, must now be completed and received by our office by no later than Friday May 29, 2015.**

If you have any other factual information you would like us to consider regarding the violation identified in this Violation Notice (VN), please provide them in a written response by March 19, 2015.

Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of

this type of violation, by mail or direct delivery **and** by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample PN which contains the minimum required language. The City is encouraged to include additional information regarding its response efforts to this violation. **Please notify your consumers by April 1, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the public notice.** This violation must also be included in your 2015 Consumer Confidence Report (CCR), due by July 1, 2016. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least \$1,000 per event, with a maximum of \$5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below.

Sincerely,

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

Adam Rosenthal, EQA
Lansing District Office
Office of Drinking Water & Municipal
Assistance
517-284-6644

mfp/ar/jlr
Enclosure

cc: Mr. Jerry Ambrose, Emergency Manager, City of Flint
Mr. Daughtry Johnson, City of Flint
Mr. Howard Croft, City of Flint
Mr. Robert Bincsik, City of Flint
Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Genesee County Health Department
Ms. Liane Shekter Smith, P.E., DEQ
Mr. Richard Benzie, P.E., DEQ
Mr. Stephen Busch, P.E., DEQ

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, November 20 of 2014 and February 17, 2015). The average of the results at **ANY** of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the Maximum Contaminant Level (MCL). The standard for TTHMs is 80 µg/L. The location reporting the highest TTHM level was 105 ug/L; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem in 2015. Our most recent individual sample results were all less than half the 80 µg/L standard, however since compliance is calculated using a locational running annual average (LRAA) of the most recent 4 quarters, we are still out of compliance with the MCL at 2 of 8 locations.

For more information, please contact Mr. Brent Wright at 517-787-6537 or the Flint Water Plant at 4500 North Dort Highway, Flint, MI 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION:

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature

Title

Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, March 04, 2015 3:36 PM
To: Antil, Jeffrey (DEQ); Brennan, Patrick (DEQ); Drake, Jerry (DEQ); DuMont, Ralph (DEQ); Joseph, Mark (DEQ); Prysby, Mike (DEQ); Rennaker, Joanne (DEQ); Rosenthal, Adam (DEQ); Skinker, Bethel (DEQ)
Cc: Swendsen, Kurt (DEQ)
Subject: Kudos and Credit to ODWMA Lansing Jackson District

All,

I wanted to share with you that I have been invited by Director Wyant to represent ODWMA at a luncheon with Governor Snyder next week.

This is a direct reflection on the quality and character of the work we have all accomplished in the Lansing and Jackson District over the past year and in particular on a number of high profile issues for the Department and State including Flint and Lake Erie Harmful Algal Blooms. I just wanted to acknowledge you, as you deserve full credit for this honor. You have the recognition and appreciation of myself and many others for your continuing efforts and I plan to let the Governor know that.

Again, it is because of you that this was made possible. So thanks and cheers to the Lansing Jackson District for I share in this with you.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, March 03, 2015 8:34 AM
To: Rosenthal, Adam (DEQ)
Subject: Flint DDBP Plan

Adam,

Can you provide me with a copy of Flint's most recent DDBP monitoring plan? I am in the Frank Balcer room....thanks

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

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Monday, March 02, 2015 3:19 PM
To: Wurfel, Brad (DEQ); Howes, Sarah (DEQ); Shekter Smith, Liane (DEQ)
Cc: Datema, Maggie (DEQ); Benzie, Richard (DEQ); Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Subject: Draft Flint TTHM Violation Notice for comment
Attachments: Flint DBP MCL 1Q15.doc

Importance: High

Attached is a draft violation notice to the City of Flint regarding the exceedance of the drinking water standard for total trihalomethanes (TTHM) based on the latest round of samples collected in February 2015.

As predicted, the levels from the latest round are all very low, but the annual average calculation for 2 sites remains above the maximum contaminant level standard.

We plan to get the letter out on Thursday so please provide any comments/concerns/questions by Wednesday 3/4. An electronic copy of the signed letter will be provided to Maggie/Sarah for forwarding to legislative members in the Flint area as was done with the last violation notice from December.

Again, if you have any questions, please contact me directly.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

March 5, 2015 - DRAFT

Mr. Brent Wright, Operation Supervisor
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, MI 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice – Maximum Contaminant Level for Total Trihalomethanes
Operational Evaluation – Total Trihalomethanes
1st Quarter 2015 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the City of Flint is in violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels (MCL) for disinfection byproducts*, of the 1979 Administrative Code.

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Further, in accordance with R325.10719I, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, when an operational evaluation level (OEL) at a monitoring location for TTHM exceeds 0.080 mg/L, a supply shall conduct an operational evaluation and submit a written report of the evaluation to the department not later than 90 days after being notified of the analytical result that causes the supply to exceed the operational evaluation level. As listed in the table below, our records show that TTHM operational evaluation levels for the City of Flint exceed 0.080 mg/L at one of the City's eight sample site locations.

TTHM Results (mg/L)						
	5/21/14	8/21/14	11/20/14	2/17/15	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.162	0.145	0.059	0.0162	0.096	0.059
DBP2 Liquor Palace 3302 S. Dort Highway	0.112	0.127	0.033	0.0168	0.072	0.049
DBP3 North Flint Auto 6204 N. Saginaw St.	0.097	0.118	0.041	0.0149	0.068	0.047
DBP4 University Market 2501 Flushing Road	0.106	0.196	0.094	0.0245	0.105	0.085
DBP5 Taco Bell 3606 Corunna Road	0.079	0.181	0.034	0.0151	0.078	0.063
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.088	0.144	0.054	0.0192	0.076	0.059
DBP7 Salem Housing 3216 MLK Boulevard	0.082	0.112	0.050	0.0285	0.068	0.055
DBP8 BP Gas Station 822 S. Dort Highway	0.075	0.112	0.036	0.0199	0.061	0.047

Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on March 1, 2015, and will continue until TTHM LRAA is below the MCL at all sample sites.

We are encouraged by the results from the most recent round of compliance samples collected on February 17, 2015, which now show individual TTHM levels at less than half of the 0.080 mg/L standard at all locations throughout the City's system. Operational Evaluation Reports from December 2014 and February 2015 have identified possible causes and corrective measures for the previous elevated TTHM levels which we encourage the City continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard at all sites by continuing these efforts.

Our office is currently reviewing the Operational Evaluation report dated February 27, 2015, and will provide the City and their consultant comments as needed to help address this MCL violation.

Water systems that exceed the OEL must complete and submit an Operational Evaluation in accordance with Administrative Rule 719I (R325.10719I) within 90 days of being notified of the violation. **An updated Operational Evaluation report, which incorporates the most recent sample results, must now be completed and received by our office by no later than Friday May 29, 2015.**

If you have any other factual information you would like us to consider regarding the violation identified in this Violation Notice (VN), please provide them in a written response by March 19, 2015.

Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of

this type of violation, by mail or direct delivery **and** by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample PN which contains the minimum required language. The City is encouraged to include additional information regarding its response efforts to this violation. **Please notify your consumers by April 1, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the public notice.** This violation must also be included in your 2015 Consumer Confidence Report (CCR), due by July 1, 2016. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least \$1,000 per event, with a maximum of \$5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below.

Sincerely,

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

Adam Rosenthal, EQA
Lansing District Office
Office of Drinking Water & Municipal
Assistance
517-284-6644

mfp/ar/jlr
Enclosure

cc: Mr. Jerry Ambrose, Emergency Manager, City of Flint
Mr. Daughtry Johnson, City of Flint
Mr. Howard Croft, City of Flint
Mr. Robert Bincsik, City of Flint
Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Genesee County Health Department
Ms. Liane Shekter Smith, P.E., DEQ
Mr. Richard Benzie, P.E., DEQ
Mr. Stephen Busch, P.E., DEQ

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, November 20 of 2014 and February 17, 2015). The average of the results at **ANY** of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the Maximum Contaminant Level (MCL). The standard for TTHMs is 80 µg/L. The location reporting the highest TTHM level was 105 µg/L; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem in 2015. Our most recent individual sample results were all less than half the 80 µg/L standard, however since compliance is calculated using a locational running annual average (LRAA) of the most recent 4 quarters, we are still out of compliance with the MCL at 2 of 8 locations.

For more information, please contact Mr. Brent Wright at 517-787-6537 or the Flint Water Plant at 4500 North Dort Highway, Flint, MI 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION:

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature

Title

Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, February 27, 2015 3:11 PM
To: Hansen, Jeff
Cc: Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Subject: RE: DEQ-Laboratory Report-50201563

Jeff,

The Site codes listed by the City do not match that of their approved plan. We have properly aligned the sample results based on the site address to the DBP site code. We have notified the City of this issue previously but it has not been corrected.

Therefore, our results listings and calculations provided in my previous email are correct and should be used.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Hansen, Jeff [<mailto:jrhansen@lan-inc.com>]
Sent: Friday, February 27, 2015 2:34 PM
To: Busch, Stephen (DEQ)
Cc: Prysby, Mike (DEQ)
Subject: FW: DEQ-Laboratory Report-50201563

Steve,

Thanks for the table. Flint passed the info on to me earlier today.

I see a discrepancy between your table and Flint's records and we have used Flint's data in the report. I have double checked the lab results and I believe the error is on your end, but that is something to resolve. I've attached what I believe is correct. We have already printed and sent out the report since it is due to you guys Sunday. Samir is hand delivering and will probably be by soon.

Jeffrey R. Hansen
 Senior Project Manager



1311 South Linden Road, Suite B • Flint, MI 48532
 T 810.820.2682 C 810.333.3201
www.lan-inc.com • JRHansen@lan-inc.com

From: Brent Wright [<mailto:bwright@cityofflint.com>]
Sent: Friday, February 27, 2015 9:43 AM
To: Hansen, Jeff
Subject: Fwd: DEQ-Laboratory Report-50201563

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

From: **Michael Glasgow** <mglasgow@cityofflint.com>
Date: Fri, Feb 27, 2015 at 8:09 AM
Subject: Fwd: DEQ-Laboratory Report-50201563
To: Brent Wright <bwright@cityofflint.com>

Here are the DBP results. Everything is great, but this still leaves us in violation at 3 sites, as shown in the other attachment.

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

From: **DEQ-DWR-LABREPORTS** <DEQ-DWR-LABREPORTS2@michigan.gov>
Date: Thu, Feb 26, 2015 at 4:43 PM
Subject: DEQ-Laboratory Report-50201563
To: "**MGLASGOW@CITYOFFLINT.COM**" <MGLASGOW@cityofflint.com>

Dear Drinking Water Laboratory Client,

A PDF file containing your analytical results has been attached to this e-mail.

Please do not reply directly to this e-mail. It is an automated account that does not respond to incoming messages.

Please contact the laboratory directly at (517) 335-8184 with questions regarding your report.

Thank you for using the MDEQ Drinking Water Laboratory.

--

Brent Wright
Water Plant Supervisor
City of Flint
4500 N. Dort Hwy.
Flint, MI. 48505
Ph: 810.787.6537 ext. 3510
Fx: 810.787.3710

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, February 27, 2015 3:00 PM
To: Rosenthal, Adam (DEQ)
Subject: FW: DEQ-Laboratory Report-50201563
Attachments: 50201563-03.PDF; DBP results & other investigation.xlsx

Can you check this out? Is it just the address site code issue?

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Hansen, Jeff [<mailto:jrhansen@lan-inc.com>]
Sent: Friday, February 27, 2015 2:34 PM
To: Busch, Stephen (DEQ)
Cc: Prysby, Mike (DEQ)
Subject: FW: DEQ-Laboratory Report-50201563

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Jeffrey R. Hansen
 Senior Project Manager



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Please contact the laboratory directly at (517) 335-8184 with questions regarding your report.

Thank you for using the MDEQ Drinking Water Laboratory.

--

Brent Wright
Water Plant Supervisor
City of Flint
4500 N. Dort Hwy.
Flint, MI. 48505
Ph: 810.787.6537 ext. 3510
Fx: 810.787.3710



**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
LF54936

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:	2501 FLUSHING RD, FLINT	Source:	TYPE I
Collected By:	KEVIN MCLEOD	Site Code:	DBP #5
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	02/17/2015 11:50
Sample Point:	KITCHEN SINK	Date Received:	02/19/2015 11:12
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 #
Dalapon and Haloacetic						
Bromoacetic acid	Not Detected	02/24/2015	0.001		EPA 552.1/552.2	79-08-3
Bromochloroacetic acid	0.003	02/24/2015	0.001		EPA 552.1/552.2	5589-96-3
Chloroacetic acid	Not Detected	02/24/2015	0.002		EPA 552.1/552.2	79-11-8
Dalapon	Not Detected	02/24/2015	0.001	0.2	EPA 552.1/552.2	75-99-0
Dibromoacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	631-64-1
Dichloroacetic acid	0.005	02/24/2015	0.001		EPA 552.1/552.2	79-43-6
Total Haloacetic Acids (five)	0.009	02/24/2015	NA	0.060	EPA 552.1/552.2	THA-00-C
Trichloroacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	76-03-9
Total Trihalomethanes						
Bromodichloromethane	0.0084	02/20/2015	0.0005	0.080	EPA 524.2	75-27-4
Bromoform	0.0023	02/20/2015	0.0005	0.080	EPA 524.2	75-25-2
Chlorodibromomethane	0.0078	02/20/2015	0.0005	0.080	EPA 524.2	124-48-1
Chloroform	0.0060	02/20/2015	0.0005	0.080	EPA 524.2	67-66-3
Total Trihalomethanes	0.0245	02/20/2015	0.0005	0.080	EPA 524.2	TTHM-00-C

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

LF54936



TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #

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)
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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
LF54937**

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:	3606 CORUNNA RD, FLINT	Source:	TYPE I
Collected By:	KEVIN MCLEOD	Site Code:	DBP 4
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	02/17/2015 11:35
Sample Point:	BATHROOM	Date Received:	02/19/2015 11:12
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 #
Dalapon and Haloacetic						
Bromoacetic acid	Not Detected	02/24/2015	0.001		EPA 552.1/552.2	79-08-3
Bromochloroacetic acid	0.003	02/24/2015	0.001		EPA 552.1/552.2	5589-96-3
Chloroacetic acid	Not Detected	02/24/2015	0.002		EPA 552.1/552.2	79-11-8
Dalapon	Not Detected	02/24/2015	0.001	0.2	EPA 552.1/552.2	75-99-0
Dibromoacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	631-64-1
Dichloroacetic acid	0.005	02/24/2015	0.001		EPA 552.1/552.2	79-43-6
Total Haloacetic Acids (five)	0.009	02/24/2015	NA	0.060	EPA 552.1/552.2	THA-00-C
Trichloroacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	76-03-9
Total Trihalomethanes						
Bromodichloromethane	0.0062	02/20/2015	0.0005	0.080	EPA 524.2	75-27-4
Bromoform	0.0017	02/20/2015	0.0005	0.080	EPA 524.2	75-25-2
Chlorodibromomethane	0.0058	02/20/2015	0.0005	0.080	EPA 524.2	124-48-1
Chloroform	0.0044	02/20/2015	0.0005	0.080	EPA 524.2	67-66-3
Total Trihalomethanes	0.0181	02/20/2015	0.0005	0.080	EPA 524.2	TTHM-00-C

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

LF54938

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:	3216 MLK BLVD, FLINT	Source:	TYPE I
Collected By:	KEVIN MCLEOD	Site Code:	DBP 6
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	02/17/2015 12:15
Sample Point:	BATHROOM	Date Received:	02/19/2015 11:12
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 #
Dalapon and Haloacetic						
Bromoacetic acid	Not Detected	02/24/2015	0.001		EPA 552.1/552.2	79-08-3
Bromochloroacetic acid	Not Detected	02/24/2015	0.001		EPA 552.1/552.2	5589-96-3
Chloroacetic acid	Not Detected	02/24/2015	0.002		EPA 552.1/552.2	79-11-8
Dalapon	Not Detected	02/24/2015	0.001	0.2	EPA 552.1/552.2	75-99-0
Dibromoacetic acid	Not Detected	02/24/2015	0.001		EPA 552.1/552.2	631-64-1
Dichloroacetic acid	Not Detected	02/24/2015	0.001		EPA 552.1/552.2	79-43-6
Total Haloacetic Acids (five)	0.002	02/24/2015	NA	0.060	EPA 552.1/552.2	THA-00-C
Trichloroacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	76-03-9
Total Trihalomethanes						
Bromodichloromethane	0.0093	02/20/2015	0.0005	0.080	EPA 524.2	75-27-4
Bromoform	0.0026	02/20/2015	0.0005	0.080	EPA 524.2	75-25-2
Chlorodibromomethane	0.0075	02/20/2015	0.0005	0.080	EPA 524.2	124-48-1
Chloroform	0.0091	02/20/2015	0.0005	0.080	EPA 524.2	67-66-3
Total Trihalomethanes	0.0285	02/20/2015	0.0005	0.080	EPA 524.2	TTHM-00-C

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)
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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
LF54939

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:	822 S DORT HWY, FLINT	Source:	TYPE I
Collected By:	KEVIN MCLEOD	Site Code:	DBP 2
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	02/17/2015 10:55
Sample Point:	BATHROOM	Date Received:	02/19/2015 11:12
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 #
Dalapon and Haloacetic						
Bromoacetic acid	Not Detected	02/24/2015	0.001		EPA 552.1/552.2	79-08-3
Bromochloroacetic acid	0.003	02/24/2015	0.001		EPA 552.1/552.2	5589-96-3
Chloroacetic acid	Not Detected	02/24/2015	0.002		EPA 552.1/552.2	79-11-8
Dalapon	Not Detected	02/24/2015	0.001	0.2	EPA 552.1/552.2	75-99-0
Dibromoacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	631-64-1
Dichloroacetic acid	0.005	02/24/2015	0.001		EPA 552.1/552.2	79-43-6
Total Haloacetic Acids (five)	0.009	02/24/2015	NA	0.060	EPA 552.1/552.2	THA-00-C
Trichloroacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	76-03-9
Total Trihalomethanes						
Bromodichloromethane	0.0066	02/20/2015	0.0005	0.080	EPA 524.2	75-27-4
Bromoform	0.0020	02/20/2015	0.0005	0.080	EPA 524.2	75-25-2
Chlorodibromomethane	0.0065	02/20/2015	0.0005	0.080	EPA 524.2	124-48-1
Chloroform	0.0048	02/20/2015	0.0005	0.080	EPA 524.2	67-66-3
Total Trihalomethanes	0.0199	02/20/2015	0.0005	0.080	EPA 524.2	TTHM-00-C

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
LF54940

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:	3719 DAVISON RD, FLINT	Source:	TYPE I
Collected By:	KEVIN MCLEOD	Site Code:	DBP 1
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	02/17/2015 10:39
Sample Point:	KITCHEN	Date Received:	02/19/2015 11:12
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 #
Dalapon and Haloacetic						
Bromoacetic acid	Not Detected	02/24/2015	0.001		EPA 552.1/552.2	79-08-3
Bromochloroacetic acid	0.003	02/24/2015	0.001		EPA 552.1/552.2	5589-96-3
Chloroacetic acid	Not Detected	02/24/2015	0.002		EPA 552.1/552.2	79-11-8
Dalapon	Not Detected	02/24/2015	0.001	0.2	EPA 552.1/552.2	75-99-0
Dibromoacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	631-64-1
Dichloroacetic acid	0.005	02/24/2015	0.001		EPA 552.1/552.2	79-43-6
Total Haloacetic Acids (five)	0.009	02/24/2015	NA	0.060	EPA 552.1/552.2	THA-00-C
Trichloroacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	76-03-9
Total Trihalomethanes						
Bromodichloromethane	0.0057	02/20/2015	0.0005	0.080	EPA 524.2	75-27-4
Bromoform	0.0015	02/20/2015	0.0005	0.080	EPA 524.2	75-25-2
Chlorodibromomethane	0.0054	02/20/2015	0.0005	0.080	EPA 524.2	124-48-1
Chloroform	0.0036	02/20/2015	0.0005	0.080	EPA 524.2	67-66-3
Total Trihalomethanes	0.0162	02/20/2015	0.0005	0.080	EPA 524.2	TTM-00-C

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

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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
LF54941

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:	5018 CLIO RD, FLINT	Source:	TYPE I
Collected By:	KEVIN MCLEOD	Site Code:	DBP 7
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	02/17/2015 12:34
Sample Point:	BATHROOM SINK	Date Received:	02/19/2015 11:12
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 #
Dalapon and Haloacetic						
Bromoacetic acid	Not Detected	02/24/2015	0.001		EPA 552.1/552.2	79-08-3
Bromochloroacetic acid	0.003	02/24/2015	0.001		EPA 552.1/552.2	5589-96-3
Chloroacetic acid	Not Detected	02/24/2015	0.002		EPA 552.1/552.2	79-11-8
Dalapon	Not Detected	02/24/2015	0.001	0.2	EPA 552.1/552.2	75-99-0
Dibromoacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	631-64-1
Dichloroacetic acid	0.005	02/24/2015	0.001		EPA 552.1/552.2	79-43-6
Total Haloacetic Acids (five)	0.009	02/24/2015	NA	0.060	EPA 552.1/552.2	THA-00-C
Trichloroacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	76-03-9
Total Trihalomethanes						
Bromodichloromethane	0.0066	02/20/2015	0.0005	0.080	EPA 524.2	75-27-4
Bromoform	0.0018	02/20/2015	0.0005	0.080	EPA 524.2	75-25-2
Chlorodibromomethane	0.0060	02/20/2015	0.0005	0.080	EPA 524.2	124-48-1
Chloroform	0.0048	02/20/2015	0.0005	0.080	EPA 524.2	67-66-3
Total Trihalomethanes	0.0192	02/20/2015	0.0005	0.080	EPA 524.2	TTHM-00-C

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

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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
LF54942

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:	6204 N SAGINAW ST, FLINT	Source:	TYPE I
Collected By:	KEVIN MCLEOD	Site Code:	DBP 8
Township/Well#/Section:	//	Collector:	Public Water Supply Operator
County:	Genesee	Date Collected:	02/17/2015 12:51
Sample Point:	BATHROOM SINK	Date Received:	02/19/2015 11:12
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 #
Dalapon and Haloacetic						
Bromoacetic acid	Not Detected	02/24/2015	0.001		EPA 552.1/552.2	79-08-3
Bromochloroacetic acid	0.003	02/24/2015	0.001		EPA 552.1/552.2	5589-96-3
Chloroacetic acid	Not Detected	02/24/2015	0.002		EPA 552.1/552.2	79-11-8
Dalapon	Not Detected	02/24/2015	0.001	0.2	EPA 552.1/552.2	75-99-0
Dibromoacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	631-64-1
Dichloroacetic acid	0.005	02/24/2015	0.001		EPA 552.1/552.2	79-43-6
Total Haloacetic Acids (five)	0.009	02/24/2015	NA	0.060	EPA 552.1/552.2	THA-00-C
Trichloroacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	76-03-9
Total Trihalomethanes						
Bromodichloromethane	0.0049	02/20/2015	0.0005	0.080	EPA 524.2	75-27-4
Bromoform	0.0014	02/20/2015	0.0005	0.080	EPA 524.2	75-25-2
Chlorodibromomethane	0.0048	02/20/2015	0.0005	0.080	EPA 524.2	124-48-1
Chloroform	0.0038	02/20/2015	0.0005	0.080	EPA 524.2	67-66-3
Total Trihalomethanes	0.0149	02/20/2015	0.0005	0.080	EPA 524.2	TTHM-00-C

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

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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
LF54943**

Official Laboratory Report

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

System Name/Owner: **CITY OF FLINT**
Collection Address: **3202 S DORT HWY, FLINT**
Collected By: **KEVIN MCLEOD**
Township/Well#/Section: **//**
County: **Genesee**
Sample Point: **KITCHEN**
Water System: **Treated Public Distribution System**

WSSN/Pool ID: **2310**
Source: **TYPE I**
Site Code: **DBP 3**
Collector: **Public Water Supply Operator**
Date Collected: **02/17/2015 11:12**
Date Received: **02/19/2015 11:12**
Purpose: **Routine Monitoring**

TESTING INFORMATION			REGULATORY INFORMATION			
Analyte Name	Result (mg/L)	Date Tested	RL (mg/L)	MCL/AL (mg/L)	Method	CAS #
Dalapon and Haloacetic						
Bromoacetic acid	Not Detected	02/24/2015	0.001		EPA 552.1/552.2	79-08-3
Bromochloroacetic acid	0.003	02/24/2015	0.001		EPA 552.1/552.2	5589-96-3
Chloroacetic acid	Not Detected	02/24/2015	0.002		EPA 552.1/552.2	79-11-8
Dalapon	Not Detected	02/24/2015	0.001	0.2	EPA 552.1/552.2	75-99-0
Dibromoacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	631-64-1
Dichloroacetic acid	0.005	02/24/2015	0.001		EPA 552.1/552.2	79-43-6
Total Haloacetic Acids (five)	0.009	02/24/2015	NA	0.060	EPA 552.1/552.2	THA-00-C
Trichloroacetic acid	0.002	02/24/2015	0.001		EPA 552.1/552.2	76-03-9
Total Trihalomethanes						
Bromodichloromethane	0.0056	02/20/2015	0.0005	0.080	EPA 524.2	75-27-4
Bromoform	0.0017	02/20/2015	0.0005	0.080	EPA 524.2	75-25-2
Chlorodibromomethane	0.0055	02/20/2015	0.0005	0.080	EPA 524.2	124-48-1
Chloroform	0.0040	02/20/2015	0.0005	0.080	EPA 524.2	67-66-3
Total Trihalomethanes	0.0168	02/20/2015	0.0005	0.080	EPA 524.2	TTHM-00-C

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

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MPN : Most Probable Number
CFU : Colony Forming Unit

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

DISINFECTION BY-PRODUCTS - DEQ Required Testing

MCL for TTHM = 80 ug/L MCL for HAA5 = 60 ug/L

	May-14		Aug-14		Nov-14		Feb-15		LRAA		MAX	MIN
	TTHM	HAA5	TTHM	HAA5	TTHM	HAA5	TTHM	HAA5	TTHM	HAA5	TTHM	TTHM
Water Plant Tap	56	36	86	36	33	36		36	58.3	36.0	86.0	33.0
	*Once Yearly (June 2014)		*Once Yearly (June 2014)		*Once Yearly (June 2014)		*Once Yearly (June 2014)		*Once Yearly (June 2014)			
Site # 1	162.4	64.0	145.3	43.0	58.6	16.0	16.2	9.0	95.6	33.0	162.4	16.2
Site # 2	111.6	52.0	112.0	40.0	36.2	21.0	19.9	9.0	69.9	30.5	112.0	19.9
Site # 3	96.5	48.0	127.2	31.0	33.3	15.0	16.8	9.0	68.5	25.8	127.2	16.8
Site # 4	106.4	55.0	181.3	24.0	33.9	15.0	18.1	9.0	84.9	25.8	181.3	18.1
Site # 5	75.1	38.0	196.2	11.0	93.6	24.0	24.5	9.0	97.4	20.5	196.2	24.5
Site # 6	82.2	41.0	112.4	25.0	50.1	5.0	28.5	2.0	68.3	18.3	112.4	28.5
Site # 7	88.2	49.0	144.4	30.0	53.6	17.0	19.2	9.0	76.4	26.3	144.4	19.2
Site # 8	79.2	50.0	118.3	37.0	41.1	18.0	14.9	9.0	63.4	28.5	118.3	14.9

*Sampled at end of Oct.

DISINFECTION BY-PRODUCTS - Other TTHM Investigations

	Jul-14	Aug-14	Nov-14
	TTHM	TTHM	TTHM
Dort Reservoir	153.3	n/a	n/a
Cedar Street Reservoir	n/a	163.3	35.2
West Side Reservoir	n/a	134.4	43.9

In house investigation using Parker TTHM Analyzer provided by United Water Affiliate

	10/16/2014	10/17/2014	10/21/2014	10/29/2014
	TTHM	TTHM	TTHM	TTHM
3 MG Well (PS #4)	48.8	49.9	32.2	34.9
+ 1 hour	54.7	52.8	39.2	n/a
+ 48 hours	n/a	n/a	n/a	116.6
+ 170 hours	n/a	n/a	n/a	168.0

	Total Organic Carbon (mg)	
	Raw	Final
May	10.30	4.57
June	9.00	3.63
July	8.44	2.67
August	8.48	4.06
Sept	7.36	3.30
Oct	7.38	2.99
Nov	7.27	3.86
Dec	6.49	2.59
Jan	7.62	3.21
Feb	5.95	2.07

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, February 27, 2015 2:11 PM
To: Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Wurfel, Brad (DEQ)
Cc: Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Subject: Updated Flint TTHM Results
Attachments: FLINT TTHM RESULTS.docx

Updated TTHM results from Flint are attached, and are as we expected.

The highest sample individual result from February 2015 was 28.5 ppb, less than half the standard of 80 ppb.

The same two sites still exceed the LRAA MCL standard of 80 ppb due to high results from last summer, but the other 6 comply with the LRAA.

(FYI, if we were still under Stage 1 this wouldn't have ever been a standard violation, the RAA would have calculated out to 78 ppb.)

We are in the process of preparing a violation notice to the City and will have a copy to review and distribute to legislative members and other departments early next week.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

FLINT TTHM RESULTS

TTHM Results (mg/L)						
	5/21/14	8/21/14	11/20/14	2/17/15	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.162	0.145	0.059	0.0162	0.096	0.059
DBP2 Liquor Palace 3302 S. Dort Highway	0.112	0.127	0.033	0.0168	0.072	0.049
DBP3 North Flint Auto 6204 N. Saginaw St.	0.097	0.118	0.041	0.0149	0.068	0.047
DBP4 University Market 2501 Flushing Road	0.106	0.196	0.094	0.0245	0.105	0.085
DBP5 Taco Bell 3606 Corunna Road	0.079	0.181	0.034	0.0151	0.078	0.063
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.088	0.144	0.054	0.0192	0.076	0.059
DBP7 Salem Housing 3216 MLK Boulevard	0.082	0.112	0.050	0.0285	0.068	0.055
DBP8 BP Gas Station 822 S. Dort Highway	0.075	0.112	0.036	0.0199	0.061	0.047

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Friday, February 27, 2015 1:57 PM
To: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ)
Subject: Fwd: Flint Lab Results

Jeff Hansen's contact info if u get the opportunity to forward him the results.

Sent from my iPhone

Begin forwarded message:

From: "Hansen, Jeff" <jrhansen@lan-inc.com>
Date: February 27, 2015 at 8:40:22 AM EST
To: Mike Prysby <prysbym@michigan.gov>
Subject: Flint Lab Results

Hi Mike,

Do you know if the DEQ lab has gotten Flint THM / HAA5 results yet? Flint has not seen anything yet but they said you normally see the results before they do.

Jeffrey R. Hansen
Senior Project Manager

<[image001.gif](#)>

1311 South Linden Road, Suite B • Flint, MI 48532
T 810.820.2682 C 810.333.3201
www.lan-inc.com • JRHansen@lan-inc.com

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, February 27, 2015 1:56 PM
To: Prysby, Mike (DEQ); Philip, Kris (DEQ)
Cc: Rosenthal, Adam (DEQ)
Subject: RE: Flint TTHM

Ok I will take care of it. Now enjoy your weekend.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Prysby, Mike (DEQ)
Sent: Friday, February 27, 2015 1:55 PM
To: Philip, Kris (DEQ)
Cc: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ)
Subject: Re: Flint TTHM

Jeff Hansen from LAN is interested in receiving the most recent TTHM results so they can include it in Flints OEL report due March 1st.

Sent from my iPhone

On Feb 27, 2015, at 12:24 PM, Philip, Kris (DEQ) <PHILIPK@michigan.gov> wrote:

Here are Flint's most recent 4 quarters of TTHM data.

<02310_Flint_TTHM_02 27 2015.xlsx>

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Friday, February 27, 2015 1:55 PM
To: Philip, Kris (DEQ)
Cc: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ)
Subject: Re: Flint TTHM

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Here are Flint's most recent 4 quarters of TTHM data.

<02310_Flint_TTHM_02 27 2015.xlsx>

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, February 27, 2015 1:48 PM
To: Crooks, Jennifer; Deltoral, Miguel
Cc: Rosenthal, Adam (DEQ); Poy, Thomas; Porter, Andrea; Prysby, Mike (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ)
Subject: RE: HIGH LEAD: FLINT Water testing Results

Miguel and Jennifer,

Thank you for this information, we will take it under consideration.

The City of Flint:

- Has a 90th percentile lead level of 6.0 ppb based on 100 samples collected in its most recent monitoring period of 7/1/2014 – 12/31/2014, with 2 samples (23 & 37 ppb) over the AL.
- Has a 90th percentile copper level of 110 ppb based on 100 samples collected in its most recent monitoring period of 7/1/2014 – 12/31/2014, with no samples over the Cu AL.
- Has an Optimized Corrosion Control Program
- Conducts quarterly Water Quality Parameter monitoring at 25 sites and has not had any unusual results.
- Has never had a 90th percentile lead AL exceedance
- Continues to meet all applicable plant tap standards and treatment technique requirements at its WTP
- Has developed and implemented an Operational Evaluation of its treatment and distribution systems, and continues to adjust and update this OE based on updated quarterly results

My understanding from Ben Grumbles and the LCR Short Term Revisions is that “EPA regulations require water systems to develop a targeted sampling pool, focused on those sites with the greatest risk of lead leaching. All compliance samples used to determine the 90th percentile must come from that sampling pool.” [40 CFR 141.80(c)(1)], 56 Fed Reg. 26518 (June, 7, 1991), [40CFR 141.90(a)(1)(v), and 40 CFR 141.90(h)(2)]. Our office continues to work with our community water systems to follow these and all other requirements of the current lead and copper regulations.

212 Browning, the site in question, is not part of the City’s established sample site pool. The residence consists of PVC plumbing materials, and has an iron pre-filter at the service connection.

Regarding TTHM, the most recent quarter monitoring from February 2015 was issued today by the lab. While 2 of the 8 DBP compliance sites continue to have an LRAA that exceeds the standard, quarterly results at all 8 DBP compliance sites were below less than half the standard level of 80 ppb, the highest being 28.5 ppb. Only one site now has an OEL over 80 ppb, at 85 ppb.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Crooks, Jennifer [mailto:crooks.jennifer@epa.gov]
Sent: Friday, February 27, 2015 11:05 AM
To: Deltoral, Miguel; Prysby, Mike (DEQ)
Cc: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ); Poy, Thomas; Porter, Andrea
Subject: Re: HIGH LEAD: FLINT Water testing Results

Hi, Steve and Mike. I talked with Miguel, and he said if you all would be interested in getting input from our expert, Mike Schock at EPA Cincinnati Research, on the Flint distribution system issues and dealing with lead and DBP's together, you should contact Mike directly--here is his information.

schock.michael@epa.gov
(513) 569-7412

Jennifer

From: Deltoral, Miguel
Sent: Friday, February 27, 2015 4:58 AM
To: Crooks, Jennifer; Prysby, Mike (DEQ)
Cc: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ); Poy, Thomas; Schock, Michael; Porter, Andrea
Subject: Re: HIGH LEAD: FLINT Water testing Results

Jen/all - I think things got garbled in translation...

What I was saying is that where you find Pb values that high, it is usually due to particulate lead. Not always, but generally. Particulate lead is released sporadically from lead service lines, leaded solder and leaded brass in a number of ways and folks tend to discount these values as anomalies, but particulate lead release is a normal part of the corrosion process and it is universal (common) in all systems. It's just that it is not captured as often by the infrequent LCR sampling. If systems are pre-flushing the tap the night before collec on thisting LCR compliance samples (MDEQ still provides these instructions to public water systems) this clears particulate lead out of the plumbing and biases the results low by eliminating the highest lead values. If systems are pre-flushing and still finding particulate lead, the amount of particulate lead in the system can be higher than what is being detected using these 'pre-flushed' first-draw samples. My point on that was that people are exposed to the particulate lead on a daily basis, but the particulate lead is being flushed away before collecting compliance samples which provides false assurance to residents about the true lead levels in the water.

