

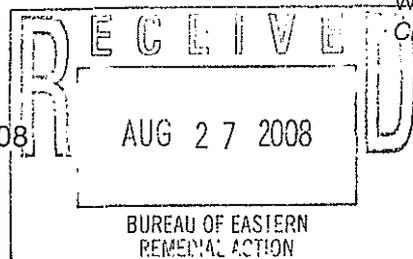
 STATE OF NEW YORK  
DEPARTMENT OF HEALTH

Corning Tower The Governor Nelson A. Rockefeller Empire State Plaza Albany, New York 12237

Richard F. Daines, M.D.  
Commissioner

Wendy E. Saunders  
Chief of Staff

August 22, 2008



Mr. Steven Scharf, P.E.  
New York State Department of  
Environmental Conservation  
Division of Environmental Remediation  
625 Broadway, 11<sup>th</sup> Floor  
Albany, New York 12233-7014

Re: Site 1 Phase II Soil Vapor Testing Work Plan  
NWIRP Bethpage  
Site # 130003B  
Bethpage, Nassau County

Dear Mr. Scharf:

I reviewed the July 2008 Site 1 Phase II Soil Vapor Testing Work Plan for Site -1, the Former Drum Marshalling Area for the Naval Weapons Industrial Reserve Plant in Bethpage, Nassau County. I have the following comments:

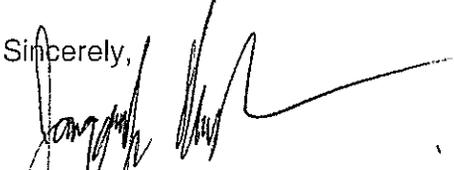
1. According to the sampling approach discussed in the Work Plan, the Navy proposes to collect right-of-way samples from the opposite side of 11<sup>th</sup> Street, adjacent to homes to determine if soil vapor contamination is detected at levels that require mitigation or additional monitoring. If contamination is found during this initial round of sampling, additional right-of-way sampling is proposed before soil vapor intrusion (SVI) samples would be collected from homes along 11<sup>th</sup> Street. Soil vapor samples collected in January 2008 on the site-related eastern property line along 11<sup>th</sup> street contained elevated levels of volatile organic compounds, especially trichloroethene at shallow and deep depths. As a result, at the 07/30/08 restoration advisory board (RAB) meeting, legislator and RAB board member Ed Mangano proposed that, following the initial round of right-of-way sampling, homes along 11<sup>th</sup> Street should be sampled next, not additional right-of-way sampling on 10<sup>th</sup> and 9<sup>th</sup> Streets. This request was also made since the Navy admitted that once their proposed right-of-way sampling plan was complete, they would likely be unable to sample homes during the 2008/2009 heating season. The community RAB members, State and County health departments, residents and DEC staff also agreed that SVI sampling in homes should not wait until after all right-of-way sampling was completed. Sub-slab vapor, indoor and outdoor air samples will need to be collected from the nearby homes as soon as possible after the initial right-of-way sampling is complete, if it confirms the continued presence of elevated levels. These samples should be collected in accordance with the New York State Department of Health Guidance for Evaluating Soil Vapor Intrusion.
2. During our 05/02/08 meeting to discuss the April 2008 Site 1 Soil Vapor Investigation (SVI) Report, we discussed collecting subsurface soil samples from the perched groundwater area since the soil could be the source of the vapor contamination associated with the site-related eastern property line

along 11<sup>th</sup> street. This additional subsurface soil sampling is not included in the work plan. The concentration of volatile organic compounds (VOC) detected in the soil vapor samples suggests that a source of VOC contamination may still remain on-site or within the soil associated with the perched groundwater area. The work plan should be revise to include this subsurface soil sampling.

