GELMAN TOWNHALL MEETING

February 17, 2022, at 7:00 p.m.

Questions submitted by residents are read by Scio Board members, Will Hathaway and Kathy Knol:

Questions & Answers:

Q: Tim Keener: Assuming the worst and the plume continues to infiltrate wells, what are the top three solutions under consideration?

A: Dan Hamel (EGLE): As I stated, the Gelman site is currently regulated by the Washtenaw County Circuit Court through Consent Judgment and other legal actions. Part of the response activity order basically identifies that the activities presented in the proposed Fourth Amended & Restated Consent Judgment be implemented. We will identify the levels and there will be evaluations required by Gelman to determine what needs to be done to eliminate the risk of concentrations above the 7.2 criteria. It is all being driven by the response activity order.

Q: Kathy Knol: Could you clarify what happens with well detections above 3.5 ppb?

A: Dan Hamel (EGLE): In the order, it is ordered for Gelman to implement all the activities that were agreed to in the proposed Consent Judgment. In the proposed Consent Judgment, there is a trigger (of greater than 3 parts per billion) in a residential well that could trigger Gelman providing bottled water as an immediate action. Sampling the well more frequently to determine if there any trend of that concentration increasing.

Q: Kathy Knol: Is there a minimum depth requirement for wells to be tested?

A: Keith Gadway (Quantum): Not really. We are using two criteria. In the southern portion of where we are testing, the shaded area that I showed you is bounded by Maple Road to the east M-14 and I-94 to the south, Honey Creek to the west and Huron River to the north. Toward the southern end of that, we are focusing on shallower depths because that's where we have been getting some detections along Dexter-Ann Arbor Road. They are fairly shallow wells. As we move north, we are looking for wells that have been consistently picking up some detections that are quite deep and it depends on where we are in the Township. There are no set criteria for well depth.

Q: Kathy Knol: How much will the tests be and how long will it take to get results?

A: Keith Gadway (Quantum): The cost depends on how many are packaged and sent together. The tests run in the range of $100-$150 each depending on the shipping factors. It takes about two and a half weeks to get results.

Q: Kathy Knol: If our well is outside the testing area, can we piggy-back on the test samples and pay for our own test and include it in the testing batch sent to Pace?

A: Keith Gadway (Quantum): We need to gauge what happens after the next round and how much interest there is in having people submit samples. After this next round, it is my understanding that we are going to pursue a third round and end up with roughly 100 total samples At that point, Scio wants to sit down to see how things are going. It is possible to piggy-back, but it depends on how many people who are within the sampling area are interested in getting their well tested. They would have priority. If there is not an overwhelming number of samples, then certainly that could be arranged.

Q: Kathy Knol: We are on Craig Road about 100 yards from the Miller and Wagner well and if not picked as a Scio test site, how can we get this done? Most agencies I have reached out to only deal with government or environmental entities.

A: Keith Gadway (Quantum): If your well is in the sampling zone and is potentially a likely prospect for sampling in the near future, then that would simply be a matter of contacting Scio Township and indicating your interest in having your well sampled. If it does not meet the criteria for some reason, and you still want it sampled, then we can use the piggy-back technique. If you want to pursue sampling directly, EGLE will start offering a lower detection limit that they have historically which would be a great option as well.

Q: Will Hathaway: Is there a mapping effort being worked on that follows the underground ravines that will help homeowners know if they are in a likely path the plume will take?

A: Keith Gadway (Quantum): That is the idea behind following some of the natural features that we have been seeing, specifically, tracking Honey Creek. There is a belief to some degree that what is happening on the surface is reflected at depth. If a neighbors well has been tested, chances are your well depth is pretty similar. There is no need to test every single well within the potential sampling area. If wells in the vicinity have been coming up clean at the 0.12 level, there is not really a reason to suspect that there is a single pinpoint that exceeds that. We are looking for evidence that there may be fingers of contamination that are moving at depth.

Q: Will Hathaway: Since there is no residential filtration, do I have any options to protect my well water?

A: Kristen Schwighoefer (Washtenaw County Health Department): There are broad orders in place to work on limiting the spread of migration to the plume. We do have residential well sampling for purchase.

Q: Will Hathaway: Some states having drinking level limits 25 to 30 times lower than Michigan, how do you explain this?

A: **Dan Hamel (EGLE):** That is explained by what is in the Michigan environmental law that was imposed by the State Legislature. That law prescribes the method that is used to calculate the criteria and the risk that is acceptable in Michigan. Other states use different requirements to generate their screening levels.