Some quick notes on particulate lead release:

- Fe/Mn can transport lead from the lead service lines into the home. The lead sorbs onto the Fe/Mn particles. In GW systems, Fe/Mn can come from the source water and more Fe from the water mains. In SW systems, the Fe typically is released from the water mains.
- Lead released from lead service lines can also 'seed' galvanized iron pipes inside the homes. Again, the lead sorbs onto the iron on the pipes and be released sporadically. Generally, the higher the flow, the more Fe and Fe+Pb particulate you will likely get.
- If there is a partial lead service line (lead connected to copper) you can get additional lead release due to galvanic corrosion.
- Leaded brasses and solder can also release particulate lead under certain circumstances.
- The particulate can contain very high concentrations of lead (hundreds to thousands of ppb Pb) which is a much higher concentration than lead paint, so even small particles can result in high lead values.
- If the lead service line was disturbed (water main repair/replacement, meter installation repair/replacement, service line leak repairs, etc.) you can have VERY high lead levels in the scale and sediment that is dislodged from the inside of lead service lines. Here in Chicago, during a partial lead service line replacement, we collected the scale and sediment that came into the home and we found 300,000+ ug/L lead in the scale; 125,000 ug/L Pb in the sediment. Very dangerous.
- Higher levels of PO₄ (3-4 mg/L Ortho) seem to reduce the amount of particulate Pb that is released in the absence of physical disturbances to the lead lines. Doesn't stop it entirely, but should generally

reduce the occurrence. Caveat – Other water quality issues can change the chemical complexes that form on the pipe, so cleaner sources with more consistent WQ form more predictable scale complexes.

If I remember correctly, Detroit is feeding PO₄ for the LCR, but since Flint is no longer part of that interconnection, I was wondering what their OCCT was. They are required to have OCCT in place which is why I was asking what they were using.

Mike Schock is our resident expert and may be able to help out with the simultaneous compliance (Pb & DBPs) so I would suggest that folks give him a call.

Miguel A. Del Toral
Regulations Manager
U.S. EPA RS GWDWB
77 West Jackson Blvd, (WG-15J)
Chicago, IL 60604
Phone: (312) 886-5253

From: Crooks, Jennifer
Sent: Thursday, February 26, 2015 04:15 PM
To: Prysby, Mike (DEQ)
Cc: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ); Deltoral, Miguel; Poy, Thomas
Subject: HIGH LEAD: FLINT Water testing Results

Thank you, Mike. These results are dated 2/18/15, so they're probably different results than the results Adam had, but they still have to be included in with compliance calculation of the 90th percentile. What dates are the earlier compliance samples?

Yes, the stagnation of the water would increase the lead levels, and I'm glad you're following up with the City to get the lead levels reduced for Mrs. Walters' home—which will hopefully be effective for her neighbors because they are also most likely being exposed to these high lead levels. Miguel reminded me this morning, there are no safe levels of lead in drinking water.

I talked with Miguel Del Toral about his knowledge on research on lead. He said that high levels of iron, usually bring high levels of lead. The large amount of black sediment at Mrs. Walters' home, is most likely particulate lead, Miguel said, where the lead actually bonds to the iron sediment. While the particulates of lead/iron are small, they're very highly concentrated with lead—up to 95% lead.

Miguel was wondering if Flint is feeding Phosphates. Flint must have Optimal Corrosion Control Treatment—is it Phosphates? Or is it pH/Alkalinity Adjustment? The reason he asks, is because systems using the pH/Alkalinity adjustment have problems with lead levels in the 100's or higher—and they have problems with random lead particulate matter in the distribution system. Miguel said that we all know that flushing regularly helps reduce the lead concentrations, but not immediately. The City can't just flush in advance of taking the compliance samples, they have to flush the lines on a regular schedule.

The problem with high lead issues, is that the water has so many different variables, that it's hard to pinpoint what is causing what problem where. From a public health perspective, can we assume that the high lead levels in Mrs. Walters' neighborhood are isolated to just her area? Or are they more widespread?

Please feel free to contact Miguel directly—312-886-5253; Deltoral.miguel@epa.gov.

Jennifer

From: Prysby, Mike (DEQ) [mailto:PRYSBYM@michigan.gov]
Sent: Thursday, February 26, 2015 10:25 AM
To: Crooks, Jennifer
Cc: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ)
Subject: RE: HIGH LEAD: FLINT Water testing Results

Jennifer,

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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)
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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.

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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:
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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:

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

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Mike

Rennaker, Joanne (DEQ)

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Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Thursday, February 26, 2015 11:06 AM
To: Rosenthal, Adam (DEQ)
Subject: FW: HIGH LEAD: FLINT Water testing Results
Attachments: 212 Browning (Pb & Cu).pdf; Flint Technical Advisory Team List_R1.pdf

fyi

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Mike

Consumer Notice of Lead & Copper Results in Drinking Water

Water Supply Name: City of Flint

County: Genesee WSSN: 2310

Sample Location: 212 Browning Date Sampled: 2/18/2015

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 which there is no known or expected risk to health. MCLG's allow for a margin of safety. ppb: parts per billion or micrograms per liter.	Lead (ppb)	15	0	104
	Copper (ppb)	1300	1300	Not Detected

Lead can cause serious health problem 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 on the brain with lower 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 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 tap; lead dissolves more easily in hot water.
- *Do not boil water to remove lead.* Boiling water will not reduce lead levels.
- *Look for an 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 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.



**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
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

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 Kriszlian

City of Flint / Veolia Technical Advisory Committee

	COMPANY	NAME	TITLE	PHONE	DESIGNEE	CONTACT INFO	
1	General Motors	Randy Tanner	Head of Engineering	810-577-8552			Yes
2	MSU - Lansing	Dr. Joan Rose	Chair in Water Research	517-432-4412	Dr. Joan Rose	rosejo@msu.edu	Yes
3	Greater Flint Health Coalition	Kirk Smith	President	810-232-2228	Kirk Smith	ksmith@flint.org	Yes
4	County Drain Commissioner	Jeff Wright	Deputy Drain Commissioner	810-732-7870	John O'Brien	jfobrien@gcdcwws.com	Yes
5	U of M Flint	Michael Lane	Dir. Environmental Health & Safety	810-766-6763	Michael Lane	milane@umflint.edu	Yes
6	Mott Community	Larry Kohler	Executive Director		Larry Koehler	larry.koehler@mcc.edu	Yes
7	Genesys Pace Hospital	Donna Cole	Property Manager	810-606-5611	Donna Cole	donna.cole@genesys.org	Yes
8	Hurley Hospital	Melanie Gavulic	President / CEO		Norb Birchmier	mgavuli1@hurleymc.com	Yes
9	McLaren Hospital	Don Kooy	President / CEO		Russell Hudson	don.kooy@mclaren.org	Yes
10	Genesee County Medical Society	Pete Levine	Executive Director	810-733-9925	Gerald Natzke	plevine@gcms.org	Yes
11	Dept. of Environmental Quality	Mike Prysby	District Supervisor	517-290-8817	Mike Prysby	prysbym@michigan.gov	Yes
12	Genesee Health Department	Jim Henry			Jim Henry	jhenry@gchd.com	Yes
	City of Flint	Howard Croft	DPW Director	810-577-1202	Howard Croft	hcroft@cityofflint.com	Yes
	City of Flint	Daugherty Johnson	Utilities Administrator	810-577-8906	Duffy Johnson	djohnson@cityofflint.com	Yes
	City of Flint	Brent Wright	Plant Supervisor	810-787-6537	Brent Wright	bwright@cityofflint.com	Yes
	City of Flint	Mike Glasgow	Asstant Plant Supervisor		Mike Glasgow	mglasgow@cityofflint.com	Yes

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, February 24, 2015 9:05 AM
To: Antil, Jeffrey (DEQ); Brennan, Patrick (DEQ); Drake, Jerry (DEQ); DuMont, Ralph (DEQ); Joseph, Mark (DEQ); Prysby, Mike (DEQ); Rennaker, Joanne (DEQ); Rosenthal, Adam (DEQ); Skinker, Bethel (DEQ)
Subject: FW: River Source Water Quality Comparison for Drinking Water
Attachments: MichiganDW-RiverSource-WQ.pdf

FYI. Information regarding raw water quality of river sources in Michigan is attached.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Busch, Stephen (DEQ)
Sent: Tuesday, February 24, 2015 9:04 AM
To: 'Wurfel, Brad (DEQ) (WurfelB@michigan.gov)'; 'Alexander, Michael (DEQ)'
Cc: Thomas, Chuck (DEQ); Richard Benzie P.E. (BENZIER@michigan.gov); Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov)
Subject: River Source Water Quality Comparison for Drinking Water

Brad and Mike,

In preparation for the interview with Steve Carmody this afternoon, attached is raw water quality information from the 7 community water systems in Michigan that use river water for at least some portion of their source water. These are generally basic physical and chemical parameters. Keep in mind the data is not over the same period of time. For Flint the data represents less than one year so a true average that takes into account seasonal variations cannot be made at this time.

As most of our monitoring takes place after treatment, results for things like metals, VOC, pesticides, herbicides, etc., were not included as they would not be representative of raw water quality.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

Michigan Drinking Water River Source Water Quality		Turbidity (NTU)		Total Organic Carbon (mg/L)		pH		Alkalinity (mg/L as CaCO ₃)		Hardness (mg/L as CaCO ₃)		Nitrate (mg/L)		LT2 Bin	Basis
Water System	Source Water	Avg.	Range	Avg.	Range	Avg.	Range	Avg.	Range	Avg.	Range	Avg.	Range		
City of Adrian	Wolf Creek (Lake Adrian) + Groundwater Wells	5.5	0.1 - 117	2.6	0.92 - 8.3	7.6	6.9 - 9.4	288	30 - 334	357	180 - 442	0.87	0 - 5.1	1	(2014 Sanitary Survey; 2010 - 2013 Data)
City of Alma	Pine River + Groundwater Wells	8.64	1.7 - 163	7.1	6.6 - 8	7.8	7.1 - 8.4	215	129 - 249	276	181 - 323	NS	NS	1	(2012 Sanitary Survey; 2011 Data)
City of Ann Arbor	Huron River + Groundwater Wells	1.46	0.1 - 15.5	5.37	3 - 8.25	7.8	7.1 - 8.9	229	140 - 250	327	260 - 465	0.45	0.2 - 1.04	1	(2013 Sanitary Survey)
Village of Blissfield	River Raisin	25.7	2 - 405	5.23	3.1 - 7.4	8.08	7.5 - 8.4	227	85 - 293	327	190 - 452	2.24	0 - 11.8	2	(2014 Sanitary Survey; 2011 - 2013 Data)
Village of Deerfield	River Raisin	23	2 - 247	5.28	2.8 - 16	7.9	7.2 - 8.3	280	104 - 288	244	148 - 528	3.59	0.6 - 32	4	(2013 Sanitary Survey; 2010 - 2012 Data)
City of Flint	Flint River	8.1	1.6 - 73.4	8.09	6.5 - 10.3	8.22	7.99 - 8.43	216	149 - 270	264	221 - 334	NS	NS		(2014 Data since on Flint River May - Dec)
City of Manistique	Indian River	1.7	0.5 - 12.0	5.8	4 - 9.0	7.78	7.12 - 8.87	86	24 - 114	129	98 - 154	NS	NS	1	(2011 Sanitary Survey Inspection)

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Friday, February 20, 2015 11:42 AM
To: Rosenthal, Adam (DEQ)
Cc: Busch, Stephen (DEQ)
Subject: Flint TTHMs

I spoke with Brent this morning, the 4th quarter TTHMs were collected Tues and Wed of this week and mailed to the lab. We may results by the end of next week.

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

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Friday, February 20, 2015 11:10 AM
To: Rosenthal, Adam (DEQ)
Subject: FW: Steve Carmody interview. Can you do Friday?

Just when I think I can catch up

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

From: Wurfel, Brad (DEQ)
Sent: Friday, February 20, 2015 11:05 AM
To: Shekter Smith, Liane (DEQ); Busch, Stephen (DEQ); Prysby, Mike (DEQ)
Subject: FW: Steve Carmody interview. Can you do Friday?

Hey, all. Michigan Radio's Steve Carmody is looking to do a piece with us next Tuesday on Flint's water. The angle is looking at the Flint River as a source. I've been parsing this out with Mike Alexander in WRD – looking at the waters, what they flow through upstream of the intake, what that means for the quality of the source. Carmody also wants to look at it comparatively. As in, what other municipalities around the state are using rivers? I'm aware of Manistique, Blissfield, Alma (?), and ... ??? What is the quality of those sources, comparatively? I know, tough story to do. I need some counsel from Drinking water people, collaborating with WRD counterparts, to get us prepped. And I think we'll need one of you three to be part of this interview on Tuesday. Let me know when the drawing of straws is over. Thanks! ☺
 b

From: Alexander, Michael (DEQ)
Sent: Friday, February 20, 2015 10:56 AM
To: Wurfel, Brad (DEQ)
Subject: RE: Steve Carmody interview. Can you do Friday?

We are all set for Tuesday afternoon at 3 PM. Let me know if that time doesn't work and where should we have it? I can get a conference room if you want me to.

Michael Alexander, WRD
 Department of Environmental Quality
Phone 517-449-7971
alexanderm2@michigan.gov

From: Wurfel, Brad (DEQ)
Sent: Friday, February 20, 2015 10:10 AM
To: Alexander, Michael (DEQ)
Subject: RE: Steve Carmody interview. Can you do Friday?

Hmmmm. Not what he imparted when I talked to him, but I get what you're saying. Drinking water intake, or drinking water source? Blissfield, Manistique and (I think) Alma use surface water as sources. Is that what he's looking for? Comparative water quality discussion?

From: Alexander, Michael (DEQ)
Sent: Friday, February 20, 2015 9:54 AM
To: Wurfel, Brad (DEQ)
Subject: RE: Steve Carmody interview. Can you do Friday?

Just got off the phone with Steve Carmody. He wants to know how the Flint River water quality is as it relates to a drinking water intake, which is not necessarily the type of water quality assessment we conduct in WRD. We can certainly be part of the discussion if the topic of typical types of inputs to the Flint compared to other Michigan watersheds, but we wouldn't be able to make any statements as to how it compares to other drinking water intakes around MI. I would think someone from Office of Drinking Water and Radiological Protection would be better to answer that question. Thoughts?

Michael Alexander, WRD
Department of Environmental Quality
Phone 517-449-7971
alexanderm2@michigan.gov

From: Wurfel, Brad (DEQ)
Sent: Friday, February 20, 2015 8:55 AM
To: Alexander, Michael (DEQ)
Subject: RE: Steve Carmody interview. Can you do Friday?

You in today? Call my cell or tell me where you're sitting and I'll come see you.

b

From: Alexander, Michael (DEQ)
Sent: Friday, February 20, 2015 8:17 AM
To: Wurfel, Brad (DEQ)
Subject: RE: Steve Carmody interview. Can you do Friday?

Hi Brad,

Sometime later this afternoon would be best. It will give us a little more time to prep. I was home with a sick child and the rest of WRD was in training yesterday. Can you please verify for me that he wants to talk about water quality for Flint River, not drinking water treatment? Are there any particular items other than Flint's treatment system you want us to stay away from?

Michael Alexander, WRD
Department of Environmental Quality
Phone 517-449-7971
alexanderm2@michigan.gov

From: Wurfel, Brad (DEQ)
Sent: Thursday, February 19, 2015 2:55 PM
To: Alexander, Michael (DEQ)
Subject: Steve Carmody interview. Can you do Friday?

Hey, Mike. Steve wants to do the interview in person. He can be here Friday, optimally any time between 10 a.m. and 4 p.m.

Can this work for you (and whomever you want to join the conversation)?

b

Brad Wurfel
Communications Director
Michigan Department of Environmental Quality
517-284-6713
517-230-8006 cell

Rennaker, Joanne (DEQ)

From: Michael Glasgow <mglasgow@cityofflint.com>
Sent: Monday, February 09, 2015 2:00 PM
To: Rosenthal, Adam (DEQ)
Subject: Re: January '15 MOR
Attachments: 1-15 State MOR.xls

Adam,

I'm just about finished with it, just finishing up with some of the operational chemical feed data, I will send a pdf copy to you tomorrow when it will be fully complete. Attached is what I have done so far.

Mike

On Mon, Feb 9, 2015 at 1:20 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Hi Mike, any chance you have your January MOR ready? I need a copy, EPA is asking for some data as they are getting calls. Please send what you have.

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

Filter turbidity

City of Flint Water Treatment Plant

January 2015

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WSSN: 2310

Date	Turbidity, Units												
	Confluence Point. No.1 (N) North						Confluence Point. No.2 (S) South						Point of Entry
	Number of Samples	Avg.	Max	No. of 4 Hr. Compliance periods	No. of 4 Hr. Compliance periods >0.3 NTU	No. of Samples >0.3 NTU	Number of Samples	Avg.	Max	No. of 4 Hr. Compliance periods	No. of 4 Hr. Compliance periods >0.3 NTU	No. of Samples >0.3 NTU	Plant Tap NTU
1				6	0	0				6	0	0	
2				6	0	0				6	0	0	
3				6	0	0				6	0	0	
4				6	0	0				6	0	0	
5				6	0	0				6	0	0	
6				6	0	0				6	0	0	
7				6	0	0				6	0	0	
8				6	0	0				6	0	0	
9				6	0	0				6	0	0	
10				6	0	0				6	0	0	
11				6	0	0				6	0	0	
12				6	0	0				6	0	0	
13				6	0	0				6	0	0	
14				6	0	0				6	0	0	
15				6	0	0				6	0	0	
16				6	0	0				6	0	0	
17				6	0	0				6	0	0	
18				6	0	0				6	0	0	
19				6	0	0				6	0	0	
20				6	0	0				6	0	0	
21				6	0	0				6	0	0	
22				6	0	0				6	0	0	
23				6	0	0				6	0	0	
24				6	0	0				6	0	0	
25				6	0	0				6	0	0	
26				6	0	0				6	0	0	
27				6	0	0				6	0	0	
28				6	0	0				6	0	0	
29				6	0	0				6	0	0	
30				6	0	0				6	0	0	
31				6	0	0				6	0	0	

Avg.	#DIV/0!	#DIV/0!	#DIV/0!	6	0	0	#DIV/0!	#DIV/0!	#DIV/0!	6	0	0	
Max.	0	0.00	0.00	6	0	0	0	0.00	0.00	6	0	0	0.00
Min.	0	0.00	0.00	6	0	0	0	0.00	0.00	6	0	0	

[illegible]

Chemical
Analyses

City of Flint Water Treatment Plant

January 2015

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WSSN: 2310

Date	pH (S.U.)		Total Hardness as CaCO ₃ (mg/L)		Total Alkalinity as CaCO ₃ (mg/L)		Non-Carbonate Hardness as CaCO ₃ (mg/L)		Calcium as Ca ²⁺ (mg/L)		Magnesium as Mg ²⁺ (mg/L)		Chloride as Cl ⁻ (mg/L)	
	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap
1	8.23	7.65	323	185	264	65	59	120	108.2	55.3	13.6	11.7	47	85
2	7.84	7.31	324	193	258	76	66	117	121.0	65.7	6.3	4.9	47	87
3	7.77	7.38	323	212	257	98	66	114	120.0	77.0	5.8	4.9	48	87
4	8.15	7.86	325	218	261	96	64	122	105.8	64.9	14.6	13.1	48	88
5	8.31	7.80	318	206	262	94	56	112	103.4	60.9	14.6	13.6	45	78
6	8.09	7.97	320	208	256	95	64	113	121.0	69.7	4.7	8.9	48	85
7	8.04	7.91	313	194	256	97	57	97	101.8	61.7	15.6	10.7	43	82
8	8.19	8.04	313	202	251	87	62	115	121.0	72.9	2.9	3.9	48	83
9	8.08	7.96	311	205	248	93	63	112	115.4	70.5	5.8	6.3	47	84
10	7.98	7.75	316	181	255	73	61	108	114.6	64.1	6.8	3.4	47	88
11	8.01	8.24	321	174	256	63	65	111	100.2	44.9	17.5	14.6	44	80
12	8.09	7.68	318	177	250	57	68	120	101.0	46.5	16.0	14.6	49	81
13	7.94	7.69	320	165	245	46	75	119	105.8	44.1	14.1	13.1	47	87
14	7.80	7.52	321	172	252	58	69	114	115.4	56.9	7.8	6.8	48	88
15	7.96	7.64	323	173	258	48	65	125	105.8	48.9	14.1	13.1	45	91
16	7.94	7.47	324	172	257	44	67	128	117.8	58.5	6.8	6.8	47	88
17	7.82	7.95	320	174	252	54	68	120	119.4	58.5	4.9	5.3	46	89
18	8.02	7.72	322	185	258	69	64	116	104.2	55.3	15.1	11.2	48	83
19	8.03	7.62	321	184	255	59	66	125	102.6	54.5	16.0	11.7	48	86
20	7.89	7.59	321	184	255	67	66	117	116.2	64.9	7.8	4.9	49	91
21	7.86	7.79	324	183	257	72	67	111	105.0	51.3	15.1	13.1	50	83
22	7.59	7.42	325	193	262	81	63	112	116.2	68.9	8.3	4.9	49	84
23	7.70	7.44	344	186	256	78	88	108	112.2	59.3	15.6	9.2	52	87
24	7.91	7.51	327	187	259	72	68	115	101.0	48.1	18.5	16.0	48	85
25	7.93	7.71	326	188	260	75	66	113	100.2	50.5	18.5	14.6	47	85
26	7.95	7.82	328	194	259	71	69	123	105.8	54.5	15.6	13.6	51	88
27	7.77	7.99	332	191	266	68	66	123	111.4	60.1	13.1	9.2	51	89
28	7.99	7.98	334	188	264	76	70	112	107.4	51.3	16.0	14.6	48	85
29	7.80	7.83	334	196	268	76	66	120	106.6	57.7		12.6	55	86
30	7.84	7.78	331	193	272	78	59	115	113.0	59.3	13.1	10.7	55	90
31	7.96	7.91	335	197	267	69	68	128	108.2	56.1	15.6	13.6	51	92

Avg.	7.95	7.74	324	189	258	73	66	116	109.9	58.5	12.0	10.2	48	86
Max.	8.31	8.24	344	218	272	98	88	128	121.0	77	18.5	16.0	55	92
Min.	7.59	7.31	311	165	245	44	56	97	100.2	44.1	2.9	3.4	43	78

Date	Total Coliform						Standard Plate Count (Simplate MPN)		Conductivity (mS)	Temp. C	Color		Odor	
	Raw (Colilert MPN)		Filter Confluence (N&S)		Plant Tap									
	# Samples	Count	# Samples	# pos	# Samples	# pos	Raw	Tap	Tap	Raw	Raw	Tap	Raw	Tap
1	1	2592	12	0	1	0	800	< 2	0.37	5.6				
2	1	1684	12	0	1	0	600	< 2	0.36	4.5				
3	1	960	12	0	1	0	2400	< 2	0.42	4.0				
4	1	718	12	0	1	0	200	< 2	0.44	3.8				
5	1	1732	12	0	1	0	5980	< 2	0.41	3.0				
6	1	874	12	0	1	0	200	< 2	0.41	4.5				
7	1	2086	12	0	1	0	200	< 2	0.39	4.2				
8	1	960	12	0	1	0	120	< 2	0.39	5.5				
9	1	1146	12	0	1	0	420	< 2	0.40	2.6				
10	1	2994	12	0	1	0	760	38	0.31	2.6				
11	1	978	12	0	1	0	520	10	0.36	2.1				
12	1	1042	12	0	1	0	600	< 2	0.36	1.9				
13	1	862	12	0	1	0	340	< 2	0.37	1.4				
14	1	646	12	0	1	0	200	< 2	0.36	1.9				
15	1	736	12	0	1	0	300	< 2	0.36	3.5				
16	1	2224	12	0	1	0	200	< 2	0.37	1.9				
17	1	320	12	0	1	0	200	< 2	0.36	4.9				
18	1	40	12	0	1	0	200	2	0.38	4.9				
19	1	148	12	0	1	0	120	< 2	0.40	5.2				
20	1	770	12	0	1	0	146	< 2	0.38	4.9				
21	1	148	12	0	1	0	80	< 2	0.37	5.9				
22	1	201	12	0	1	0	190	< 2	0.39	5.8				
23	1	345	12	0	1	0	120	< 2		4.9				
24	1	97	12	0	1	0	150	< 2	0.38	6.4				
25	1	146	12	0	1	0	60	< 2	0.39	4.4				
26	1	181	12	0	1	0	230	< 2	0.40	3.8				
27	1	146	12	0	1	0	120	< 2	0.38	4.9				
28	1		12	0	1	0	128	< 2	0.38	4.3				
29	1		12	0	1	0	137	< 2	0.49	4.2				
30	1		12	0	1	0	93	< 2	0.43	4.0				
31	1		12	0	1	0	60	< 2	0.53	4.0				

WSSN: 2310

Date	Free Chlorine Residual at Bacteriological Monitoring Stations mg/l										
	1	2	3	4	5	6	7	8	CS	WS	Number of Samples
1	0.7	0.1	1.3	1.6	0.7	0.2	0.2		1.5	1.4	9
2											0
3											0
4											0
5											0
6	0.6	0.7	1.5	2.0	0.8	0.1	1.4	1.8	1.8	1.8	10
7	0.6	0.7	1.7	1.5	0.7	0.2	1.1	2.0	0.8	1.7	10
8	0.8	0.3	1.0	1.3	0.8	0.1	1.4	1.8	0.8	1.7	10
9											0
10											0
11											0
12											0
13	0.4	1.0	1.7	1.4	0.7	0.2	1.4	1.7	0.4	1.7	10
14	0.2	0.5	1.8	1.6	0.5	0.1	2.1	2.2	0.4	2.0	10
15											0
16											0
17											0
18											0
19											0
20	0.1	1.6	1.7	1.4	0.9	0.3	1.9	2.0	1.3	1.8	10
21											0
22											0
23											0
24											0
25											0
26									1.6	1.8	2
27	0.9	1.3	1.2	1.7	0.7	0.2	1.3	1.8	1.4	0.8	10
28	0.8	0.5	1.4	1.5	0.8	0.2	1.8	1.8	1.5	1.8	10
29	0.9	1.7	1.6	1.7	1.0	0.1	2.0	1.9	0.9	2.0	10
30											0
31											0

Distribution Sample Summary

Total # of routine distribution samples analyzed	101
Total # of routine distribution samples required	100

Distribution Bacteriological Summary

Total # of positive routine distribution samples	0
Percent of routine distribution samples positive	0%

See page 9 for positive sample information.

Distribution Disinfectant Total Residual Summary

Percentage of samples with a detectable disinfectant residual	100%
Average disinfectant residual this month	1.15

WSSN: 2310

Date	Total Chlorine Residual at Bacteriological Monitoring Stations mg/l										
	1	2	3	4	5	6	7	8	CS	WS	Number of Samples
1	0.8	0.2	1.5	1.8	0.9	0.3	0.3		1.7	1.5	9
2											0
3											0
4											0
5											0
6	0.9	0.9	1.4	2.3	1.0	0.2	1.6	2.1	2.2	2.1	10
7	0.8	0.9	1.9	1.8	1.0	0.2	1.3	2.2	1.0	2.0	10
8	1.0	0.5	1.2	1.5	1.1	0.3	1.6	2.0	1.0	2.0	10
9											0
10											0
11											0
12											0
13	0.7	1.5	2.0	1.7	0.9	0.2	1.7	2.3	0.6	2.1	10
14	0.4	1.8	2.1	1.8	0.8	0.3	2.4	2.5	0.5	2.3	10
15											0
16											0
17											0
18											0
19											0
20	0.3	1.9	2.0	1.6	1.2	0.6	2.2	2.3	1.5	2.2	10
21											0
22											0
23											0
24											0
25											0
26									1.9	2.2	2
27	1.3	1.9	1.7	2.1	0.9	0.4	1.7	2.0	1.8	1.0	10
28	1.2	0.8	1.7	1.8	1.2	0.4	2.1	2.3	1.9	2.2	10
29	1.2	2.0	1.9	1.9	1.3	0.2	2.3	2.3	1.1	2.3	10
30											0
31											0

Distribution Disinfectant Total Residual Summary

Percent samples with a detectable disinfectant residual 100%

Average disinfectant residual this month 1.4

Positive Distribution Samples

[illegible]

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, January 27, 2015 10:00 AM
To: Elliott, Larry F.
Cc: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Wurfel, Brad (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ)
Subject: RE: ABC12 News Flint water test results comment?

Larry,

We are willing to review the TTHM results of all samples collected within the Flint water system for a limited assessment of the data. Please include the following information with the sample results:

1. Sampling location /time – was Flint's Stage 2 DDBP monitoring plan sites used?
2. Who collected the samples? Did city certified operators collect the samples or oversee the sample collection?
3. Sampling protocol (method)
4. Certified lab used
5. Lab method used & proper sampling unit

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

From: Elliott, Larry F. [<mailto:larry.f.elliott@abc12.com>]
Sent: Tuesday, January 27, 2015 7:48 AM
To: Prysby, Mike (DEQ)
Subject: ABC12 News Flint water test results comment?

Mike,
 We have just completed our own independent testing of multiple sites within the Flint water system and wonder if you'd be willing to look them over and give us your professional opinion.
 I could email you the reports from the testing lab we used.
 Larry Elliott
 ABC12 News
 (810)257-2805 office
 (810)877-5378 cell

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, January 20, 2015 1:17 PM
To: Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Subject: FW: news interest in THM

FYI. See below.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Benzie, Richard (DEQ)
Sent: Tuesday, January 20, 2015 9:45 AM
To: Shekter Smith, Liane (DEQ); Bloemker, Jon (DEQ)
Cc: London, Bob (DEQ); Krisztian, George (DEQ); Erickson, Susan (DEQ); Busch, Stephen (DEQ); Reinke, Joseph (DEQ); Gotham, Daryl (DEQ); Kaiser, Rebecca (DEQ)
Subject: RE: news interest in THM

Jon,

WMEN may be planning to sample as a follow-up to the Flint media coverage, and it may be just from Flint, but since the station requested 3 TTHM sampling units, you may want to provide a heads-up to Saginaw, Bay City and Midland if you haven't already done so.

I would suggest these water systems even consider issuing some sort of proactive statement or press release that updates their customers and those of their consecutive systems on the status of their DBP monitoring and compliance activities in light of the media coverage that Flint has received. They could mention their sampling regimens, their current LRAAs, their ongoing public notifications as needed, any other compliance activities such as the construction of a new plant with an improved source in Bay City's case, all in an effort to head off any negative news that could be created by someone sampling somewhere in their system and getting high results. They should also alert their consecutive systems so that they may provide a consistent message.

I also want to thank George for the heads up.

Richard

Richard Benzie, P.E., Chief
 Field Operations Section
 Office of Drinking Water and Municipal Assistance, MDEQ
 517-284-6512

From: Shekter Smith, Liane (DEQ)
Sent: Tuesday, January 20, 2015 8:54 AM
To: Busch, Stephen (DEQ); Bloemker, Jon (DEQ); Benzie, Richard (DEQ)
Subject: FW: news interest in THM
Importance: High

FYI

From: Krisztian, George (DEQ)
Sent: Tuesday, January 20, 2015 7:39 AM
To: Erickson, Susan (DEQ); Wurfel, Brad (DEQ)
Cc: Shekter Smith, Liane (DEQ)
Subject: FW: news interest in THM
Importance: High

Sue and Brad,

I do not know if this will amount to anything but I wanted to make sure that you both had a heads up in case it becomes an issue. (Please see the note below)

I do not know what WMEN is investigating. Public water supplies are generally in good shape when it comes to THMs but sometimes things can get spun in a way in which we do not anticipate.

Liane,

I included you so that your staff does not get blindsided. Please forward as you feel appropriate.

Thanks to all!
George

George L. Krisztian
Laboratory Director
Michigan Department of Environmental Quality
(517) 335-8812

From: Smith, Carol (DEQ)
Sent: Friday, January 16, 2015 2:21 PM
To: Pieper, Julia (DEQ); Krisztian, George (DEQ)
Cc: Hayes, Tandem (DEQ); Briseno, Michael (DEQ)
Subject: news interest in THM

Tandem forwarded a call to me today from Gino Vicci from WMEN ? in Saginaw.
He wanted bottles to test for THMs.
I took the information and answered his question about price and payment.
Tandem is entering the order for bottles. 3 sets.
Thought you might want to keep an eye out for those samples.

Carol Smith
MDEQ Laboratory
Organic Unit Manager
517-335-9550
smithc@mi.gov

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, January 20, 2015 1:15 PM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ); Rennaker, Joanne (DEQ)
Subject: tally of Flint calls
Attachments: Calls from Public list.doc

See revised list....

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

Flint TTHM Violation Completed Calls from the Public MFP

- 1/5: Mike P.-Ron Fonger – Flint Journal – Media inquiry
 1/5: Mike P. - Lawrence Reynolds – Mott Children's Health
 1/5: Mike P. - Walter Smith-Randolph – NBC 25 Flint News – Recorded interview
 1/5: Adam R. – Denise – Flint Resident
- 1/6: Mike P. - Arthur Woodston – resident – general questions, invite to res. Mtg
 1/6: Mike P. - Bradley - resident – ok to boil water for baby formula bottle?
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 1/6: Mike P. - Reps. Sheldon Neeley and Phil Phelps – update State Reps for Flint Districts on TTHM issue. Richard Benzie and Sarah Howes participated.
 1/6: Steve B. – Cheryl Wormsman – friend of Flint resident- general questions/concerns
- 1/8: Mike P. – Sandra Wilkes – resident – excessive cost for poor quality, who can force Flint to re-connect to Detroit...
 1/8: Mike P – Arthur Woodston (2nd call). Recc. Not to drink water from doc...where do I go?
- 1/9: Mike P – Patricia Warner – Gen. info...excessive cost/poor WQ, better comm. from city needed
 1/9: Mike P – Jeanette Doll (DTMB) – left message to call me back concerning alt. water for state Bldg.. in Flint. Answer ? pertaining to future TTHM results and PN. Call most likely to ensue on Monday 1/12. **** Completed call w. Jeanette on 1/12 and answered her question pertaining to future TTHM monitoring and how it will pertain to compliance.**
- 1/14: Mike P – Mindy Blasdeed – resident – daughter with skin rash since being on DWSD water, On-going bladder infection – Mindy was at physician office and call was cut short. I will contact Mindy tomorrow to finish our call.
- 1/20: Mike P- Paris Glazer (Assoc. Attorney – LaRose Bosco law firm) – determining validity for Case claim (Fed. Statute claim) for Flint residents. Are there any way(s) to remediate high TTHM levels before KWA? Possible FOIA.....

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Wednesday, January 14, 2015 3:58 PM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ); Rennaker, Joanne (DEQ)
Subject: tally of Flint calls
Attachments: Calls from Public list.doc

See updated list....

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

Flint TTHM Violation Completed Calls from the Public MFP

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- 1/14: Mike P – Mindy Blasdeed – resident – daughter with skin rash since being on DWSD water, On-going bladder infection – Mindy was at physician office and call was cut short. I will contact Mindy tomorrow to finish our call.

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Monday, January 12, 2015 1:19 PM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ); Rennaker, Joanne (DEQ)
Subject: Tally of calls - Flint
Attachments: Calls from Public list.doc

Just a minor revision to the list showing the completed call to Jeanette Doll at DTMB earlier today.

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

Flint TTHM Violation Completed Calls from the Public MFP

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Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Friday, January 09, 2015 1:37 PM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ); Rennaker, Joanne (DEQ)
Subject: tally of Flint calls
Attachments: Calls from Public list.doc

See updated list...

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

Flint TTHM Violation Completed Calls from the Public MFP

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- 1/9: Mike P – Patricia Warner – Gen. info...excessive cost/poor WQ, better comm. from city needed
- 1/9: Mike P – Jeanette Doll (DTMB) – left Jeanette a message to call me back concerning alt. water for state bldg. in Flint. I intend to answer her ? pertaining to future TTHM results and PN. Call most likely to ensue on Monday 1/12.

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Friday, January 09, 2015 1:04 PM
To: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ)
Subject: FW: Facility Notification: Flint State Office Building

Steve,

Appears certain state departments are concerned with Flint's WQ. I will return the call....

