



Geotechnical
Environmental and
Water Resources
Engineering

December 10, 2013
GEI Project 1330710

Ms. Elizabeth Lukowski
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7014

**Re: Supplemental Sediment Sampling Work Plan
OU2 Nyack Former MGP Site
NYSDEC Site # 3-44-046**

Dear Ms. Lukowski:

GEI Consultants, Inc., P.C. (GEI), on behalf of Orange and Rockland Utilities, Inc. (O&R), is submitting this Work Plan for performing limited additional sediment sampling for Operable Unit 2 (OU2) of the Nyack MGP site. This additional sampling is to address concerns expressed by the Nyack Boat Club (NBC) regarding the northern limit for remedial dredging on their property. The objective of this supplemental sampling program is to confirm the limits of dredging that have been established at the northern edge of OU2.

This additional work will generally follow the scope of work that was performed for the Pre-Design Investigation (PDI) that was conducted in 2012. This will allow for the integration of the new data with the existing data set for this area of the site. A description of the additional sediment sampling and analysis is described below.

Sediment Coring and Field Observations

Three additional shallow (5-foot deep) vibracores (SD70, SD71, and SD72) will be advanced at the site at the locations shown on the attached figure. At each location the upper 6 inches will also be sampled using a sediment sampling dredge. Each core will be logged and sampled following the protocols from the PDI. The cores will be opened and logged in the field immediately after they have been obtained. A GEI geologist will make observations regarding:

- Hydrocarbon Staining
- Odor (type and intensity)
- Presence of NAPL (blebs, seams, saturation, etc.)
- Grain size and sediment layering
- Presence of any biota in the samples

The field observations for each sampling location will be presented in a coring log for each location.

The field observations will be immediately reported to O&R. If there are no visual indications of MGP impacts that would require remediation (staining, NAPL, or MGP hydrocarbon sheens), then further coring in this area will not be performed, and the field team will commence sediment sampling for waste pre-characterization from the area to be dredged. However, if any of the three cores shows the presence of MGP impacts that would be subject to remediation, then additional cores will be obtained in order to delineate the impacts. The additional cores will be obtained at the same spacing used for SD70-72, working outwards until the northernmost visually impacted core is bounded by visually non-impacted locations.

Laboratory Analysis

The cores will be sub-divided into three sub-sections for analytical sampling: 0-0.5 feet from the sediment surface, 0.5-1.0 feet, and 1-2 feet. Sediment from each segment will be analyzed for:

- Target Compound List (TCL) PAHs (PAH17) by EPA Method 8270
- Total Organic Carbon by the Lloyd Kahn method

The PAH analysis will be performed on a rush basis, with three-day turnaround of the preliminary results reported to GEI, in order to confirm the field observations of sediment quality.

Additional sample material will also be collected, shipped to the laboratory, and archived for further testing, if necessary. Additional testing may be performed for forensic analysis or toxicity assessment by the following:

- PAH34 by EPA Method 8270-SIM
- PAH34 plus additional compounds for forensic analysis (dibenzothiophenes [parent and alkylated, C0, C1, C2, C3, and C4], carbozoles, and dibenzofuran). These compounds may be used to assess source attribution using diagnostic PAH ratios.
- PAH pore water testing

The decision as to whether additional testing may be required, and if so which analyses to perform, will be made based on the results of the field observations and the initial laboratory work.

Reporting

The results of the supplemental sampling and analysis will be presented to the NYSDEC in a letter report. The report will contain a narrative describing the work performed, core logs, and data tables that combine the new results with those from the PDI.

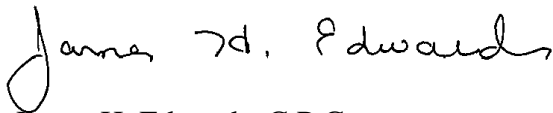
Schedule

The observations from this supplemental investigation are critical for the ongoing negotiations of an access agreement for remediation. We are requesting review and approval of this work plan so that the field work may be performed during the week of December 16. It is anticipated that up to one additional day of field work may be needed to complete this scope of work, which will be followed by three days for the waste characterization sampling.

If you have any questions, please do not hesitate to contact either James Edwards at (607) 216-8958 or Bruce Coulombe at (607) 216-8959. Please direct the Department's official response to Maribeth McCormick, O&R's MGP program project manager.

Sincerely,

GEI CONSULTANTS, INC., P.C.



James H. Edwards, C.P.G.
Senior Geologist



Bruce D. Coulombe, P.G.
Senior Geologist

BC:mlr

Attachments: Figure 1 – Proposed Supplemental Sampling Locations

c: Jeffrey Peifer, P.E. – Orange and Rockland Utilities, Inc.
Maribeth McCormick – Orange and Rockland Utilities, Inc.
Paul Jansen – GEI

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