RESIDENTIAL BEDROCK SUPPLY WELL IMPLEMENTATION PLAN

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FIGURE

1 Residential Bedrock Well Sampling Program Area

EXHIBITS

- A Sampling Program Notification Letter
- B Supply Well Questionnaire and Sampling Permission Form
- C Fact Sheet
- D Final Result Notification Template Letters

1. INTRODUCTION

1.1. BACKGROUND

This residential bedrock supply well implementation plan has been prepared by O'Brien & Gere Engineers, Inc. (OBG) on behalf of the General Electric Company (GE). This plan has been developed in response to the United States Environmental Protection Agency's (USEPA's) request to assess current conditions in the bedrock groundwater at the Moreau site. The site-related volatile organic compounds (VOCs) are identified as trichloroethene (TCE), cis-1,2-dichloroethene (cDCE), and vinyl chloride (VC). TCE and cDCE (a degradation product of TCE) are routinely detected within the plume in the sand aquifer; VC is not commonly detected, but is another TCE degradation product.

The purpose of this plan is to describe the scope and implementation of the residential bedrock supply well sampling program. A number of bedrock supply wells at residences located south of the topographic escarpment (which marks the southern edge of the sand aquifer) on the western side of Fort Edward Road and the eastern end of Reservoir Road will be targeted for sampling (see **Figure 1**).

1.2. OBJECTIVE

The objective of this plan is to collect groundwater samples from a representative number of existing residential bedrock supply wells near the downgradient edge of sand aquifer to evaluate current conditions in the bedrock groundwater. The area downgradient of the sand aquifer where residential supply wells are believed to be present is shown on **Figure 1**.

2. SCOPE OF WORK

2.1. IDENTIFICATION OF RESIDENTIAL BEDROCK SUPPLY WELLS

The initial phase of this work consisted of identifying the land parcels located in the defined area using information available from Saratoga County Real Property. The property records indicate that there are 35 parcels within the area shown on **Figure 1**, and those records indicate that 15 of the 35 parcels are served by public water. The public water service to these 15 parcels will be verified with the water superintendent(s) and/or the individual owners before or during the initial parcel owner contact.

2.2. PARCEL OWNER CONTACT PLAN

GE (or OBG on behalf of GE) will send a letter to the targeted residents shown on **Figure 1** informing them of the activities that are being performed to assess current conditions in the bedrock groundwater. A template letter for this initial notification is provided in **Exhibit A**. With the initial notification, GE will send the supply well questionnaire provided in **Exhibit B** to obtain information about the supply well (e.g., use, age, depth, diameter, condition) and obtain permission to sample the supply well. A Fact Sheet, provided in Exhibit C, will also be sent with the initial notification letter. A self-addressed, stamped envelope will be provided with the initial notification letter for use by the property owners to return the supply well questionnaire and sampling permission form. Consistent with Section 2.1. above, the initial letter seeks confirmation of the public water service connection (which, based on County records, may be applicable to 15 of the 35 parcels).

Within one week of the mailing, a two-person team will visit each residence not confirmed to have public water to answer questions, verify the presence of a water supply well and, if present, obtain information on the supply well questionnaire and for residences with bedrock supply wells, request permission to sample the well for the analysis of TCE, cDCE and VC (the site-related VOCs). GE will notify USEPA's Remedial Project Manager, Thomas Mongelli, at least one week prior to the visits. GE will also notify the New York State Department of Health (NYSDOH) and New York State Department of Environmental Conservation (NYSDEC) Project Managers, Jacquelyn Nealon and Kelly Duval, respectively.

The visits will occur in the late afternoon. If no one is present at that time, the team will return to the residence in the early evening on the same day. Thereafter, OBG will rely on the return of the supply well questionnaire if



no contact is made with the property owner during the initial visits, unless it is decided that access to a few additional residential bedrock supply wells is needed for adequate coverage across the target area. In that case, OBG will make an additional attempt to contact the relevant property owners (by telephone and/or additional visits).

During the initial visits, OBG personnel will be prepared to collect a bedrock groundwater sample under the following circumstances:

If the property owner expresses concern about the safety of his/her well water, and knows that the supply well is installed in bedrock and/or knows the depth and it can be reasonably assumed to be installed in bedrock based on that depth, then a water sample will be collected during the initial visit and bottled water will be provided and maintained until final analytical results are received/reviewed as discussed in **Section 2.4** below.