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

From: Wolf, Jennifer (DEQ)
Sent: Friday, January 09, 2015 10:42 AM
To: Prysby, Mike (DEQ)
Cc: VanOtteren, Bruce (DNR); Doll, Jeanette (DTMB)
Subject: FW: Facility Notification: Flint State Office Building

Hi Mike!

Are you handling this one? If so are you able to address Jeanette's below?

SGT. JEN WOLF
 MI DEPT. OF ENVIRONMENTAL QUALITY
 MI DEPT. OF NATURAL RESOURCES
 LAW ENFORCEMENT DIVISION
 EMERGENCY MANAGEMENT
 DESK: 517-284-6231
 CELL: 517-719-0028

From: Doll, Jeanette (DTMB)
Sent: Friday, January 09, 2015 7:33 AM
To: VanOtteren, Bruce (DNR); Wolf, Jennifer (DEQ)
Subject: FW: Facility Notification: Flint State Office Building

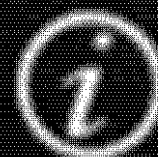
Good morning!

My phone call was referencing the advisory our Real Estate Division received from the City of Flint. Just wanted to know if we would know sooner than March 1 on the TTHM levels.

Jeanette

From: DTMB Facilities [<mailto:dtmb@govsubscriptions.michigan.gov>]
Sent: Wednesday, January 07, 2015 11:49 AM
To: Doll, Jeanette (DTMB)
Subject: Facility Notification: Flint State Office Building

Facility Notification



DTMB Customer Service

(517) 373-6227

Flint Water Advisory

Date/Time:

Effective Wednesday, January 7, 2015

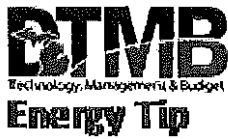
Details:

The City of Flint recently sent out the attached notice regarding violations to the drinking water standards. While the City of Flint states that corrective actions are not necessary, DTMB is in the process of providing a water cooler on each occupied floor, positioned near the water fountain, so you can choose which water to drink. The coolers will arrive today and will be provided as long as the public water does not meet treatment requirements.

- [Flint Water.pdf](#)

Contact:

DTMB Customer Service Center, DTMB-Customerservice@michigan.gov or (517) 373-6227



Since we spend about 40 hours a week at our workplaces, isn't the office the best place to try out some new energy-saving tricks? The Energy Information Administration estimates that if commercial and industrial buildings improved their energy efficiency by 10 percent, our economy could see yearly savings of nearly \$20 billion.

This email was sent to dolli@michigan.gov using GovDelivery, on behalf of DTMB · Lewis Cass Building · 320 South Walnut Street · Lansing, MI 48933 (517) 373-1004

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Thursday, January 08, 2015 3:17 PM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Rosenthal, Adam (DEQ); Rennaker, Joanne (DEQ); Shekter Smith, Liane (DEQ)
Subject: Tally of FLint calls
Attachments: Calls from Public list.doc

see revised list

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

**Flint TTHM Violation
Completed Calls from the Public
MFP**

- 1/5: Mike P.-Ron Fonger – Flint Journal – Media inquiry
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- 1/5: Mike P. - Walter Smith-Randolph – NBC 25 Flint News – Recorded interview
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- 1/6: Steve B. – Cheryl Wormsman – friend of Flint resident- general questions/concerns

- 1/8: Mike P. – Sandra Wilkes – resident – excessive cost for poor quality, who can force Flint to re-connect to Detroit...
- 1/8: Mike P – Arthur Woodston (2nd call). Recc. Not to drink water from doc...where do I go?

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Thursday, January 08, 2015 11:18 AM
To: Busch, Stephen (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ); Rennaker, Joanne (DEQ)
Subject: Tally of Flint calls (updated)
Attachments: Calls from Public list.doc

See updated list (attached).

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

**Flint TTHM Violation
Completed Calls from the Public
MFP**

- 1/5: Mike P.-Ron Fonger – Flint Journal – Media inquiry
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- 1/8: Mike P. – Sandra Wilkes – resident – excessive cost for poor quality, who can force Flint to re-connect to Detroit...

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, January 07, 2015 12:04 PM
To: Rosenthal, Adam (DEQ); Prysby, Mike (DEQ); Rennaker, Joanne (DEQ)
Subject: FW: Tally of Flint calls
Attachments: Calls from Public list.doc

Sorry, I meant to cc you on this.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Busch, Stephen (DEQ)
Sent: Wednesday, January 07, 2015 11:43 AM
To: Shekter Smith, Liane (DEQ) (SHEKTERL@michigan.gov); Richard Benzie P.E. (BENZIER@michigan.gov)
Subject: FW: Tally of Flint calls

FYI. I had Mike put together a list of those who have contacted us and we have responded to regarding the Flint TTHM violation, I have added those Adam and I spoke with too. If you or your staff receive calls this should help to note whether the individual has already been in contact with staff, so share with your staff as appropriate. Hopefully, it will help avoid any mixed messages and can shorten the conversations to any additional concerns or questions the individual may have.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Prysby, Mike (DEQ)
Sent: Wednesday, January 07, 2015 11:30 AM
To: Busch, Stephen (DEQ)
Subject: Tally of Flint calls

Steve,

Attached is a list of the calls from the public that I have taken to avoid duplication of efforts. I will update the list and re-send to you following each additional call received.

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

**Flint TTHM Violation
Completed Calls from the Public
MFP**

1/5: Mike P.-Ron Fonger – Flint Journal – Media inquiry
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Districts on TTHM issue. Richard Benzie and Sarah Howes participated.
1/6: Steve B. – Cheryl Wormsman – friend of Flint resident- general questions/concerns

1/7:

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, December 30, 2014 11:35 AM
To: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ); Benzie, Richard (DEQ)
Cc: Shekter Smith, Liane (DEQ); Wurfel, Brad (DEQ)
Subject: Flint TTHM Notice

A quick "heads-up regarding Flint....

Mr. Duaghtry Johnson from Flint called me today for minor clarification on the TTHM PN of which I assisted him. He also informed me that the city will be mailing out the PN this Saturday. The city will also be giving the press a "heads-up" of the PN on Sunday with an official press release on Monday Jan 5th; thus, we could get a call on Sunday. I expect most calls will be received Mon-Wed of next week. I plan to remain in the office next week (Mon-Wed) to take calls.

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

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Monday, December 29, 2014 11:23 AM
To: Prysby, Mike (DEQ)
Cc: Rosenthal, Adam (DEQ); Benzie, Richard (DEQ)
Subject: Re: TTHM Violation Notification

From what I see it says both section i and ii unless otherwise directed by the department in writing. I'm not sure if the dwac has some write up on this in their database. Ccrs could be different since it is generally used for tier iii notices. They may not be able to include in their bills by the 30 day deadline but could put in newspaper and web followed by the bill later. They will need to reissue every 3 months for a while anyway so they should prepare to mail it out.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

Sent from my iPhone

On Dec 29, 2014, at 11:09 AM, Prysby, Mike (DEQ) <PRYSBYM@michigan.gov> wrote:

Steve,

According to R 325.10403 (3), a (i)

Community water supplies shall provide notice (Tier 2) by using both of the following forms of delivery

- (i) Mail or direct delivery to each customer receiving a bill

As far as I see in the rules Flint needs to send the TTHM PN via direct mail.....and is stated in the Dec. 16th Violation Notice letter.

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

From: Brent Wright [<mailto:bwright@cityofflint.com>]
Sent: Monday, December 29, 2014 10:58 AM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)

Cc: Howard Croft; Daugherty Johnson; Michael Glasgow

Subject: TTHM Violation Notification

Mike, Steve

Concerning the violation notification for TTHM's the city needs clarification on the delivery of notification. In the last violation notification for Total Coliform the City published it in the local paper and posted it on the city website, this satisfied the DEQ requirements. Would this be adequate for the TTHM notification? Thank you for your prompt reply concerning this matter.

--

Brent Wright

Water Plant Supervisor

City of Flint

4500 N. Dort Hwy.

Flint, MI. 48505

Ph: 810.787.6537 ext. 3510

Fx: 810.787.3710

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, December 16, 2014 10:17 AM
To: Datema, Maggie (DEQ); Wurfel, Brad (DEQ)
Cc: Prysby, Mike (DEQ); Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Rosenthal, Adam (DEQ)
Subject: Flint Drinking Water TTHM Standard Violation
Attachments: City of Flint VN - MCL TTHM 12_16_14.pdf

Attached is a copy of the Violation Notice and Public Notice Template being mailed to the City of Flint by the DEQ Office of Drinking Water and Municipal Assistance regarding an exceedance of the Maximum Contaminant Level standard for Total Trihalomethanes at certain locations within the City's drinking water distribution system.

You are being provided an electronic copy of this notice as exceedance of this drinking water standard is expected to generate inquiries from water system customers, news media, and the general public.

Maggie Datema will be informing members of the Michigan legislature.

If you have any questions or would like any additional information, you may contact Michael Prysby, District Engineer, DEQ-ODWMA at 517-290-8817, or you may contact me at the number below.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

December 16, 2014

Mr. Brent Wright, Operation Supervisor
City Of Flint - DPW
Flint Water Plant
4500 North Dort Highway
Flint, MI 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Violation Notice – Maximum Contaminant Level for Total Trihalomethanes
Operational Evaluation – Total Trihalomethanes
4th Quarter 2014 Monitoring Period

The Department of Environmental Quality (DEQ), Office of Drinking Water and Municipal Assistance (ODWMA), records show that the City of Flint is in violation of the Safe Drinking Water Act, 1976 PA 399, as amended (Act 399); R 325.10610, *Maximum contaminant levels (MCL) for disinfection byproducts*, of the 1979 Administrative Code.

In accordance with R.325.10610, *MCLs for disinfection byproducts*, of the 1979 Administrative Code, the MCL for disinfection byproduct total trihalomethanes (TTHM) is 0.080 milligrams per liter (mg/L) as a Locational Running Annual Average (LRAA) at each monitoring location. As listed in the table below, our records show that the City of Flint's highest TTHM locational running annual average (LRAA), based on the last three quarters, ending November 30, 2014, is 0.099 mg/l which exceeds the standard, and that two of the eight sample site locations exceed the standard of 0.080 mg/L.

Further, in accordance with R325.10719I, *Disinfection byproducts: operational evaluation levels*, of the 1979 Administrative Code, when an operational evaluation level (OEL) at a monitoring location for TTHM exceeds 0.080 mg/L, a supply shall conduct an operational evaluation and submit a written report of the evaluation to the department not later than 90 days after being notified of the analytical result that causes the supply to exceed the operational evaluation level. As listed in the table below, our records show that TTHM operational evaluation levels for the City of Flint exceed 0.080 mg/L at four of the City's eight sample site locations.

TTHM Results (mg/L)	5/21/14	8/21/14	11/20/14	LRAA	OEL
DBP1 McDonalds 3719 Davison	0.162	0.145	0.059	0.092	0.106
DBP2 Liquor Palace 3302 S. Dort Highway	0.112	0.127	0.033	0.068	0.076
DBP3 North Flint Auto 6204 N. Saginaw St.	0.097	0.118	0.041	0.064	0.074
DBP4 University Market 2501 Flushing Road	0.106	0.196	0.094	0.099	0.122
DBP5 Taco Bell 3606 Corunna Road	0.079	0.181	0.034	0.074	0.082
DBP6 Rite-Aid Pharmacy 5018 Clio Road	0.088	0.144	0.054	0.072	0.085
DBP7 Salem Housing 3216 MLK Boulevard	0.082	0.112	0.050	0.061	0.074
DBP8 BP Gas Station 822 S. Dort Highway	0.075	0.112	0.036	0.056	0.065

Our investigation consisted of a review of ODWMA files for laboratory reports received for compliance monitoring. Our investigation is considered complete. This violation began on December 1, 2014, and will continue until TTHM LRAA is below the MCL at all sample sites.

We acknowledge and appreciate the city's cooperation with our recommendation to preemptively conduct an Operational Evaluation following the City's second quarterly round of monitoring in August. That Operational Evaluation report has identified possible causes and corrective measures for the elevated TTHM levels which we encourage the City continue implementing. These modifications have likely contributed in part to the reduction in TTHM levels reported in the most recent quarter, and suggest the City may be able to achieve compliance with the TTHM standard.

Our office is continuing to review the Operational Evaluation report that was submitted on December 1, 2014, and will provide the City and their consultant comments as needed to help address this MCL violation.

Water systems that exceed the OEL must complete and submit an Operational Evaluation in accordance with Administrative Rule 719I (R325.10719I) within 90 days of being notified of the violation. **An updated Operational Evaluation report, which incorporates the most recent sample results, must now be completed and received by our office by no later than March 1, 2015.**

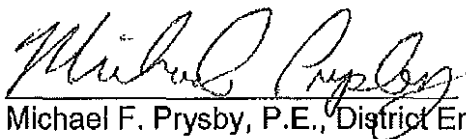
If you have any other factual information you would like us to consider regarding the violation identified in this Violation Notice (VN), please provide them in a written response by January 16, 2015.

Administrative rule R 325.10403 of Act 399 requires that suppliers provide public notice (PN) as soon as practical, but no later than thirty (30) days after the supplier learns of this type of violation, by mail or direct delivery and by any other means reasonably calculated to reach customers not normally reached by mail. Enclosed is a sample PN

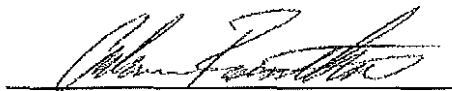
which contains the minimum required language. The City is encouraged to include additional information regarding its response to this violation. **Please notify your consumers by January 10, 2015, and send us a signed and dated copy of the notice that you issued within ten (10) days of distributing the public notice.** This violation must also be included in your 2014 Consumer Confidence Report (CCR), due by July 1, 2015. The PN must be repeated every quarter until you no longer exceed the TTHM standard. Failure to issue a PN for this violation will result in a fine of at least \$1,000 per event, with a maximum of \$5,000 per violation.

We anticipate and appreciate your continued cooperation in resolving this matter. If you have any questions regarding this VN, please contact us at the numbers below.

Sincerely,



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



Adam Rosenthal, EQA
Lansing District Office
Office of Drinking Water & Municipal
Assistance
517-284-6644

mfp/ar/jlr
Enclosure

cc: Mr. Darnell Early, Emergency Manager, City of Flint
Mr. Daughtry Johnson, City of Flint
Mr. Howard Croft, City of Flint
Mr. Robert Bincsik, City of Flint
Ms. Jennifer Crooks, U.S. Environmental Protection Agency, Region 5
Genesee County Health Department
Ms. Liane Shekter Smith, P.E., DEQ
Mr. Richard Benzie, P.E., DEQ
Mr. Stephen Busch, P.E., DEQ

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

City of Flint Did Not Meet Treatment Requirements

Our water system recently violated a drinking water standard. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Samples were collected for total trihalomethanes (TTHM) analysis from eight locations on a quarterly basis (May 21, August 21, and November 20 of 2014). The average of the results at ANY of the eight locations must not exceed the maximum contaminant level (MCL) for TTHMs, otherwise our water system exceeds the Maximum Contaminant Level (MCL). The standard for TTHMs is 80 µg/L. The location reporting the highest TTHM level was 99 µg/L; thus, our water system exceeds the TTHM MCL.

What should I do?

- There is nothing you need to do unless you have a severely compromised immune system, have an infant, or are elderly. These people may be at increased risk and should seek advice about drinking water from their health care providers.
- You do not need to boil your water or take other corrective actions. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What does this mean?

This is not an emergency. If it had been an emergency, you would have been notified within 24 hours.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

What is being done?

We are currently working on solutions to correct the problem. We anticipate resolving the problem by 2015.

For more information, please contact Mr. Brent Wright at 517-787-6537 or the Flint Water Plant at 4500 North Dort Highway, Flint, MI 48505.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the City of Flint.

CERTIFICATION:

WSSN: 02310

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature

Title

Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.

Rennaker, Joanne (DEQ)

From: Michael Glasgow <mglasgow@cityofflint.com>
Sent: Thursday, November 13, 2014 7:33 AM
To: Rosenthal, Adam (DEQ)
Subject: Monthly Bromate Testing
Attachments: October 2014 Bromate Results.pdf

Adam,

Good morning, here is a copy of our October 2014 bromate test results.

Mike Glasgow
City of Flint Water Plant


NSF International

789 N. Dixboro Rd. Ann Arbor, MI 48105, USA
 1-800.NSF.MARK | +1-734.769.8010 | www.nsf.org

TEST REPORT

Send To: C0211289

Mr. Michael Glasgow
 City of Flint, Municipality
 1101 South Saginaw Street
 Flint, MI 48502

Facility: C0211290

City of Flint Water Plant
 4500 North Dort Highway
 Flint MI 48505
 United States

Result	COMPLETE	Report Date	06-NOV-2014
Customer Name	City of Flint, Municipality		
Tested To	USFDA CFR Title 21 Part 165.110		
Description	Municipal Water		
Test Type	Test only		
Job Number	J-00148749		
Project Number	9841598 (CL02)		
Project Manager	Anna Ciechanowski		

Thank you for having your product tested by NSF International.

Please contact your Project Manager if you have any questions or concerns pertaining to this report.

Report Authorization Kerri Levanseler

Kerri Levanseler - Director, Chemistry Laboratory

Date 06-NOV-2014

**General Information**

Standard: USFDA CFR Title 21 Part 165.110
Date and Time Sampled: 10/31/2014 08:34 EDT
Product Description: Municipal Water
Test Description: Bromate - October

Sample Id: S-0001096447
Description: Municipal Water - 10/31/2014 08:34 EDT
Sampled Date: 10/31/2014
Received Date: 11/05/2014

Testing Parameter	Reporting Limit	Result	FDA SOQ	Units	P / F
Disinfection Residuals/Disinfection By-Products					
Bromate	5	10	10	ug/L	Pass



<<Additional Information>>

Sample Id: S-0001096447

Test Parameter	Date Analyzed	Time Analyzed	Date Prepared/ Processed
Disinfection Residuals/Disinfection By-Products			
Bromate (Ref: EPA 300.1)	5-NOV-2014		


Testing Laboratories:

Flag	Id	Address
All work performed at: (Unless otherwise specified)	NSF_AA	NSF International 789 N. Dixboro Road Ann Arbor MI 48105

References to Testing Procedures:

NSF Reference	Parameter / Test Description
C3015	Bromate (Ref: EPA 300.1)

Certifications:

Arizona (# AZ0655)	California (# 03214 CA)	Connecticut (# PH-0625)
Florida (# E-87752 FL)	Hawaii	Indiana
Maryland (# 201)	Michigan (# 0048)	North Carolina (# 26701)
New Jersey (# MI770)	Nevada (# MI000302010A)	New York (# 11206)
Pennsylvania (# 68-00312)	South Carolina (# 81005)	Virginia (# 00045)
Vermont (# VT 11206)		

Test descriptions preceded by an asterisk "*" indicate that testing has been performed per NSF International requirements but is not within its scope of accreditation.

The reported result for Odor, Phenolics, Potassium, Specific Conductance and Total Residual Chlorine cannot be used for compliance purposes within the State of Arizona.

Notes:

- 1) Bottled water sold in the United States shall not contain Fluoride in excess of the levels published by the USFDA in 21 CFR Part 165.110. These levels are based on the annual average of maximum daily air temperatures at the location where the bottled water is sold at retail. Please refer to the most current edition of the regulation to determine the Fluoride maximum level that pertains to your product.
- 2) A blank on the FDA SOQ column indicates that no maximum level has been established by the FDA for that contaminant.
- 3) An ND result means that the contaminant was not detected at or above the detection limit for the instrument.

For a list of NSF International Method Detection Limits refer to
http://www.nsf.org/media/enews/documents/minimum_detection_level_spreadsheet.pdf.

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, November 07, 2014 10:02 AM
To: Rosenthal, Adam (DEQ)
Subject: Flint tthm lab results

Adam can you email me the PDFs of flint results from may 21 and August 21. Thanks. I need the full results that break down all compounds not just the total

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance MDEQ
517-643-2314

Sent from my iPhone

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Monday, October 27, 2014 10:03 AM
To: Rosenthal, Adam (DEQ)
Subject: FW: Final Report 196895
Attachments: Final Report 196895.pdf

These are the TTHM/HAA5 results that Flint needs.....

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

From: Elizabeth Pangborn [<mailto:elizabethp@paragonlaboratories.com>]
Sent: Monday, October 27, 2014 9:20 AM
To: Steve Guy
Cc: Prysby, Mike (DEQ)
Subject: Final Report 196895

Good Morning,

Attached is a final report for the samples received on October 16th, 2014.

Please contact me with any questions regarding the results.

--

Sincerely,
Elizabeth Pangborn
Account Coordinator

Paragon Laboratories, Inc.
12649 Richfield Ct.
Livonia, MI 48150

Phone: 734.469.5619 (direct)
Main: 734.462.3900 x 5613
Fax: 734.462.3911
www.paragonlaboratories.com

This transmission may contain information that is privileged, confidential, and exempt from disclosure. It is intended for the use only by the person to whom it is addressed. If you have received this in error, please (1) do not forward or use this information in any way, and (2) contact me immediately.

October 27, 2014

Steve Guy
Fenton WTP
301 S. Leroy Street
Fenton, MI 48430

RE: Workorder: 196895

Dear Steve Guy:

Paragon Laboratories, Inc. received the samples associated with the workorder listed above for the analyses presented in the following report. The analyses pertain only to the aliquot of sample received.

This material is confidential and is intended solely for the person to whom it is addressed. If this is received in error, please contact the number below.

Please note that any unused portion of the sample(s) will be discarded 60 days after sample receipt, unless requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact an Account Coordinator at (734) 462-3900.

Sincerely,



Elizabeth Pangborn
elizabethp@paragonlaboratories.com
Account Coordinator

Report Narrative

General Comments:

Samples were received chilled on with an average temperature of 21°C on October 16, 2014.

All VOA vials contained zero head-space.

SAMPLE SUMMARY

Workorder: 196895 FENTON WTP-101614

Lab ID	Sample ID	Sample Description	Matrix	Date Collected	Date Received	Collector
1968950001	200 N. ALLOY DR.	WSSN MI0002270	Drinking	10/16/2014 08:45	10/16/2014 14:56	Tom Wright
1968950002	301 S. LEROY ST.	WSSN MI0002270	Drinking	10/16/2014 09:36	10/16/2014 14:56	Tom Wright
1968950003	1161 STATE RD.	WSSN MI0002270	Drinking	10/16/2014 09:12	10/16/2014 14:56	Tom Wright
1968950004	1032 N. LEROY ST.	WSSN MI0002270	Drinking	10/16/2014 10:40	10/16/2014 14:56	Tom Wright

ANALYTICAL RESULTS

Workorder: 196895 FENTON WTP-101614

Lab ID: 1968950001	Date Collected: 10/16/2014 08:45	Matrix: Drinking Water (Potable)
Sample ID: 200 N. ALLOY DR.	Date Received: 10/16/2014 14:56	
Sample Desc: WSSN MI0002270	PO:	

Parameters	Qualifier	Result Units	Dilution Factor	Reporting Limit	Result Min	Qualifier Max	Analyzed	By
Haloacetic Acids (HAAs)								
Analytical Method: EPA 552.3								
Bromoacetic acid (MBAA)		<1.0 µg/L	1	1.0			10/21/2014 21:16	GFM
Chloroacetic acid (MCAA)		<2.0 µg/L	1	2.0			10/21/2014 21:16	GFM
Dibromoacetic acid (DBAA)		2.1 µg/L	1	1.0			10/21/2014 21:16	GFM
Dichloroacetic acid (DCAA)		<1.0 µg/L	1	1.0			10/21/2014 21:16	GFM
Trichloroacetic acid (TCAA)		<1.0 µg/L	1	1.0			10/21/2014 21:16	GFM
Haloacetic Acids, Total (HAA5)		2.1 µg/L	1	1.0		60	10/21/2014 21:16	GFM

Sample Preparation

Analytical Method: EPA 552.3

Liquid-Liquid Extraction, HAAs	Complete	1		10/21/2014 14:27	SAZ
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Volatiles

Analytical Method: EPA 524.2

Bromodichloromethane	3.0 µg/L	1	0.50		10/24/2014 18:58	DTM	
Bromoform	5.3 µg/L	1	0.50		10/24/2014 18:58	DTM	
Chloroform	1.2 µg/L	1	0.50		10/24/2014 18:58	DTM	
Dibromochloromethane	4.9 µg/L	1	0.50		10/24/2014 18:58	DTM	
Trihalomethanes, Total (TTHM)	14 µg/L	1	0.50		80	10/24/2014 18:58	DTM

ANALYTICAL RESULTS

Workorder: 196895 FENTON WTP-101614

Lab ID: 1968950002	Date Collected: 10/16/2014 09:36	Matrix: Drinking Water (Potable)
Sample ID: 301 S. LEROY ST.	Date Received: 10/16/2014 14:56	
Sample Desc: WSSN MI0002270	PO:	

Parameters	Qualifier	Result Units	Dilution Factor	Reporting Limit	Result Min	Qualifier Max	Analyzed	By
Haloacetic Acids (HAAs)								
Analytical Method: EPA 552.3								
Bromoacetic acid (MBAA)		<1.0 µg/L	1	1.0			10/21/2014 21:57	GFM
Chloroacetic acid (MCAA)		<2.0 µg/L	1	2.0			10/21/2014 21:57	GFM
Dibromoacetic acid (DBAA)		3.3 µg/L	1	1.0			10/21/2014 21:57	GFM
Dichloroacetic acid (DCAA)		<1.0 µg/L	1	1.0			10/21/2014 21:57	GFM
Trichloroacetic acid (TCAA)		<1.0 µg/L	1	1.0			10/21/2014 21:57	GFM
Haloacetic Acids, Total (HAA5)		3.3 µg/L	1	1.0		60	10/21/2014 21:57	GFM

Sample Preparation

Analytical Method: EPA 552.3

Liquid-Liquid Extraction, HAAs	Complete	1	10/21/2014 14:27	SAZ
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Volatiles

Analytical Method: EPA 524.2

Bromodichloromethane	4.8 µg/L	1	0.50	10/24/2014 19:26	DTM	
Bromoform	12 µg/L	1	0.50	10/24/2014 19:26	DTM	
Chloroform	1.8 µg/L	1	0.50	10/24/2014 19:26	DTM	
Dibromochloromethane	9.6 µg/L	1	0.50	10/24/2014 19:26	DTM	
Trihalomethanes, Total (TTHM)	28 µg/L	1	0.50	80	10/24/2014 19:26	DTM

ANALYTICAL RESULTS

Workorder: 196895 FENTON WTP-101614

Lab ID: 1968950003 Date Collected: 10/16/2014 09:12 Matrix: Drinking Water (Potable)
 Sample ID: 1161 STATE RD. Date Received: 10/16/2014 14:56
 Sample Desc: WSSN MI0002270 PO:

Parameters	Qualifier	Result Units	Dilution Factor	Reporting Limit	Result Qualifier Min Max	Analyzed	By
Haloacetic Acids (HAAs)							
Analytical Method: EPA 552.3							
Bromoacetic acid (MBAA)		<1.0 µg/L	1	1.0		10/21/2014 22:37	GFM
Chloroacetic acid (MCAA)		<2.0 µg/L	1	2.0		10/21/2014 22:37	GFM
Dibromoacetic acid (DBAA)		4.2 µg/L	1	1.0		10/21/2014 22:37	GFM
Dichloroacetic acid (DCAA)		<1.0 µg/L	1	1.0		10/21/2014 22:37	GFM
Trichloroacetic acid (TCAA)		<1.0 µg/L	1	1.0		10/21/2014 22:37	GFM
Haloacetic Acids, Total (HAA5)		4.2 µg/L	1	1.0	60	10/21/2014 22:37	GFM
Sample Preparation							
Analytical Method: EPA 552.3							
Liquid-Liquid Extraction, HAAs		Complete	1			10/21/2014 14:27	SAZ
Volatiles							
Analytical Method: EPA 524.2							
Bromodichloromethane		5.3 µg/L	1	0.50		10/24/2014 19:55	DTM
Bromoform		16 µg/L	1	0.50		10/24/2014 19:55	DTM
Chloroform		1.7 µg/L	1	0.50		10/24/2014 19:55	DTM
Dibromochloromethane		12 µg/L	1	0.50		10/24/2014 19:55	DTM
Trihalomethanes, Total (TTHM)		35 µg/L	1	0.50	80	10/24/2014 19:55	DTM

ANALYTICAL RESULTS

Workorder: 196895 FENTON WTP-101614

Lab ID: 1968950004

Date Collected: 10/16/2014 10:40

Matrix: Drinking Water
(Potable)

Sample ID: 1032 N. LEROY ST.

Date Received: 10/16/2014 14:56

Sample Desc: WSSN MI0002270

PO:

Parameters	Qualifier	Result Units	Dilution Factor	Reporting Limit	Result Qualifier Min Max	Analyzed	By
Haloacetic Acids (HAAs)							
Analytical Method: EPA 552.3							
Bromoacetic acid (MBAA)		<1.0 µg/L	1	1.0		10/21/2014 23:18	GFM
Chloroacetic acid (MCAA)		<2.0 µg/L	1	2.0		10/21/2014 23:18	GFM
Dibromoacetic acid (DBAA)		1.9 µg/L	1	1.0		10/21/2014 23:18	GFM
Dichloroacetic acid (DCAA)		<1.0 µg/L	1	1.0		10/21/2014 23:18	GFM
Trichloroacetic acid (TCAA)		<1.0 µg/L	1	1.0		10/21/2014 23:18	GFM
Haloacetic Acids, Total (HAA5)		1.9 µg/L	1	1.0	60	10/21/2014 23:18	GFM

Sample Preparation

Analytical Method: EPA 552.3

Liquid-Liquid Extraction, HAAs Complete 1 10/21/2014 14:27 SAZ

Volatiles

Analytical Method: EPA 524.2

Bromodichloromethane	3.2 µg/L	1	0.50		10/24/2014 20:23	DTM
Bromoform	4.8 µg/L	1	0.50		10/24/2014 20:23	DTM
Chloroform	1.2 µg/L	1	0.50		10/24/2014 20:23	DTM
Dibromochloromethane	5.0 µg/L	1	0.50		10/24/2014 20:23	DTM
Trihalomethanes, Total (TTHM)	14 µg/L	1	0.50	80	10/24/2014 20:23	DTM

Rennaker, Joanne (DEQ)

From: Michael Glasgow <mglasgow@cityofflint.com>
Sent: Tuesday, October 14, 2014 7:54 AM
To: Rosenthal, Adam (DEQ)
Subject: Radiological Testing Results
Attachments: Diquat & Endothall 2014.pdf; September 2014 Radiological testing results.pdf

Adam,

Good morning, attached below are the results from our 3rd quarter radiological testing, and the yearly Diquat & Endothall testing for the City of Flint Water Plant.

Mike Glasgow
City of Flint Water Plant

**NSF International**789 N. Dixboro Rd. Ann Arbor, MI 48105, USA
1-800.NSF.MARK | +1-734.769.8010 | www.nsf.org

TEST REPORT

Send To: C0211289Mr. Michael Glasgow
City of Flint, Municipality
1101 South Saginaw Street
Flint, MI 48502**Facility: C0211290**City of Flint Water Plant
4500 North Dort Highway
Flint MI 48505
United States

Result	COMPLETE	Report Date	08-OCT-2014
Customer Name	City of Flint, Municipality		
Tested To	USFDA CFR Title 21 Part 165.110		
Description	Municipal Water		
Test Type	Test only		
Job Number	J-00148744		
Project Number	9841598 (CL05)		
Project Manager	Anna Ciechanowski		

Thank you for having your product tested by NSF International.

Please contact your Project Manager if you have any questions or concerns pertaining to this report.

Report Authorization Kerri Levanseler
Kerri Levanseler - Director, Chemistry Laboratory

Date 08-OCT-2014

**General Information**

Standard: USFDA CFR Title 21 Part 165.110
Date and Time Sampled: 9/24/2014 09:00 EDT
Product Description: Municipal Water
Test Description: Endothall & Diquat

Sample Id: S-0001081431
Description: Municipal Water - 9/24/2014 09:00 EDT
Sampled Date: 09/24/2014
Received Date: 09/25/2014

Testing Parameter	Reporting Limit	Result	FDA SOQ	Units	P / F
Organic Chemicals					
Diquat (Ref: EPA 549.2)					
Diquat	0.4	ND	20	ug/L	Pass
Endothall (Ref. EPA 548.1) - (ug/L)					
Endothall	9	ND	100	ug/L	Pass



<<Additional Information>>

Sample Id: S-0001081431

Test Parameter	Date Analyzed	Time Analyzed	Date Prepared/ Processed
Organic Chemicals			
Diquat (Ref: EPA 549.2)	1-OCT-2014		30-SEP-2014
Endothall (Ref. EPA 548.1) - (ug/L)	30-SEP-2014		30-SEP-2014


Testing Laboratories:

Flag	Id	Address
All work performed at: (Unless otherwise specified)	NSF_AA	NSF International 789 N. Dixboro Road Ann Arbor MI 48105

References to Testing Procedures:

NSF Reference	Parameter / Test Description
C4145	Diquat (Ref: EPA 549.2)
C4154	Endothall (Ref: EPA 548.1) - (ug/L)

Certifications:

Michigan (# 0048)	Florida (# E-87752 FL)	California (# 03214 CA)
New York (# 11206)	Connecticut (# PH-0625)	New Jersey (# MI770)
South Carolina (# 81005)	Pennsylvania (# 68-00312)	Hawaii
Indiana	Maryland (# 201)	Nevada (# MI000302010A)
Virginia (# 00045)	Vermont (# VT 11206)	North Carolina (# 26701)
Arizona (# AZ0655)		

Test descriptions preceded by an asterisk "*" indicate that testing has been performed per NSF International requirements but is not within its scope of accreditation.

The reported result for Odor, Phenolics, Potassium, Specific Conductance and Total Residual Chlorine cannot be used for compliance purposes within the State of Arizona.

Notes:

- 1) Bottled water sold in the United States shall not contain Fluoride in excess of the levels published by the USFDA in 21 CFR Part 165.110. These levels are based on the annual average of maximum daily air temperatures at the location where the bottled water is sold at retail. Please refer to the most current edition of the regulation to determine the Fluoride maximum level that pertains to your product.
- 2) A blank on the FDA SOQ column indicates that no maximum level has been established by the FDA for that contaminant.
- 3) An ND result means that the contaminant was not detected at or above the detection limit for the instrument.

For a list of NSF International Method Detection Limits refer to
http://www.nsf.org/media/eneews/documents/minimum_detection_level_spreadsheet.pdf.

**NSF International**

789 N. Dixboro Rd. Ann Arbor, MI 48105, USA
 1-800.NSF.MARK | +1-734.769.8010 | www.nsf.org

TEST REPORT

Send To: C0211289

Mr. Michael Glasgow
 City of Flint, Municipality
 1101 South Saginaw Street
 Flint, MI 48502

Facility: C0211290

City of Flint Water Plant
 4500 North Dort Highway
 Flint MI 48505
 United States

Result	COMPLETE	Report Date	07-OCT-2014
Customer Name	City of Flint, Municipality		
Tested To	EPA_DWR		
Description	Qtr 3 - Water Sample		
Test Type	Test only		
Job Number	J-00142264		
Project Number	9329404 (CL02)		
Project Manager	Anna Ciechanowski		

Thank you for having your product tested by NSF International.

Please contact your Project Manager if you have any questions or concerns pertaining to this report.

