



TETRA TECH

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February 4, 2011

Mr. Stephen Scharf
New York Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Remedial Action A
625 Broadway, 11th Floor
Albany, New York 12233-7015

Reference: CLEAN Contract No. N62470-08-D-1001
Contract Task Order WE06

Subject: Soil Vapor Intrusion Work Plan Addendum – February 2011
Site 1 – Former Drum Marshalling Area
NWIRP Bethpage, New York

Dear Mr. Scharf:

On behalf of the Navy, please find the enclosed a copy of the Work Plan Addendum - Indoor Air and Soil Gas Sampling for the Soil Vapor Investigation, Site 1 – Former Drum Marshalling Area at NWIRP Bethpage. This Work Plan outlines the sampling activities to be conducted this month to evaluate the effectiveness of the mitigation systems that are in place. This Work Plan addendum will also be included as Appendix F in the Data Summary and Home Evaluation Report that you will be receiving soon.

Field activities are scheduled for the week of February 21, 2011. Please review and provide any comments and/or approval of the activities outline in this Work Plan Addendum.

If you have any questions please contact Ms. Lora Fly, NAVFAC Mid-LANT, at (757) 341-2012.

Sincerely,

Dave Brayack
Project Manager

WORK PLAN ADDENDUM
INDOOR AIR AND SOIL GAS SAMPLING
SOIL VAPOR INVESTIGATION – FEBRUARY 2011
NWIRP BETHPAGE, NEW YORK

INTRODUCTION

This Work Plan Addendum has been prepared to address indoor air and soil gas sampling activities planned for February 2011 at Site 1 – Former Drum Marshalling Area at Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage, Long Island, New York. Soil vapor testing conducted in January 2008, October 2008, and January 2009 identified the presence of elevated concentrations of Volatile Organic Compounds (VOCs) existing along the eastern boundary of Site 1 and in the nearby residential neighborhood. Additional soil vapor testing and indoor air monitoring has been ongoing in residential homes and the neighborhood since January 2009.

In December 2009, construction of a Soil Vapor Extraction (SVE) Containment System along the eastern boundary of Navy property was completed and operation of the system started in January 2010. The SVE Containment System continues to operate.

Soil gas sampling and was conducted in November 2010 to evaluate the effectiveness of the SVE Containment System on reducing the concentrations of VOCs in onsite and offsite soil gas monitoring points. A comparison of the concentrations of chemical constituents in the initial soil gas testing conducted in January and October 2008, with the concentrations observed in the November 2010 sampling indicates that VOC concentrations have been reduced by 95.83% to 99.99% for total VOCs.

In November 2010, indoor air, sub-slab, and outdoor air samples were collected to re-evaluate vapor intrusion at the twelve homes in the monitoring program. The indoor air and sub-slab concentrations were compared to the NYSDOH matrices to determine the recommended actions for these homes. Based on this comparison, a No Further Action determination would result for all twelve homes.

The indoor air and soil gas sampling activities that will be conducted in February 2011 will include indoor air, sub-slab soil vapor, outdoor air, and soil gas sampling in the neighborhood located adjacent to Site 1. Air samples will be analyzed for VOCs via EPA TO-15 method. With concurrence from the New York State Department of Health (NYSDOH) and the New York State Department of Environmental Conservation (NYSDEC), the TO-15 list was previously modified to analyze for site specific compounds associated with Site 1. The fieldwork outlined in this Work

Plan Addendum is being conducted in accordance with NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH 2006) and previous work plans and work plan addendums (Tetra Tech, 2008 and 2010).

SAMPLING APPROACH

Approximately 20 days prior to sampling, the operating SSD systems will be turned off to mimic conditions with just the SVE Containment System in operation during sampling. Homeowners will be contacted to turn off APUs in the home two weeks prior to sampling and to schedule the actual date and time of sampling. Before and after sampling, vacuum readings will be collected from the eleven SVPMs. In addition, vacuum readings will be collected before and after sub-slab soil vapor samples are collected to measure the vacuum/pressure field under the homes. If a vacuum cannot be confirmed at a home with an SSD system, a temporary probe will be installed in the sub-slab sample location and additional vacuum readings will be measured approximately one and two weeks later. If inadequate vacuum readings are observed, operation of the SVE Containment System will be modified. These modifications may include changes in valve positions and/or the operation of the second blower.

Each indoor/outdoor air and sub-slab soil vapor sample will be collected over a 24 hour time period and analyzed by Air Toxics, an Environmental Laboratory Approval Program (ELAP) certified laboratory (USEPA, 1999). Corresponding sample nomenclatures are presented in Table 1. Outdoor air samples will be collected simultaneously during the indoor air and sub-slab soil vapor sampling to evaluate the potential influence of outdoor air on indoor air quality. Outdoor air samples will be collected, as necessary, to provide representative air samples from an upwind location. It is anticipated that one outdoor air sample may be collected for every two homes targeted for indoor air sampling. Site specific conditions will be evaluated at the time of sampling and the outdoor air samples will be collected accordingly.

