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ENVIRONMENT

Subject:
Technical Comments on Indoor Air Sampling Work Plan, Former NWIRP
Site, Bethpage, New York (NYSDEC Site #1-30-003B).

Dear Steve:

Date:
February 2, 2009

ARCADIS has reviewed the *Indoor Air Sampling Work Plan* (Work Plan) prepared by Tetra Tech NUS, Inc. for the Naval Facilities Engineering Command, Mid-Atlantic. This Work Plan presents the approach for collecting sub-slab soil gas and indoor air samples in residential homes along 11th Street and 9th Street east of the former Naval Weapons Industrial Reserve Plant (NWIRP) in Bethpage, New York.

Contact:
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Background

The results of soil gas sampling along the eastern border of the former NWIRP site were presented in the *Site 1 Soil Vapor Investigation, NWIRP Bethpage* (SV Investigation), prepared by Tetra Tech (2008a). As detailed in the SV Investigation, both trichloroethene (TCE) and tetrachloroethene (PCE) were detected in soil gas samples at elevated concentrations from locations on the eastern/southeastern part of the site (BPS1-SG1001 and BPS1-SG1002) along 11th Street. Based on the soil vapor results, NWIRP prepared a work plan for collecting soil vapor samples in the public right-of-ways along 11th and 10th Streets and Sycamore Avenue (Tetra Tech 2008b). The soil vapor investigation presented in the *Site 1 Phase II Soil Vapor Testing Work Plan* was conducted in October 2008. Results are currently being evaluated by NWIRP.

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Our ref:
NY001464.0509.00005

Assessment of Sampling and Analysis Approach

The NWIRP Work Plan outlines the approach for collecting sub-slab soil gas and indoor air samples at six homes along 11th Street and one home on 9th Street. All homeowners in these seven homes will be contacted; however, sampling will only be conducted if homeowners grant permission and sign an access agreement. The Work Plan indicates that sampling will be conducted consistent with the New York State Department of Health (2006) *Vapor Intrusion Guidance*. A building inventory

Imagine the result

will be conducted prior to all sampling events. As noted below, ARCADIS has identified a few concerns with the current sampling approach; however, the sub-slab soil gas and indoor air activities cannot be compared to Northrop Grumman protocols as similar sampling has not been conducted by Northrop Grumman at this site.

Technical Comments

Based upon our review and understanding of the scope of work as summarized above, ARCADIS has prepared the following comments on the NWIRP Work Plan.

1. The Work Plan indicates that samples will be collected consistent with NYSDOH (2006) guidance; however, detailed operating procedures or methods are not provided to ensure that proper methods are being implemented. For example, the Work Plan does not specify how far below the slab will the hole be drilled with a 1.0 inch diameter drill bit.
2. The Work Plan indicates that sub-slab soil gas and indoor air samples will be collected simultaneously. To avoid cross contamination into indoor air, NWIRP preferably should conduct indoor air sampling prior to opening the slab for soil gas sampling or at the least the sub-slab soil gas sampling probes should be installed 24 hours or more prior to sampling,
3. The Work Plan does not specify the time frame between conducting the building survey and sampling. If feasible, potential background sources should be removed and all cars should be left outside (i.e., not in attached garages) at least 24 hours prior to sampling.
4. The Work Plan indicates that additional indoor air sampling may be necessary based on the results of this initial sampling round. The Work Plan should specify the criteria for determining whether (1) re-sampling is needed at any homes or (2) sub-slab soil gas or indoor air sampling should be expanded to other residential locations.

References:

NYSDOH. 2006. Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. New York State Department of Health, Center for Environmental Health. October 2006.

Tetra Tech. 2008a. Site 1 Soil Vapor Investigation, Naval Facilities Engineering Command Mid-Atlantic, Comprehensive Long-Term Environmental Action Navy (Clean) Contract. Tetra Tech NUS, Inc., King of Prussia, Pennsylvania. April 2008.


ARCADIS

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Tetra Tech. 2008b. Site 1 Phase II Soil Vapor Testing Work Plan, Naval Facilities
Engineering Command Mid-Atlantic, Comprehensive Long-Term Environmental
Action Navy (Clean) Contract. Tetra Tech NUS, Inc., King of Prussia, Pennsylvania.
July 2008.

Sincerely,

ARCADIS



Nadine Weinberg
Senior Scientist

Copies:

John Cofman, Northrop Grumman
Kent Smith, Northrop Grumman
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