Report Authorization

Kerri Levanseler - Director, Chemistry Laboratory

Date 07-OCT-2014

**General Information**

Standard: EPA_DWR

Date and Time Sampled: 9/18/2014 08:15 EDT

Product Description: Qtr 3 - Water Sample

Sample Id: S-0001079911

Description: Qtr 3 - Water Sample - 9/18/2014 08:15 EDT

Sampled Date: 09/18/2014

Received Date: 09/19/2014

Testing Parameter	Reporting Limit	Result	Units
Radiologicals			
Radium-226	1	ND	pCi/L
Radium-226, Radium-228 Combined	1	ND	pCi/L
Radium-228	1	ND	pCi/L
P1 Gross Alpha	3	ND	pCi/L
P1 Gross Beta	4	ND	pCi/L



<<Additional Information>>

Sample Id: S-0001079911

Test Parameter	Date Analyzed	Time Analyzed	Date Prepared/ Processed
Radiologicals			
Total Radium-226, Radium-228 Combined Activity	3-OCT-2014		
Gross Alpha and Beta Radioactivity in Drinking Water (Ref: EPA 900.0)	26-SEP-2014		


Testing Laboratories:

	Flag	Id	Address
All work performed at: (Unless otherwise specified)	→	NSF_AA	NSF International 789 N. Dixboro Road Ann Arbor MI 48105

References to Testing Procedures:

NSF Reference	Parameter / Test Description
C0842	Gross Alpha and Beta Radioactivity in Drinking Water (Ref: EPA 900.0)
C0980	Total Radium-226, Radium-228 Combined Activity

Certifications:

Michigan (# 0048)	Florida (# E-87752 FL)	California (# 03214 CA)
New York (# 11206)	Connecticut (# PH-0625)	New Jersey (# MI770)
South Carolina (# 81005)	Pennsylvania (# 68-00312)	Hawaii
Indiana	Maryland (# 201)	Nevada (# MI000302010A)
Virginia (# 00045)	Vermont (# VT 11206)	North Carolina (# 26701)
Arizona (# AZ0655)		

Test descriptions preceded by an asterisk "*" indicate that testing has been performed per NSF International requirements but is not within its scope of accreditation.

The reported result for Odor, Phenolics, Potassium, Specific Conductance and Total Residual Chlorine cannot be used for compliance purposes within the State of Arizona.

Notes: An ND result means that the contaminant was not detected at or above the detection limit for the instrument.

For a list of NSF International Method Detection Limits refer to
http://www.nsf.org/media/eneews/documents/minimum_detection_level_spreadsheet.pdf.

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, October 07, 2014 7:37 AM
To: Rosenthal, Adam (DEQ)
Cc: Busch, Stephen (DEQ)
Subject: RE: Flint MCL VN

Adam,

Cc Mr. Daugherty Johnson (City of Flint), Howard Kroft (City of Flint) and Robert Bincsik (City of Flint)

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

From: Rosenthal, Adam (DEQ)
Sent: Monday, October 06, 2014 3:23 PM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Subject: Flint MCL VN

Attached is the VN for edit/review. Wasn't sure who needed to be CC'd, so let me know.

Adam

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, September 10, 2014 10:43 AM
To: Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Subject: Draft CC Flint OEL
Attachments: CC-Flint-OEL.docx

See attached draft. Please provide any comments ASAP. Thanks.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Mr. Brent Wright, Operator In Charge
City of Flint WTP

SUBJECT: COMPLIANCE COMMUNICATION
Total Trihalomethane Operational Evaluation Requested

Under the Stage 2 Disinfectants and Disinfection Byproduct Rule the City of Flint has been required to collect samples for the analysis of Total Trihalomethane (TTHM) and Haloacetic Acids (HAA5) at eight sites within the City's water distribution system. The City has completed two quarterly monitoring periods since changing its source water to the Flint River effective April 25, 2014.

Normally an Operational Evaluation Level (OEL) would be calculated in accordance with the Michigan Safe Drinking Water Act (Public Act 399, 1976, as amended) Administrative Rule 7196 (R 325.107196), each quarter once three quarters of results have been obtained and compared with the respective maximum contaminant level (MCL) for TTHM. Normally the calculation would be made as follows:

$$(2 \times \text{current quarter} + \text{sum of 2 previous quarters}) \text{ divided by } 4$$

As the City of Flint currently has only two quarters of data the calculation has been modified as follows:

$$(2 \times \text{current quarter} + \text{previous quarter}) \text{ divided by } 4$$

The resulting OEL for each site is listed in the table below, all results are in parts per billion (ppb):

		TTHM			HAA5	
	5/21/14	8/21/14	Mod. OEL	5/21/14	8/21/14	Mod. OEL
DBP1 McDonalds 3719 Davison	162.4	145.3	113	64	43	38
DBP2 Liquor Palace 822 S. Dort Highway	111.6	112	84	52	40	33
DBP3 North Flint Auto 3302 S. Dort Highway	96.5	127.2	88	48	31	28
DBP4 University Market 3606 Corunna	106.4	181.3	117	55	24	26
DBP5 B&P Gas Station 2501 Flushing	75.1	196.2	117	38	17	18
DBP6 Salem Housing 3216 MLK Boulevard	82.2	112.4	77	41	25	23
DBP7 Kroger 5018 Clio Road	88.2	144.4	94	49	30	27
DBP8 Taco Bell 6204 N. Saginaw	79.2	118.3	79	50	37	31

As shown in the table above, even with this less restrictive modified method, six of the City's eight sites already exceed the OEL limit of 80 ppb for TTHM. The City's the two other sites are both more than 95% of the TTHM OEL limit.

The Maximum Contaminant Level (MCL) for TTHM and HAA5 is based on a locational running annual average for each site, essentially the average at each site over the four previous quarterly monitoring periods. However, with TTHM levels of this magnitude, it is likely the MCL will be exceeded for at least one of these eight sites from just three quarters of monitoring results. For TTHM, four quarters at the MCL of 80 ppb (4 x 80) would provide 320 ppb allowable. As an example, site DBP1 through just two quarterly monitoring periods has a total of 307 ppb (162+145), leaving only 13 ppb over two more quarterly monitoring periods to maintain compliance with the MCL.

Therefore, this office is requesting the City of Flint complete an Operational Evaluation in accordance with Administrative Rule 719I (R325.10179I). The Operational Evaluation Report shall be submitted to this office no later than November 28, 2014. The report shall not be limited in scope and shall include the following:

Examination of Treatment Operational Practices

- Changes in source water quality
- Treatment changes
- Storage tank operations
- Excess storage capacity
- Treatment problems that contribute to TTHM formation

Examination of Distribution Operational Practices

- Storage tank operations
- Excess storage capacity
- Distribution system flushing

The report shall also include steps the City could consider to minimize future exceedances.

Additional guidance on completing the Operational Evaluation Report, including a number of forms that can be used to gather and evaluate water system information is provided in the EPA's Operational Evaluation Guidance Manual. This document is available on the EPA's website at the following link:

http://www.epa.gov/ogwdw/disinfection/stage2/pdfs/draft_guide_stage2_operationalevaluation.pdf

Be advised, failure to submit an Operational Evaluation Report by this deadline is a reporting violation subject to Tier 3 Public Notification.

The OEL is an indicator of operational performance. The water system must take proactive steps to be able to comply with the MCL's for TTHM and HAA5. While it is recognized that removal of Total Organic Carbon (TOC) disinfection byproduct precursors as part of the treatment process has performed above minimum removal requirements under the treatment technique, around 4 parts per million of organic carbon are still present in the treated water and may be leading to additional TTHM formation in the City's distribution system.

While health effects associated with disinfection byproducts contaminants are based on chronic exposure, the City has available alternatives that must be considered to achieve compliance with this drinking water public health standard.

If you have any questions regarding this information, please contact me at the number below.

Sincerely

Michael Prysby, P.E.

CC: Darnell Early
Daughtry Johnson
Howard Croft
Liane Shekter Smith, P.E.
Richard Benzie, P.E.
Stephen Busch, P.E.
Genesee Co. Health Dept.

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, September 09, 2014 10:31 AM
To: Busch, Stephen (DEQ)
Cc: Michael Glasgow; Rosenthal, Adam (DEQ); Brent Wright; Daugherty Johnson; Howard Croft
Subject: Re: September 2014 Boil Water Notice Timeline

It may be worthwhile to see if Wade Trim can run an updated hydraulic model with these valves closed to see what the pressure is in the affected area. I recall the north central area of Flint having marginal pressures (35 to 40 psi) under peak conditions as identified in the reliability study.

Sent from my iPhone

On Sep 9, 2014, at 10:00 AM, "Busch, Stephen (DEQ)" <BUSCHS@michigan.gov> wrote:

Mike,

Thanks for the information.

Given these valve issues, would low pressure conditions less than 35 psi, be present in this portion of the system? If low pressure conditions exist, a cross connection or siphon condition where leaks or breaks are present may be occurring. While longer transmission times may contribute to lower chlorine residual, the presence of coliform bacteria suggests contaminants have entered the system and their regrowth and resurgence could be assisted by the presence of a biofilm, tuberculation on the pipe walls, and/or phosphate coating.

Please continue with your investigation and let us know how the valve repair/replacement goes.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Michael Glasgow [<mailto:mglasgow@cityofflint.com>]
Sent: Tuesday, September 09, 2014 9:47 AM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ); Rosenthal, Adam (DEQ)
Cc: Brent Wright; Daugherty Johnson; Howard Croft
Subject: September 2014 Boil Water Notice Timeline

Gentlemen,

Attached is a timeline of events that led us to the recent boil water notice. It shows all sampling and results from 9/2 thru today.

FYI:

I was just talking with a couple of employee's from the Water Service Center who have been helping us with our investigation of the the distribution system. It seems that they have found

one of the possible causes of our recent issues. A 36" transmission main not far west of the treatment plant had a valve that was closed, and the 24" transmission main that leads west also has a valve that is closed. The 36" valve was opened, however the valve on the 24" is inoperable. With these valves closed, it appears the water leaving the plant has no direct route to the west side of the city (or the West Side Reservoir)

Mike Glasgow
City of Flint Water Plant

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, September 09, 2014 10:00 AM
To: Michael Glasgow; Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Cc: Brent Wright; Daugherty Johnson; Howard Croft
Subject: RE: September 2014 Boil Water Notice Timeline

Mike,

Thanks for the information.

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Please continue with your investigation and let us know how the valve repair/replacement goes.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Michael Glasgow [<mailto:mglasgow@cityofflint.com>]
Sent: Tuesday, September 09, 2014 9:47 AM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ); Rosenthal, Adam (DEQ)
Cc: Brent Wright; Daugherty Johnson; Howard Croft
Subject: September 2014 Boil Water Notice Timeline

Gentlemen,

Attached is a timeline of events that led us to the recent boil water notice. It shows all sampling and results from 9/2 thru today.

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Mike Glasgow
 City of Flint Water Plant

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Monday, September 08, 2014 2:06 PM
To: 'bwright@cityofflint.com'; Michael Glasgow
Cc: Rosenthal, Adam (DEQ)
Subject: Flint BWA

Brent, Michael

When you get a chance, please send us a summary of the bacti sample results starting from last Tuesday from the affected area.....similar to the summary provided to us from the first BWA episode. Thanks

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

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, September 05, 2014 2:47 PM
To: Daugherty Johnson (djohnson@cityofflint.com); Brent Wright (bwright@cityofflint.com); mglasgow@cityofflint.com
Cc: Benzie, Richard (DEQ); Shekter Smith, Liane (DEQ); Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Subject: Flint Site 5 Boil water advisory documents
Attachments: Boil PN TC detected.pdf; Flint-Site5-BWA.pdf

Gentlemen,

Attached are the boil water advisory public notice with all required language and a map of the impacted zone. Please distribute to your media contacts immediately.

Once we have 2 sets of non-detect samples from the impacted area we can discuss lifting the advisory.

You indicated that flushing of the area has already started.

Please ensure the water system is taking investigative steps to identify a possible source

- o Inspect storage facilities
- o Verify pumping and treatment system remains intact and uncontaminated
- o Inspect cross connection accounts in the affected area
- o Survey the area for any unidentified cross connections
- o Review any recent construction or maintenance in the area
- o Check for building permits and with building inspectors for any recent construction in the area
- o Check with fire departments and DPW for any temporary or improper hydrant use
- o Review pumpage and check for breaks, leaks, or an uptick in unaccounted water loss
- o Ensure any vacant properties have had the water service shutoff
- o Review CI residual data, conduct additional CI monitoring, and increase disinfectant residual

I will be in contact with the County Health Department and the MDARD Food and Dairy Division.

You can reach me over the weekend at this number or Mike Prysby at his number.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

LOCALIZED DRINKING WATER WARNING

Coliform bacteria detected in localized area of Flint water system

BOIL YOUR WATER BEFORE USING

Our water system detected the presence of coliform bacteria in the water supply on September 3, 2014. We routinely monitor for the presence of drinking water contaminants. We took routine samples for coliform bacteria during on September 2, 2014 from all sampling locations throughout the city. The location near Flushing Road and Chevrolet Avenue showed the presence of coliform bacteria. We took three repeat samples at this location and at adjacent locations on September 3 and again on September 4, 2014. Two of the three samples on the 3rd showed the presence of total coliform bacteria and three of the three samples collected on the 4th in this same area showed the presence of total coliform bacteria. All other monitoring locations in the City continue to show no presence of Coliform bacteria.

What should I do?

DO NOT DRINK THE WATER WITHOUT BOILING IT FIRST. Bring all water to a boil, let it boil for one minute, and let it cool before using, or use bottled water. Boiled or bottled water should be used for drinking, making ice, brushing teeth, washing dishes, and preparing food. Boiling kills bacteria and other organisms in the water. **Continue using boiled or bottled water until further notice.** This boil notice is limited to the area bordered by Dayton Street (north), DuPont Street (east), Flint River (south), and LaVelle Road to Flint River (west).

If you have a severely compromised immune system, have an infant, are pregnant, or are elderly, you may be at increased risk and should seek advice from your health care providers about drinking this water.

What does this mean?

Total coliform bacteria are generally not harmful themselves. *Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.*

Usually, coliforms are a sign that there could be a problem with the treatment or distribution system (pipes). Whenever we detect coliform bacteria in any sample, we do follow-up testing to see if other bacteria of greater concern, such as fecal coliform or E. coli, are present. We did not find any of these bacteria in our subsequent testing. If we had, we would have notified you immediately. However, we are still finding coliforms in the drinking water.

What happened? What is being done?

We are still detecting coliform bacteria. We will inform you when our sampling shows that no bacteria are detected. We are flushing the system and increasing the chlorine residual within the affected area. We anticipate resolving the problem within the next two to three days. In the meantime, please continue using boiled or bottled water until we notify you otherwise.

If you have questions, you may contact Mr. Brent Wright of the City of Flint at 810-787-6537, bwright@cityofflint.com, 4500 North Dort Highway, Flint MI. 48505 or Daughtry Johnson, Utilities Administrator (810) 766-7135, ext. 2602. General guidelines on ways to lessen the risk of infection by microbes are available from EPA's Safe Drinking Water Hotline at 1-800-426-4791.

CERTIFICATION:

WSSN: [enter Water Supply Serial Number]

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature

Title

Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.

cc: [cc the local health department and the Michigan Department of Agriculture and Rural Development if the boil affects a municipal supply.]

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you as a precautionary measure by the City of Flint.

CERTIFICATION:

WSSN: [enter Water Supply Serial Number]

I certify that this water supply has fully complied with the public notification requirements in the Michigan Safe Drinking Water Act, 1976 PA 399, as amended, and the administrative rules.

Signature

Title

Date Distributed

Reminder to water supplier: This notice / certification must be sent to the DEQ.

cc: [cc the local health department and the Michigan Department of Agriculture and Rural Development if the boil affects a municipal supply.]



Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Wednesday, August 20, 2014 3:28 PM
To: Busch, Stephen (DEQ); Shekter Smith, Liane (DEQ); Benzie, Richard (DEQ); Wurfel, Brad (DEQ); Feuerstein, Heather (DEQ); Willard, Veronica (DEQ); Kinney, Deana (DEQ)
Cc: Rosenthal, Adam (DEQ)
Subject: Flint BWA

Ron Fonger (Flint Journal) contacted me concerning the status of the BWA in the southwest portion of the Flint water distribution system. I informed Mr. Fonger, that the MDEQ is authorizing the city to rescind the BWA based upon the absence of total or fecal coliform bacteria from any of the samples (system-wide set) collected yesterday (Aug 19th) and from the affected area on Monday Aug. 18th. Mr. Fonger asked whether the city or the MDEQ has identified a cause to the contamination. I responded that a direct cause has not been identified. The water utility inspected both reservoirs and noted a one vent screen not totally intact; however, the inside of the reservoir did not appear compromised. The screen was repaired. The water utility is continuing to investigate other potential system anomalies including unprotected cross connections, nearby water distribution system repairs and/or loss of pressure, and un-authorized connections. I concluded that the MDEQ will be providing the city, as soon as possible, a standard notice to rescind the BWA.

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

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, August 19, 2014 10:26 AM
To: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ)
Subject: FW: PRESS RELEASE: Water Advisory Update
Attachments: Water Advisory 8.18.2014.pdf

Here is a copy of the most recent press release from the city concerning the BWA. Although the statement is accurate in that no additional Fecal Coliform sample results were obtained from the affected area; the remaining portion of the first paragraph is poorly worded and doesn't portray the reason for issuing the BWA. The statement defers to an "abnormal test" due to sampling error over the most recent 48 hours as the trigger for the BWA. This is false as the BWA was in effect for over 72 hours at the time of the press release and was issued because of the fecal coliform result and the number of total coliform results obtained from the affected area between the 12th and the 14th. Also, while sampling error could be possible...other potential causes (LOP, mainbreak, Xconn, improper connections, etc.) should have been discussed in the press release.

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

From: Fonger, Ronald [<mailto:RFONGER1@mlive.com>]
Sent: Tuesday, August 19, 2014 9:50 AM
To: Prysby, Mike (DEQ)
Subject: FW: PRESS RELEASE: Water Advisory Update

Mike. Here's the city statement I mentioned.

Ron Fonger
 MLive Media Group
 Reporter

mobile 810.347.9963
 email rfonger1@mlive.com
 address 540 S. Saginaw St. #101, Flint MI 48502

From: Jason Lorenz [<mailto:jlorenz@cityofflint.com>]
Sent: Monday, August 18, 2014 5:52 PM
Subject: PRESS RELEASE: Water Advisory Update

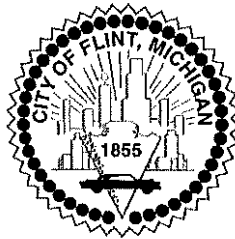
For Immediate Release**City of Flint Boil Water Advisory Still in Effect for Area Affected by Discovery of Abnormal Water Sample**

Flint, Michigan – August 18, 2014 – The City of Flint's Utilities Department has received word today from the Department of Environmental Quality that the boil water advisory issued for a small portion of the city is still in effect although additional testing has shown no signs of E-coli or fecal coliform bacteria in the water. Testing over the last 48 hours has shown that the water tests negative for the presence of fecal coliform bacteria and E-coli, but an abnormal test result triggered the advisory. It is believed that a sampling error is to blame for the abnormal test; however, as a precaution, the advisory will remain in effect until the next citywide sampling has been completed. The next round of routine testing will take place on Tuesday, August 19, 2014 with the possibility that the advisory could be lifted as early as Wednesday, August 20, 2014.

Testing of the drinking water is a part of the routine process for ensuring the quality and safety of the system which happens weekly at nine different sites around the city. Drinking water contamination due to E-coli or coliform bacteria is very rare due to the fact that the bacteria cannot survive in the water for very long. The colder temperature of water in the system coupled with the regular blending of chlorine into the water makes for a hostile environment for these kinds of bacteria. The Flint Water Treatment Plant works diligently to provide water of the highest quality to everyone in the city.

–END–

-Jason Lorenz
Public Information Officer
City of Flint
(810) 237-2039
jlorenz@cityofflint.com



CITY OF FLINT
OFFICE OF EMERGENCY MANAGER
DARNELL EARLEY
ICMA-CM, MPA

Jason Lorenz
Public Information Officer
(810) 237-2039
jlorenz@cityofflint.com

For Immediate Release

**City of Flint Boil Water Advisory Still in Effect for Area Affected by
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Flint, Michigan – August 18, 2014 – The City of Flint's Utilities Department has received word today from the Department of Environmental Quality that the boil water advisory issued for a small portion of the city is still in effect although additional testing has shown no signs of E-coli or fecal coliform bacteria in the water. Testing over the last 48 hours has shown that the water tests negative for the presence of fecal coliform bacteria and E-coli, but an abnormal test result triggered the advisory. It is believed that a sampling error is to blame for the abnormal test; however, as a precaution, the advisory will remain in effect until the next citywide sampling has been completed. The next round of routine testing will take place on Tuesday, August 19, 2014 with the possibility that the advisory could be lifted as early as Wednesday, August 20, 2014.

Testing of the drinking water is a part of the routine process for ensuring the quality and safety of the system which happens weekly at nine different sites around the city. Drinking water contamination due to E-coli or coliform bacteria is very rare due to the fact that the bacteria cannot survive in the water for very long. The colder temperature

–CONTINUE–



CITY OF FLINT
OFFICE OF EMERGENCY MANAGER
DARNELL EARLEY
ICMA-CM, MPA

of water in the system coupled with the regular blending of chlorine into the water makes for a hostile environment for these kinds of bacteria. The Flint Water Treatment Plant works diligently to provide water of the highest quality to everyone in the city.

—END—

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, August 19, 2014 8:34 AM
To: Rosenthal, Adam (DEQ); Busch, Stephen (DEQ)
Subject: FW:
Attachments: Boil Water Advisory Event Timeline.docx

Here's a good summary of Flint's bacti & CL2 results since last Tues for quick reference....can we get this printed in color??

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

From: Michael Glasgow [<mailto:mglasgow@cityofflint.com>]
Sent: Tuesday, August 19, 2014 8:07 AM
To: Prysby, Mike (DEQ)
Cc: Brent Wright; Daugherty Johnson
Subject:

Mike,

Good morning, Here is a list of sampling and results that have taken place over the last week. I think you got most of this over the phone in the last couple days, but I wanted to organize it for all of us.

Mike Glasgow

City of Flint Boil Water Advisory Event Timeline

August 12th – Routine distribution sampling yielded 3 samples positive for coliform bacteria.

Sample Site	Address	Free Chlorine	Total Chlorine
# 4	3606 Corunna Rd.	0.1	0.2
# 5	2501 Flushing Rd	0.1	0.1
C.S.	1100 Cedar St.	0.0	0.1

August 13th – Distribution repeat sampling along with upstream and downstream locations yielded 8 samples positive for coliform bacteria (all but C.S. Downstream), with one sample positive for E. coli (# 4 Downstream).

Sample Site	Address	Free Chlorine	Total Chlorine
# 4	3606 Corunna Rd.	0.0	0.1
# 4 Upstream	3521 Corunna Rd.	0.0	0.1
# 4 Downstream	3614 Corunna Rd.	0.0	0.1
# 5	2501 Flushing Rd.	0.0	0.1
# 5 Upstream	N. Chevrolet	0.0	0.1
# 5 Downstream	2740 Flushing Rd.	0.0	0.1
C.S.	1100 Cedar St.	0.0	0.1
C.S. Upstream	1035 Ann Arbor St.	0.0	0.0
C.S. Downstream	702 W. 12th St.	0.7	1.1

August 14th – Notified DEQ of test results from August 13th sampling. Resampled all 9 locations. Sampling yielded one sample positive for coliform bacteria at Site # 5.

Sample Site	Address	Free Chlorine	Total Chlorine
# 4	3606 Corunna Rd.	0.2	0.4
# 4 Upstream	3521 Corunna Rd.	0.4	0.7
# 4 Downstream	3614 Corunna Rd.	0.4	0.7
# 5	2501 Flushing Rd.	0.0	0.1
# 5 Upstream	N. Chevrolet	0.0	0.1
# 5 Downstream	2740 Flushing Rd.	0.1	0.3
C.S.	1100 Cedar St.	0.6	0.9
C.S. Upstream	1035 Ann Arbor St.	0.0	0.1
C.S. Downstream	702 W. 12th St.	0.0	0.1

August 15th – Resampled Site # 5 along with upstream & downstream locations. Site # 5 and upstream locations were positive for coliform bacteria. DEQ requires boil water notice to be issued tonight.

Sample Site	Address	Free Chlorine	Total Chlorine
# 5	2501 Flushing Rd	0.3	0.5
# 5 Upstream	1117 N. Chevrolet	0.0	0.1
# 5 Downstream	2740 Flushing Rd.	0.1	0.3

August 16th – Sampled 5 sites in boil water notice area, and Site # 5 along with upstream & downstream locations. 1 site (Burger King) in the boil water area tested positive for total coliform bacteria. Site # 5 upstream location was also positive for total coliform bacteria.

Sample Site	Address	Free Chlorine	Total Chlorine
# 4	3606 Corunna Rd.	0.2	0.4
# 4 Upstream	3521 Corunna Rd.	0.3	0.5
YaYa's (DS)	3709 Corunna Rd.	0.2	0.3
Sandi's Catering (UP)	1001 Ballenger Hwy.	0.1	0.2
Burger King (UP)	1006 Ballenger Hwy.	0.1	0.3
# 5	2501 Flushing Rd.	0.1	0.2
# 5 Upstream	1117 N. Chevrolet	0.1	0.2
# 5 Downstream	Ballenger Hwy.	0.2	0.4

August 17th – Sampled six sites in the boil water notice area 24 hours after the first set. Also sampled Site # 5 upstream location. The Burger King sample was positive for total coliforms.

Sample Site	Address	Free Chlorine	Total Chlorine
# 4	3606 Corunna Rd.	0.2	0.4
# 4 Upstream	3521 Corunna Rd.	0.3	0.6
YaYa's (DS)	3709 Corunna Rd.	0.1	0.3
Sandi's Catering (UP)	1001 Ballenger Hwy.	0.1	0.3
Burger King (UP)	1006 Ballenger Hwy.	0.1	0.3
Hungry Howie's (DS)	3625 Corunna Rd.	0.1	0.4
# 5 Upstream	1117 N. Chevrolet	0.1	0.3

August 18th – Sampled 7 sites in the boil water notice area. Samples were also collected at site # 5 along with upstream and downstream locations.

Sample Site	Address	Free Chlorine	Total Chlorine
# 4	3606 Corunna Rd.	0.2	0.4
# 4 Upstream	3521 Corunna Rd.	0.3	0.5
# 4 Downstream	3614 Corunna Rd.	0.2	0.3
YaYa's (DS)	3709 Corunna Rd.	0.1	0.3
Abbotts Meat (UP)	3623 Blackington	0.1	0.2
Burger King (UP)	1006 Ballenger Hwy.	0.1	0.2
Hungry Howie's (DS)	3625 Corunna Rd.	0.1	0.3
# 5	2501 Flushing Rd.	0.3	0.5
# 5 Upstream	1117 N. Chevrolet	0.1	0.2
# 5 Downstream	1274 Ballenger Hwy.	0.2	0.5

First seven results available @ 3:20pm, the rest @ 5:20pm

Rennaker, Joanne (DEQ)

From: Michael Glasgow <mglasgow@cityofflint.com>
Sent: Wednesday, July 23, 2014 8:01 AM
To: Rosenthal, Adam (DEQ)
Subject: Radiological Testing Results
Attachments: June 2014 Radiological testing.pdf

Adam,

Good morning, I finally received the results from our 2nd quarter Radiological testing this morning, so here they are.

Mike Glasgow
City of Flint Water Plant


NSF International

789 N. Dixboro Rd. Ann Arbor, MI 48105, USA
 1-800.NSF.MARK | +1-734.769.8010 | www.nsf.org

TEST REPORT

Send To: C0211289

Mr. Michael Glasgow
 City of Flint, Municipality
 1101 South Saginaw Street
 Flint, MI 48502

Facility: C0211290

City of Flint Water Plant
 4500 North Dort Highway
 Flint MI 48505
 United States

Result	COMPLETE	Report Date	18-JUL-2014
Customer Name	City of Flint, Municipality		
Tested To	EPA_DWR		
Description	Qtr 2 - Water Sample		
Test Type	Test only		
Job Number	J-00142263		
Project Number	9329404 (CL01)		
Project Manager	Anna Ciechanowski		

Thank you for having your product tested by NSF International.

Please contact your Project Manager if you have any questions or concerns pertaining to this report.

Report Authorization Kerri L. LeVanseler
 Kerri Levanseler - Director, Chemistry Laboratory

Date 18-JUL-2014

**General Information**

Standard: EPA_DWR

Date and Time Sampled: 6/30/14 14:12 EDT

Product Description: Qtr 2 - Water Sample

Sample Id: **S-0001052321**

Description: Qtr 2 - Water Sample - 6/30/14 14:12 EDT

Sampled Date: 06/30/2014

Received Date: 07/01/2014

Testing Parameter	Reporting Limit	Result	Units
Radiologicals			
Radium-226	1	ND	pCi/L
Radium-226, Radium-228 Combined	1	ND	pCi/L
Radium-228	1	ND	pCi/L
P1 Gross Alpha	3	ND	pCi/L
P1 Gross Beta	4	ND	pCi/L



<<Additional Information>>

Sample Id: S-0001052321

Test Parameter	Date Analyzed	Time Analyzed	Date Prepared/ Processed
Radiologicals			
Total Radium-226, Radium-228 Combined Activity	17-JUL-2014		
Gross Alpha and Beta Radioactivity in Drinking Water (Ref: EPA 900.0)	7-JUL-2014		


Testing Laboratories:

	Flag	Id	Address
All work performed at: (Unless otherwise specified)		NSF_AA	NSF International 789 N. Dixboro Road Ann Arbor MI 48105

References to Testing Procedures:

NSF Reference	Parameter / Test Description
C0842	Gross Alpha and Beta Radioactivity in Drinking Water (Ref: EPA 900.0)
C0980	Total Radium-226, Radium-228 Combined Activity

Certifications:

Michigan (# 0048)	Florida (# E-87752 FL)	California (# 03214 CA)
New York (# 11206)	Connecticut (# PH-0625)	New Jersey (# MI770)
South Carolina (# 81005)	Pennsylvania (# 68-00312)	Hawaii
Indiana	Maryland (# 201)	Nevada (# MI000302010A)
Virginia (# 00045)	Vermont (# VT 11206)	North Carolina (# 26701)
Arizona (# AZ0655)		

Test descriptions preceded by an asterisk "*" indicate that testing has been performed per NSF International requirements but is not within its scope of accreditation.

The reported result for Odor, Phenolics, Potassium, Specific Conductance and Total Residual Chlorine cannot be used for compliance purposes within the State of Arizona.

Notes: An ND result means that the contaminant was not detected at or above the detection limit for the instrument.

For a list of NSF International Method Detection Limits refer to
http://www.nsf.org/media/enews/documents/minimum_detection_level_spreadsheet.pdf.

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, July 11, 2014 12:01 PM
To: Prysby, Mike (DEQ); Rosenthal, Adam (DEQ)
Subject: RE: City of Flint June 2014 MOR

Let's try and troubleshoot distribution system operational modification recommendations on Monday. The treatment seems to be good. They are getting total chlorine residual in all distribution samples.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Prysby, Mike (DEQ)
Sent: Friday, July 11, 2014 11:42 AM
To: Rosenthal, Adam (DEQ)
Cc: Busch, Stephen (DEQ)
Subject: FW: City of Flint June 2014 MOR

Adam,

Here's Flint's June 2014 MOR...as we discussed, the distribution system CL2 residual problem has worsened not to mention 2 positives (from their reservoirs). I will confirm with Brent as to whether they installed chlorination at the Westside/Cedar St. PSs for SDWIS update ...as he indicated in my most recent site visit.

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

From: Michael Glasgow [<mailto:mglasgow@cityofflint.com>]
Sent: Thursday, July 10, 2014 3:11 PM
To: Prysby, Mike (DEQ)
Subject: City of Flint June 2014 MOR

Mike,

Good afternoon, I hope you had an enjoyable holiday weekend. Attached is a copy of our June 2014 MOR. There were a few alterations as per our discussion in early June. A copy is being sent out in the mail today. I just thought you might like a copy a few days before it arrives in the mail.

Mike Glasgow
 City of Flint Water Plant

Rennaker, Joanne (DEQ)

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Sent: Friday, July 11, 2014 11:42 AM
To: Rosenthal, Adam (DEQ)
Cc: Busch, Stephen (DEQ)
Subject: FW: City of Flint June 2014 MOR
Attachments: June 2014 MOR scan.pdf

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District Engineer
Office of Drinking Water and Municipal Assistance
517 290-8817

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Mike Glasgow
City of Flint Water Plant

CITY of FLINT WATER TREATMENT PLANT MONTHLY OPERATION REPORT

SUPPLY NAME: CITY of FLINT WATER PLANTWSSN: 2310Michael Glasgow

Operator-in-Charge

June 2014

Month/Year

F-1R, F-2

Certification of Operator-in-Charge

F-1

Water Plant Classification

Michael Glasgow

Signature of Operator-in-Charge

Genesee

County

Treatment Rate and Filter Data

Maximum Treatment Rate:	<u>25</u>	Million Gallons per Day
Rated Plant Capacity:	<u>36</u>	Million Gallons per Day
Average Filter Run:	<u>74</u>	Hours
Average Head Loss:	<u>*</u>	Feet *(filter head loss meters not operational)
Average Filtration Rate:	<u>2.5</u>	Gallons Per Square Feet per Minute
Maximum Filtration Rate:	<u>3.5</u>	Gallons Per Square Feet per Minute
Average Wash Water Use:	<u>3.6%</u>	Percent of Treated Water

Chemical Data

Chlorine on hand:	<u>24000</u> lb.	Est. supply:	<u>20</u> days
Primary Coagulant (Ferric Chloride) on hand:	<u>63450</u> lb.	Est. supply:	<u>10</u> days
Lime (CaO) on hand:	<u>169</u> tons	Est. supply:	<u>18</u> days
Fluoride on Hand:	<u>9064</u> lb.	Est. supply:	<u>16</u> days
Cost of All Chemicals per Million Gallons:	<u>*</u> dollars		
Total Power Cost per Million Gallons:	<u>*</u> dollars		

Remarks

Confluence Point # 1 (N)

Confluence Point # 2 (S)

Number of filter confluence samples > 0.3 NTU:

00

Number of filter confluence samples collected:

180180

Percent of filter confluence samples > 0.3 NTU:

0.00%0.00%

Number of filter confluence samples > 1 NTU

00

Did any individual filter exceed:

1.0 NTU in two consecutive measurements taken 15 minutes apart?

NO

If yes, attach specific filter(s) information and indicate required follow-up status.

0.5 NTU in two consecutive measurements taken 15 minutes apart after 4 hours of operation?

NO

If yes, attach specific filter(s) information and indicate required follow-up status.

1.0 NTU in two consecutive measurements taken 15 minutes apart for 3 consecutive months?

NO

If yes, attach specific filter(s) information and indicate required follow-up status.

2.0 NTU in two consecutive measurements taken 15 minutes apart for 2 consecutive months?

NO

If yes, attach specific filter(s) information and indicate required follow-up status.

Was continuous (every 15 minutes) filter monitoring equipment off-line during the month?

NO

If yes, indicate date(s), duration, and individual filter grab sampling frequency on a separate sheet.

Did POE disinfectant residual fall below 0.2 ppm during the month?

NO

If yes, indicate date(s) and duration on a separate sheet.

Was minimum C*T credit achieved for the entire month?

YES

If no, indicate on a separate sheet the date(s) not achieved.

Was continuous POE chlorine residual monitoring equipment off-line during the month?

NO

If yes, indicate date(s) and duration on a separate sheet.