3. At the 07/30/08 RAB meeting, RAB board members Assemblyman Ed Mangano and Anthony Sabino both requested that a formal public meeting be held for the residents of 11<sup>th</sup> Street to inform them of the possible soil vapor intrusion issues associated with the adjacent NWIRP site. As I stated in my 05/16/08 comment letter, the residents living in the 11<sup>th</sup> Street area should be made aware of the issues concerning the site and of the potential work needed to investigate and remediate the area. I also recommend that this data be discussed in a public meeting or as an availability session. It would be appropriate to conduct a meeting after the proposed right-of-way sampling has occurred, but before efforts are made to enter homes to conduct soil vapor intrusion sampling, if needed.
4. As stated in my 09/27/07 and my 05/16/08 comment letters, if VOCs are detected at the site property line during the SVI investigation, the Navy should conduct SVI investigations at adjacent homes to determine if indoor air has been impacted by site-related VOCs. Since detection of elevated concentrations VOCs has occurred, the SVI investigation into adjacent homes should be conducted as soon as is possible after the right-of-way sampling discussed above is complete and it should not wait until after the 2008 – 2009 heating season.
5. The initial vapor sampling points proposed in Figure 4 of the Work Plan should be permanent points since it is likely that additional vapor samples will be collected from these areas.
6. All samples initial or additional should be analyzed for the complete TO-15 compound list regardless of what compounds are detected in the initial sampling round. All detection limits should also be less than or equal to 1.0 micrograms per cubic meter.

If you have any comments concerning these issues, please contact me at (518) 402-7880.

Sincerely,



Jacquelyn E. Nealon,  
Public Health Specialist III  
Bureau of Environmental  
Exposure Investigation

cc:

G. Litwin/D. Miles/File  
J. Swartwout – DEC Albany  
R. Weitzman/J. DeFranco - NCDOH  
W. Parish - DEC, Region 1  
B. Devine – MARO

**New York State Department of Health Comments for Site No. 130003B, Letter Work Plan, Phase II Soil Vapor Testing at Site 1, for the Naval Weapons Industrial Reserve Plant (NWIRP) Site, dated August 22, 2008**

General Comments:

**1.0 Comment:** According to the sampling approach discussed in the Work Plan, the Navy proposes to collect right-of-way samples from the opposite side of 11<sup>th</sup> Street, adjacent to homes to determine if soil vapor contamination is detected at levels that require mitigation or additional monitoring. If contamination is found during this initial round of sampling, additional right-of-way sampling is proposed before soil vapor intrusion (SVI) samples would be collected from homes along 11<sup>th</sup> Street. Soil vapor samples collected in January 2008 on the site-related eastern property line along 11<sup>th</sup> street contained elevated levels of volatile organic compounds, especially trichloroethene at shallow and deep depths. As a result, at the 07/30/08 restoration advisory board (RAB) meeting, legislator and RAB board 11<sup>th</sup> Street should be sampled next, not additional right-of-way sampling on 10<sup>th</sup> and 9<sup>th</sup> Streets. This request was also made since the Navy admitted that once their proposed right-of-way sampling plan was complete, they would likely be unable to sample homes during the 2008/2009 heating season. The community RAB members, State and county health departments, residents and DEC staff also agreed that SVI sampling in homes should not wait until after all right-of-way sampling was completed. Sub-slab vapor, indoor and outdoor air samples will need to be collected from the nearby homes as soon as possible after the initial right-of-way sampling is complete, if it confirms the continued presence of elevated levels. These samples should be collected in accordance with the New York State Department of Health Guidance for Evaluating Soil Vapor Intrusion.

**Response:** The soil vapor sampling approach outlined in the work plan will be implemented as discussed in the work plan and includes the soil gas testing on 11<sup>th</sup> Street. After the initial phase of sampling is completed, analytical results will be evaluated to identify potentially effected areas. Subsequent SVI sampling will be conducted, as necessary, and if possible will be done during the 2008/2009 heating season.

*call attempts made to sample*

**2.0 Comment:** During our 05/02/08 meeting to discuss the April 2008 Site 1 Soil Vapor Investigation (SVI) Report, we discussed collecting subsurface soil samples from the perched groundwater area since the soil could be the source of the vapor contamination associated with the site-related eastern property line along 11<sup>th</sup> street. This additional subsurface soil sampling is not included in the work plan. The concentration of volatile organic compounds (VOC) detected in the soil vapor samples suggests that a source of VOC contamination may still remain on-site or within the soil associated with the perched groundwater area. The work plan should be revised to include this subsurface soil sampling.

**Response:** Unlike the perched groundwater that was identified during the Remedial Investigation at OU 3 (Former Grumman Settling Ponds) located further north and east of Site 1, perched groundwater has not been previously identified at Site 1. The purpose of the Phase II soil vapor testing outlined in the work plan is to delineate the extent of soil vapor contamination in the offsite residential area to the east of Site 1. Therefore, no subsurface soil sampling will be completed during this investigation.