Regardless, the supply well questionnaire and bedrock supply well sampling permission form (see **Exhibit B**) will be completed to the extent possible. If the owner is unsure about the depth of the supply well, the questionnaire will still be filled out to the extent possible, including permission for potential sample collection.

The information obtained from the parcel owners during the initial visit or by mail/email will be summarized and provided to USEPA for discussion. A list of the parcels already sampled will also be provided. In consultation with USEPA, the decision on the number of additional bedrock supply wells to sample and, if any, which wells should be targeted for sampling in order to obtain a representative distribution across the target area (see **Figure 1**) will be based on the following:

- Review of the locations and depths of the residential bedrock supply wells already sampled
- The analytical results for the supply wells already sampled (if available)
- The locations and depths (known or assumed) of the remaining bedrock supply wells in the targeted area for which the owners have provided, or indicated a willingness to provide, permission to sample.

If after discussion with USEPA it is decided that additional residential bedrock supply wells in the target area should be sampled, the additional supply well sampling will be scheduled to be conducted within one to two weeks, subject to property owner approval and availability.

2.3. RESIDENTIAL BEDROCK SUPPLY WELL SAMPLING AND ANALYSIS

The following subsections describe the sampling and analysis procedures to be employed for the locations selected. These same procedures will also be used for the bedrock supply wells that are sampled during the initial visits, as discussed above in **Section 2.2**.

2.3.1. Residential Bedrock Supply Well Sampling Procedures

Once the parcel owner's consent is obtained, a suitable sampling location will be identified by OBG field personnel. A supply well questionnaire and bedrock supply well sampling permission form (see **Exhibit B**) will have been completed by the parcel owner either at the time of the initial contact or submitted to OBG via mail/email. The questionnaire requests information about the well pertaining to its use, age, depth and condition along with any water treatment that may be present. To the extent possible, the information will be verified in the field. If a water softening system or other treatment system has been installed, water samples will be obtained before the well water is treated.

Following establishment of the residential bedrock supply well sampling location, the sampling tap will be turned on and allowed to run for approximately 15 minutes. During this time, field notes will be recorded regarding the sampling location, well information, and other pertinent conditions.

After 15 minutes, the sampler will don a new pair of disposable gloves and begin filling the sample containers. Three unpreserved 40 milliliter glass vials with septa caps will be collected for the analysis of TCE, cDCE and VC.



2.3.2. Field Quality Assurance/Quality Control Samples

To evaluate data quality, quality assurance/quality control (QA/QC) samples will be collected during the field investigation. Field QA/QC samples will include blind field duplicates, matrix spike samples, and trip blanks. A trip blank will accompany each cooler shipped to the laboratory. Field duplicates and matrix spike samples will be collected at a frequency of one every 20 samples.

2.3.3. Sample Analysis

Each bedrock supply well sample will be analyzed for TCE, cDCE and VC (the site-related VOCs) using USEPA Method 524.2. The samples will be analyzed by a laboratory that has current NYSDOH Environmental Laboratory Accreditation Program (ELAP) certification for the analysis of VOCs in drinking water by USEPA Method 524.2. A quick turn-around will be requested, with preliminary analytical results within 48 hours of sample receipt by the laboratory. Further, final analytical results, including a full data package and EQuIS™ 4-file electronic data deliverables (EDDs), will be requested within 10 business days of sample receipt.

2.4. PROPERTY OWNER NOTIFICATION OF RESULTS

Upon receipt of the preliminary analytical results (which will be requested within 48 hours of sample receipt), each parcel owner will be promptly contacted by phone to verbally provide them with the preliminary results. If the results indicate that TCE, cDCE, or VC are detected at or above 50% of the State drinking water standards, bottled water will be provided (if not already provided, as discussed in **Section 2.2** above).

Upon receipt of the full data package, data validation will be conducted within 7 calendar days, not including holidays.

Upon receipt of final, validated analytical results, each parcel owner will be emailed or, if an email address is not provided, mailed a final result notification letter. Two different templates for the final result notification letters are provided in **Exhibit D**.