[illegible]

Filter turbidity

City of Flint Water Treatment Plant
WSSN: 2310

June 2014

Page 3

Date	Turbidity, Units												
	Confluence Point. No.1 (N) North						Confluence Point. No.2 (S) South						Point of Entry
	Number of Samples	Avg.	Max	No. of 4 Hr. Compliance periods	No. of 4 Hr. Compliance periods >0.3 NTU	No. of Samples >0.3 NTU	Number of Samples	Avg.	Max	No. of 4 Hr. Compliance periods	No. of 4 Hr. Compliance periods >0.3 NTU	No. of Samples >0.3 NTU	Plant Tap NTU
1	6	0.09	0.12	6	0	0	6	0.09	0.11	6	0	0	0.07
2	6	0.11	0.16	6	0	0	6	0.10	0.14	6	0	0	0.09
3	6	0.14	0.23	6	0	0	6	0.12	0.19	6	0	0	0.11
4	6	0.14	0.19	6	0	0	6	0.09	0.11	6	0	0	0.10
5	6	0.18	0.24	6	0	0	6	0.15	0.22	6	0	0	0.15
6	6	0.13	0.15	6	0	0	6	0.12	0.16	6	0	0	0.12
7	6	0.14	0.18	6	0	0	6	0.12	0.14	6	0	0	0.12
8	6	0.12	0.20	6	0	0	6	0.15	0.20	6	0	0	0.12
9	6	0.15	0.25	6	0	0	6	0.14	0.22	6	0	0	0.11
10	6	0.21	0.26	6	0	0	6	0.14	0.23	6	0	0	0.14
11	6	0.11	0.16	6	0	0	6	0.12	0.23	6	0	0	0.16
12	6	0.11	0.13	6	0	0	6	0.10	0.13	6	0	0	0.09
13	6	0.09	0.12	6	0	0	6	0.09	0.11	6	0	0	0.08
14	6	0.11	0.13	6	0	0	6	0.09	0.12	6	0	0	0.10
15	6	0.11	0.18	6	0	0	6	0.10	0.15	6	0	0	0.10
16	6	0.11	0.14	6	0	0	6	0.09	0.10	6	0	0	0.09
17	6	0.09	0.13	6	0	0	6	0.07	0.13	6	0	0	0.07
18	6	0.09	0.13	6	0	0	6	0.08	0.20	6	0	0	0.08
19	6	0.08	0.14	6	0	0	6	0.09	0.17	6	0	0	0.08
20	6	0.08	0.10	6	0	0	6	0.07	0.09	6	0	0	0.16
21	6	0.07	0.08	6	0	0	6	0.08	0.20	6	0	0	0.08
22	6	0.08	0.11	6	0	0	6	0.09	0.12	6	0	0	0.08
23	6	0.08	0.10	6	0	0	6	0.08	0.11	6	0	0	0.07
24	6	0.09	0.14	6	0	0	6	0.10	0.26	6	0	0	0.13
25	6	0.07	0.14	6	0	0	6	0.08	0.19	6	0	0	0.09
26	6	0.08	0.10	6	0	0	6	0.08	0.10	6	0	0	0.09
27	6	0.09	0.11	6	0	0	6	0.08	0.10	6	0	0	0.09
28	6	0.08	0.10	6	0	0	6	0.09	0.10	6	0	0	0.10
29	6	0.10	0.14	6	0	0	6	0.09	0.12	6	0	0	0.11
30	6	0.10	0.11	6	0	0	6	0.09	0.14	6	0	0	0.15
Avg.	6	0.11	0.15	6	0	0	6	0.10	0.15	6	0	0	
Max.	6	0.21	0.26	6	0	0	6	0.15	0.26	6	0	0	0.16
Min.	6	0.07	0.08	6	0	0	6	0.07	0.09	6	0	0	

**Fluoridation &
Chlorination**
**City of Flint Water Treatment Plant
WSSN: 2310**
June 2014
Page 4

Date	Fluoride Applied as F- mg/L	Fluoride Analysis (mg/L)			Chlorine Application (mg/L)			Chlorine Residual (mg/L)					
					Intermediate Chlorine	Post Chlorine	Total Chlorine	Filtered		3 MG Well		Tap	
		Raw	Tap	Dist.				Free	Total	Free	Total	Free	Total
1	0.00	0.15	0.17		4.8	1.5	6.3	1.3	1.6	1.5	2.0	1.2	1.7
2	0.00	0.16	0.17		4.7	1.7	6.4	1.1	1.5	1.6	2.0	1.3	1.5
3	0.00	0.16	0.16		5.4	1.8	7.2	1.0	1.5	1.5	2.0	1.3	1.7
4	0.50	0.18	0.20		5.3	2.0	7.3	1.4	1.8	1.8	2.1	1.7	2.0
5	0.50	0.14	0.45	0.25	4.5	2.0	6.5	0.9	1.2	1.6	1.9	1.3	1.7
6	0.00	0.15	0.16		4.7	2.4	7.1	0.7	1.0	1.6	1.9	1.4	1.7
7	0.00	0.14	0.18		5.5	2.8	8.3	0.7	1.0	1.6	2.0	1.3	1.6
8	0.00	0.17	0.19		5.2	2.7	7.9	0.7	0.9	1.5	1.9	1.3	1.7
9	0.00	0.17	0.18		5.1	2.7	7.8	0.5	0.9	1.7	2.1	1.3	1.8
10	0.00	0.16	0.18		4.8	2.5	7.3	0.3	0.6	1.4	1.8	1.2	1.6
11	0.00	0.17	0.14		4.8	3.1	7.9	0.9	1.2	1.7	2.2	1.6	1.9
12	0.00	0.14	0.13	0.18	4.2	2.9	7.1	0.8	1.2	2.0	2.4	1.9	2.3
13	0.00	0.16	0.14		4.4	3.4	7.8	0.6	0.8	2.4	2.8	2.1	2.4
14	0.00	0.16	0.14		4.2	3.5	7.7	0.7	1.0	2.4	2.8	2.0	2.4
15	0.00	0.16	0.13		4.1	3.5	7.6	0.4	0.8	2.3	2.9	1.7	2.0
16	0.00	0.16	0.13		4.2	3.5	7.7	0.8	1.0	2.6	3.1	2.1	2.5
17	0.00	0.15	0.13		4.6	3.1	7.7	1.1	1.5	2.5	2.9	2.2	2.5
18	0.00	0.16	0.13		5.0	2.6	7.6	1.3	1.5	2.5	3.0	2.0	2.5
19	0.00	0.14	0.13	0.18	5.0	2.9	7.9	1.4	1.6	2.7	3.1	2.1	2.4
20	0.00	0.16	0.13		5.0	3.1	8.1	1.3	1.5	2.3	2.8	1.7	2.1
21	0.00	0.16	0.13		5.0	4.0	9.0	1.1	1.4	2.3	2.8	2.0	2.2
22	0.00	0.17	0.13		4.9	4.0	8.9	0.8	1.0	2.4	3.0	2.1	2.4
23	0.00	0.16	0.13		4.7	2.6	7.3	1.4	1.7	2.5	2.8	2.2	2.7
24	0.00	0.16	0.13		4.8	2.9	7.7	1.3	1.5	2.5	2.9	2.7	3.0
25	0.00	0.16	0.13		4.7	2.9	7.6	1.2	1.5	2.5	2.9	2.0	2.4
26	0.00	0.17	0.12	0.15	3.9	3.0	6.9	1.0	1.4	2.2	2.6	2.5	3.0
27	0.00	0.16	0.13		4.9	2.7	7.6	1.2	1.5	2.9	3.2	2.1	2.5
28	0.00	0.16	0.14		4.6	3.0	7.6	1.5	1.8	2.3	3.0	2.4	3.0
29	0.00	0.15	0.14		3.8	3.5	7.3	0.8	1.2	2.3	2.8	1.9	2.3
30	0.00	0.15	0.13		4.1	3.2	7.3	0.6	0.9	2.5	3.3	1.8	2.1
Avg.	0.03	0.16	0.16	0.19	4.7	2.9	7.5	1.0	1.3	2.1	2.6	1.8	2.2
Max.	0.50	0.18	0.45	0.25	5.5	4.0	9.0	1.5	1.8	2.9	3.3	2.7	3.0
Min.	0.00	0.14	0.12	0.15	3.8	1.5	6.3	0.3	0.6	1.4	1.8	1.2	1.5

Chemical Analyses

City of Flint Water Treatment Plant
WSSN: 2310

June 2014

Page 5

Date	pH (S.U.)		Total Hardness as CaCO ₃ (mg/L)		Total Alkalinity as CaCO ₃ (mg/L)		Non-Carbonate Hardness as CaCO ₃ (mg/L)		Calcium as Ca ²⁺ (mg/L)		Magnesium as Mg ²⁺ (mg/L)		Chloride as Cl ⁻ (mg/L)	
	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap
1	8.28	7.81	270	234	216	132	54	102	85.8	84.2	13.8	5.8	41	87
2	8.02	7.58	262	236	218	132	44	104	84.2	82.6	12.6	7.3	40	83
3	8.17	7.39	278	248	218	140	60	108	93.0	77.8	6.3	13.1	43	75
4	8.25	7.49	276	238	220	144	56	94	80.2	79.4	18.5	9.2	41	79
5	8.26	7.49	274	236	220	148	54	88	89.0	79.4	12.6	9.2	44	80
6	8.16	7.52	262	234	216	146	46	88	85.0	77.0	12.2	10.2	43	93
7	8.21	7.27	268	260	226	172	42	88	87.4	85.0	12.2	11.7	42	80
8	8.26	7.38	260	262	222	170	38	92	81.0	82.6	13.8	12.2	43	80
9	8.17	7.36	268	266	220	164	48	102	93.0	85.8	8.3	10.2	44	79
10	8.18	7.21	270	260	226	172	44	88	96.2	94.6	4.9	5.8	45	78
11	8.10	7.38	266	192	220	100	46	92	83.4	64.1	14.1	7.8	43	86
12	8.11	7.44	268	192	222	100	46	92	84.2	64.1	14.1	7.8	42	80
13	8.01	7.56	264	218	218	110	46	108	85.8	70.5	12.2	10.2	42	81
14	7.94	7.65	272	210	216	114	58	96	90.6	68.1	11.2	9.7	40	78
15	8.27	7.57	268	188	226	100	42	88	85.8	67.3	13.1	4.9	43	79
16	8.34	7.75	266	186	220	94	46	92	84.2	64.9	13.1	5.8	44	80
17	8.12	7.66	262	190	222	92	40	98	90.6	68.9	7.3	4.4	43	80
18	8.24	7.24	268	184	230	94	38	90	87.4	66.5	12.2	3.4	40	81
19	8.13	7.61	272	182	228	88	44	84	91.4	62.5	8.3	6.3	42	81
20	8.01	7.33	264	180	222	88	42	92	89.0	60.9	10.2	8.7	42	83
21	7.98	7.35	252	182	226	82	26	100	86.6	84.1	9.0	5.3	43	84
22	8.00	7.45	264	180	224	84	40	96	87.4	59.3	11.2	7.8	42	81
23	7.98	7.00	260	168	224	74	36	94	89.8	53.7	8.7	8.3	46	88
24	7.92	7.60	274	194	222	82	52	112	89.0	60.9	10.7	10.2	45	87
25	7.98	7.68	276	168	228	70	48	98	91.4	58.5	11.7	5.3	43	90
26	7.88	7.72	280	186	226	80	54	106	86.6	65.7	15.6	5.3	46	90
27	7.92	7.12	254	176	224	66	30	110	89.8	67.3	7.3	1.9	39	92
28	7.97	7.64	272	176	230	74	42	102	85.0	64.1	14.6	3.9	43	85
29	8.26	7.49	276	178	232	76	44	102	87.4	55.3	12.2	9.7	40	90
30	7.94	7.70	268	156	230	66	38	90	92.2	56.9	9.2	3.4	44	91
Avg.	8.10	7.48	268	205	223	108	45	97	87.7	69.7	11.4	7.5	43	83
Max.	8.34	7.81	280	266	232	172	60	112	96.2	94.6	18.5	13.1	46	93
Min.	7.88	7.00	252	156	216	66	26	88	80.2	53.7	4.9	1.94	39	75

**Bacteriological &
Physical Parameters**

 City of Flint Water Treatment Plant
WSSN: 2310

June 2014

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Date	Total Coliform						Standard Plate Count (Simpla MPN)		Wind Direction	Temp. C	Color		Odor	
	Raw (Colilert MPN)		Filter Confluence (N&S)		Plant Tap									
	# Samples	Count	# Samples	# pos	# Samples	# pos	Raw	Tap			Raw	Raw	Tap	Raw
1	1	320	12	1	1	0	3020	<2		21.7				
2	1	62	12	0	1	0	7840	<2		20.5				
3	1	1710	12	0	1	0	4180	<2		22.4				
4	1	3232	12	0	1	0	5980	<2		22.1				
5	1	3232	12	0	1	0	1368	<2		21.5				
6	1	4286	12	2	1	0	1540	<2		22.2				
7	1	4374	12	0	1	0	11100	<2		22.5				
8	1	3328	12	0	1	0	7840	<2		21.7				
9	1	1768	12	0	1	0	9400	<2		21.5				
10	1	6152	12	0	1	0	11100	<2		23.9				
11	1	12262	12	0	1	0	3660	<2		23.4				
12	1	8704	12	0	1	0	12460	<2		22.9				
13	1	4978	12	0	1	0	1720	<2		22.3				
14	1	4092	12	0	1	0	1240	<2		20.9				
15	1	3912	12	0	1	0	1660	<2		21.7				
16	1	3440	12	0	1	0	1940	<2		22.7				
17	1	2748	12	0	1	0	1600	<2		23.3				
18	1	2338	12	0	1	0	2080	<2		23.3				
19	1	1542	12	0	1	0	7840	<2		22.8				
20	1	1678	12	0	1	0	1180	<2		22.4				
21	1	1672	12	0	1	0	960	<2		21.8				
22	1	7308	12	0	1	0	7440	<2		22.0				
23	1	4028	12	0	1	0	3900	<2		21.6				
24	1	1234	12	0	1	0	3780	<2		22.5				
25	1	2100	12	0	1	0	2240	<2		22.5				
26	1	2396	12	0	1	0	5140	<2		22.0				
27	1	1968	12	0	1	0	2000	<2		22.9				
28	1	1976	12	0	1	0	11100	<2		22.9				
29	1	2802	12	0	1	0	6780	<2		25.8				
30	1	9572	12	0	1	0	2560	<2		24.8				
Avg.										22.5				
Max.							12480	0		25.8				
Min.										20.5				

**Distribution System
Monitoring**

 City of Flint Water Treatment Plant
WSSN: 2310

June 2014

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Date	Free Chlorine Residual at Bacteriological Monitoring Stations mg/l										Number of Samples
	1	2	3	4	5	6	7	8	CS	WR	
1											0
2									0.5	0.0	2
3									0.2	0.0	2
4	0.5	0.9	0.5	0.5	0.2	0.5	0.4	0.9	0.2	0.0	10
5	0.4	0.2	0.5	0.4	0.1	0.6	0.3	0.9	0.1	0.0	10
6									0.1	0.0	2
7											0
8											0
9									0.1	0.0	2
10	0.6	1.1	0.4	0.6	0.2	0.6	0.3	0.7	0.3	0.0	10
11									0.0	0.0	2
12	1.2	1.8	0.9	1.3	0.6	0.9	0.5	1.8	1.4	0.0	10
13									0.1	0.0	2
14											0
15											0
16									1.2	0.0	2
17	1.3	1.5	1.0	0.5	0.7	1.5	0.9	2.0	0.2	0.3	10
18	1.4	1.1	1.2	1.1	0.3	1.2	0.9	1.4	0.6	0.1	10
19									0.2	0.1	2
20											0
21											0
22											0
23											0
24											0
25	1.3	1.3	1.1	1.0	0.3	0.8	1.0	1.5	0.9	0.4	10
26	1.1	1.4	0.9	0.0	0.0	1.4	0.8	2.1	0.9	0.6	10
27									0.7	1.1	2
28											0
29											0
30									0.6	1.3	2

Distribution Sample Summary

Total # of routine distribution samples analyzed	100
Total # of routine distribution samples required	100

Distribution Disinfectant Free Residual Summary

Percent samples with a detectable disinfectant residual	86%
Average disinfectant residual this month	0.7

Distribution Bacteriological Summary

Total # of positive routine distribution samples	2
Percent of routine distribution samples positive	2%

Positive Distribution Samples

Date	Monitoring Station	Date	Repeat Monitoring Stations	Residual	Positive or Negative
6/10/2014	WEST SIDE	6/11/2014	WS UPSTREAM	.10/.30	ABSENT
		6/11/2014	WS DOWNSTREAM	.10/.30	ABSENT
		6/11/2014	WEST SIDE	0/.10	ABSENT
6/11/2014	CEDAR STREET	6/12/2014	CS UPSTREAM	0.2/0.4	ABSENT
		6/12/2014	CS DOWNSTREAM	0.2/0.3	ABSENT
		6/12/2014	CEDAR STREET	1.4/1.8	ABSENT

Distribution System
MonitoringCity of Flint Water Treatment Plant
WSSN: 2310

June 2014

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Date	Total Chlorine Residual at Bacteriological Monitoring Stations mg/l										Number of Samples
	1	2	3	4	5	6	7	8	CS	WR	
1											0
2									0.8	0.2	2
3									0.3	0.2	2
4	1.0	1.3	0.8	0.9	0.3	1.0	0.6	1.1	0.3	0.2	10
5	0.8	0.6	0.8	0.6	0.3	0.8	0.6	1.1	0.3	0.2	10
6									0.3	0.2	2
7											0
8											0
9									0.2	0.2	2
10	1.0	1.6	0.7	1.1	0.6	1.2	0.7	1.2	0.5	0.2	10
11									0.2	0.1	2
12	1.7	2.5	1.3	1.7	0.9	1.2	0.9	2.3	1.8	0.1	10
13									0.3	0.2	2
14											0
15											0
16									1.6	0.2	2
17	1.9	1.9	1.3	0.7	1.0	2.0	1.3	2.9	0.3	0.5	10
18	2.0	1.5	1.8	1.5	0.6	1.6	1.4	2.1	0.9	0.3	10
19									0.3	0.3	2
20											0
21											0
22											0
23											0
24											0
25	1.8	1.9	1.6	1.4	0.5	1.1	1.4	2.0	1.1	0.7	10
26	1.5	1.9	1.3	0.1	0.1	1.8	1.1	2.5	1.1	0.8	10
27									1.0	1.5	2
28											0
29											0
30									0.9	1.3	2

Distribution Disinfectant Total Residual Summary	
Percent samples with a detectable disinfectant residual	100%
Average disinfectant residual this month	1.0

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, June 24, 2014 3:03 PM
To: Antil, Jeffrey (DEQ); Brennan, Patrick (DEQ); Chuhran, Laura (DEQ); Doyle, Mark (DEQ); Drake, Jerry (DEQ); DuMont, Ralph (DEQ); Joseph, Mark (DEQ); Prysby, Mike (DEQ); Rennaker, Joanne (DEQ); Rosenthal, Adam (DEQ); Skinker, Bethel (DEQ)
Subject: 7/8 ODWMA Lansing/Jackson Management Visit
Attachments: ODWMA Lansing Jackson District Management Visit 7-2014.docx

Attached is a draft agenda for our meeting on 7/8 with Liane and Richard.

I would like to get to everything on the agenda but we'll see how it goes. This is an opportunity for both management and other district staff to hear about what's going on elsewhere. So please be prepared to spend around 5 minutes giving a brief discussion of the topics listed, where things currently stand, what's planned, along with issues you've run into along the way.

This is still a draft so if you have something else you want to discuss instead just let me know.

Please let Mark Joseph and I know if you want to attend the field trip to the Alma WTP. All are welcome. The WTP is under construction to upgrade the plant, and connect the City of St. Louis.

I'm still looking for a lunch location on the east side of Lansing that both Lansing and Jackson staff could attend before splitting off in the afternoon. Suggestions would be greatly appreciated.

As a reminder I will be on AL this Thursday and Friday, in Lansing on Monday, and then out from July 1 – 7.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

ODWMA Lansing Jackson District Management Visit - DRAFT

Tuesday July 8, 2014

9:00 – 12:00 Con Hall 4th Floor South, John McCauley Conference Room

9:00 – 9:05 Opening Remarks

9:05 – 10:00 Management Remarks

- Liane
- Richard

10:00 – 10:10 Update on Survey Status & EQA Reporting

10:10 – 10:50 Lansing District Highlights (approx. 5 min. each)

- Flint Startup (Mike)
- Wise WTP Restart (Bethel)
- KWA Permitting and Construction Schedule (Mike)
- Genesee Co. WTP Design (Mike)
- Alma WTP Construction Schedule & St. Louis Permits (Mark J)
- Greenbrook Estates Status (Mark J)
- File Purge, Organization (Sig Def) (Steve/ Jo Anne)
- Cross Connection Histories (Steve / Jo Anne)

10:50 – 11:15 Jackson District Highlights (Approx. 5 min. each)

- Whiteford Township Membrane Pilot (Laura)
- Hillside Acres Arsenic Treatment Plant (Pat)
- Bennett/Quails Nest MHP Enforcement (Laura/Jerry)
- NCWS Recent Hauled Water Cases (Mark D)
- Jackson File Purge (Steve/Ralph)

11:15 – 11:30 Upcoming Business

- Laura Retirement Workplan
- July 22 Source Water Protection Workshop
- Continuing File Purge (Lansing & Jackson) + Electronic Files
- Annual Reports Database
- Moon Lake 7/21 Hearing

11:30 – 11:45 Closing Remarks/Questions

Group Photo for In-Service Poster

Lunch @ ?????

Field Trip 1:00 – 4:30

2:00 – 3:30 @ Alma WTP

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Thursday, June 12, 2014 9:04 AM
To: Cook, Pat (DEQ); Prysby, Mike (DEQ)
Cc: Rosenthal, Adam (DEQ); Benzie, Richard (DEQ)
Subject: RE: Flint MOR and Test Results

Pat,

I appreciate your efforts to try and assist Mr. Jefferson, but I think at this point any further correspondence with him needs to be directed back to either Mike or I. If there are specific treatment questions we are unable to answer or need confirmation on we will let you know.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Cook, Pat (DEQ)
Sent: Thursday, June 12, 2014 8:05 AM
To: Prysby, Mike (DEQ)
Cc: Busch, Stephen (DEQ); Rosenthal, Adam (DEQ)
Subject: RE: Flint MOR and Test Results

Thanks Mike. Mr. Jefferson left me a message yesterday wanting the phone number of the "clean drinking water administrator of the US". That would be EPA Administrator, Gina McCarthy. I'll call him back and give him Ms. McCarthy's phone number and the latest lab results. However, he has told me that he does not trust the city or the state since Gov. Snyder placed an emergency manager in the city.

pat

From: Prysby, Mike (DEQ)
Sent: Thursday, June 12, 2014 7:56 AM
To: Cook, Pat (DEQ)
Subject: FW: Flint MOR and Test Results

Pat,

This is the Flint WTP info (April MOR and May's Unit 37 sample results) that was sent EPA late last week. I have tried to contact Mr. Jefferson, his voicemail is full and won't accept messages.

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

From: Busch, Stephen (DEQ)
Sent: Friday, June 06, 2014 3:06 PM
To: poy.thomas@epa.gov
Cc: Crooks.Jennifer@epamail.epa.gov; Prysby, Mike (DEQ)
Subject: Flint MOR and Test Results

Tom,

The April MOR you requested is attached along with the following test results sampled in May.

- TOC
- Metals
- VOC
- SOC (all 3 categories)
- Partial Chemistry

As the WTP only operated for the last few days in April the MOR results provide limited information. The Bacteriological Portion of the May Operating Period will be due next Tuesday 6/10, but the operational monitoring won't be reported until 6/30.

If you have any other questions, just let us know.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, June 10, 2014 2:53 PM
To: Rosenthal, Adam (DEQ); McDermott, Kristine (DEQ)
Subject: FW: May 2014 MOR
Attachments: May 2014 MOR scan.pdf

Here is a copy of Flint's May 2014 MOR.

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

From: Michael Glasgow [<mailto:mglasgow@cityofflint.com>]
Sent: Tuesday, June 10, 2014 11:41 AM
To: Prysby, Mike (DEQ)
Subject: May 2014 MOR

Mike,
Good morning. I just wanted to send you a scanned copy of our May 2014 MOR so you would have it today. A hard copy is going out in the mail today.

Mike Glasgow
City of Flint Water Plant

MONTHLY OPERATION REPORT OF WATER TREATMENT PLANT

SUPPLY NAME: CITY of FLINT WATER PLANT
WSSN: 2310

Michael Glasgow
Operator-in-Charge

May 2014
Month/Year

F-1R, F-2
Certification of Operator-in-Charge

F-1
Water Plant Classification

Michael Glasgow
Signature of Operator-in-Charge

Genesee
County

Treatment Rate and Filter Data

Maximum Treatment Rate:	<u>26.9</u>	Million Gallons per Day
Rated Plant Capacity:	<u>36</u>	Million Gallons per Day
Average Filter Run:	<u>101</u>	Hours
Average Head Loss:	<u>*</u>	Feet
Average Filtration Rate:	<u>2.6</u>	Gallons Per Square Feet per Minute
Maximum Filtration Rate:	<u>3.8</u>	Gallons Per Square Feet per Minute
Average Wash Water Use:	<u>2</u>	Percent of Treated Water

Chemical Data

Chlorine on hand:	<u>22000</u> lb.	Est. supply:	<u>20</u> days
Primary Coagulant (Ferric Chloride) on hand:	<u>83765</u> lb.	Est. supply:	<u>14</u> days
Cost of All Chemicals per Million Gallons:	<u>*</u> dollars		
Total Power Cost per Million Gallons:	<u>*</u> dollars		

Remarks

Number of filter confluence samples > 0.3 NTU:	<u>3</u>
Number of filter confluence samples collected:	<u>350</u>
Percent of filter confluence samples > 0.3 NTU:	<u>0.86%</u>
Number of filter confluence samples > 1 NTU	<u>0</u>

Did any individual filter exceed:

1.0 NTU in two consecutive measurements taken 15 minutes apart?	<u>NO</u>
If yes, attach specific filter(s) information and indicate required follow-up status.	
0.5 NTU in two consecutive measurements taken 15 minutes apart after 4 hours of operation?	<u>NO</u>
If yes, attach specific filter(s) information and indicate required follow-up status.	
1.0 NTU in two consecutive measurements taken 15 minutes apart for 3 consecutive months?	<u>NO</u>
If yes, attach specific filter(s) information and indicate required follow-up status.	
2.0 NTU in two consecutive measurements taken 15 minutes apart for 2 consecutive months?	<u>NO</u>
If yes, attach specific filter(s) information and indicate required follow-up status.	

Was continuous (every 15 minutes) filter monitoring equipment off-line during the month?	<u>NO</u>
If yes, indicate date(s), duration, and individual filter grab sampling frequency on a separate sheet.	

Did POE disinfectant residual fall below 0.2 ppm during the month?	<u>NO</u>
If yes, indicate date(s) and duration on a separate sheet.	

Was minimum C*T credit achieved for the entire month?	<u>YES</u>
If no, indicate on a separate sheet the date(s) not achieved.	

Was continuous POE chlorine residual monitoring equipment off-line during the month?	<u>YES*</u>
If yes, indicate date(s) and duration on a separate sheet.	

Date	Million Gallons Treated	Ferric as Fe+3 mg/L	Turbidity, Units																Point of Entry
			Number of Samples	Raw		Applied	Confluence Point. No.1 (N) North						Confluence Point. No.2 (S) South						
				Avg.	Max.	Applied Avg.	Number of Samples	Avg.	Max	No. of 4 Hr. Compliance periods	No. of 4 Hr. Compliance periods >0.3 NTU	No. of Samples >0.3 NTU	Number of Samples	Avg.	Max	No. of 4 Hr. Compliance periods	No. of 4 Hr. Compliance periods >0.3 NTU	No. of Samples >0.3 NTU	
1	15.1	10.9	6	9.60	12.7	5.04	6	0.10	0.19	6	0	0	6	0.07	0.08	6	0	0	0.09
2	14.7	11.3	6	10.1	10.7	7.12	6	0.06	0.07	6	0	0	6	0.07	0.10	6	0	0	0.09
3	21.4	12.3	6	11.2	12.6	7.40	6	0.15	0.18	6	0	0	6	0.11	0.15	6	0	0	0.11
4	21.4	11.8	6	26.2	31.2	8.65	6	0.11	0.13	6	0	0	6	0.10	0.11	6	0	0	0.12
5	21.6	12.3	6	12.6	14.5	5.80	6	0.16	0.23	6	0	0	6	0.14	0.18	6	0	0	0.12
6	22.3	12.1	6	15.0	20.3	4.53	6	0.21	0.27	6	0	0	6	0.18	0.21	6	0	0	0.19
7	21.9	12.1	6	15.5	14.8	5.23	6	0.13	0.16	6	0	0	6	0.12	0.17	6	0	0	0.11
8	22.7	11.7	6	12.6	15.5	4.74	6	0.16	0.25	6	0	0	6	0.11	0.13	6	0	0	0.16
9	22.2	12.0	6	9.30	9.60	4.33	6	0.12	0.15	6	0	0	6	0.11	0.16	6	0	0	0.14
10	21.8	12.2	6	13.2	15.3	5.60	6	0.11	0.18	6	0	0	6	0.09	0.10	6	0	0	0.09
11	19.1	13.8	6	12.6	14.1	6.43	6	0.19	0.29	6	0	0	6	0.08	0.09	6	0	0	0.09
12	8.5	15.3	2	12.0	13.9	8.46	1	0.09	0.09	1	0	0	1	0.07	0.07	1	0	0	0.08
13	0.0	12.9	2	11.3	14.1	n/a	0	n/a	n/a	0	n/a	n/a	0	n/a	n/a	0	n/a	n/a	0.10
14	22.2	12.3	6	30.8	71.7	11.8	6	0.24	0.37	6	1	1	6	0.23	0.31	6	1	1	0.16
15	16.6	20.6	6	45.2	63.0	5.68	6	0.21	0.28	6	0	0	6	0.24	0.28	6	0	0	0.22
16	20.2	18.7	6	28.2	37.3	5.21	6	0.21	0.38	6	1	1	6	0.22	0.45	6	1	1	0.22
17	21.0	20.0	6	14.3	19.3	4.90	6	0.12	0.22	6	0	0	6	0.09	0.08	6	0	0	0.11
18	20.8	18.3	6	9.50	10.7	6.03	6	0.14	0.28	6	0	0	6	0.08	0.09	6	0	0	0.09
19	22.0	18.2	6	9.20	11.3	4.59	6	0.12	0.17	6	0	0	6	0.07	0.10	6	0	0	0.09
20	22.1	18.0	6	7.20	8.40	4.63	6	0.11	0.11	6	0	0	6	0.09	0.11	6	0	0	0.09
21	21.0	19.4	6	7.80	8.90	6.27	6	0.11	0.18	6	0	0	6	0.08	0.08	6	0	0	0.09
22	21.0	18.6	6	9.40	11.3	6.50	6	0.11	0.16	6	0	0	6	0.07	0.09	6	0	0	0.08
23	21.0	18.9	6	9.10	10.4	6.24	6	0.11	0.13	6	0	0	6	0.08	0.09	6	0	0	0.08
24	20.8	17.9	6	7.10	8.30	5.38	6	0.12	0.18	6	0	0	6	0.08	0.09	6	0	0	0.09
25	21.0	18.3	6	6.00	7.30	5.62	6	0.14	0.22	6	0	0	6	0.18	0.25	6	0	0	0.10
26	22.0	18.0	6	5.20	5.60	3.23	6	0.12	0.14	6	0	0	6	0.10	0.13	6	0	0	0.11
27	20.6	19.4	6	5.70	7.30	2.78	6	0.13	0.18	6	0	0	6	0.12	0.14	6	0	0	0.10
28	20.1	20.0	6	4.20	5.30	3.52	6	0.11	0.13	6	0	0	6	0.08	0.08	6	0	0	0.08
29	19.7	20.0	6	5.20	10.3	3.72	6	0.09	0.12	6	0	0	6	0.07	0.08	6	0	0	0.06
30	19.3	16.1	6	3.50	5.30	3.54	6	0.11	0.16	6	0	0	6	0.07	0.07	6	0	0	0.06
31	18.0	17.6	6	3.50	4.40	2.23	6	0.09	0.12	6	0	0	6	0.08	0.09	6	0	0	0.08
Avg.	19.4	15.8	6	12.3		5.51	6	0.13	0.19	6	0	0	6	0.11	0.14	6	0	0	
Max.	22.7	20.6	6	45.2	71.7	11.8	6	0.24	0.38	6	1	1	6	0.24	0.45	6	1	1	0.22
Min.	0.0	10.9	2	3.50		2.23	0	0.06	0.07	0	0	0	0	0.07	0.07	0	0	0	
Total	602.1																		

Fluoridation &
ChlorinationCity of Flint Water Treatment Plant
WSSN: 2310

May 2014

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Date	Fluoride Applied as F- mg/L	Fluoride Analysis (mg/L)			Chlorine Application (mg/L)			Chlorine Residual (mg/L)					
					Intermediate Chlorine	Post Chlorine	Total Chlorine	Filtered		3 MG Well		Tap	
		Raw	Tap	Dist.				Free	Total	Free	Total	Free	Total
1	0	0.14	0.19		3.4	0.0	3.4	1.4	1.6	1.4	1.6	1.2	1.5
2	0	0.15	0.34		4.0	0.0	4.0	1.2	1.3	1.6	2.0	1.3	1.6
3	0	0.14	0.18		4.0	0.0	4.0	1.8	2.2	1.7	2.0	1.5	1.7
4	0	0.15	0.24		4.4	0.0	4.4	2.2	2.6	1.5	1.7	1.8	2.2
5	0	0.14	0.13		4.7	0.0	4.7	1.9	2.2	1.8	2.1	1.2	1.4
6	0	0.14	0.13		4.9	0.0	4.9	1.9	2.3	1.7	1.9	1.2	1.5
7	0	0.15	0.14		4.9	0.0	4.9	1.8	2.2	2.0	2.3	1.9	2.2
8	0	0.15	0.14	0.17	4.7	0.0	4.7	1.8	2.3	1.8	2.2	1.7	2.1
9	0	0.15	0.13		5.1	0.0	5.1	1.5	1.9	1.7	2.0	1.5	1.9
10	0	0.15	0.14		5.2	0.0	5.2	2.0	2.5	1.7	2.1	1.5	2.0
11	0	0.16	0.14		5.6	0.0	5.6	2.1	2.6	2.0	2.6	1.7	2.1
12	0	0.15	0.13		6.9	0.0	6.9	1.8	2.4	1.7	2.2	1.4	2.0
13	0	0.15	0.25		5.0	0.0	5.0	n/a	n/a	1.7	2.0	1.5	1.8
14	0	0.15	0.13	0.23	4.9	0.0	4.9	1.9	2.3	1.5	1.9	1.5	1.8
15	0	0.14	0.14		6.2	0.0	6.2	2.0	2.4	2.0	2.5	2.2	2.6
16	0	0.14	0.13		5.3	0.0	5.3	1.9	2.3	1.6	2.0	1.4	1.7
17	0	0.15	0.14		5.1	0.6	5.7	1.7	2.1	1.6	1.9	1.6	2.0
18	0	0.16	0.15		5.1	0.6	5.7	1.5	1.9	1.6	1.9	1.4	1.7
19	0	0.15	0.14		4.7	0.2	4.9	1.6	1.8	1.9	2.3	1.5	1.7
20	0	0.15	0.15		5.0	0.5	5.5	1.9	2.3	2.1	2.6	1.6	1.9
21	0	0.15	0.16		4.9	0.4	5.3	1.8	2.3	2.0	2.4	1.8	2.3
22	0	0.15	0.14		5.0	0.2	5.2	1.7	2.1	2.1	2.5	1.5	1.8
23	0	0.14	0.13		4.9	0.4	5.3	1.5	1.8	1.8	2.3	1.6	2.1
24	0	0.15	0.15		5.0	0.9	5.9	1.5	2.0	1.5	2.0	1.3	1.7
25	0	0.15	0.14		5.0	1.0	6.0	1.4	1.8	1.6	2.0	1.5	1.9
26	0	0.15	0.16		5.0	0.9	5.9	1.5	1.8	1.7	2.3	1.7	2.0
27	0	0.16	0.17		5.3	0.9	6.2	1.5	1.7	1.8	2.2	1.5	1.7
28	0	0.15	0.16	0.19	5.7	1.0	6.7	1.6	2.0	1.9	2.3	1.6	2.0
29	0	0.16	0.16		5.1	0.8	5.9	1.5	1.8	1.8	2.1	1.2	1.4
30	0	0.16	0.17		5.1	1.1	6.2	1.4	1.7	1.6	1.8	1.4	1.7
31	0	0.15	0.16		5.4	1.4	6.8	1.4	1.7	1.6	2.0	1.2	1.6
Avg.	0	0.15	0.16	0.20	5.0	0.4	5.4	1.7	2.1	1.7	2.1	1.5	1.9
Max.	0	0.16	0.34	0.23	6.9	1.4	6.9	2.2	2.6	2.1	2.6	2.2	2.6
Min.	0	0.14	0.13	0.17	3.4	0.0	3.4	1.2	1.3	1.4	1.6	1.2	1.4