*Focus of this investigation is the soil vapor. Additional soil samples will be collected as part of the design for the SVE system.*

**3.0 Comment:** At the 07/30/08 RAB meeting, RAB board members Assemblyman Ed Mangano and Anthony Sabino both requested that a formal public meeting be held for the residents of 11<sup>th</sup> Street to inform them of the possible soil vapor intrusion issues associated with the adjacent NWIRP site. As I stated in my 05/16/08 comment letter, the residents living in the 11<sup>th</sup> Street area should be made aware of the issues concerning the site and of the potential work needed to investigate and remediate the area. I also recommend that this data be discussed in a public meeting or as an availability session. It would be appropriate to conduct a meeting after the proposed right-of-way sampling has occurred, but before efforts are made to enter homes to conduct soil vapor intrusion sampling, if needed.

**Response:** A letter was sent by the Navy to the offsite residents on August 29, 2008. The letter notified residents of the ongoing environmental restoration activities for Site 1 and also informed them of the planned drilling and soil vapor testing to be conducted in their neighborhood. A fact sheet was also attached to the letter to inform the residents of the potential vapor intrusion concerns and invited the residents to an informational meeting being held on October 7, 2008 at the Bethpage Community Center.

*Supply of a copy of the letter and fact sheet*

4.0 **Comment:** As stated in my 09/27/07 and my 05/16/08 comment letters if VOCs are detected at the site property line during the SVI investigation the Navy should conduct SVI investigations at adjacent homes to determine if indoor air has been impacted by site-related VOCs. Since detection of elevated concentrations VOCs has occurred, the SVI investigation into adjacent homes should be conducted as soon as possible after the right-of-way sampling discussed above is complete and it should not wait until after the 2008-2009 heating season.

**Response:** After the initial phase of soil vapor sampling in the town right-of-ways, analytical results will be evaluated and the need for SVI sampling will be addressed as soon as possible.

5.0 **Comment:** The initial vapor sampling points proposed in Figure 4 of the Work Plan should be permanent points since it is likely that additional vapor samples will be collected from these areas.

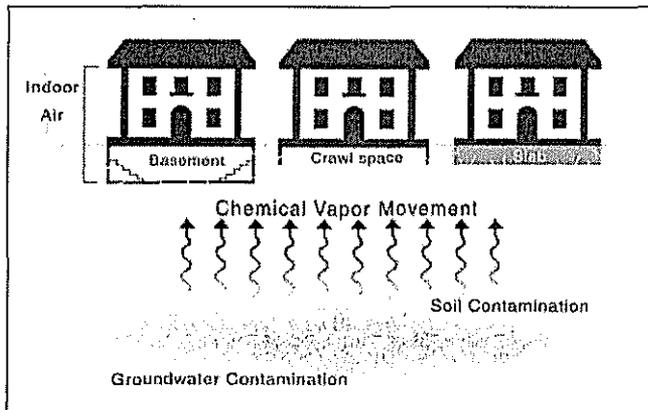
*In order to respond quickly to the soil vapor issue*  
**Response:** No permanent vapor monitoring points will be installed during the initial phase of soil vapor testing. After this initial investigation is complete, the need for permanent vapor monitoring points will be evaluated, ~~along with any necessary SVI sampling in the neighborhood.~~

6.0 **Comment:** All samples initial or additional should be analyzed for the complete TO-15 compound list regardless of what compounds are detected in the initial sampling round. All detection limits should also be less than or equal to 1.0 micrograms per cubic meter.

**Response:** Samples will be analyzed for the complete TO-15 compound list and the detection limits will be less than or equal to 1.0 micrograms per cubic meter. However, ~~the~~ data evaluation will only address the VOCs that can be attributed to the Navy property.

## What is vapor intrusion?

Chemicals that are spilled, dumped on the ground, or leak from an underground storage tank can seep into the soil. If the spill or leak is large enough, it can travel down through the soil and get into the groundwater. When a group of chemicals known as volatile organic compounds (volatile chemicals) are released into soil or shallow groundwater, these chemicals evaporate, producing vapors that travel up through the soil. These vapors can enter nearby homes and businesses through crawlspaces and cracks or other openings in the foundation. This process is known as *vapor intrusion*. When it occurs, vapor intrusion may cause unhealthy indoor air quality.