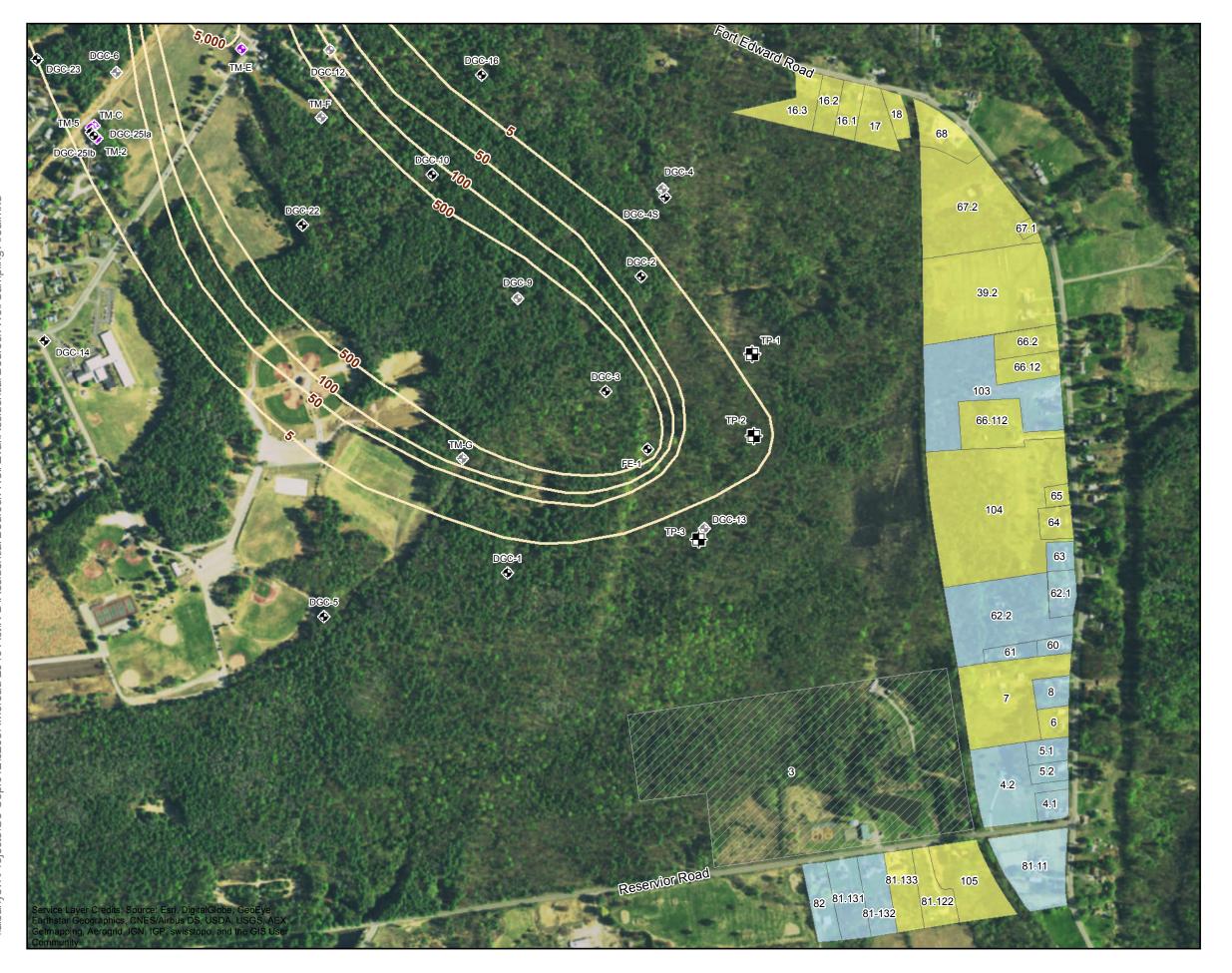
Once the final analytical results are received, the provision of bottled water (if any) will be discontinued at this time for any parcels for which no site-related VOCs (i.e., TCE, cDCE and VC) were detected or for which the site-related VOC were all detected at less than 50% of the State drinking water standards (2.5 micrograms per liter $[\mu g/L]$ for TCE and cDCE, and 1 $\mu g/L$ for VC).

USEPA and, as directed by USEPA, NYSDEC and NYSDOH, will be kept apprised of the progress of the sampling program and preliminary/final analytical results. This will occur by including USEPA, NYSDEC and NYSDOH on the distribution list for the initial contact letters and the final analytical result letters. In addition, once received, GE will email a copy of the preliminary results to USEPA, NYSDEC and NYSDOH. USEPA will also be sent the completed supply well questionnaire and bedrock supply well sampling permission forms and the list of parcels that are sampled during the initial visits, and this information will be reviewed with USEPA to identify other bedrock supply wells that may be sampled, if any.