Chemical Analyses

City of Flint Water Treatment Plant
WSSN: 2310

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Date	pH (S.U.)		Total Hardness as CaCO ₃ (mg/L)		Total Alkalinity as CaCO ₃ (mg/L)		Non-Carbonate Hardness as CaCO ₃ (mg/L)		Calcium as Ca ²⁺ (mg/L)		Magnesium as Mg ²⁺ (mg/L)		Chloride as Cl ⁻ (mg/L)	
	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap
1	8.44	7.71	246	146	196	66	50	80	56.7	48.1	20.9	7.8	43.0	67.0
2	8.27	7.07	250	162	196	80	54	82	83.4	48.1	10.2	10.2	44.0	41.0
3	8.26	7.47	250	132	200	60	50	72	82.6	42.5	10.7	6.3	40.0	60.0
4	8.39	7.50	256	120	196	70	60	50	86.6	60.9	6.3	6.3	47.0	60.0
5	8.39	7.41	232	152	204	76	28	76	78.6	54.5	8.7	3.9	45.0	75.0
6	8.25	7.21	240	160	202	90	38	70	80.2	54.5	9.7	7.3	53.0	71.0
7	8.24	7.24	266	210	212	130	54	80	71.3	66.5	21.4	10.7	51.0	76.0
8	8.33	7.13	272	218	210	128	62	90	86.6	84.2	10.7	2.4	n/a	n/a
9	8.29	7.22	264	224	210	130	54	94	86.6	75.4	11.7	8.7	50.0	80.0
10	8.38	7.36	260	216	214	122	46	94	81.8	73.7	13.6	7.8	48.0	80.0
11	8.35	7.46	286	230	216	126	70	104	81.0	73.7	20.4	11.2	46.0	82.0
12	8.33	7.43	266	218	208	120	58	98	99.4	72.1	4.4	9.2	45.0	76.0
13	8.28	7.24	278	202	216	114	62	88	85.8	59.3	15.6	13.1	48.0	66.0
14	8.23	7.30	264	220	208	138	56	82	68.9	68.1	22.4	12.2	45.0	72.0
15	8.06	7.42	242	206	184	122	58	84	66.5	65.7	18.5	10.2	43.0	73.0
16	8.05	7.12	234	214	196	118	38	96	81.0	69.7	7.8	9.7	41.0	90.0
17	8.16	7.21	246	206	200	98	46	108	85.8	65.7	7.8	10.2	41.0	85.0
18	8.29	7.27	280	212	206	116	74	96	77.0	64.9	14.6	12.2	47.0	80.0
19	8.24	7.27	266	214	214	120	52	94	85.8	69.7	12.6	9.7	43.0	78.0
20	8.22	7.44	254	220	212	124	42	96	85.8	70.5	9.7	10.7	43.0	80.0
21	8.23	7.42	246	226	208	118	38	108	77.8	74.5	12.6	9.7	45.0	85.0
22	8.33	7.50	244	216	208	118	36	98	79.4	72.1	11.2	8.7	42.0	85.0
23	8.22	7.49	248	222	208	114	40	108	82.6	72.9	10.2	9.7	48.0	87.0
24	8.24	7.52	258	228	208	118	50	110	78.6	72.9	15.1	11.2	42.0	80.0
25	8.30	7.49	240	228	208	124	32	104	8.6	75.4	9.7	11.2	42.0	82.0
26	8.28	7.30	248	220	208	120	40	100	84.2	81.0	9.2	4.4	41.0	80.0
27	8.21	7.55	242	226	208	126	34	100	78.6	77.0	11.2	8.3	41.0	84.0
28	8.28	7.46	242	240	208	126	34	114	82.6	80.2	8.8	9.7	43.0	87.0
29	8.23	7.46	254	224	210	114	44	110	83.4	78.6	11.2	6.8	42.0	88.0
30	8.33	7.49	256	230	216	132	40	98	83.4	79.4	11.7	7.8	42.0	88.0
31	8.32	7.41	248	242	212	130	36	112	77.8	74.5	13.1	13.6	40.0	78.0
Avg.	8.27	7.37	254	206	207	113	48	93	78.3	68.6	12.3	9.1	44.4	77.2
Max.	8.44	7.71	286	242	216	138	74	114	99.4	84.2	22.4	13.6	53	90
Min.	8.05	7.07	232	120	184	60	28	50	8.6	42.5	4.4	2.4	40	41

Bacteriological &
Physical ParametersCity of Flint Water Treatment Plant
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Date	Total Coliform						Standard Plate Count		Wind Direction	Temp. C	Color		Odor	
	Raw (Coliform MPN)		Filter Confluence (N&S)		Plant Tap									
	# Samples	Count	# Samples	# pos	# Samples	# pos	Raw	Tap		Raw	Raw	Tap	Raw	Tap
1	1	1166	12	0	1	0	14760	<2		12.6				
2	1	864	12	0	1	0	800	<2		13.2				
3	1	930	12	0	1	0	1300	<2		12.0				
4	1	974	12	0	1	0	>14760	<2		13.6				
5	1	882	12	0	1	0	>14760	<2		12.5				
6	1	618	12	0	1	0	12460	<2		14.9				
7	1	728	12	0	1	0	>14760	<2		14.3				
8	1	426	12	0	1	0	9400	<2		13.4				
9	1	342	12	0	1	0	>14760	<2		16.6				
10	1	610	12	0	1	0	>14760	2		17.6				
11	1	220	12	0	1	0	>14760	2		18.1				
12	1	218	12	0	1	0	>14760	<2		18.3				
13	1	126	12	0	1	0	11100	<2		19.5				
14	1	2910	12	0	1	0	>14760	<2		19.6				
15	1	16328	12	0	1	0	14760	<2		17.4				
16	1	12588	12	0	1	0	5980	<2		13.2				
17	1	3720	12	1	1	0	3320	2		14.3				
18	1	1618	12	0	1	0	7840	<2		16.7				
19	1	4494	12	0	1	0	16.1	<2		16.1				
20	1	1816	12	0	1	0	860	<2		17.2				
21	1	4764	12	0	1	0	14760	<2		18.2				
22	1	2934	12	0	1	0	7440	<2		19.0				
23	1	960	12	0	1	0	7840	<2		18.0				
24	1	682	12	0	1	0	3780	<2		18.3				
25	1	398	12	0	1	0	14760	2		18.7				
26	1	482	12	0	1	0	>14760	<2		21.4				
27	1	2034	12	0	1	0	1600	<2		20.6				
28	1	2028	12	0	1	0	7440	<2		21.1				
29	1	918	12	0	1	0	5740	<2		20.6				
30	1	852	12	0	1	0	2160	<2		22.3				
31	1	1166	12	0	1	0	3320	<2		22.7				
Avg.										17.2				
Max.							> 14760	2		22.7				
Min.										12.0				

**Distribution System
Monitoring**

 City of Flint Water Treatment Plant
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Date	Free Chlorine Residual at Bacteriological Monitoring Stations mg/l										Number of Samples
	1	2	3	4	5	6	7	8	CS	WR	
1									0.6	0.8	2
2									0.6	0.8	2
3											0
4											0
5									0.7	0.6	2
6									1.1	1.4	2
7	1.0	1.3	0.9	1.0	0.9	0.9	0.9	1.3	0.4	0.6	10
8	1.1	1.3	1.0	1.4	0.9	1.1	0.9	1.4	0.8	0.6	10
9									0.7	0.6	2
10											0
11											0
12									0.3	0.4	2
13									0.3	0.4	2
14	1.0	0.7	1.0	1.0	0.7	0.7	0.9	0.7	0.3	0.4	10
15	0.6	0.5	0.5	0.3	0.2	0.3	0.2	0.4	0.2		9
16									0.3		1
17											0
18											0
19									0.4	0.3	2
20									0.3	0.3	2
21	0.3	1.2	0.7	0.8	0.5	1.0	0.7	1.2	0.3	0.3	10
22	0.8	0.9	0.7	0.4					0.3	0.2	6
23									0.3	0.2	2
24											0
25											0
26									0.3	0.1	2
27									0.2	0.0	2
28	0.7	0.9	0.6	0.1	0.5	0.6	0.5	1.0	0.2	0.1	10
29	0.7	1.1	0.6	0.9	0.3	0.9	0.9	1.1	0.3	0.1	10
30											0
31											0

Distribution Sample Summary

Total # of routine distribution samples analyzed	100
Total # of routine distribution samples required	100

Distribution Disinfectant Free Residual Summary

Percent samples with a detectable disinfectant residual	99
Average disinfectant residual this month	0.7

Distribution Bacteriological Summary

Total # of positive routine distribution samples	0
Percent of routine distribution samples positive	0

Positive Distribution Samples

Date	Monitoring Station	Date	Repeat Monitoring Stations	Residual	Positive or Negative

**Distribution System
Monitoring**

 City of Flint Water Treatment Plant
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Date	Total Chlorine Residual at Bacteriological Monitoring Stations mg/l										Number of Sample
	1	2	3	4	5	6	7	8	CS	WR	
1									0.7	1.0	2
2									0.7	0.8	2
3											0
4											0
5									1.0	0.8	2
6									1.9	0.9	2
7	1.5	1.7	1.4	1.4	1.1	1.1	1.1	1.7	0.6	0.9	10
8	1.6	1.9	1.2	1.7	1.3	1.7	1.3	1.7	0.9	1.1	10
9									0.9	0.8	2
10											0
11											0
12									0.4	0.6	2
13									0.4	0.7	2
14	1.3	1.0	1.4	1.3	1.0	1.1	1.2	0.9	0.4	0.7	10
15	0.8	0.7	1.0	0.6	0.5	0.7	0.7	0.7	0.3		9
16									0.4		1
17											0
18											0
19									0.5	0.5	2
20									0.4	0.5	2
21	0.4	1.9	1.2	1.3	1.0	1.5	1.1	1.6	0.4	0.4	10
22	1.2	1.5	1.0	1.7					0.5	0.3	6
23									0.4	0.3	2
24											0
25											0
26											0
27									0.4	0.2	2
28	1.1	1.2	1.0	0.3	0.8	1.1	0.9	1.4	0.3	0.2	10
29	1.1	1.5	1.1	1.1	0.5	1.1	1.1	1.2	0.5	0.3	10
30											0
31											0

Distribution Disinfectant Total Residual Summary	
Percent samples with a detectable disinfectant residual	100
Average disinfectant residual this month	1.0

Cover Page Notes:

1. Filter head loss meters are not operational on our SCADA. They will be operational after our SCADA upgrades are complete. The SCADA upgrades are out for bid at the moment.
2. No cost analysis done for chemicals or power. An accurate chemical cost could not be determined due to polymer usage. We were given significant quantities (4-5 days) of polymer to use as a trial on two different occasions. No power cost was determined because I am trying to gain access to the correct monthly power cost.
3. POE continuous chlorine residual monitoring equipment has not been installed. We plan to move the continuous chlorine analyzer from the 3MG Well to the discharge side of the high service pumps. At this time we are taking residuals in the 3MG well, and using our lab tap to represent POE.

Report Notes:

1. Plant operations were shut down on 5/12 until 5/14. This was done to drain a softening clarifier and change plant set-up to test a new polymer. Storage reservoirs were utilized during this time.
-

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, May 27, 2014 2:54 PM
To: Rosenthal, Adam (DEQ)
Subject: RE: AC

I'm on the same page....

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

From: Rosenthal, Adam (DEQ)
Sent: Tuesday, May 27, 2014 2:53 PM
To: Philip, Kris (DEQ); Prysby, Mike (DEQ)
Subject: RE: AC

done. knew that was the proper route, but thought taking out the treatment process would do the same thing while having the ability to CI in the future.

From: Philip, Kris (DEQ)
Sent: Tuesday, May 27, 2014 2:48 PM
To: Rosenthal, Adam (DEQ); Prysby, Mike (DEQ)
Subject: RE: AC

For the time being, just mark them inactive so I can generate the quarterly submittal without error. Then you can re-add PF's at some point, then remove these. Sound ok for now?

From: Rosenthal, Adam (DEQ)
Sent: Tuesday, May 27, 2014 2:46 PM
To: Philip, Kris (DEQ); Prysby, Mike (DEQ)
Subject: RE: AC

That is what we decided, but I didn't want to lose the data associated with the existing records.

From: Philip, Kris (DEQ)
Sent: Tuesday, May 27, 2014 2:44 PM
To: Rosenthal, Adam (DEQ)
Subject: RE: AC

So I'm thinking these should not be in as TP's, but rather as PF's (pump facilities)? Does that seem right?

From: Rosenthal, Adam (DEQ)
Sent: Tuesday, May 27, 2014 2:40 PM
To: Philip, Kris (DEQ)
Subject: RE: AC

flow. they have the ability to add CI, but don't.

From: Philip, Kris (DEQ)
Sent: Tuesday, May 27, 2014 2:39 PM
To: Rosenthal, Adam (DEQ)
Subject: RE: AC

Booster pumps for boosting what?

From: Rosenthal, Adam (DEQ)
Sent: Tuesday, May 27, 2014 2:38 PM
To: Philip, Kris (DEQ)
Subject: RE: AC

Michael and I just went through this, and I recall that there is no treatment at those locations, however they still exist as booster pumps. now what?

From: Philip, Kris (DEQ)
Sent: Tuesday, May 27, 2014 2:36 PM
To: Rosenthal, Adam (DEQ)
Subject: RE: AC

That was quick. Collateral engineering damage.

Can you also enter treatment processes for Flint's TP004 & TP003? These are also throwing errors. Looks like the generic unit is there, but not the treatment processes/objectives.

From: Rosenthal, Adam (DEQ)
Sent: Tuesday, May 27, 2014 2:33 PM
To: Philip, Kris (DEQ); O'Boyle, Wade (DEQ)
Subject: RE: AC

done. this is what happens when we let engineers muck w/SDWIS.

From: Philip, Kris (DEQ)
Sent: Tuesday, May 27, 2014 2:27 PM
To: Rosenthal, Adam (DEQ); O'Boyle, Wade (DEQ)
Subject: AC

Adam/Wade,

I finally have my federal reporting software working (hopefully) and need to report right away. Please add AC contacts to SDWIS for the following ASAP. They will bomb out on error reports without ACs.

D13 40116 Dutch Hills
D64 40563 Dumont Creek Estates

Thanks!

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Thursday, May 15, 2014 9:41 AM
To: Rosenthal, Adam (DEQ)
Cc: Prysby, Mike (DEQ)
Subject: RE: April '14 MOR

We need turbidity data on raw, settled, CFE, along with the # of monitoring periods and individual turbidity sample count. We need the front page that verifies all the data. Also note that the Plant Tap results only show a few samples at best. Hopefully they are collecting 4 hour compliance samples at the CFE and have all the individual data. We should probably conference call them tomorrow to go over the MOR and monitoring requirements.

Adam, can you provide them with a proper MOR form? Kris or other analysts have forms you can work off of if necessary.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Rosenthal, Adam (DEQ)
Sent: Thursday, May 15, 2014 9:18 AM
To: Busch, Stephen (DEQ)
Cc: Prysby, Mike (DEQ)
Subject: FW: April '14 MOR

thought he CC'd you.

Adam

From: Michael Glasgow [<mailto:mglasgow@cityofflint.com>]
Sent: Wednesday, May 14, 2014 2:33 PM
To: Rosenthal, Adam (DEQ)
Subject: Re: April '14 MOR

Adam,

Attached is a copy of our MOR. It is not complete. As you will see, it is only missing the information on plant flow. That data was in Brent's office, which was unfortunately flooded due to a replaced valve mishap. Flow coming out of the plant was shut off for a brief moment (valve was originally half open, and upon repair of the controller the valve was closed fully then re-opened) stopping flow to our pump station, and flooded the front offices with over 3 foot of water causing a lot of Brent's paper work to be saturated. He is still drying things out and separating them. I have forwarded your original message to him and I expect to have the completed version of our MOR to you by the end of the week. I am in the process of altering the MOR to reflect our new operation, however for last month considering the fact we only distributed water a couple days, I tried to combine them together. During those couple days we were also supplementing the distribution system with Detroit water located in our reservoirs.

Mike Glasgow
 City of Flint Water Plant

On Wed, May 14, 2014 at 8:52 AM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Morning Mike, reporters are calling and Steve is looking for the April '14 MOR, please email a copy when you get this.

Please note that since Flint submits the monthly bacti results with the MOR, it is due by the 10th of the month. Please make sure to send future MORs, or at least the bacti results so they are received by the 10th.

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

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, April 18, 2014 8:51 AM
To: Arduin, Jim (DEQ); Rosenthal, Adam (DEQ); Cook, Pat (DEQ)
Subject: Bus to Flint

Adam is working on getting a vehicle and will have it out at the circle drive in front of Con Hall.

We are due at Flint WTP at 1:00. I suggest we leave at 12:00, unless someone needs to grab something to eat on the way.

I will be in a meeting the rest of the morning, so just email if you need something.

I have a copy of the current survey and some notes on the improvements they were to complete. If you need to look at anything else or get a copy of something please see Jo Anne.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Monday, April 14, 2014 8:39 AM
To: Antil, Jeffrey (DEQ); Brennan, Patrick (DEQ); Chuhrian, Laura (DEQ); Doyle, Mark (DEQ); Drake, Jerry (DEQ); DuMont, Ralph (DEQ); Joseph, Mark (DEQ); Prysby, Mike (DEQ); Rennaker, Joanne (DEQ); Rosenthal, Adam (DEQ); Skinker, Bethel (DEQ)
Subject: District Staff Meetings Jxn 4/15, Lan 4/24
Attachments: Staff Meeting Agenda.docx

We have staff meetings coming up. Attached is the agenda. There is a lot on the list, but let me know if you have anything else to add on.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Mid Year (April) District Staff Meeting Agenda

- FOIA Exemptions
- Lansing District Mascot
- Communications Policy
 - o Media Training
 - o Responding to Media Inquiries
- Blissfield WTP Survey
- Fluoride QA/QC
- Sanitary Survey Status
 - o 6 month second half of FY14 Inspection plan (surveys/visits)
- Source Water Assessment Status
- Wellhead Protection Efforts
- PEAS Response & DWGIS/ArcGIS
- Director Visits
 - o Lansing MSU
 - o Jackson – Ann Arbor NSF & City?
- Enforcement Status
 - o Moon Lake
 - o Greenbrook Estates
 - o Quail's Nest/Bennett MHP
 - o Flint – Bray Road
- DCDS AL/SL Comments
- Outlook Calendar Requests
 - o All Day – Employee/Supervisor
 - o During Day – Employee
 - o All Appointments and Leave
- Travel Vouchers – Meal Receipts
- Secondary Systems
- Website Comment Button
- Purge Publications, Policies, Procedures, Templates
- Response Guidelines
- Cross Connection Histories
 - o Small System Cross connection reports

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, April 02, 2014 4:10 PM
To: Rosenthal, Adam (DEQ)
Subject: Re: Email Inquiry

Looks like a generic caller through OEA. Just let OEA know you got it

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Sent from my iPhone

On Apr 2, 2014, at 4:06 PM, "Rosenthal, Adam (DEQ)" <ROSENTHALA@michigan.gov> wrote:

<image001.gif>

ok, just wasn't sure if it needed to go up the chain or not.

thanks,

Adam

From: Busch, Stephen (DEQ)
Sent: Wednesday, April 02, 2014 3:54 PM
To: Rosenthal, Adam (DEQ); Prysby, Mike (DEQ)
Subject: RE: Email Inquiry

Please contact the individual by phone. You should explain that the City provides extensive treatment in order to meet all of the required standards, they will not be drinking Flint River water directly.

Thanks.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Rosenthal, Adam (DEQ)
Sent: Wednesday, April 02, 2014 3:50 PM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Subject: FW: Email Inquiry

FYI. How do we respond?

Adam

From: deq-assist
Sent: Wednesday, April 02, 2014 3:34 PM
To: Rosenthal, Adam (DEQ)
Subject: FW: Email Inquiry

Adam,
I'm forwarding this email to you for response. If you determine it more appropriate to forward on to other staff please do so.

Thank you.

Tonya

Tonya Scheiter, Department Analyst
Michigan Department of Environmental Quality
Office of Environmental Assistance
Environmental Assistance Center 1-800-662-9278
Office of Environmental Assistance
517-284-6873
Deq-assist@michigan.gov
scheiter@michigan.gov
517-284-7272 SARA Title III Program Phone
Deq-sara@michigan.gov

Thanks for contacting our Department of Environmental Quality, Office of Environmental Assistance. To help us improve our services, we encourage you to complete our short [customer service survey](https://www.surveymonkey.com/s/oeacs)
<https://www.surveymonkey.com/s/oeacs>

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, April 02, 2014 3:59 PM
To: Bartley, Cheryl (DEQ)
Cc: Prysby, Mike (DEQ); Skinker, Bethel (DEQ); Rosenthal, Adam (DEQ); Joseph, Mark (DEQ)
Subject: RE: Strategy for dealing with Let Run Advisories and other potential spring wet weather events

Flint for one. There are probably several individual customers that chose to let their water run to prevent freezing. This may also be more prevalent in some small privately owned systems, such as manufactured housing where the risers are not well protected and smaller distribution lines are more common.

ODWMA staff do you know any specific systems that openly stated they would allow a let run?

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Bartley, Cheryl (DEQ)
Sent: Wednesday, April 02, 2014 3:47 PM
To: Busch, Stephen (DEQ)
Subject: FW: Strategy for dealing with Let Run Advisories and other potential spring wet weather events

The WRD staff did not indicate we have any communities with Let Run advisories. Are you aware of any that we are not? Please advise.
 Thank You!

Cheryl Bartley
 Assistant Supervisor
 Lansing District Office
 DEQ-Water Resources Division

bartleyc@michigan.gov
 517-284-6658

From: Masterson, Mike (DEQ)
Sent: Wednesday, April 02, 2014 3:34 PM
To: DEQ-WRD-Supervisors-District
Subject: Strategy for dealing with Let Run Advisories and other potential spring wet weather events

Thank you all for updating the spreadsheet with information pertaining to the municipalities in your district that have instituted Let Run Advisories this winter. The complete spreadsheet can be found [here](#). I realize you have been working closely with many of these facilities like we normally do, but there is also some legislative interest in this topic and there was a legislative hearing last week that focused on these advisories. We'd like to remain proactive in our communications with these municipalities to inform them of their permit obligations and encourage them to contact us if they anticipate any problems. Attached, and also located with the spreadsheet, is a draft email that we should use to send to those facilities we anticipate will have problems. Please discuss this with your staff and have them send this email to their contacts at these facilities in the next week or so. We have discussed this strategy with Jim Sygo, Maggie

Datema, and Sarah Howes so they are prepared for any legislative inquiries that may arise. Please also copy the ODWMA District Supervisor and district engineer on communications to keep them informed as well. Thanks.

Michael Masterson
Field Operations Section Chief
Water Resources Division
Michigan DEQ
PO Box 30458
Lansing, Michigan 48909
517-243-4045

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, April 02, 2014 3:54 PM
To: Rosenthal, Adam (DEQ); Prysby, Mike (DEQ)
Subject: RE: Email Inquiry

Please contact the individual by phone. You should explain that the City provides extensive treatment in order to meet all of the required standards, they will not be drinking Flint River water directly.

Thanks.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Rosenthal, Adam (DEQ)
Sent: Wednesday, April 02, 2014 3:50 PM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Subject: FW: Email Inquiry

FYI. How do we respond?

Adam

From: deq-assist
Sent: Wednesday, April 02, 2014 3:34 PM
To: Rosenthal, Adam (DEQ)
Subject: FW: Email Inquiry

Adam,
 I'm forwarding this email to you for response. If you determine it more appropriate to forward on to other staff please do so.

Thank you.

Tonya

Tonya Schelter, Department Analyst
 Michigan Department of Environmental Quality
 Office of Environmental Assistance
 Environmental Assistance Center 1-800-662-9278
 Office of Environmental Assistance
 517-284-6873
Deq-assist@michigan.gov
scheltert@michigan.gov
 517-284-7272 SARA Title III Program Phone
Deq-sara@michigan.gov

Thanks for contacting our Department of Environmental Quality, Office of Environmental Assistance. To help us improve our services, we encourage you to complete our short customer service survey
<https://www.surveymonkey.com/s/oeacs>

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Wednesday, April 02, 2014 1:07 PM
To: Rosenthal, Adam (DEQ)
Subject: RE: Flint revised MS letter
Attachments: 2014 Flint revised MS-SBrev.doc

How does the attached look?

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

From: Rosenthal, Adam (DEQ)
Sent: Tuesday, April 01, 2014 11:46 AM
To: Prysby, Mike (DEQ); Busch, Stephen (DEQ)
Subject: Flint revised MS letter

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

April 1, 2014

Mr. Brent Wright
City Of Flint - D P W
Flint Water Plant
4500 North Dort Highway
Flint, Michigan 48505

WSSN: 02310

Dear Mr. Wright:

SUBJECT: Revised Drinking Water Monitoring Schedule – 2014
Monthly Operation Reports
Siting Plans and Record Keeping

Monitoring Schedule:

Enclosed is your revised Drinking Water Monitoring Schedule for calendar year 2014 outlining the minimum requirements for your public water supply. Your schedule has been revised based on the City's intent to change the source of its drinking water from the Detroit Water and Sewerage Department to treatment of the Flint River utilizing the City's Water Treatment Plant. Collect samples early in the monitoring period of the year indicated on the schedule. If you use a private laboratory you are required to report the results to us within the first ten days of the month following the month that you received the results. To receive credit for monitoring, the "**WSSN**" (water supply serial number), the "**Site Code**," and "**County**" must appear on the sample result. Bottles will NOT be mailed automatically. If you use the DEQ Laboratory, you can order bottles by calling 517-335-8184. Be certain of the EPA sampling and analysis method requirements for hold times.

Please note that both distribution and entry point to the distribution system monitoring will increase upon plant startup.

Monthly Operation Report Requirements:

The City shall submit monthly operation reports as required under Administrative Rule 1502 (R325.11502). In addition to plant operational data collected and as noted in the attached schedule, the City of Flint will be required to collect Total Organic Compounds (TOC) samples from the source and finish water on a monthly basis. You will also be required to collect Water Quality Parameters (WQPs) at your entry point every 2 weeks. The City must also demonstrate adequate contact time (CT) for disinfection in accordance with Administrative Rule 1505a (R325.11505a).

Disinfection By-Product Sample Siting Plans:

The City of Flint must return to routine standard monitoring of disinfection by-products, and a revised Disinfection & Disinfectants By-Product (DDBP) plan must be submitted, which identifies 4 additional sites, 8 sites in total, for routine quarterly monitoring. These sites must be selected in accordance with the Stage 2 DDBP Rule and supporting documentation must be submitted with the plan for review and approval by this office prior to monitoring.

Lead and Copper Monitoring Requirements and Site Sample Pool

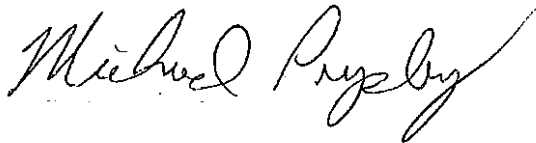
This change in source also increases your distribution system monitoring for WQPs to 25 samples per 6 months and 100 sample locations for Lead & Copper for 2 consecutive 6 month rounds of monitoring. The City will need to expand its current sample site pool in accordance with the requirements of Administrative Rule 710a (R325.10710a). A list of the proposed sample site pool locations, including each site's Tier, sample category, service material, and building plumbing material, shall be submitted to this office for review and approval.

Record Keeping:

The City shall maintain all monitoring records in accordance with all applicable requirements under the Administrative Rules including Rule 720a (R325.10720a), Rule 1506 (R325.11506), and Rule 1507 (R325.11507).

The Michigan Safe Drinking Water Act requires certain reports to be submitted to this office each year. Please remember that cross connection reports and annual pumpage reports are due by March 31, and the **Consumer Confidence Report** is due by July 1.

Also enclosed is the document "2014 Monitoring and Reporting Requirements." This provides additional details about monitoring and reporting requirements. If you have any questions, please contact us by telephone or email using the information below.



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



Adam Rosenthal, EQA
Lansing District Office
Office of Drinking Water and
Municipal Assistance
517-284-6644

MFP:AR:JR
Enclosure

cc/encl: Mr. Robert Bisnick, City Of Flint
Genesee Co. Health Dept.

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Monday, March 31, 2014 11:52 AM
To: Rosenthal, Adam (DEQ); Prysby, Mike (DEQ)
Subject: EPA Lead Copper Info

The following site has the following documents pertinent to Flint:

<http://water.epa.gov/lawsregs/rulesregs/sdwa/lcr/compliancehelp.cfm>

LCR Guidance Manual Vol II (multiple pdf files)

Revised Guidance Manual for Selecting Lead & Copper Control Strategies, 2003 (EPA 816-R-03-001)

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Monday, March 31, 2014 9:26 AM
To: Rosenthal, Adam (DEQ)

The Flint meeting is in CH1S – Harold Bledsoe (main hallway – west side).

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

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Monday, January 06, 2014 3:01 PM
To: Antil, Jeffrey (DEQ); Brennan, Patrick (DEQ); Chuhran, Laura (DEQ); Doyle, Mark (DEQ); Drake, Jerry (DEQ); DuMont, Ralph (DEQ); Joseph, Mark (DEQ); Prysby, Mike (DEQ); Rennaker, Joanne (DEQ); Rosenthal, Adam (DEQ); Skinker, Bethel (DEQ)
Cc: Benzie, Richard (DEQ)
Subject: Week of 1/6 whereabouts

Con Hall is closed today but is expected to reopen on Tuesday. However, DeWitt Public Schools are already cancelled for Tuesday so I will be on AL that day.

Wednesday I have a program to attend at the Michigan State Police Offices.

A meeting originally scheduled in Flint today has been rescheduled for Thursday morning. I should make it back to Lansing with Mike Prysby late in the day.

Friday I will be in Lansing as I have my performance review with Richard that day.

The following week is also going to be a busy one. I apologize to those in Jackson for my continued absence. If you need anything please don't hesitate to call or email me.

Above all please stay safe and warm over this next week.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

Rennaker, Joanne (DEQ)

From: Philip, Kris (DEQ)
Sent: Tuesday, October 29, 2013 3:14 PM
To: Rosenthal, Adam (DEQ)
Subject: RE: flint

I have an idea about Burton. Call me at 284-6518. Don't have your new number on hand.

From: Rosenthal, Adam (DEQ)
Sent: Tuesday, October 29, 2013 3:03 PM
To: Philip, Kris (DEQ)
Subject: RE: flint

ok, I'll change them back to 4. They have been doing 4 samples/quarter since the beginning of stage 1. Burton has a MV for the 2nd & 3rd quarter '13, they thought they were done after 4 qtrs.

From: Philip, Kris (DEQ)
Sent: Tuesday, October 29, 2013 2:51 PM
To: Rosenthal, Adam (DEQ)
Subject: flint

I noticed you have Flint in the Mon Db as doing 2 dual TTHM/HAA5 per quarter, which I think reflects a reduced number of sites. But I ran the LRAA and they have 1 site above 40, so I don't think they can reduce. I believe they should stay at 4 sites per quarter, which is what they did collect in August.

Rennaker, Joanne (DEQ)

From: Philip, Kris (DEQ)
Sent: Tuesday, October 29, 2013 2:51 PM
To: Rosenthal, Adam (DEQ)
Subject: flint

I noticed you have Flint in the Mon Db as doing 2 dual TTHM/HAA5 per quarter, which I think reflects a reduced number of sites. But I ran the LRAA and they have 1 site above 40, so I don't think they can reduce. I believe they should stay at 4 sites per quarter, which is what they did collect in August.

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, October 04, 2013 3:19 PM
To: Antil, Jeffrey (DEQ); Brennan, Patrick (DEQ); Chuhran, Laura (DEQ); Doyle, Mark (DEQ); Drake, Jerry (DEQ); DuMont, Ralph (DEQ); Joseph, Mark (DEQ); Prysby, Mike (DEQ); Rennaker, Joanne (DEQ); Rosenthal, Adam (DEQ); Skinker, Bethel (DEQ)
Cc: Campbell, Matthew (DEQ); Benzie, Richard (DEQ)
Subject: Oct. 7-11

My schedule for next week is as follows:

M – AL (Mark Joseph Acting L/J DS)
T – Jackson
W- Lansing
Th – Flint KWA Meeting
F – Grand Rapids (FOS Management Meeting)

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Monday, August 26, 2013 9:11 AM
To: Campbell, Matthew (DEQ); Antil, Jeffrey (DEQ); Brennan, Patrick (DEQ); Chuhran, Laura (DEQ); Doyle, Mark (DEQ); Drake, Jerry (DEQ); DuMont, Ralph (DEQ); Joseph, Mark (DEQ); Prysby, Mike (DEQ); Rennaker, Joanne (DEQ); Rosenthal, Adam (DEQ); Skinker, Bethel (DEQ)
Subject: Busch Schedule 8/26 - 8/30

My schedule for this week is as follows:

M 8/26 Lansing (meetings)
T 8/27 Lansing (Flint)
W 8/28 Jackson
Th 8/29 Jackson
F 8/30 Lansing

This weekend is Labor Day weekend so I'm sure we'll get a notice to submit time sheets early.

Reminder that Wednesday evening is the Lansing District Picnic.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Friday, July 26, 2013 2:55 PM
To: Antil, Jeffrey (DEQ); Brennan, Patrick (DEQ); Chuhran, Laura (DEQ); Doyle, Mark (DEQ); Drake, Jerry (DEQ); DuMont, Ralph (DEQ); Joseph, Mark (DEQ); Prysby, Mike (DEQ); Rennaker, Joanne (DEQ); Rosenthal, Adam (DEQ); Skinker, Bethel (DEQ)
Subject: DS Stuff

Here is the latest updates I have for everyone.

- RMG Central staff will have new phone numbers soon for their move into their permanent space on 4S in con hall. Fax numbers will change too. Lansing district will have new numbers when we move to 1S in October. (We will probably hold off until the final fax numbers are in to order Lansing District business cards).
- Cell phones for district staff – Due to the phone changeout in Con Hall Lansing District Engineers (Mike, Bethel, and Mark) have agreed and been assigned iPhones instead of replacement desk phones, based on their time spent in the field. These staff will be the pilot case to see if there is enough benefits to outweigh the additional cost.
- Brad Wurfel Media Training. ODWMA may schedule some dates to go through media training with Brad. If you haven't done this before (or recently) it is a good training for dealing with both newspaper and TV reporters.
- ODWMA Training School – Liane is considering a training for recent employees similar to the AQD Tuesday school. It's a combo QOL/DEQ/Division orientation program.
- Highland Park – There are ongoing discussions to have DWSD takeover Highland Park.
- DWSD Authority - There are multiple proposals currently under review to convert DWSD into a separate Authority.
- DWSD Bankruptcy – Impacts unknown at this point but DWSD owes \$470+ million in SRF (sewer) loans and \$21 million DWRF (water) loans. DWSD has paid 2013 annual fee, 2014 fee will be mailed at end of this year.
- ODWMA Inservice Training – RAM Center 8/4 and 8/5 2014. (2/3 wanted July date, but this ended up the closest available) Probably run 10:00 Monday – 3:00 Tuesday. Can stay at RAM or State Campground. The committee is set but hasn't met yet. Please contribute ideas for the training.
- Development Opportunity – Enforcement is looking for senior staff to be Chair/Moderator for various hearings. These would be for other division programs that you don't work in (to be impartial you can't mediate your own program). It would include some writeup work for each hearing you participate in. Let me know if you want to be included in the list. Contact Sue Maul if you want more info.
- Paul Sisson discussed the recent incident in Traverse City with a splash pad contaminated with sewage. Based on the information available at the time of the review the correct decisions were made, there was no political pressure to issue the permit, we were trying to provide good customer service. Director Wyant met with Paul and Liane and had a good discussion about the review process. Liane wants everyone to know that you should never feel pressured to compromise a review. Telling someone that a project is not currently approvable is perfectly ok when answering inquiries from the legislature and front office.

