DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, MID-ATLANTIC
9324 VIRGINIA AVENUE NORFOLK, VA 23511-3095

5090
OPTE3/18
DEC 18, 2015

Mr. Stan Carey
Massapequa Water District
84 Grand Avenue
Massapequa, NY 11758

Dear Mr. Carey:

Subj: COMPOUND SPECIFIC ISOTOPE ANALYSIS, NAVAL WEAPONS INDUSTRIAL RESERVE PLANT, BETHPAGE, NEW YORK

Thank you for your letter of November 4, 2015, which seeks permission to analyze samples from five Navy-owned monitoring wells/outpost wells for a Compound Specific Isotope Analysis (CSIA) being conducted on behalf of Massapequa Water District ("MWD"). The Navy is willing to cooperate with MWD's sampling efforts, but has concerns about the proposed approach that need be resolved prior to MWD undertaking sampling so that MWD is able to obtain more usable information.

From your letter and press reports, the Navy understands that the purpose of the sampling is to identify a specific "signature" to trace back trichloroethylene (TCE) contamination "to a source with a high degree of certainty." The Navy has evaluated MWD's sampling plan and believes that due to the limited number of wells that MWD has selected and other factors identified below, MWD's sampling objective of TCE source tracing will not be met. Accurately tracing contamination requires sufficient data from adequately dispersed sampling locations to distinguish between potential sources of contamination. Your current plan identifies sampling locations in a straight line from Northrop Grumman (NG)-owned property to outpost wells located north of MWD's well field. In the absence of analysis of samples from other locations, MWD's efforts may only confirm what the Navy has communicated since at least 2003: that TCE was released at and is migrating from the former Naval Weapons Industrial Reserve Plant and NG properties. To accurately trace any sources of TCE that may eventually affect MWD's supply wells, a sampling plan should include a broad array of samples from upgradient and side-gradient monitoring wells to identify other possible sources of TCE.

The Navy would like to work with MWD to develop an appropriate sampling protocol for the CSIA that MWD wishes to undertake. Navy experts are available to work with your experts to develop a sampling plan and analysis protocol consistent with the EPA document that you provided in your letter. To make this effort most productive, I have enclosed a list of technical questions about MWD's proposed plan. Responses to our questions in advance would greatly facilitate any discussion or meeting. In the meantime, please feel free to contact Ms. Lora Fly at 757-341-2012 or lora.fly@navy.mil with any questions.

Sincerely,

Nina M. Johnson

NINA M. JOHNSON
North IPT
Environmental Business Line
Team Leader
By direction of the
Commanding Officer

Enclosure: CSIA Questions

Copy to: (e-mail)
NAVAIR, William Cord
NYSDEC, Henry Wilkie
USEPA Region II, Carol Stein
Northrop Grumman, Ed Hannon
Public Repository

CSIA QUESTIONS

General Observations regarding the Proposed CSIA Analysis

Currently, TCE is found in groundwater in one of the plumes migrating from near the southern edge of the former Northrop Grumman property to south of the Hempstead Turnpike, i.e., what is commonly referred to as the Deep Western Plume. 1,4-Dioxane has also been detected in this plume, but at concentrations less than New York Department of Health's current drinking water quality standards. In addition, throughout this plume, the ratio of the concentration of 1,4-Dioxane to TCE is small (less than 1 to 100).

South of the plume, there are several wells being monitored where 1,4-dioxane was detected and TCE was not detected. The absence of TCE in these southern wells provides strong evidence that a separate source of 1,4-dioxane is present in the area and that 1,4-dioxane detected in the southernmost groundwater may not be associated with the TCE plume. The northernmost well, On Site Well 1, selected by MWD for sampling is a pumping production/remediation well that combines groundwater from several known on-property and known or suspected off-property sources.

General Questions:

1. Please explain the basis for selecting the six wells identified in your letter (the five NWIRP wells and the one Northrop Grumman well). Also, how will the results be interpreted? Specifically, what do you expect the CSIA study to reveal about the Navy's contribution to the plume versus potential other sources?
2. The EPA guide enclosed in your letter discusses the use of CSIA in assessing CVOCs. Can CSIA also be used to help confirm the source(s) of 1,4-dioxane?
3. What is the purpose of testing for 1,4-dioxane?
4. Will you be testing for TCE and 1,4-dioxane only? What isotopes will be analyzed?
5. Is the CSIA testing appropriate for the low concentrations of TCE and 1,4-dioxane detected in some of the wells?
6. Can the CSIA testing be used to identify specific sources, without characterization of each source of groundwater captured by the northernmost well, which is a pumping production/ remediation well that captures multiple sources (e.g. Hooker Ruco)?

Specific Questions:

7. Please provide the name of the laboratory that will be conducting the analytical testing. Is the lab currently accredited for the proposed analysis?
8. What level of validation will be performed on the data? Who will perform data validation?
9. What guidelines will be used by the data validator? e the method performance criteria that will be used during validation. Will any blanks be analyzed? If so, what kinds and how many? Will any spikes or duplicates be analyzed? What are the acceptance criteria? What are the surrogate/LCS recovery criteria? Please provide acceptance criteria for each.
10. Does the laboratory have current Standard Operating Procedures for the planned analysis? Please provide.
11. Are there any required detection/quantitation limits the laboratory must achieve?
12. Are there Standard Operating Procedures for groundwater sampling that are unique to the CSIA? Are there any special procedures, precautions, or preservatives?
13. Will the laboratory be providing sample containers or will the sampling team need to provide them?