2.5. DOCUMENTATION AND REPORTING

Once all of the final analytical data packages are received and the parcel owners have been notified of the final, validated analytical results, a letter report will be prepared and submitted to USEPA to summarize the supply well information obtained from parcel owners and the analytical data generated for samples collected during the investigation. The well information, parcel locations and analytical data will be presented in the report text, tables and figures.



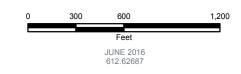




- TEMPORARY MONITORING POINT LOCATION
- GE MONITORING WELL LOCATION
- MONITORING WELL LOCATION (NON-GE)
- DECOMMISSIONED/DESTROYED MONITORING WELL LOCATION
- TCE PLUME CONTOUR IN PPB 2014/2016
- VILLAGE OF FORT EDWARD PROPERTY
- PUBLIC WATER SUPPLY
- PRIVATE WATER SUPPLY

MOREAU SITE MOREAU, NEW YORK

RESIDENTIAL BEDROCK WELL SAMPLING AREA





O'BRIEN & GERE ENGINEERS, INC.

Exhibit A Sampling Program Notification Letter

Letter to Owner-Occupied Residences

DATE

NAME ADDRESS ADDRESS

Dear OWNER'S NAME:

As you may know, General Electric and the U.S. Environmental Protection Agency have worked together for more than 30 years to address environmental contamination at and near a former disposal site on the west side of Fort Edward Road, between William Street and Bluebird Road. An underground containment system was installed to prevent further contamination from leaving the site, and public water lines were extended to nearby residences. Regular monitoring has been performed for many years, and continues.

It is EPA's policy to conduct a review every five years to evaluate the environmental controls in place at the site and ensure they remain protective of human health and the environment. These reviews have concluded that the implemented remedial actions protect human health and the environment.

As part of its latest review, EPA has asked GE to confirm groundwater quality in the bedrock downgradient of the site. This will be done by collecting samples of the water from some of the bedrock supply wells that are located along the east end of Reservoir Road and the west side of Fort Edward Road, north of Reservoir Road. Results of this sampling will be provided to EPA for use in its next five-year review.

Next week, representatives from O'Brien & Gere, the environmental contractor GE hired to perform the sampling, will be visiting residences in your area to discuss the sampling program, gather information about water supply wells, and ask the owners of bedrock supply wells for permission to collect water samples for laboratory analysis. We hope that you will have a few minutes to meet with us. If we miss you next week or you do not have time to meet with us, please fill out the attached supply well questionnaire and return it to O'Brien & Gere using the enclosed self-addressed, stamped envelope.

If your residence is connected to a public drinking water supply, please let us know by calling Janet Forsell of OBG at (518) 724-7258. You can also call Janet with questions you have about the project. If you would like to discuss the sampling program with EPA, you can contact Thomas Mongelli at (212) 637-4256. If you have any health-related questions, please call Jacquelyn Nealon of NYSDOH at (518) 402-7860.

Thank you for your time.

Sincerely,

John M. Uruskyj Senior Project Manager

Attachment

cc: Thomas Mongelli, USEPA Kelly Duval, NYSDEC Jacquelyn Nealon, NYSDOH Janet Forsell, OBG

Letter to Absentee Owner Residences

DATE

NAME ADDRESS ADDRESS

Dear OWNER'S NAME:

I am writing in regard to your property at INSERT ADDRESS HERE in the Town of Moreau.

As you may know, General Electric and the U.S. Environmental Protection Agency have worked together for more than 30 years to address environmental contamination at and near a former disposal site off Fort Edward Road (on the west side, between Williams Street and Bluebird Road). An underground containment system was installed to prevent further contamination from leaving the site, and public water lines were extended to nearby residences. Regular monitoring has been performed for many years, and continues.

It is EPA's policy to conduct a review every five years to evaluate the environmental controls in place at the site and ensure they remain protective of human health and the environment. These reviews have concluded that the implemented remedial actions protect human health and the environment.

As part of its latest review, EPA has asked GE to confirm groundwater quality in the bedrock downgradient of the site. This will be done by collecting samples of the water from some of the bedrock supply wells that are located along the east end of Reservoir Road and the west side of Fort Edward Road, north of Reservoir Road. Results of this sampling will be provided to EPA for use in its next five-year review.