- GW Contamination Assistance – Field staff may be asked to assist with GW Contamination Investigation projects to collect time sensitive samples, and verify construction work. Many staff in this program retired and the couple of remaining staff need help to get these time sensitive items complete.
- Source Water Assessments – MGMT should have all provisional delineations in DW GIS now. If we have newer wells without a source water assessment or wells that should have an updated source water assessment, please check with Jean Shekter and Jason Berndt as a new form may now be available and they can help complete part of the assessment for you.
- MHP old records – non-drinking water records for MHP's that were held when the program folded into the PWSS program will be given to WRD if appropriate or disposed of as LARA should have copies of these records. We will retain any DW records for MHP's in accordance with our retention schedule. I will work on separating out the large pdf files.
- All Hazards Emergency Response Checklist – Richard provided a document from EPA he got at the ASDWA meeting that provides a list of questions to ask when someone calls about various emergency situations.
<http://water.epa.gov/infrastructure/watersecurity/emerplan/upload/epa817f13004.pdf>
- Charlotte GWUDI Report – Charlotte submitted their report on the year long study to determine whether they are a GWUDI. They will remain a groundwater (D) system, but must take action to plug one of their older wells. Bethel is working on the response letter.
- Flint WTP is trying to conduct a test run that includes operation of their softening equipment. Mike, Liane, and I plan to check out the operation next week. We were contacted by Mlive regarding some proposed plant improvements, and consideration for use of Flint River in the interim until KWA is available. However all parties continue to work toward continued supply from DWSD during the interim period.
- Lansing and Jackson Districts have scheduled field visits with the Director. ODWMA will showcase the Monroe WTP in Jackson District and the proposed Alma and St. Louis consolidation project in Lansing District.
- Participation is encouraged for all of the following activities:
DEQ Short Course Instructors
AWWA Annual Conference
AWWA Regional Meetings
- We now have a Data Coder in Lansing Central, she is being trained and will be helping out in the Lansing District initially.
- Lansing District is now scheduled to move into swing space in Con Hall on 8/16-8/19.
- If you have issues for the management meetings (ODWMA All or FOS) please let me know and I will carry them forward.

On a personal note, please excuse my absences over the next few weeks. I am supposed to close on the sale of my house in Grand Rapids next week and will hopefully be closing on a home in DeWitt by mid-August. We look forward to finally getting settled in Lansing and preparing the boys for their new school.

Stephen Busch, P.E.
Lansing and Jackson District Supervisor
Office of Drinking Water and Municipal Assistance
MDEQ
517-643-2314

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Tuesday, July 09, 2013 2:36 PM
To: Prysby, Mike (DEQ)
Cc: Rosenthal, Adam (DEQ)
Subject: RE: Flint WTP Test Run

Thanks for the update. If possible Liane and I are both interested in observing the softening operation. When you schedule a visit please include us both in the appointment.

You may want to remind them that if they plan to send out water from the plant they will need to provide appropriate water quality monitoring for CCR etc. and they should notify us prior to doing so for approval.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Prysby, Mike (DEQ)
Sent: Tuesday, July 09, 2013 2:31 PM
To: Busch, Stephen (DEQ)
Subject: Flint WTP Test Run

Steve,

I will be conducting Genesee County surveillance visits tomorrow which will include a stop at the Flint WTP to observe the initial phase of their extended treatment plant test run. Based on my discussion with Brent today, the plant test run started yesterday, as planned, and the WTP will be operated this week without softening to verify proper operation of the critical treatment plant components. The WTP is currently operating at a 17.0 MGD rate. I will find out when they plan to initiate softening and, more importantly, whether they intend to send any of the treated water to the distribution system...and...if DWSD is agreeable to this. I will update you concerning the status of the plant test run. I also plan to conduct another visit during the test run while softening is being implemented.

Michael Prysby, P.E.
 District Engineer
 Office of Drinking Water and Municipal Assistance
 517 335-6122

Rennaker, Joanne (DEQ)

From: Brent Wright <bwright@cityofflint.com>
Sent: Monday, July 01, 2013 10:54 AM
To: Prysby, Mike (DEQ)
Cc: Rosenthal, Adam (DEQ)
Subject: Re: Flint CCR
Attachments: 2012 CCR pg 4 Key to Detected Contaminants.doc; 2012 CCR pg3.doc; 2012_CCR_pg1&2_w-grafix.doc

Sorry Mike I meant to have this out last week. They were mailed on 6/25/2013.

Brent

On Mon, Jul 1, 2013 at 10:16 AM, Prysby, Mike (DEQ) <PRYSBYM@michigan.gov> wrote:

Brent,

According to our records, we have not received a copy of Flint's 2012 Consumer Confidence Report (CCR) that is due today. Please send us a copy of the Flint 2012 CCR (electronic copy) before the end of today. Thanks.

Michael Prysby, P.E.

District Engineer

Office of Drinking Water and Municipal Assistance

517 335-6122

Key to Detected Contaminants Table		
Symbol	Abbreviation for	Definition/Explanation
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health.
MCL	Maximum Contaminant Level	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MRDLG	Maximum Residual Disinfectant Level Goal	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	Maximum Residual Disinfectant Level	The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
ppb	Parts per billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.
ppm	Parts per million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
ND	Not Detected	
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
HAA5	Haloacetic acids	HAA5 is the total of bromoacetic, chloroacetic, dibromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on total.
pCi/l	picocuries per liter	a measure of radioactivity
n/a	not applicable	
<	Less than	
>	Greater than	

Lake Huron Water Treatment Plant 2012 Regulated Detected Contaminants Tables

Regulated Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Inorganic Chemicals – Monitoring at Plant Finished Water Tap								
Fluoride	8/14/2012	ppm	4	4	0.71	n/a	No	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	8/14/2012	ppm	10	10	0.32	n/a	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	6/9/2008	ppm	2	2	0.01	n/a	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Disinfection By-Products – Stage 1, 1st Quarter Monitoring in Distribution System								
Total Trihalomethanes (TTHM)	Mar 2012	ppb	n/a	80	15.0	12.0-15.0	No	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	Mar 2012	ppb	n/a	60	10.0	7.0-10.0	No	By-product of drinking water disinfection
Disinfection By-Products – Stage 2, 2nd - 4th Quarter Monitoring in Distribution System								
Total Trihalomethanes (TTHM)	May-Nov 2012	ppb	n/a	80	57.8	15.2-57.8	No	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	May-Nov 2012	ppb	n/a	60	19.0	8.0-19.0	No	By-product of drinking water disinfection
Disinfectant Residuals Monitoring in Distribution System								
Disinfectant (Total Chlorine residual)	Jan-Dec 2012	ppm	MRDGL 4	MRDL 4	1.40	0.10-1.40	No	Water additive used to control microbes

2012 Turbidity – Monitored every 4 hours at Plant Finished Water Tap			
Highest Single Measurement Cannot exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation yes/no	Major Sources in Drinking Water
0.13 NTU	100%	No	Soil Runoff
Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.			

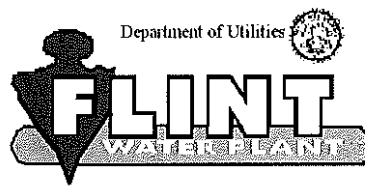
2012 Microbiological Contaminants – Monthly Monitoring in Distribution System					
Regulated Contaminant	MCLG	MCL	Highest Number Detected	Violation yes/no	Major Sources in Drinking Water
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of monthly samples	in one month 4	No	Naturally present in the environment.
<i>E. coli</i> or Fecal Coliform Bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or <i>E. coli</i> positive.	entire year 0	No	Human waste and animal fecal waste.

2011 Lead and Copper Monitoring at Customers' Tap								
Regulated Contaminant	Test Date	Units	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Number of Samples Over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2011	ppb	0	15	< 2.0	0	No	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2011	ppm	1.3	1.3	0.102	0	No	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.
*The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.								

Regulated Contaminant	Treatment Technique	Running annual average	Monthly Ratio Range	Violation Yes/No	Typical Source of Contaminant
Total Organic Carbon (ppm)	The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each month and because the level was low, there is no requirement for TOC removal.				Erosion of natural deposits

2012 Special Monitoring

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.74	Erosion of natural deposits



**City of Flint
Water Plant & Facilities**

2012 Consumers Annual Report on Water Quality

The City of Flint Department of Utilities is dedicated to providing high quality drinking water to the residents of the community. The Consumers Annual Report on Water Quality provides important information about your drinking water. This report includes information about the source of the water, health information, a chart summarizing United States Environmental Protection Agency (USEPA) required testing results, and a table giving explanations of important terms to understand when viewing the test results. The Flint Water Plant & Facilities operates and maintains a certified drinking water laboratory to assure compliance with all state and federal regulations and is committed to prompt and thorough notification to the consumers if there is any reason for concern about the quality of the drinking water.

Information about your drinking water is available at the City of Flint web page on the Internet at www.cityofflint.com or by calling the Flint Water Plant & Facilities at (810) 787-6537. The Safe Drinking Water Hotline at (800) 426-4791 is a resource for health related questions and water quality issues. General drinking water information can be found on the USEPA web site at www.epa.gov/safewater/.

Water Source

The City of Flint purchases drinking water from the Detroit Water & Sewerage Department (DWSD) which operates several drinking water facilities. Following treatment to remove impurities, the water is pumped by DWSD to the Flint Water Plant, where the water is then monitored and distributed throughout the City.

The source water comes from the lower Lake Huron watershed. The watershed includes numerous short, seasonal streams that drain to Lake Huron. The Michigan Department of Environmental Quality in partnership with the U.S. Geological Survey, the Detroit Water & Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the susceptibility of potential contamination. The susceptibility rating is a seven-tiered scale ranging from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contaminant sources. The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards. If you would like to know more information or a complete copy of the report, contact the City of Flint Water Plant at (810) 787-6537.

General Information

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by the public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- ♦ **Microbial contaminants;** such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- ♦ **Inorganic contaminants;** such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- ♦ **Pesticides and herbicides;** which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- ♦ **Organic chemical contaminants;** including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- ♦ **Radioactive contaminants;** which can be naturally occurring or be the result of oil and gas production and mining activities.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Flint Department of Utilities is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize your potential exposure to lead in your water by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Monday, July 01, 2013 10:16 AM
To: bwright@cityofflint.com
Cc: Rosenthal, Adam (DEQ)
Subject: Flint CCR

Brent,

According to our records, we have not received a copy of Flint's 2012 Consumer Confidence Report (CCR) that is due today. Please send us a copy of the Flint 2012 CCR (electronic copy) before the end of today. Thanks.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 335-6122

Rennaker, Joanne (DEQ)

From: Busch, Stephen (DEQ)
Sent: Thursday, June 13, 2013 9:26 AM
To: Antil, Jeffrey (DEQ); Brennan, Patrick (DEQ); Chuhran, Laura (DEQ); Doyle, Mark (DEQ); Drake, Jerry (DEQ); DuMont, Ralph (DEQ); Joseph, Mark (DEQ); Prysby, Mike (DEQ); Rennaker, Joanne (DEQ); Rosenthal, Adam (DEQ); Skinker, Bethel (DEQ)
Subject: FW: ODWMA site visits

FYI. I went over our lists with Liane yesterday. If you have any questions or concerns about these let me know. We'll see how they pan out with the Director and other Divisions' sites.

Thanks for providing these ideas. These visits are going to be ongoing so if you think of something else, let me know and we see about adding it for consideration.

Stephen Busch, P.E.
 Lansing and Jackson District Supervisor
 Office of Drinking Water and Municipal Assistance
 MDEQ
 517-643-2314

From: Shekter Smith, Liane (DEQ)
Sent: Wednesday, June 12, 2013 4:15 PM
To: Thelen, Mary Beth (DEQ)
Cc: Shaler, Karen (DEQ); Sygo, Jim (DEQ); Willard, Veronica (DEQ); Butler, Sonya (DEQ); Hoffman, Kelly (DEQ); Donaldson, Kristina (DEQ); Thomas, Chuck (DEQ); Busch, Stephen (DEQ); Lachance, Amy (DEQ); Bloemker, Jon (DEQ); Benzie, Richard (DEQ); Monosmith, Carrie (DEQ); DeBruyn, Dana (DEQ)
Subject: ODWMA site visits

As requested, the following suggestions are provided by ODWMA staff for potential district visits –

Lansing District:

- City of Leslie (Ingham Co.); Iron Removal System under construction, existing system is still in operation. This could visually show the improvement to the infrastructure
- City of Williamston (Ingham Co.); Iron Removal System with Radium Blending
- Alma/St. Louis Water System Consolidation (Gratiot Co.); Currently in planning phase, but multimedia with RRD and EPA for contamination issues.
- City of Flint WTP (Genesee Co.); Future of WTP as continuous operation (if can coordinate with next planned Test Run – tentatively scheduled for July)
- KWA (Genesee and Lapeer Co.); Intake and Transmission Improvements

Jackson District:

- Monroe WTP; Individual Filter Equipment Failure – Compliance Assistance to prevent violation
- Monroe LHD/Non-Community system – Karst geology areas identified as susceptible to GW contamination, required to provide complete treatment (Cross Roads Church)
- MDARD and NCWS combined inspection of migrant housing facilities
- Pinnacle Technology Non-Community System – Karst wells, hauled/bottled water mitigation
- Frenchtown Township WTP – Fluoride equipment improvements with MDCH grant funding

- Madison Township/Brazeway (Lenawee Co.)– Wellhead protection issue with contamination site, multimedia with RRD
- Deerfield WTP (Lenawee Co.) LT2 requirements – assistance during Sanitary Survey on reporting requirements and treatment optimization

UP District:

The most noteworthy and recent water supply item in the U.P. is the City of Manistique water treatment plant upgrades. The City has put \$5.8 million into various plant upgrades including adding GAC to the filters, building a new sludge handling system, and adding ozone to the treatment. The ozone is generated at the plant. They had to make some of the upgrades to meet DBP standards. In the last 5 years they have also put approximately \$10 million into other infrastructures improvements.

The ozone implementation is the first in the U.P. Jim Rice worked closely with the City and their engineers during the planning process.

Saginaw/Bay City:

Sometime early this fall, Bay County & City should be having the groundbreaking ceremony for their new membrane WTP. The new plant will be using Lake Huron water. The cooperation between these two governments has been unexpected given their past history. They are replacing a 40 year old conventional softening plant that is twice the capacity that is needed and uses Saginaw Bay water. DWRF monies will be used to fund the construction.

A visit to the city of Saginaw's WTP is another option. The plant was constructed about the same time period as the Highland Park WTP, but the Saginaw WTP was properly maintained. The plant superintendent has an excellent background presentation followed by a plant tour.

SEMI District:

Smiths Creek, St. Clair County SRF project – Michigan Pieces award from EPA

Septage bioreactor project, injects septage into landfill increasing decomposition process and in turn utilizing the landfill gas for energy.

Grand Rapids District:

Wyoming Water Treatment Plant (located between Holland and Port Sheldon on the lakeshore) - significant issues have come up in past years (threat of a permit moratorium, CT compliance, plant interruptions) and they were worked out relatively smoothly by anticipating issues before they became problems and collaborating with the city. This approach has allowed the drinking water program to maintain a good level of compliance with little need for enforcement.

Kalamazoo District:

Benton Harbor Water Treatment Plant – significant plant renovations funded by Drinking Water Revolving Loan Fund. Modifications to the plant completed in 2011.

South Haven Water Treatment Plant – new water treatment plant built alongside existing plant to replace existing plant. Interesting construction. New plant came on-line in 2011.

Please let us know if you have any questions.

Liane

Liane J. Shekter Smith, P.E., Chief
Office of Drinking Water and Municipal Assistance
Michigan Department of Environmental Quality
517-373-9523

Rennaker, Joanne (DEQ)

From: Philip, Kris (DEQ)
Sent: Wednesday, May 29, 2013 11:01 AM
To: Rosenthal, Adam (DEQ); Prysby, Mike (DEQ)
Subject: FW: WSSN - 02310, CITY OF FLINT

Flint requested our financial contact be changed to the address below. Please make the change in SDWIS if you feel it is appropriate.

From: Schafer, Lori (DEQ)
Sent: Wednesday, May 29, 2013 10:57 AM
To: Philip, Kris (DEQ)
Subject: WSSN - 02310, CITY OF FLINT

Forgive me if I sent this address correction to you already....

City of Flint
Attn: Yolanda Gray
4500 North Dort Hwy
Flint, MI 48502

Lori Schafer
Department of Environmental Quality
Office of Drinking Water & Municipal Assistance
Administration Section
517-241-1268
schaferl@michigan.gov

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Thursday, April 18, 2013 9:53 AM
To: Rosenthal, Adam (DEQ); Bennett, Charles (DEQ)
Subject: FW: DWSD News Release: DWSD Director's Statement on Flint Decision
Attachments: Doc2013_0417 DWSD Director Makes Statement on Flint's Decision.pdf

Looks like Detroit will attempt to "stick it to em" during the time between the termination of the water service agreement and when KWA water becomes available to the Flint WTP - poss. up to 2 years.....

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 335-6122

From: Brent Wright [<mailto:bwright@cityofflint.com>]
Sent: Thursday, April 18, 2013 9:28 AM
To: Prysby, Mike (DEQ)
Subject: Fwd: DWSD News Release: DWSD Director's Statement on Flint Decision

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

From: <info@dwsdoutreach.org>
Date: Thu, Apr 18, 2013 at 9:18 AM
Subject: DWSD News Release: DWSD Director's Statement on Flint Decision
To: bwright@cityofflint.com

Attached please find a DWSD News Release regarding Flint's decision to leave the DWSD system.



FOR IMMEDIATE RELEASE
Date: Wednesday, April 17, 2013

Media Contact:
Mary Alfonso, DWSD (313) 964-9477

DWSD DIRECTOR MAKES STATEMENT ON FLINT'S DECISION

Statement by Director Sue F. McCormick, prepared by Bill Johnson for DWSD

On April 15, 2013, the Detroit Water and Sewerage (DWSD) presented a good faith, comprehensive proposal to the City of Flint, the Genesee County Drain Commission and the Karegnondi Water Authority (KWA).

The essential elements of the proposal were that it offered Flint/Genesee an opportunity to reserve capacity in the Lake Huron Treatment Plant and accept assignment of capital and operations costs from a specific facility under the terms of a Public/Partnership. The calculated savings included an immediate 50-percent reduction in water unit costs, and approximately \$800 million in total savings over the term of the proposed 30-year contract.

It was disappointing that one day after our submission, Genesee County Drain Commissioner Jeff Wright and Ed Kurtz, Flint's emergency manager, summarily rejected our offer. We had pinned our hope on having the opportunity to have a meaningful discussion about the merits of our plan and the long-term benefits to Flint and its customers. Unfortunately, we were not afforded that opportunity this week or at any time during recent months.

We have subsequently advised Flint that the existing agreement we have with the city to provide water services is hereby terminated effectively one year from today's date (April 17, 2014).

We remain fully committed to holding harmless the remaining customers served by the DWSD system, up to and including all available legal options to recoup the "stranded costs" in the existing 25-mile pipeline, the Imlay Booster Station, and other facilities that primarily serve Flint and Genesee County.

We also remain open to engage Genesee County officials on any alternatives that would be mutually beneficial to DWSD and Flint going forward.

Please direct all media inquiries to Bill Johnson at (248) 840-1095.

#

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, April 16, 2013 10:04 AM
To: Rosenthal, Adam (DEQ)
Subject: FW: KWA and City of Flint
Attachments: KWA and City of Flint.pdf; ATT00001.htm

Here we go again....just an fyi..

Michael Prysby, P.E.
 District Engineer
 Office of Drinking Water and Municipal Assistance
 517 335-6122

From: Sygo, Jim (DEQ)
Sent: Tuesday, April 16, 2013 9:59 AM
To: Busch, Stephen (DEQ); Prysby, Mike (DEQ); Benzie, Richard (DEQ)
Cc: Shekter Smith, Liane (DEQ); Shaler, Karen (DEQ); Thelen, Mary Beth (DEQ)
Subject: FW: KWA and City of Flint

Steve, Mike and Richard,

Please take a look at DWSD's last best offer to the City of Flint and provide your collective perspective to the Director through Liane by the end of the week. Copy me in as well. I'll be out of the office but would like to know if you think this is worth considering.

Thank you for your expedited review.

From: Wyant, Dan (DEQ)
Sent: Tuesday, April 16, 2013 6:52 AM
To: Sygo, Jim (DEQ)
Subject: FW: KWA and City of Flint

Jim,

Liane is out of the office today, Can you forward this directly to her staff that worked on this with us.

Dan Wyant, Director
 Department of Environmental Quality
 517-373-7917

From: Wyant, Dan (DEQ)
Sent: Tuesday, April 16, 2013 6:51 AM
To: Sygo, Jim (DEQ); Creal, William (DEQ); Shekter Smith, Liane (DEQ)
Cc: Anderson, Madhu (DEQ)
Subject: FW: KWA and City of Flint

Bill and Liane,

Can you have your staff's take a quick look at this and let me know today if they think this changes their thoughts and comments to me last week.

Dan Wyant, Director
Department of Environmental Quality
517-373-7917

From: Dillon, Andy (Treasury)
Sent: Monday, April 15, 2013 7:55 PM
To: Wyant, Dan (DEQ); Dennis Muchmore; Roberts, John (GOV)
Cc: Stibitz, Brom (Treasury); Saxton, Thomas (Treasury)
Subject: Fwd: KWA and City of Flint

FYI

Dan, any thoughts re the attached?

We gave dwsd until today to put best offer on table. Flint is to get back to us tmrw. I want to make sure their expected rejection is made in good faith.

Sent from my iPad

Begin forwarded message

From: "Debra Ragland" <dragland@dwsd.org>
To: "ekurtz@cityofflint.com" <ekurtz@cityofflint.com>
Cc: "jwright@co.genesee.mi.us" <jwright@co.genesee.mi.us>, "Dillon, Andy (Treasury)" <DillonA2@michigan.gov>, "James Fausone" <fausone@dwsd.org>, "orrk@detroitmi.gov" <orrk@detroitmi.gov>, "Sue McCormick" <mccormick@dwsd.org>
Subject: KWA and City of Flint

Please see attached on behalf of Sue F. McCormick.

Faxed copy forwarded to Mayor Dayne Walling and Jeff Wright.

CITY OF DETROIT
WATER AND SEWERAGE DEPARTMENT
OFFICE OF THE DIRECTOR

735 RANDOLPH STREET
DETROIT, MICHIGAN 48226
WWW.DETROITMI.GOV

April 15, 2013

Karengondi Water Authority
4160 Beecher Rd.
Flint, Michigan 48532-2617

Ed Kurtz, Emergency Manager
City of Flint
1101 South Saginaw Street
Flint, Michigan

Gentlemen:

Over the last several months, governed by a process laid out by the State of Michigan, the Detroit Water and Sewerage Department (DWSD) has proposed a number of alternatives for long term water supply to the City of Flint. Each alternative was offered in the spirit of working in earnest to address the needs, priorities and concerns of the City of Flint and each provided an immediate cost reduction when compared to the current costs of water purchased from DWSD. In the final analysis conducted by Flint, these proposals did not overcome the desire for the Flint/Genesee region to be served by the same system and to have a voice in the future decisions governing the provision of water to this region.

Many of the proposals DWSD has made to Flint during this period are applicable to Flint/Genesee County or KWA with adjustments to demand and use requirements and would provide similar overall benefit. These options remain available for further discussion should the parties' desire. These prior proposals are included in summary form in Attachment 1 as an expanded table 6-1 from the February 2013 State of Michigan Contract No. 271N3200089, City of Flint Water Supply Assessment, submitted by Tucker, Young, Jackson, Tull, Inc. For comparison purposes only, DWSD's new proposal (Flint's 30% allocated share) is inserted.

The proposal scenarios outlined today offer a public/public partnership with options tailored to Flint/Genesee County or KWAs interests. For ease of writing, the remainder of this memo will present this proposal to KWA. Two basic scenarios are presented for consideration, both of which contemplate that KWA would enter a multi-year contract. Service commitments and usage definitions would be negotiated in the same manner as employed that have resulted in new contracts for other customers.

In brief, the proposal provides a unique opportunity to reserve capacity at DWSD's Lake Huron Water Treatment Plant and to participate in decision making for facility operation and capital investment through a joint operating committee. The proposal envisions that KWA would enter into a 30-year contract to purchase treated water directly onsite at DWSD's Lake Huron Water Treatment Plant.

In Scenario 1 the purchased water can either be pressurized or unpressurized. This first scenario results in a "supply only" rate schedule, with a "standby delivery" component to provide for emergency service at the existing Baxter / Potter connection. This scenario provides KWA the ability to construct new transmission owned and operated by KWA.

Scenario 2 maintains the public/public partnership concept and extends it to transmission facilities through which the Lake Huron Water Treatment Plant provides water. This scenario results in a "full service" rate schedule. The standby delivery component is eliminated, since the rate structure to KWA includes costs associated with the transmission system between the Lake Huron Water Plant and the Baxter / Potter connection.

DWSD proposes a modified rate schedule for the customers currently served through the contract with the City of Flint, which includes Flint and Genesee County. This modified schedule is intended to facilitate negotiations for a new water service agreement with the Karegnondi Water Authority (KWA). The scenarios presented herein represent the innovative thinking that DWSD and its new leadership are bringing to the table. Our goal is to provide the lowest cost water solution for the KWA service area.

The potential rate structures are introduced in summary form herein, with preliminary calculations using the proposed rate structures with FY 2013-14 as a baseline. These calculations and the accompanying discussion are based on the assumptions regarding contract terms that approximate recent discussions amongst the parties.

The proposal introduces the concepts, but does not definitively present all of the specifics, appreciating that such specifics are best addressed through negotiations designed to produce a new contractual agreement satisfactory to all parties.

[Remainder of page intentionally left blank]

Scenario 1 – Lake Huron Direct Supply Purchase:

- KWA enters into a long term partnering arrangement with DWSD to purchase all of its primary water supply directly at the DWSD Lake Huron water treatment plant.
- Supply rate schedule is designed to recover only water treatment revenue requirements. This rate schedule does not contain any delivery costs (pumping, transmission, storage, etc.).
- Supply rate schedule is computed based on specific costs associated with the Lake Huron Plant. No other DWSD revenue requirements, including those associated with other DWSD water plants, are included in the rate to KWA.
- Revenue requirements are separated into capital recovery and operation and maintenance expense elements. Baseline revenue requirement data (including operating budget, rate of return, depreciation assumptions, etc.) are identical to those developed for all other wholesale customers.
- KWA is allocated Lake Huron Plant capital revenue requirements based on the proportion of their contracted max day demand (assumed in these calculations at 40.6 mgd) relative to the total capacity at the Lake Huron Plant (400 mgd). The resulting revenue requirements are recovered through a fixed monthly charge.
- KWA is allocated Lake Huron Plant operating revenue requirements based on the proportion of their contracted average daily usage (assumed in these calculations at 24 mgd) relative to the total average daily usage at the Lake Huron Plant (assumed at 125 mgd in these calculations).
- Calculations are conducted for two alternatives. Purchase of *pressurized* water (after high lift pumping) and *unpressurized* water (KWA takes directly from clearwell.)
- Contract includes an arrangement for emergency service at the existing Baxter / Potter connection, and computes a standby charge related to such service.
- The standby charge is computed in the manner set for the by the American Water Works Association (AWWA) in its Manual of Water Supply Practices M1 - "Principles of Water Rates, Fees, and Charges" Manual M1.
 - KWA is allocated one day's worth of transmission related capital revenue requirements.

Scenario 2 – "Full Service" Lake Huron System

- Same as the "pressurized" option in Scenario 1, except that concept is extended to the pumping, storage, and transmission facilities directly served by the Lake Huron Plant
- Transmission rate schedule is computed based on specific costs associated with these facilities. No other DWSD revenue requirements, including those associated with other DWSD transmission mains, etc, are included in the rate to KWA.
- Revenue requirements are separated into capital recovery and operation and maintenance expense elements. Baseline revenue requirement data (including operating budget, rate of return, depreciation assumptions, etc.) are identical to those developed for all other wholesale customers.
- KWA is allocated Lake Huron "transmission system" capital revenue requirements based on the proportion of their contracted max day demand (assumed in these calculations at 40.6 mgd) relative to the total capacity at the Lake Huron Plant (400 mgd). The resulting revenue requirements are recovered through a fixed monthly charge.

- KWA is allocated Lake Huron "transmission system" operating revenue requirements based on the proportion of their contracted average daily usage (assumed in these calculations at 24 mgd) relative to the total average daily usage at the Lake Huron Plant (assumed at 125 mgd in these calculations).
- Standby charge is eliminated.

The resulting potential proposed rate structures under both Scenarios are summarized below.

Potential Proposed DWSD Water Rate to KWA
Lake Huron Direct Scenario

	1 - Supply Rate @ LH Plant		2 - Full Service
	<u>Unpressurized</u>	<u>Pressurized</u>	<u>Wholesale Rate</u>
<u>Supply Rate</u>			
Fixed Monthly Capital Charge - \$	219,900	316,600	503,200
Commodity Rate - \$/Mcf	2.60	4.16	5.31
<i>Average Unit Cost - \$/Mcf</i>	<i>4.85</i>	<i>7.40</i>	<i>10.46</i>
Monthly Standby Charge	167,500	110,300	0
Total Monthly Charge	387,400	426,900	503,200
<i>Total Average Unit Cost - \$/Mcf</i>	<i>6.57</i>	<i>8.53</i>	<i>10.46</i>

The direct comparison over the period 2013-2042 is demonstrated in Attachment 2.

As KWA considers this proposal, I offer the following observations for consideration:

- The Public Partnership requires the least near term capital investment and preserves the economy of scale associated with operation of a large regional system resulting in an immediate reduction in the cost of water supply for Flint/Genesee, making the identified and necessary near term investment in local water infrastructure more feasible.
- The Public Partnership provides the opportunity to optimize service level and efficiency through collaborative asset management decision making.
- The Public Partnership provides representation for critical decision making consistent with DWSD newly demonstrated interest in engaging our customers in critical decisions impacting them. This formalizes that interest in contractual terms.
- The Public Partnership reduces the risks identified with a 'go alone' solution, including further declines in use/sales (see graph), project cost overruns or schedule delays and other unforeseen costs inherent in starting a new venture. See Attachment 3
- The DWSD Board of Commissioners has previously approved sale of raw water from the Lake Huron facilities for raw water end use. We remain open to further discussion about the raw water capacity needs and stand ready to provide an affordable commodity option.



DWSD is an organization in transformation. In April of 2011, a new Board of Commissioners was seated with additional autonomy and more direct customer representation. In the past year we have demonstrated the ability to reduce costs, resolve long standing compliance issues and have gained support for establishing a new legal and operational model for DWSD that could enable broadened representation for Flint/Genesee on the Governing Board.

I remain available to discuss this proposal to assure that each of the issues critical to Flint/Genesee are addressed.

Best regards,

Sue McCormick, Director
Detroit Water and Sewerage Department

Cc: Andy Dillon, State Treasurer
Dayne Walling, Mayor – City of Flint
Kevyn Orr, City of Detroit Emergency Financial Manager
Jeff Wright, Genesee County Drain Commissioner
James Fausone, Chair – Detroit Board of Water Commissioners

Attachment 1

DWSD Water Supply Costs Estimates to Flint

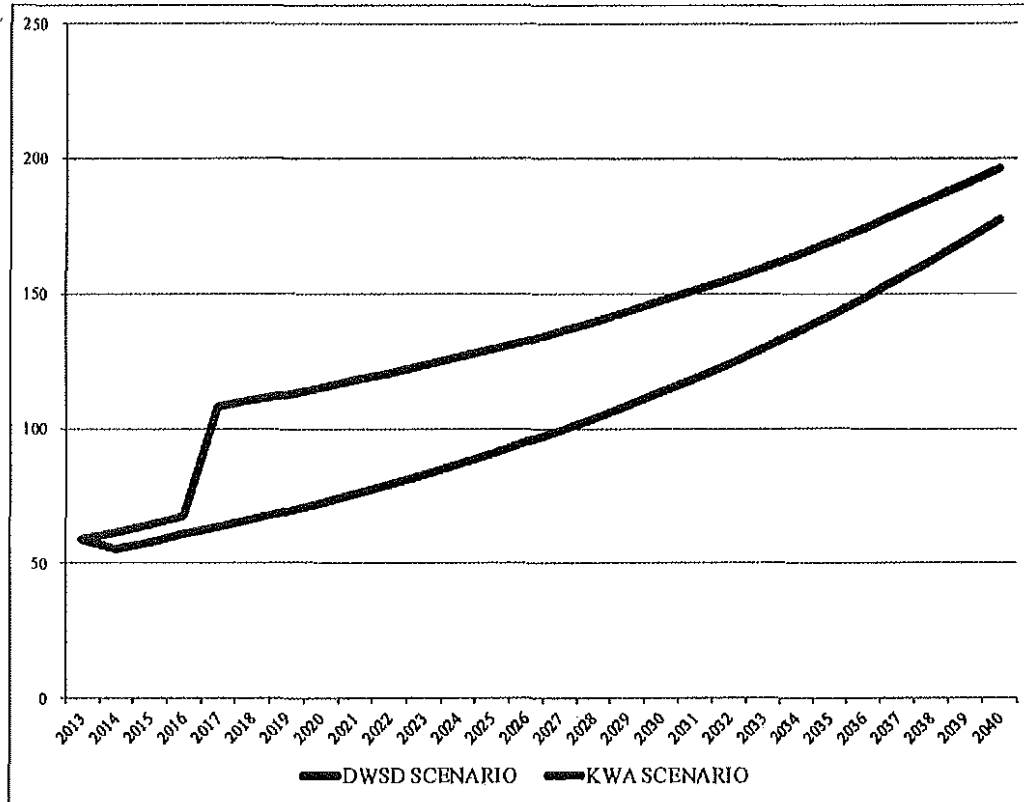
<u>Option</u>	Water Supply Costs (\$) <u>through</u> 2042	Ranking by Cost
DWSD 4/15/2013 Scenario 2	587,990,650	1
DWSD 8 MGD Max Day @ Inlay	634,795,488	2
KWA (10/31/12 No Overruns, As Provided) *	649,775,166	3
DWSD 8 MGD Max Day @ Baxter / Potter	672,671,705	4
KWA-1 (10/31/12 No Overruns with Financing Costs)	707,279,715	5
DWSD 12 MGD Max Day @ Inlay	725,576,803	6
DWSD 12 MGD Max Day @ Baxter / Potter	762,110,308	7
KWA-2 (Treasury Estimate)	766,784,313	8
DWSD 12 mgd Twin Line Proposal / No blending	818,092,150	9
DWSD 18 MGD Max Day @ Baxter / Potter	821,226,268	10

Italicized Options as presented in TYJT Report

DWSD Water Supply Costs Estimates to Flint / GCDC
\$ millions

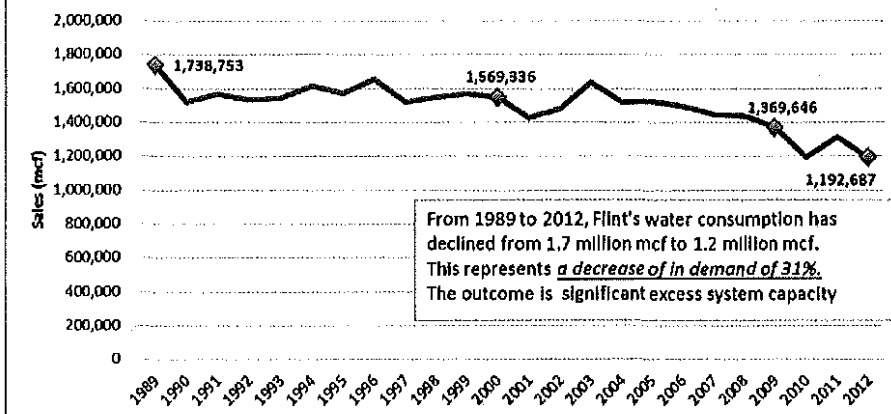
<u>Option</u>	All Water Costs (\$) <u>through</u> 2042	Ranking by Cost
DWSD 4/15/2013 Scenario 2	3,282.00	1
Estimate of KWA	4,090.06	2

Attachment 2

SUMMARY OF TOTAL PROJECTED WATER COSTS TO FLINT/GCDC - SCENARIO COMPARISON (\$ millions)

Attachment 3

**Water Sales to Flint
1989 - 2012**



Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Thursday, February 14, 2013 8:41 AM
To: Busch, Stephen (DEQ)
Cc: Rosenthal, Adam (DEQ)
Subject: District 11 Status
Attachments: Evalltr Sept 2012.doc; 2013-01-29 M24 s of Baldwin water main (3).pdf

Steve,

Below is a list of water related items in District 11. With the exception of the Grand Blanc project plan and, perhaps, the Lapeer M-24 watermain project (Lapeer vs. MDOT), I don't expect any major issues to pop-up while I am on AL.