Soil gas sampling will also be conducted in February 2011 to further evaluate the effectiveness of the SVE Containment System. Soil gas samples will be collected over a 30-minute time period. Field activities will include the sampling of 11 Soil Vapor Pressure Monitor (SVPM) points as presented on Table 2. Soil gas and indoor air sampling will occur simultaneously and will be analyzed for VOCs via EPA TO-15 method.

Field and sampling procedures will be conducted as outlined in the 2008 work plan and subsequent work plan addendums.

TABLE 1
SOIL GAS AND INDOOR AIR SAMPLING - FEBRUARY 2011
SAMPLE NOMENCLATURE AND ANALYTICAL METHOD
NWIRP BETHPAGE, NEW YORK

Location	Sample ID	SAMPLE TYPE	VOCs-TO15A ⁽¹⁾
HOME 1	BPS1-AR001-INDL-4	LIVING SPACE	X
	BPS1-AR001-SSB-2	SUBSLAB	X
HOME 2	BPS1-AR002-INDL-5	LIVING SPACE	X
	BPS1-AR002-INDB-5	BASEMENT	X
	BPS1-AR002-SSB-2	SUBSLAB	X
HOME 3	BPS1-AR003-INDL-6	LIVING SPACE	X
	BPS1-AR003-INDB-6	BASEMENT	X
	BPS1-AR003-SSB4	SUBSLAB	X
HOME 4	BPS1-AR004-INDB-5	BASEMENT	X
	BPS1-AR004-SSB-2	SUBSLAB	X
HOME 6	BPS1-AR006-INDB-5	BASEMENT	X
	BPS1-AR006-SSB-2	SUBSLAB	X
HOME 7	BPS1-AR007-INDB-4	BASEMENT	X
	BPS1-AR007-SSB-2	SUBSLAB	X
HOME 9	BPS1-AR009-INDB-2	BASEMENT	X
	BPS1-AR009-SSB-2	SUBSLAB	X
HOME 10	BPS1-AR010-INDB-4	BASEMENT	X
	BPS1-AR010-SSB-3	SUBSLAB	X
HOME 12	BPS1-AR012-INDB-4	BASEMENT	X
	BPS1-AR012-SSB-2	SUBSLAB	X
HOME 13	BPS1-AR013-INDB-5	BASEMENT	X
	BPS1-AR013-SSB-2	SUBSLAB	X
HOME 14	BPS1-AR014-INDB-3	BASEMENT	X
	BPS1-AR014-SSB-2	SUBSLAB	X
HOME 15	BPS1-AR015-INDB-2	BASEMENT	X
	BPS1-AR015-SSB-2	SUBSLAB	X
HOME 18	BPS1-AR018-INDB-3	BASEMENT	X
	BPS1-AR018-SSB-2	SUBSLAB	X

Notes:

Quality Assurance samples such as duplicates and field blanks will be collected in accordance with the sampling SOP. One outdoor air sample will be collected each day.

VOCs: Volatile Organic Compounds. (Site specific list: 1,1-dichloroethane, 1,1-dichloroethene, 1,1,1-trichloroethane, 1,2-dichloroethane, cis-1,2-dichloroethen, trans-1,2-dichloroethene, trichloroethene, tetrachloroethene, vinyl chloride).

⁽¹⁾ : 21-Day results from Navy-approved laboratory via method TO-15

TABLE 2
SVPM SAMPLING - FEBRUARY 2011
SAMPLE NOMENCLATURE AND ANALYTICAL METHOD
NWIRP BETHPAGE, NEW YORK

Location	Sample ID	VOCs-TO15A ⁽¹⁾
SVPM 2002	BPS1-SVPM2002S-XXXXXX	X
	BPS1-SVPM2002I-XXXXXX	X
	BPS1-SVPM2002D-XXXXXX	X
SVPM 2003	BPS1-SVPM2003I-XXXXXX	X
	BPS1-SVPM2003D-XXXXXX	X
SVPM 2004	BPS1-SVPM2004I-XXXXXX	X
	BPS1-SVPM2004D-XXXXXX	X
SVPM 2007	BPS1-SVPM2007I-XXXXXX	X
	BPS1-SVPM2007D-XXXXXX	X
SVPM 11S	BPS1-SVPM11S-XXXXXX	X
SVPM 12S	BPS1-SVPM12S-XXXXXX	X

Notes:

Quality Assurance samples such as duplicates and field blanks will be collected in accordance with the sampling SOP. One outdoor air sample will be collected each day.

VOCs: Volatile Organic Compounds. (Site specific list: 1,1-dichloroethane, 1,1-dichloroethene, 1,1,1-trichloroethane, 1,2-dichloroethane, cis-1,2-dichloroethen, trans-1,2-dichloroethene, trichloroethene, tetrachloroethene, vinyl chloride).

XXXXXX: Sample Date. For example, BPSI-SVPM2004D-110910, would be collected on November 9, 2010.

SVPM-11 and SVPM-12 will not be sampled. After further evaluation, it has been determined that both points cannot be repaired and will be abandoned.

⁽¹⁾ : 21-Day results from Navy-approved laboratory via method TO-15

SVPM: Soil Vapor Pressure Monitor