A GE representative will call you next week to discuss the sampling program, gather information about the water supply well at your property, and ask for permission to collect water samples for laboratory analysis. We hope that you will have a few minutes to talk with them. If we miss you by telephone or you do not have time to meet with us next week, please fill out the attached supply well questionnaire and return it to O'Brien & Gere using the self-addressed, stamped envelope.

If your residence is connected to a public drinking water supply, please let us know by calling Janet Forsell of O'Brien & Gere, GE's environmental contractor, at (518) 724-7258. You can also call Janet with questions you have about the project. If you would like to discuss the sampling program with EPA, you can contact Thomas Mongelli at (212) 637-4256. If you have any health-related questions, please call Jacquelyn Nealon of NYSDOH at (518) 402-7860.

Thank you for your time.

Sincerely,

John M. Uruskyj Senior Project Manager

Attachment

cc: Thomas Mongelli, USEPA Kelly Duval, NYSDEC Jacquelyn Nealon, NYSDOH Janet Forsell, OBG

Exhibit B

Supply Well

Questionnaire and
Sampling Permission Form

Supply Well Questionnaire and Sampling Permission Form

(Please return via mail in enclosed self-addressed envelope.)

Propert	y Owner Name:		
Property Address: Property Owner Address, if different than property address:			
1.	Is this property vacant? Yes / No		
2.	Is the property a rental property? Yes / No		
3.	Is this property on public water? Yes / No		
4.	Do you have a well on this property? Yes / No If yes, is the well in use? Yes / No		
5.	If yes, is the well used for: a) Potable\household purposes? Yes / No		
	b) Outdoor non-pot	able uses (watering, washing vehicles, filling pool)? Yes / No	
6.	If known: Well Depth? Well Diameter? Date Drilled?		
7.	Is the well drilled into bedrock? Yes / No / Unknown Is a well log available? Yes / No		
8.	If you have a bedrock well that is in use and your well is selected by EPA for water quality sampling, are you willing to provide access to your well for sample collection? Yes / No (If No , skip remainder of this questionnaire)		
9.	Is the well accessible? Yes / No		
10.	. Do you have a pressure tank? Yes / No		
11.	Do you use a water softener or other water treatment system? Yes / No		
12.	Comments/Questions:		
13. 14.	laboratory analysis? Yes (sign/date below) / Would you like results/letters sent via e-mail?	Yes / No	
		rty, permit GE to collect a sample the water from the property. I understand that the results will be provided DEC and NYSDOH.	
	Signature	 Date	

Exhibit C Fact Sheet

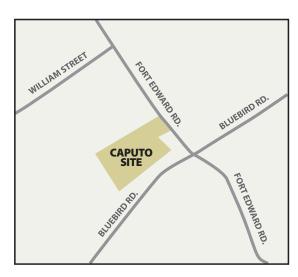


Moreau Bedrock Well Sampling Program Fall 2017

BACKGROUND

• For more than 25 years, General Electric has been monitoring conditions at the former Caputo dump site located west of Fort Edward Road, between William Street and

Bluebird Road, in the Town of Moreau. The site was operated as an industrial disposal site from 1958 through 1968. During that time, waste materials were disposed there that contained TCE (a solvent) and PCBs. Based on investigations that began in the late 1970s, it was determined that the TCE and PCBs had impacted the soil, and that TCE and its degradation products (primarily a chemical known as cis-1,2-DCE) had migrated and impacted groundwater and surface water to the south-southeast of the site.



• In 1980, GE entered into a consent order with the New York State Department of

Environmental Conservation to investigate and clean up the site. In the mid 1980s, a protective wall was built into the ground around the former disposal area and a clay cap was installed. This contained area continues to be maintained and monitored by GE.

• In 1983, GE entered into a consent order with the United States Environmental Protection Agency to investigate the area near and downgradient from the site. A remedial investigation was completed to define the contaminant plume in the sand aquifer, which extends to the south and southeast of the contained former disposal area. An air stripper treatment system was installed in 1985 along Reardon Brook to treat contaminated groundwater that discharges to the surface water in the brook. This treatment system was incorporated into the protective remedy selected by USEPA in 1987, and continues to be maintained and monitored. In addition, GE also extended public water lines and connected them to residences in the plume area, which allowed removal of temporary carbon treatment systems that had been installed at those homes. GE continues to monitor groundwater in and near the plume, and surface water in the area downgradient from the plume (along and north of Reservoir Road).