1. Grand Blanc DWRP Project Plan – 1/31/2013 site visit revealed that city's consultant was working on a draft project plan. I informed Matt Wurtz, DPW director, that their consultant should have contacted with the DEQ last fall to discuss the timeframe, since they are somewhat behind on getting us the draft plan for review. The city's consultant indicated that they would send me a draft project plan by mid-Feb for review and comment. As of 2/14, the draft plan has not arrived. The project plan is expected to include looping dead-end mains, watermain replacement, replacement of iron removal filter media (treatment needed for arsenic removal, and complete repaint (interior & exterior - rehab) of the elevated tank. They are also planning to pursue the green initiative since the project will include meter replacement and VFD controls on their pumps.
2. The city of Lapeer is replacing a section of 6-inch main in M-24 in a commercial area in conjunction with an MDOT project along M-24 (Telegraph Road). In my visit with Pam Reid (DPW Supt) last summer, she expressed concern about this project since the existing 6-inch main was undersized and that MDOT may not support replacing the 6-inch main with a properly sized main. In my follow-up letter (copy attached), we recommended that city have their consultant model this area for the desired level of fire protection while maintaining adequate domestic service. Next, a signed permit application for the project was received on Jan 8, 2013 which showed the 6-inch main being replaced with an 8-inch main. I contacted Pam to verify that proposed replacement was acceptable. She was comfortable with the proposed extension based upon parallel connections along either side of M-24 and a tie-in to a nearby 16-inch transmission main. The city's general plan also confirmed this. A construction permit was issued on Jan 14, 2013. The city; however, did not elect to tell us that their consultant was evaluating this area as we suggested. On Jan 29, 2013, the city received their consultant's conclusion and they now wish to upsize the permitted main to a 12-

inch WM. See forwarded e-mail from Pam. The permitted 8-inch main meets the low end of their desired level of fire protection; however, the 12-inch main would be better.

Although I agree that the larger sized main will provide better fire protection, why did the city sign-off on the permit application and tell us that the proposed extension was acceptable – especially when an answer from their consultant was only a few weeks away??? This will make any potential dispute between the city and MDOT will be more difficult to resolve given that the city signed off on the permit application and that the MDEQ permit has been issued. We may be asked to chime in on this situation; however, I don't anticipate full MDEQ involvement.

3. KWA – stay tuned for any updates concerning Flint's decision to join KWA or remain with DWSD.
4. Flint – continuing with WTP & Dist Sanitary Survey – should have draft ready for your review - first week of March.

Michael Prysby, P.E.
District Engineer
Office of Drinking Water and Municipal Assistance
517 335-6122
517-599-5437 - cell



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING DISTRICT OFFICE



DAN WYANT
DIRECTOR

October 8, 2012

Ms. Pam Reid, Water Superintendent
City of Lapeer
576 Liberty Street
Lapeer, Michigan 48446

WSSN: 3780

Dear Ms. Reid:

SUBJECT: Water System Review, Lapeer Water System

This letter confirms my visit on September 20, 2012, with you. The purpose of the visit was to update the Lapeer 2009 Water System Review (WSR).

The findings of the Lapeer 2012 WSR show that Lapeer's water system continues to maintain a **satisfactory** rating. A copy of the Lapeer 2012 WSR is enclosed with this letter. The city continues to perform routine water system operation and maintenance programs adequately and there were no significant water system deficiencies noted in the evaluation. Specific items are summarized below:

1. The city is planning to replace approximately 2,300 feet of existing 6-inch main along a commercialized corridor of M-24. The work is to be completed as part of a Department of Transportation (DOT) project in 2013. The size of the replacement main has not been determined; however, the existing main will likely need to be replaced with a larger sized main (8 or 12-inch). Proper sizing of the replacement main needs to be based upon the ability to meet peak demands while continuously maintaining a minimum of 35 pounds per square inch (psi) throughout the distribution system under normal operating conditions, and 20 psi throughout the distribution system while providing the desired level of fire protection. The city's hydraulic model will need to be utilized in determining the proper main size for this project.
2. The remaining portion of the water system expansion into Lapeer Township has been completed. Completion of the water transmission main project will allow the city to complete flow tests in this area and to update the hydraulic model. Please keep us updated concerning commercial and/or residential development into this new service area.
3. The city has retained their consultant to update the 2002 water system reliability study. Hydrant flow tests will be conducted this fall as part of updating study. The city's hydraulic model will also be updated to account for the capital improvements

Ms. Pam Reid

2

October 8, 2012

that were completed and the new transmission piping into Lapeer Township. The updated study should also take the opportunity to determine the proper main size along M-24 (Item #1). Finally, we would be interested in receiving a draft copy of the study for our review and comment.

4. The city's most recent water system contingency plan is being updated and replaced with an Emergency Response Plan (ERP). A draft ERP was reviewed during the visit. A few minor revisions will be made to the draft ERP and a final copy will be maintained by the city. We will review the completed ERP during our next routine surveillance visit.
5. A safety inspection of the existing elevated tank was completed in 2011 and an inspection report was prepared. Based upon our discussion, the tank is in good structural condition. Please provide us with a copy of the inspection report for our records.

Finally, the city initiated an upgrade of their metering system to radio read in 2008 and the work is nearly completed. Radio read units are to be set-up in the DPW vehicles which will allow the city to begin utilizing the radio read system. This upgrade represents an improvement to the water system as it will significantly reduce the amount of time needed to complete meter reading.

Should you require further information, please contact me at the telephone number below; via e-mail at prysbym@michigan.gov; or Department of Environmental Quality, P.O. Box 30242, Lansing, Michigan 48909.

Sincerely,

Michael F. Prysby, P.E.
Acting District Supervisor
Office of Drinking Water and
Municipal Assistance
Lansing District Office
(517) 335-6122

mfp:jl

cc: Ms. Donna Chance, Clerk, City of Lapeer



ROWE PROFESSIONAL SERVICES COMPANY

Large Firm Resources. Personal Attention.™

January 29, 2013

Ms. Pam Reid, Director of Public Works
City of Lapeer
576 Liberty Park
Lapeer, MI 48446

RE: M-24 Water Main Sizing

Dear Ms. Reid,

ROWE Professional Services Company understands that as part of the upcoming M-24 project, the existing 6" water main along M-24 from Baldwin Road south to Taco Bell is scheduled to be replaced. The proposed diameter of the new water main has yet to be determined. At your request, ROWE analyzed the anticipated impacts on the water system should this main be replaced with a 6", 8" or 12" diameter pipe. We have a model of the City's water system, which was recently calibrated to closely match the fire flow tests your staff performed in October and November of 2012. The scenarios we ran were for estimated available fire flow under maximum day conditions while keeping all locations in the system at or above 20 psi. We assumed that the supply pressure from DWSD is at about the midpoint of their typical range.

Per the City's previous water reliability study which was performed in 2001, 2,000-2,500 gpm of fire flow was recommended for commercial areas. The scenarios we ran indicate that for a 6" pipe, fire flows would be less than 1,800 gpm in this area on M-24. For an 8" main this increases to about 2,200 gpm. For a 12" main, fire flows of approximately 2,600 gpm are anticipated.

It is our opinion that a 6" diameter pipe does not provide adequate fire flows. An 8" main could provide fire flows at the low end of the recommended range for commercial uses. However, there are some parcels along the proposed main replacement route that could be developed or redeveloped. It is possible that potential businesses in this area could require available fire flows at the high end of the recommended range. Therefore it is our recommendation the existing 6" main should be replaced with a 12" diameter main. This would insure that adequate fire flows would be available at the high end of the recommended range. This allows for some buffer if the DWSD pressures decrease and for the pipe's long term deterioration reducing the roughness factor. As a general rule, we typically recommend a minimum pipe size of 8" in residential and 12" in commercial areas. Flows in this area could be further improved if the proposed 12" main were looped (by replacing the existing 6" main) to Baldwin Road.

If you have any questions relative to this recommendation, you can contact me at (810) 341-7500.

Sincerely,
ROWE Professional Services Company


Dan Bartlett, P.E.
Senior Engineer

R:\Projects\1210058\Docs\Correspondence Out\2013-01-29 M24 s of Baldwin water main.docx

Rennaker, Joanne (DEQ)

From: Michael Glasgow <mglasgow@cityofflint.com>
Sent: Tuesday, January 29, 2013 1:42 PM
To: Rosenthal, Adam (DEQ)
Subject: Re: Water Quality Parameters
Attachments: 3rdqtrWQM.xls; 4thqtrWQM.xls

Adam,

Attached are the 3rd & 4th Quarter Water Quality Monitoring Parameters. I have recently given Mr. Prysby a copy of our updated Sample Site Plan for approval. I will send you a copy also.

Mike Glasgow
City of Flint Water Plant

On Fri, Jan 25, 2013 at 3:02 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Hi Mike, I can't find copies of your 3rd or 4th quarter WQPs for 2012. Please email or fax copies when you get this.

thanks,

Adam Rosenthal, EQA

MDEQ – Office of Drinking Water & Municipal Assistance

Lansing District - 4th Floor North

PO Box 30242

Lansing, MI 48909

517-335-6131

fax: 517-241-3571



2012 3rd Quarter Water Quality Monitoring Results						
SAMPLE POINT IDENTIFICATION			PARAMETERS AND RESULTS			
Distribution System Location #	Sample Point Name & Address	Sample Date	Temperature (C)	pH (su)	Total Alkalinity (mg/L CaCO ₃)	Total Phosphorous (mg/L)
#1	Arby's 3742 Davison Rd.	9/5/2012	23.7	7.66	76	1.13
#2	BP Gas Station 822 S.Dort Hwy	9/5/2012	23.7	7.51	75	1.22
#3	7-11 3302 S. Dort Hwy	9/5/2012	21.5	7.50	76	1.21
#4	Taco Bell 3606 Corunna Rd.	9/5/2012	22.6	7.52	74	1.23
#5	7-11 2501 Flushing Rd.	9/5/2012	25.1	7.51	76	1.19
#6	Salem Housing 3216 MLK Blvd.	9/5/2012	25.5	7.58	75	1.25
#7	Rite-Aid 5018 Clio Rd.	9/5/2012	22.1	7.56	76	1.24
#8	N. Flint Automotive 6204 N. Saginaw St.	9/5/2012	24.7	7.56	74	1.31
CS	Cedar Street Reservoir & Pump Station	9/5/2012	21.4	7.49	76	1.26
WS	West Side Reservoir & Pump Station	9/5/2012	22.3	7.49	76	1.21



2012 4th Quarter Water Quality Monitoring Results						
SAMPLE POINT IDENTIFICATION			PARAMETERS AND RESULTS			
Distribution System Location #	Sample Point Name & Address	Sample Date	Temperature (C)	pH (su)	Total Alkalinity (mg/L CaCO ₃)	Total Phosphorous (mg/L)
#1	Arby's 3742 Davison Rd.	12/5/2012	15.0	7.49	76	1.27
#2	BP Gas Station 822 S.Dort Hwy	12/5/2012	13.6	7.44	75	1.37
#3	7-11 3302 S. Dort Hwy	12/5/2012	15.5	7.41	76	1.33
#4	Taco Bell 3606 Corunna Rd.	12/6/2012	12.1	7.56	75	1.38
#5	7-11 2501 Flushing Rd.	12/5/2012	13.1	7.43	75	1.19
#6	Salem Housing 3216 MLK Blvd.	12/5/2012	13.6	7.46	75	1.38
#7	Rite-Aid 5018 Clio Rd.	12/5/2012	15.9	7.56	77	1.24
#8	N. Flint Automotive 6204 N. Saginaw St.	12/5/2012	15.4	7.46	76	1.31
CS	Cedar Street Reservoir & Pump Station	12/5/2012	12.5	7.45	73	1.26
WS	West Side Reservoir & Pump Station	12/5/2012	10.5	7.43	73	1.21

Rennaker, Joanne (DEQ)

From: Michael Glasgow <mglasgow@cityofflint.com>
Sent: Thursday, August 30, 2012 8:23 AM
To: Rosenthal, Adam (DEQ)
Subject: Re: Water Quality Parameters
Attachments: 1stqtrWQM.xls

Adam,

Here is our 1st quarter water quality monitoring from this year. Sorry it took a couple days. I have been off for the last three days.

Mike Glasgow
Laboratory & Water Quality Supervisor
City of Flint - Water Plant
(810)787-6537

On Tue, Aug 28, 2012 at 2:41 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Hi Mike, looked all over and can't find your 1st quarter 2012 water quality parameters. Please fax or email a copy when you get this.

thanks,

Adam Rosenthal, EQA

MDEQ - RMD

Lansing District - 4th Floor North

PO Box 30242

Lansing, MI 48909

517-335-6131

fax: 517-241-3571



2012 1st Quarter Water Quality Monitoring Results						
SAMPLE POINT IDENTIFICATION			PARAMETERS AND RESULTS			
Distribution System Location #	Sample Point Name & Address	Sample Date	Temperature (C)	pH (su)	Total Alkalinity (mg/L CaCO ₃)	Total Phosphorous (mg/L)
#1	McDonalds Davison Rd.	2/28/2012	11.3	7.41	78	1.13
#2	BP Gas Station Dort Hwy	2/28/2012	7.7	7.43	75	1.22
#3	7-11 S. Dort Hwy	2/28/2012	9.7	7.37	77	1.18
#4	Taco Bell Ballenger Rd.	2/28/2012	6.9	7.38	77	1.31
#5	7-11 Flushing Rd.	3/1/2012	8.5	7.35	77	1.13
#6	Salem Housing MLK Blvd.	3/1/2012	10.6	7.39	75	1.16
#7	Rite-Aid Clio Rd.	3/1/2012	9.3	7.47	76	1.19
#8	N. Flint Automotive N. Saginaw St.	3/1/2012	12.2	7.36	76	1.20
CS	Cedar Street Reservoir & Pump Station	3/1/2012	9.1	7.38	77	1.23
WS	West Side Reservoir & Pump Station	3/1/2012	6.4	7.33	78	1.20

Rennaker, Joanne (DEQ)

From: Michael Glasgow <mglasgow@cityofflint.com>
Sent: Tuesday, July 24, 2012 7:30 AM
To: Rosenthal, Adam (DEQ)
Subject: Re: February Bacti
Attachments: 2-12 State Report.xls

Adam,

We collected 135 samples in the month of February, and there were no positive samples.

If there is anything else you need let me know. I have attached a copy of our Feb. MOR (without cover page) just in case you need any other information.

On Mon, Jul 23, 2012 at 2:47 PM, Rosenthal, Adam (DEQ) <ROSENTHALA@michigan.gov> wrote:

Mike, our log says we received a MOR for February but I can't find it. How many bacteriological samples were collected and were there any positives. If any positives, I need repeat info.

thanks,

Adam Rosenthal, EQA

MDEQ - RMD

Lansing District - 4th Floor North

PO Box 30242

Lansing, MI 48909

517-335-6131

fax: 517-241-3571

Feb-12

[illegible]



Flouridation & Chlorination

WSSN 2310

Feb-12

D A T E	Fluorid e Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCI-	Post Chlorine mg/L	B&P	Sta II	Dort	3MG Well		Tap		
		Free	Free	Free				Free			Free				
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1		0.60					0.9	0.7	0.8	0.8			0.8		
2		0.64					0.9	0.7	0.7	0.8			0.9		
3		0.67					0.8	0.9	0.7	0.9			0.9		
4		0.66					0.8	0.9	0.8	0.8			0.9		
5		0.64					0.8	0.8	0.8	0.8			0.9		
6		0.62					0.8	0.8	0.8	0.8			0.8		
7		0.64					0.8	0.9	0.7	0.9			0.9		
8		0.62					0.9	1.0	0.8	0.8			0.7		
9		0.68					0.8	0.9	0.7	0.9			0.9		
10		0.61					0.9	0.9	0.8	0.9			0.8		
11		0.62					0.8	0.8	0.7	0.7			0.8		
12		0.61					0.9	0.9	0.7	0.8			0.8		
13		0.64					0.8	0.8	0.7	0.8			0.8		
14		0.58					0.8	0.8	0.8	0.8			0.9		
15		0.57					0.8	0.8	0.8	0.8			0.8		
16		0.61					0.9	0.8	0.8	0.9			0.9		
17		0.62					0.8	0.8	0.8	0.8			0.8		
18		0.61					0.8	0.7	0.8	0.8			0.7		
19		0.62					0.8	0.7	0.7	0.9			0.8		
20		0.62					0.8	0.8	0.7	0.8			0.7		
21		0.66					0.7	0.8	0.7	0.8			0.7		
22		0.66					0.9	0.8	0.7	0.8			0.9		
23		0.65					0.9	0.8	0.8	0.8			0.8		
24		0.67					0.9	0.8	0.7	0.8			0.8		
25		0.67					0.8	0.9	0.7	0.8			0.8		
26		0.63					0.9	0.8	0.8	0.8			0.7		
27		0.65					0.8	0.9	0.7	0.8			0.7		
28		0.65					0.9	0.8	0.8	0.8			0.9		
29		0.55					0.9	0.8	0.7	0.7			0.8		
AVG		0.63					0.8	0.8	0.7	0.8			0.8		
MAX		0.68					0.9	1.0	0.8	0.9			0.9		
MIN		0.55					0.7	0.7	0.7	0.7			0.7		



Chemical Analyses

WSSN 2310

Feb-12

D A T E	pH		Total Hard as CaCO ₃ mg/l		Total Alk as CaCO ₃ mg/l		NonCarbonate Hardness as CaCO ₃ mg/l				Calcium as Ca 2+ mg/l		Magnesium as Mg 2+ mg/l		Chloride as Cl - mg/l	
	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
1		7.26		96		67		29				27.3		6.8		
2		7.29		98		71		27				28.1		6.8		
3		7.34		96		69		27				28.1		6.3		
4		7.32		96		66		30				27.3		7.3		
5		7.27		96		74		22				28.9		5.8		
6		7.34		96		67		29				29.7		5.3		
7		7.28		96		71		25				28.1		6.3		
8		7.39		98		71		27				29.7		5.8		
9		7.36		96		67		29				28.1		6.3		
10		7.39		98		70		28				29.7		5.8		
11		7.28		98		70		28				28.9		6.3		
12		7.28		98		70		28				29.7		5.8		
13		7.34		98		67		31				25.7		8.3		
14		7.33		98		72		26				29.7		5.8		
15		7.43		100		72		28				29.7		6.3		
16		7.20		92		69		23				28.1		5.3		
17		7.34		98		69		29				29.7		5.8		
18		7.18		98		66		32				28.9		6.3		
19		7.18		100		72		28				29.7		6.3		
20		7.28		98		68		30				29.7		5.8		
21		7.18		100		70		30				29.7		6.3		
22		7.32		90		65		25				28.1		4.9		
23		7.22		98		70		28				27.3		7.3		
24		7.26		98		70		28				27.3		7.3		
25		7.32		96		71		25				28.1		6.3		
26		7.40		98		72		26				29.7		5.8		
27		7.47		98		68		30				28.9		6.3		
28		7.30		98		70		28				28.1		6.8		
29		7.28		98		64		34				29.7		5.8		
AVG		7.30		97		69		28				28.7		6.3		
MAX		7.47		100		74		34				29.7		8.3		
MIN		7.18		90		64		22				25.7		4.9		



Bacteriological & Physical Parameters

WSSN 2310

Feb-12

D A T E	Total Coliform								Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	Plant Tap						Raw		Tap	Raw			Tap			
	B&P		Dort	3MG Well	Pump	Lab Tap										
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74		
1	1/0		2/0	2/0	2/0	2/0					11.9					
2	1/0		2/0	2/0	2/0	2/0					11.9					
3	1/0		2/0	2/0	2/0	2/0					12.2					
4	1/0		2/0	2/0	2/0	2/0					11.7					
5	1/0		2/0	2/0	2/0	2/0					12.1					
6	1/0		2/0	2/0	2/0	2/0					11.6					
7	1/0		2/0	2/0	2/0	2/0					10.3					
8	1/0		2/0	2/0	2/0	2/0					8.4					
9	1/0		2/0	2/0	2/0	2/0					10.0					
10	1/0		2/0	2/0	2/0	2/0					9.4					
11	1/0		2/0	2/0	2/0	2/0					8.3					
12	1/0		2/0	2/0	2/0	2/0					8.5					
13	1/0		2/0	2/0	2/0	2/0					10.5					
14	1/0		2/0	2/0	2/0	2/0					9.7					
15	1/0		2/0	2/0	2/0	2/0					9.7					
16	1/0		2/0	2/0	2/0	2/0		< 2			11.3					
17	1/0		2/0	2/0	2/0	2/0					10.1					
18	1/0		2/0	2/0	2/0	2/0					8.8					
19	1/0		2/0	2/0	2/0	2/0					8.5					
20	1/0		2/0	2/0	2/0	2/0					8.6					
21	1/0		2/0	2/0	2/0	2/0					8.8					
22	1/0		2/0	2/0	2/0	2/0					11.2					
23	1/0		2/0	2/0	2/0	2/0					9.8					
24	1/0		2/0	2/0	2/0	2/0					8.8					
25	1/0		2/0	2/0	2/0	2/0					9.9					
26	1/0		2/0	2/0	2/0	2/0					9.7					
27	1/0		2/0	2/0	2/0	2/0					9.5					
28	1/0		2/0	2/0	2/0	2/0					10.2					
29	1/0		2/0	2/0	2/0	2/0					8.8					
											10.0					
											12.2					
											8.3					



Distribution System Monitoring

WSSN 2310

Feb-12

[illegible]

[illegible]



ROUTINE POSITIVE DISTRIBUTION SAMPLES

Total number of positive routine samples:				Total Coliform: <u>0</u>		Fecal Coliform: <u>0</u>	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform
Total number of routine distribution samples analyzed:				135			
Total number of routine distribution samples required:				100			

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Wednesday, February 15, 2012 2:03 PM
To: Howard, Brock (DEQ)
Cc: Rosenthal, Adam (DEQ)
Subject: FW:

Brock,

As indicated, I am forwarding to you... Tim's note from Genesee County confirming the date, time, and location for the Stage 2 workshop. I will confirm with Genesee Co. and Flint that we are all set for the workshop on March 1st at the Flint WTP at 10am. I am on AL starting this Friday and will return on Tues Feb 28th. I will get with you prior to the workshop (either Tue 2/28 or Wed 2/29) to discuss travel logistics and assistance that you'll need for the workshop. Thanks for offering to conduct a Stage 2 workshop for the Flint and Genesee County systems.

MFP

From: Tim Davidek [<mailto:tdavidek@gcdcwws.com>]
Sent: Tuesday, February 14, 2012 4:05 PM
To: Prysby, Mike (DEQ)
Subject:

Mike,

All the wholesale communities, City of Flint and the County are good with March 1, 2012 from 10:00am to noon for the Stage 2 workshop. The City of Flint has agreed to provide a conference room at their water treatment plant. Let me know if this date is ok with you guys.

Thanks,

Tim Davidek

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Tuesday, February 14, 2012 3:28 PM
To: Howard, Brock (DEQ)
Cc: Rosenthal, Adam (DEQ)
Subject: DDBP Workshop

Brock,

Genesee County has contacted their customer supplies and the City of Flint...the consensus is to conduct the DDBP workshop at the Flint WTP on March 1st at 10am. Tim Davidek from Genesee County will send me an e-mail confirming this and I will forward it you. Prior to conducting the workshop, I can meet with you to discuss travel logistics, etc.

MFP

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Wednesday, February 08, 2012 1:11 PM
To: 'Brent Wright'
Cc: Rosenthal, Adam (DEQ); Skinker, Bethel (DEQ)
Subject: FW: NRC#1002464 - Genessee Cty Oil Spill

Brent,

Given that the 72-inch transmission main is out of service and the Flint WTP is in operation, could this spill impact the WTP's intake?

Michael Prysby - MDEQ 517 335-6122

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

From: Julien, Tom (DEQ)
Sent: Wednesday, February 08, 2012 1:05 PM
To: Rosenthal, Adam (DEQ)
Cc: Hall, Ben (DEQ); Bennett, Charles (DEQ); Bodnar, Brent (DEQ); Vanderlaan, Mary (DEQ); VanOtteren, Bruce (DNR); Prysby, Mike (DEQ)
Subject: FW: NRC#1002464 - Genessee Cty Oil Spill

Adam,

As we discussed, not sure if spill could impact Flint River which is listed as having a public water supply intake for Flint. Spill listed as near a drain close to Sister Lake 2-3 miles from Flint River. Listed as having occurred on 2/3/12 (Friday).

Please see below PEAS incident report number NRC-1002464

Thanks!

Tom Julien, On Call
MDEQ-PEAS
Office: 517-335-3711
PEAS Cell: 517-331-8599

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

From: Julien, Tom (DEQ)
Sent: Wednesday, February 08, 2012 11:45 AM
To: Hall, Ben (DEQ)
Cc: VanOtteren, Bruce (DNR); Bennett, Charles (DEQ); Bodnar, Brent (DEQ); Vanderlaan, Mary (DEQ)
Subject: FW: NRC#1002464 - Genessee Cty Oil Spill

500 gal oil spill reported. Spill nearby drain which is tributary of Sister Lake. Possible water impact.

Please see below PEAS incident report number NRC-1002464

Please confirm receipt of this incident information, and if possible advise as to lead staff!

Thanks!

Tom Julien, On Call
MDEQ-PEAS
Office: 517-335-3711
PEAS Cell: 517-331-8599

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

From: HQS-PF-flidr-NRC@uscg.mil [mailto:HQS-PF-flidr-NRC@uscg.mil]
Sent: Wednesday, February 08, 2012 11:28 AM
To: Schleusener, Paul (DEQ); Julien, Tom (DEQ); Lawson, Autumn (DEQ); Yocum, William (DEQ); Mroczkowski, Kenneth (DEQ)
Subject: NRC#1002464

NATIONAL RESPONSE CENTER 1-800-424-8802

GOVERNMENT USE ONLYGOVERNMENT USE ONLY***

Information released to a third party shall comply with any
applicable federal and/or state Freedom of Information and Privacy Laws

Incident Report # 1002464

INCIDENT DESCRIPTION

*Report taken by: CIV NICHOLAUS THREATT at 11:20 on 08-FEB-12
Incident Type: STORAGE TANK
Incident Cause: UNKNOWN
Affected Area: NEARBY DRAIN
Incident was discovered on 03-FEB-12 at 12:00 local incident time.
Affected Medium: WATER NEARBY DRAIN > SISTER LAKE, SOIL

REPORTING PARTY

Name: ANONYMOUS

PRIMARY Phone: (111)1111111

Type of Organization: OTHER

SUSPECTED RESPONSIBLE PARTY

Name: UNKNOWN

XX

INCIDENT LOCATION

ON FARRAND RD. County: GENESEE
ON THE NORTHSIDE OF THE ROAD
City: OTTER LAKE State: MI
BETWEEN BLUEBERRY LANE & WASHBURN RD.

 RELEASED MATERIAL(S)

CHRIS Code: OUN Official Material Name: UNKNOWN OIL

Also Known As:

Qty Released: 500 GALLON(S) Qty in Water: 0 UNKNOWN AMOUNT

 DESCRIPTION OF INCIDENT

CALLER IS MAKING A REPORT INVOLVING WHAT LOOKS TO BE A 2,000 GALLON STORAGE TANK SITTING APPROX. 100 FEET FROM THE ROAD THAT WAS TIPPED OVER AND SPILLING AN UNKNOWN OIL.

 SENSITIVE INFORMATION

 INCIDENT DETAILS

Description of Tank: 2,000 GALLON STORAGE TANK

Tank Above/Below Ground: ABOVE

Transportable Container: UNKNOWN

Tank Regulated: UNKNOWN

Tank Regulated By:

Tank ID: N/A

Capacity of Tank: 2000 GALLON(S)

Actual Amount: 0 UNKNOWN AMOUNT

---WATER INFORMATION---

Body of Water: NEARBY DRAIN

Tributary of: SISTER LAKE

Nearest River Mile Marker:

Water Supply Contaminated: UNKNOWN

 IMPACT

Fire Involved: NO Fire Extinguished: UNKNOWN

INJURIES: NO Hospitalized: Empl/Crew: Passenger:

FATALITIES: NO Empl/Crew: Passenger: Occupant:

EVACUATIONS:NO Who Evacuated: Radius/Area:

Damages: NO

	Hours	Direction of
Closure Type	Description of Closure	Closed Closure
N		

Air:

N

Major

Road:

Artery:N

N

Waterway:

N

Track:

Environmental Impact: UNKNOWN

Media Interest: NONE Community Impact due to Material:

REMEDIAL ACTIONS

NONE

Release Secured: UNKNOWN

Release Rate:

Estimated Release Duration:

WEATHER

Weather: CLEAR, °F

ADDITIONAL AGENCIES NOTIFIED

Federal: NONE

State/Local: NONE

State/Local On Scene:

State Agency Number:

NOTIFICATIONS BY NRC

ATLANTIC STRIKE TEAM (MAIN OFFICE)

08-FEB-12 11:27 (609)7240008

DHS NOC (NOC)

08-FEB-12 11:27 (202)2828114

CG INVESTIGATIVE SERVICE DETROIT (RESIDENT AGENT OFFICE, DETROIT)

08-FEB-12 11:27 (586)2396759

DOT CRISIS MANAGEMENT CENTER (MAIN OFFICE)

08-FEB-12 11:27 (202)3661863

U.S. EPA V (MAIN OFFICE)

(312)3532318

MICHIGAN DEPT OF COMMUNITY HEALTH (HSEES)

08-FEB-12 11:27 (517)3358364

MI INTELLIGENCE OPERATIONS CENTER (FUSION CENTER)

08-FEB-12 11:27 (517)2418000

MI INTELLIGENCE OPERATIONS CENTER (CIP DESK)

08-FEB-12 11:27 (517)3350262

NATIONAL INFRASTRUCTURE COORD CTR (MAIN OFFICE)

08-FEB-12 11:27 (202)2829201

NOAA RPTS FOR MI (MAIN OFFICE)

08-FEB-12 11:27 (206)5264911

MICHIGAN DEQ (MAIN OFFICE)

08-FEB-12 11:27 (800)2924706

MICHIGAN DEQ (MAIN OFFICE 2)

08-FEB-12 11:27 (517)2411252

ADDITIONAL INFORMATION

CALLER HAD NO ADDITIONAL COMMENTS.

*** END INCIDENT REPORT #1002464 ***

Report any problems by calling 1-800-424-8802

PLEASE VISIT OUR WEB SITE AT <http://www.nrc.uscg.mil>

Rennaker, Joanne (DEQ)

From: Prysby, Mike (DEQ)
Sent: Thursday, December 15, 2011 10:07 AM
To: Howard, Brock (DEQ)
Cc: Cook, Pat (DEQ); Rosenthal, Adam (DEQ)
Subject: Stage 2 DBPR training

Brock,

During your discussion of the Stage 2 DBPR requirements, you mentioned about DBPR meeting(s) being scheduled with Grand Rapids, Detroit, etc. Can we have a meeting in Genesee County to discuss DBPR monitoring specifics for the Genesee County/Flint supplies? I would invite Genesee County, their customer supplies, and Flint folks to the meeting... after the holidays. Let me know of any available dates and I can arrange further with our Genesee County/Flint contacts. Thanks

Michael Prysby

Rennaker, Joanne (DEQ)

From: Antil, Jeffrey (DEQ)
Sent: Wednesday, November 16, 2011 8:12 AM
To: Rosenthal, Adam (DEQ)
Cc: Patrick Williford
Subject: FW: Results for Flint's last two LCR samples
Attachments: 2011 Flint.docx

FYI Adam.
Thank Pat.

Jeff

From: Patrick Williford [<mailto:williford@dwdsd.org>]
Sent: Tuesday, November 15, 2011 4:10 PM
To: Antil, Jeffrey (DEQ)
Subject: Results for Flint's last two LCR samples

Attached please find the results for Flint's LCR samples. L 178 and L 183 were the two late samples that they took.

Also, Clawson had took a duplicate LCR sample for the one that they had high lead.
Here is the duplicate sample result for sample 1440-025a (Duplicate sample) from 475 Gardner, Clawson MI.

Lead < 2.0 µg/L
Copper 8.0 µg/L

Sincerely,

Patrick Williford
Principal Analytical Chemist
williford@DWSD.org
Office: 313.926.8127

Detroit Water & Sewerage Dept.
Water Quality Division
Water Works Park Administration Bldg., RM 218
10100 E. Jefferson Ave.
Detroit, MI 48214-3139

"In God we trust."

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City of Detroit
David E. May

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

System Name/County

Flint / Genesee

WSSN

2310

RESULTS:

Sample Location	Site Code	Sample Date	Sample Category ¹	Service Lines ²	Bldg Plumbing ²	Lead (ppb)	Copper (ppb)	Lab #
3413 Brunswick Ave.	L 66	09/25/2011	1	L	C	< 2.0	< 5.0	2310-066
3119 Leith St.	L 129	09/12/2011	1	L	C, P	< 2.0	31.8	2310-129
413 Burroughs Ave.	L 132	09/14/2011	1	L	P	< 2.0	31.8	2310-132
3521 Bennett	L 134	09/22/2011	1	L	C, P	< 2.0	17.5	2310-134
3009 Montana	L 137	09/21/2011	1	L	L, C	< 2.0	< 5.0	2310-137
1505 Kensington	L 142	09/27/2011	1	L	G	< 2.0	< 5.0	2310-142
2922 Barth St.	L 145	09/19/2011	1	L	C	< 2.0	21.5	2310-145
3107 Leith St.	L 146	09/16/2011	1	L	C	< 2.0	211.0	2310-146
3120 Norwood	L 147	09/17/2011	1	L	C, P	< 2.0	28.6	2310-147
1914 Penbrook	L 154	09/12/2011	1	L	C/P	< 2.0	48.1	2310-154
1651 Woodlawn Park Dr.	L 162	09/12/2011	1	L	G	< 2.0	102.0	2310-162
305 Allendale	L 172	09/15/2011	1	L	C/P	< 2.0	27.4	2310-172
415 W. 4 th Ave.	L 173	09/14/2011	1	L	C/P	< 2.0	24.2	2310-173
2625 Pinetree Dr.	L 174	09/13/2011	1	L	C	< 2.0	112.0	2310-174
3205 Cheyenne Ave	L 175	09/13/2011	1	L	C/P	< 2.0	25.0	2310-175
1809 E. Court Street	L 176	09/29/2011	1	L	C,P	< 2.0	< 5.0	2310-176
3821 Delaware	L 177	09/28/2011	1	L	C,P	< 2.0	< 5.0	2310-177
3517 Bennett	L 178	10/18/2011				< 2.0	20.2	2310-178
2617 Prospect Street	L 179	09/29/2011	1	L	C,P	< 2.0	47.0	2310-179
3814 Delaware Ave.	L 180	09/27/2011	1	L	P	< 2.0	23.4	2310-180
3005 Montana Ave.	L 181	09/20/2011	1	L	C,P	< 2.0	11.3	2310-181
2648 Swayze	L 182	09/27/2011	1	L	C,P	< 2.0	34.3	2310-182
3805 Larchmont	L 183	10/17/2011				< 2.0	58.0	2310-183

¹ Sample Category: Enter a number 1 through 6 to designate the category of tap sample site. For more information see *Instructions* paragraph 10, 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 MDEQ

	90 th %ile	Ave	Max	Min	# > AL
Cu					