Reference: New York State, Department of Health, Guidance for Evaluating Soil Vapor Intrusion in the State of New York, February 2005.

## What volatile chemicals might enter my home or business through vapor intrusion?

Petroleum products and solvents are common volatile chemicals that can cause vapor intrusion.

Gasoline, diesel fuel, and home heating oil are examples of petroleum products. Examples of solvents include tetrachloroethylene (a common solvent used in the dry cleaning industry, also known as "Perc" or PCE), and trichloroethylene (a

common solvent used for cleaning and degreasing, also known as TCE).

Odors are usually associated with petroleum spills or leaks. However, odors are not usually associated with solvent leaks or spills unless large amounts are released.

## What is the health concern associated with volatile chemicals in indoor air?

Low levels of volatile chemicals are normally found in indoor air at a typical home or business. Vapor intrusion can add to these types of chemicals but usually at very low levels.

When volatile chemical levels are high enough, people might temporarily experience headaches, nausea, and/or eye and respiratory irritation. These symptoms usually go away when the person moves into fresh air. If people breathe low levels of these chemicals for many years, there may be a small health risk. Government agencies may take steps to reduce even low levels of volatile chemicals in order to be cautious and protective of people's health.

## What other sources of volatile chemicals can make indoor air at my home or business unhealthy?

Paints, paint strippers and thinners, glues, solvents, and air fresheners are examples of products that contain volatile chemicals that can affect indoor air quality. Dry cleaned clothing and cigarette smoke also contribute volatile chemicals to indoor air.

Volatile chemicals occur in outdoor air when they are released from various industries and vehicles. Because buildings are not airtight, outdoor air can enter buildings and affect indoor air quality.

These sources are taken into account when evaluating whether vapor intrusion is contributing to unhealthy indoor air.

*Some steps you can take to prevent releases of volatile chemicals from products stored or used at your home or business:*

- Do not buy more chemicals than you need at one time;
- Store unused chemicals in appropriate containers in well ventilated areas away from living spaces or work spaces; and,
- Place freshly dry cleaned clothes in a well ventilated area.

### **What happens if vapor intrusion is a possible problem near my home or business?**

When vapor intrusion is suspected, it should be investigated by the party responsible for the contamination. An investigation typically involves testing soil, groundwater, and soil gas (air trapped between soil particles). This testing helps to determine if volatile chemicals might pose an indoor air quality problem.

At many contaminated sites, volatile chemical levels are low and are not considered a problem. Sometimes these levels in soil, groundwater, or soil gas are high enough to cause concerns about indoor air quality in nearby homes or businesses.

When a concern about indoor air quality exists, samples are often collected inside homes or businesses. The samples are needed to determine if the volatile chemical levels in buildings are making indoor air unhealthy and whether vapor intrusion might be responsible. **Any air sampling planned at your home or business requires your permission.**

### **What happens if a vapor intrusion problem is found?**

If soil or groundwater contaminated with volatile chemicals poses a health concern, the most common solution is to install a system that removes the chemicals before vapors enter a home or business. These systems are similar to those installed in homes in regions of the country where radon is an issue and are commonly known as soil vapor vacuum systems.

Soil vapor vacuum systems remove the volatile chemicals from the soil below the foundation by sucking the vapors out of the soil. The vapor is moved through pipes and discharged into outdoor air. If the chemical levels are high, the vapors are treated before being discharged. When these systems are needed, the party responsible for contamination usually pays for them.

### **Vapor intrusion questions? Please contact:**

**Washington State Department of Health,  
Office of Environmental Health Assessments,  
Site Assessment Section**

1-877-485-7316 (toll free)

**PUBLIC HEALTH**  
ALWAYS WORKING FOR A SAFER AND  
**HEALTHIER WASHINGTON**

**Bethpage Soil Vapor Meeting  
Agenda**

**08/22/2008 13:00 – 15:00**

Objective: Game plan for Vapor Intrusion Risk Communication

- Introductions
- Summary of VI at site – Tetra Tech
- Review of Northrop Grumman Report
  - Is there data that can be used to convey risk?
  - What can we do with the information?
- Review/discuss fact-sheets/notifications
- Schedule an agenda for October 7<sup>th</sup> public meeting
- Future planning/brainstorming support meetings