Q: **Kathy Knol:** Scio Township is currently considering installing water infrastructure under I-94 to service a developer's property on Dexter-Ann Arbor Road. This property is known as the former Knights of Columbus property. What is the potential effect on the Plume of installing the piping and the disruption on the soil for this water infrastructure? I am very concerned about this north loop.

A: **Keith Gadway (Quantum):** With respect to soil, there is really no impact to soil from that activity. With respect to large water-well pumping in that location, there may be an impact. We are going to be evaluating that in conjunction with Dr. Lemke, if that is something Scio wants to pursue.

Q: **Kathy Knol:** If a homeowner would like to obtain well testing and pay for it, how can that be accomplished and added to the community information, what would be the cost?

A: **Keith Gadway (Quantum):** The best way would be to contact Scio, and we could make a list to see how much interest there is in something like that.

Q: **Kathy Knol:** If your well is considered contaminated, what does the homeowner have to do going forward and what is done for the homeowner?

A: **Kristen Schweighoefer (Washtenaw County Health Department):** Remembering that 7.2 is our drinking water criteria, however, with the current order in place I believe above 3.0 is action level and that Gelman would take action. A short-term solution can be bottled drinking water. A long-term solution is increased monitoring and a permanent alternate water supply. I am not sure what the homeowner would have to do going forward.

A: Dan Hamel (EGLE): The criteria in the response activity order is based on is the 7.2 ppb drinking water criteria. There are some requirements that Gelman is required to do from that response activity order. Such as immediately offer bottled water and start sampling more often. They are also required to start an evaluation to potentially provide another water source.

Q: **Kathy Knol:** Why does the 2021 court order governing the Gelman site not have monitoring wells to delineate the extent and magnitude of the dioxane plume north of M-14 along the Honey Creek ravine areas which are the main paths of the dioxane plume migrating towards Scio Township residential wells? The one western area delineation well north of M-14, location N, is far from the sensitive high risk areas along Wagner Road, Miller Road and Rose Drive established in the 2021 Scio Township residential well sampling program.

A: **Dan Hamel (EGLE):** Because the well locations were negotiated in negotiations to amend the Consent Judgment and these were the locations identified from all the teams and representatives from EGLE, Gelman and interveners, which included Washtenaw County, Scio Township, the City of Ann Arbor and the Huron River Watershed Council. There was compromise on where well locations would be and these were the locations that were agreed to from those negotiations. These are the locations in the response activity order.

Q: **Will Hathaway:** The negotiations you referred to happened in what year?

A: **Dan Hamel (EGLE):** Negotiations started with EGLE and Gelman in 2015.

Q: **Will Hathaway:** What is the current status of the request of the EPA by Debbie Dingell to make this a superfund site?

A: **Diane Russell (EPA):** EPA is currently undergoing its evaluation for this to be a potential national priorities list candidate for the superfund program. Any updates we will be posting in our website. I also have my contact information on our website if people have questions for me.

Q: **Will Hathaway:** Has there been any computer modeling of the expected future migration of the plume? Is there enough data from past tests to generate that computer model?

A: **Dr. Chris Svoboda (EGLE):** We at EGLE have developed a computer model. We use software called Rock Works. This is not a predictive model. What Rock Works does is it models the distribution of the glacial sediments and also the connectively of those sediments. We prefer to use site-specific data. The process for developing testing and implementing a predictive model is much more involved and expensive.

Q: **Will Hathaway:** Could the addition of new wells result in the plume moving more quickly? For example, the new neighborhood development request on Dexter-Ann Arbor Road plans to use a community well. What is the potential that this well affects the current plume?

A: **Keith Gadway (Quantum):** There is the potential for a community well to impact the plume.

Q: **Will Hathaway:** Would multiple private wells have a similar effect in terms of drawing groundwater as the contemplated large community well?

A: **Keith Gadway (Quantum):** No, not to the same degree.

Q: **Will Hathaway:** The analytical method to test for dioxane and drinking water by the EGLE drinking water lab can only detect dioxane at one part per billion. The US EPA recommends analytical method 522 for dioxane testing and drinking water which can detect dioxane at .15 parts per billion. The 2021 Scio Township residential well sampling program found dioxane in five Scio Township residential wells ranging from .26 to .79 parts per billion. If Scio Township had not used

method 522 it would not have found dioxane in these five drinking water wells. Why doesn't EGLE use an outside laboratory to perform method 522 analysis of dioxane in residential wells like was done by Scio Township?

A: **Dan Hamel (EGLE):** EGLE laboratory with the one part per billion detection limit met the objectives of what to evaluate dioxane to the 7.2 criteria. We will detect water above 1.0 parts per billion and that can be used to evaluate the risk associated with the 7.2 drinking water criteria.

