GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

November 18, 2014

File No. 14-08015

Tina M. O'Rourke, Business Manager
Horsham Water & Sewer Authority
617 Horsham Road
Horsham, PA 19044

Reference: PFOS and PFOA in Groundwater – Sampling Parameter List during Packer Testing
Horsham Water and Sewer Authority

Dear Ms. O'Rourke:

On behalf of the Horsham Water and Sewer Authority (HWSA), we provide this letter requesting water quality testing during upcoming packer testing work being performed by the Navy and USGS.

G&A is evaluating the feasibility of treating groundwater derived from Wells 26 and Well 40 for perfluorinated compounds (PFC's). The packer testing of Wells 26 and 40 will assist in this evaluation. Current plan reported by the Navy is to sample groundwater for analysis of PFOS and PFOA. We recommend the following parameters to be tested during the upcoming packer testing, in addition to PFOS and PFOA:

- Well 26 – Carbon Dioxide, radon, and total organic carbon (TOC's).

  HWSA has an aeration system installed to remove carbon dioxide, radon, or both. We will need to know if a portion of the well is sealed whether treatment for carbon dioxide and radon would need to be modified, and how the levels of these parameters may affect treatment for PFC's. Thus testing for carbon dioxide and radon will be needed in this evaluation. TOC's can affect the life of the carbon used in treatment for PFC's. Higher TOC levels will require more frequent change-out of the carbon used in GAC filtration, the recommended treatment for removal of PFC's.

- Well 40 – Turbidity, Total suspended solids (TSS), iron, manganese, iron bacteria, and TOC's.

  There is a raw water turbidity problem that requires this well to be run to waste upon start-up until turbidity is below a certain number. Iron and manganese are also treated in this well through sequestration, and the well may contain iron bacteria. We will need to know if a portion of the well is sealed whether treatment for turbidity, iron and manganese need to be modified, and how the levels of these parameters may affect treatment for PFC's. Testing raw water turbidity, TSS, iron, manganese, iron bacteria, and TOC's will provide information we need in determining the treatment feasibility of PFC's at Well 40.

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Should you have any questions please do not hesitate to contact me.

Sincerely,

Toby J. Kessler, P.G.
Hydrogeologist
Gilmore & Associates, Inc.

TJK/dmk

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