2017 SAMPLING PROGRAM

- Every five years, EPA conducts a review of its selected remedy to ensure the cleanup measures that have been put in place continue to protect human health and the environment. EPA has conducted five five-year reviews, each of which has found the measures to be protective. Data from the sand aquifer shows that the size of the contaminant plume has not expanded over the years, and concentrations of contaminants within the plume have generally declined.
- As is customary, GE is currently collecting surface water and groundwater samples from the sand aquifer to inform EPA's next five-year review, which will be completed in 2018. As part of this evaluation, EPA has asked GE to also evaluate groundwater conditions in the bedrock downgradient from the site to supplement past information.
- Numerous private supply wells were sampled at the time of the original investigation and the data showed none of the contaminants of concern from the site in the bedrock groundwater. There is no reason to believe that this has changed, but EPA has asked that GE verify this through sampling.
- GE is currently asking property owners on the east end of Reservoir Road and the west side of Fort Edward Road (north of Reservoir Road), for information on their bedrock supply wells so that a representative number of them can be sampled. The wells that are sampled will be determined by EPA based on the information obtained and whether the property owners are willing to provide access. Sampling is expected to take place this fall.

Contact Information

For GE:

John Brodt Community Relations Specialist (518) 792-4087 For USEPA:

Larisa Romanowski Public Affairs Specialist (518) 407-0400

Exhibit D Final Result Notification Template Letters

September 20, 2017

Name Address Town, NY ZIP Code

Dear Name:

Thank you for allowing GE to sample water from your bedrock supply well on XXXX XX, 2017. This sample was analyzed for the presence of the volatile organic compounds that are associated with the former disposal site northwest of the intersection of Fort Edward and Bluebird Roads (i.e., trichloroethene, cis-1,2-dichloroethene and vinyl chloride).

As shown on the reporting form from XYZ Laboratory, no trichloroethene, cis-1,2-dichloroethene or vinyl chloride were detected in your bedrock supply well water, which is consistent with the preliminary results. [Based on these results, we will discontinue replenishing the bottled water that was provided to you beginning XXXX XX, 2017 to address your concerns while waiting for the laboratory results.]

The final, validated analytical results for the sample are attached. You will see that the sample is identified as XXX-X-X, which is the tax parcel number for your property.

As communicated before you provided permission to sample your well water, the attached final, validated results are being shared with the USEPA, NYSDEC and NYSDOH. If you have any health-related questions, please call Jacquelyn Nealon of NYSDOH at (518) 402-7860. If you have general questions about the project, please contact me at (518) 724-7258 or John Uruskyj of GE at (518) 388-4129.

Sincerely,

Janet Forsell Project Manager

Attachment

cc: Thomas Mongelli, USEPA Kelly Duval, NYSDEC Jacquelyn Nealon, NYSDOH John Uruskyj, GE September 20, 2017

Name Address Town, NY ZIP Code

Dear Name:

Thank you again for allowing GE to sample the water from your bedrock supply well on XXXX XX, 2017. This sample was analyzed for the presence of the volatile organic compounds that are associated with the former disposal site northwest of the intersection of Fort Edward and Bluebird Roads (i.e., trichloroethene, cis-1,2-dichloroethene and vinyl chloride).

As we discussed with you on XXXX X, 2017, a compound known as [trichloroethene/cis-1,2-dichloroethane/vinyl chloride] was detected at a concentration of XXX parts per billion (ppb), which is consistent with the preliminary results. This concentration is [above/below] the New York State drinking water standard of [5.0/2.0] ppb. [Based on these results, we will discontinue replenishing the bottled water that was provided to you beginning XXXX X, 2017.] [Based on these results, we will continue providing you with bottled water while the results of the bedrock groundwater testing are discussed with the U.S. Environmental Protection Agency and New York State Department of Health, at which point we will contact you to discuss future plans.]

The final, validated analytical results for the sample are attached. You will see that the sample is identified as XXX-X-X, which is the tax parcel number for your property.

As communicated before you provided permission to sample your well water, the attached final, validated results are being shared with the USEPA, NYSDEC and NYSDOH. If you have any health-related questions, please call Jacquelyn Nealon of NYSDOH at (518) 402-7860. If you have general questions about the project, please contact me at (518) 724-7258 or John Uruskyj of GE at (518) 388-4129.

Sincerely,

Janet Forsell Project Manager

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