Q: **Kathy Knol:** When will the lower level be implemented in the testing?

A: **Dan Hamel (EGLE):** We will implement it when the 2022 well samples are collected from Washtenaw County.

Q: **Will Hathaway:** Shouldn't people be reminded that Michigan used to have a three parts per billion dioxane standard based on one in 1 million risk over a 70 year lifetime exposure and how that got loosened basically overnight by the Michigan legislature in 1995 to 77 parts per billion based on a one in 100,000 risk over a 30 year lifetime exposure then loosened to 85 parts per billion a couple of years later and stayed at that level until the standards were tightened to 7.2 parts per billion in 2016 2017 to partially adhere to the EPAs 2010 guidelines?

A: **Jacob Carrick (Dept of Health & Human Services)**: Some of those changes are going to be due to change in the science and our knowledge of dioxane toxicity. Some of those changes will be done legally which I cannot speak to as much. In the 90's EGLE was using the one in a million cancer risk level I believe in '95 the legislature changed that to 100,000 risk level.

Q: **Will Hathaway:** Have there been any specific studies looking at the health effects of dioxane exposure on children?

A: **Jacob Carrick (Dept of Health & Human Services)**: There is an area of study with very limited information on children in particular. Most of the information we have on one four dioxane is coming from animal studies. It's likely children would show the same health effects as adults, but we don't necessarily know children would be more susceptible. It is an area we do not have a lot of information on.

Q: **Kathy Knol:** Based on the information that we currently have; can you state how far the plume's boundaries have moved in the past 24 months and in what directions has it moved?

A: **Dr. Chris Svoboda (EGLE):** Our Rock Works models does provide potential information. I put together an animation that shows some of the model years that we had available. This animation will begin in 2005. It will show 2011, 2016 and 2020 data. The colors indicate the areas of higher concentration.

Q: **Kathy Knol:** Has the real estate value impact analysis been included in the legal discussions regarding the plume?

A: **Jacob Carrick:** During the negotiations a real estate value impact analysis was not part of those negotiations.

Q: **Kathy Knol:** Could someone on the panel speak to the potential health risks for a household with a dioxane levels somewhere between zero and one parts per billion?

A: **Jacob Carrick:** I am not able to provide any kind of health risk estimate that is personalized to any one person. In general, if the water concentration is less than 7.2 parts per billion, we would not expect health effects below that level.

Q: **Kathy Knol:** This has been going on for 40 years and the plume only grows and expands, and safety criteria only tightens. When can Scio Township connect to Ann Arbor municipal water and end this decades long fear?

A: **Will Hathaway:** Scio Township is pressing Gelman to shoulder the responsibility and the cost for a long-term alternative water source that is part of what is at the heart of the litigation.

Q: **Kathy Knol:** What happens when the dioxane reaches the municipal water supply? In this case, piping in municipal water is also contaminated?

A: **Kristen Schweighoefer (Washtenaw County Health Dept):** This question is best answered by the City of Ann Arbor and their water treatment plant. Not knowing all of the details because I am not part of that organization, I believe they certainly understand that risk and are looking at what costs they would need to incur to treat the water should that happen. The goal is for that to not happen.

Q: **Kathy Knol:** None of the EGLE maps depict the northward extension of the plume detected by Quantum in recent Scio residential well testing. Is this data to be taken into consideration by EGLE?

A: **Dan Hamel (EGLE):** That is recent information. The maps that are identified tonight is based upon information received in 2020. We will be updating the map with 2021 data and information sometime during 2022.

Q: **Will Hathaway:** Shouldn't standards be tightened more for pollutants, the travel with groundwater and last a long time, like dioxane, which has already lasted more than 32 years at the Gelman site?

A: **Dan Hamel (EGLE):** We have developed a Michigan specific criteria. Should they be tightened? That is something the State legislature would have to implement to change those requirements.

Q: **Will Hathaway:** Can you share the amount of dioxane that is being discharged into the Honey Creek to flow to the Huron River, what is the risk of the creek losing water to underground water that would flow to wells?

A: **Dan Hamel (EGLE):** The contaminated groundwater is treated at the Gelman facility in a chemical oxidation process. It is discharged to the unnamed

tributary of Honey Creek that passes to the northwest of the Gelman property under a permit. That permit currently allows several concentrations. The main concentration it requires that that treated ground water have less than 7 parts per billion dioxane in it. It is discharged to the creek by the unnamed tributary which goes into Honey Creek and discharges to the Huron River. Over the years, we have taken surface water samples along the tributary and Honey Creek and where it enters the Huron River. Those concentrations have ranged from 1 to 4 parts per billion.