

Action Memorandum

**Water Supply Line for the
Off-Site Southern Area**

Site 6A – Southern Area

**Naval Weapons Industrial Reserve Plant
Calverton, New York**



Prepared for

Department of the Navy

Naval Facilities Engineering Command

Mid-Atlantic Division

Contract Number N62470-08-D-1001
Contract Task Order WE08

MAY 2010

ACTION MEMORANDUM

DATE: May 5, 2010

FROM: Mr. William F. Cords

SUBJECT: Site 6A – Southern Area
Off-Site Water Supply
Naval Weapons Industrial Reserve Plant
Calverton, New York

1. PURPOSE

The purpose of this Action Memorandum is to document the decision by the U.S. Navy to extend a municipal potable water supply to the off-site portion of Site 6A – *Southern Area*, Naval Weapons Industrial Reserve Plant (NWIRP) Calverton, NY ([Figures 1, 2, and 3](#)). This non-time-critical removal action (NTCRA) will eliminate human health risks associated with exposure to VOCs in groundwater within the *Off-Site Southern Area*, including the Peconic River Sportsman's Club (PRSC) facility. No post-removal site controls will be required following this NTCRA respective to potable water supply (whereas separate efforts to address the Southern Area VOC groundwater plume, itself, are ongoing). The Southern Area volatile organic compound (VOC) groundwater plume is believed to originate from Site 6A (ongoing investigation).

This action is being conducted by the Navy under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulatory frameworks with oversight by the New York State Department of Environmental Conservation (NYSDEC).

2. NWIRP CALVERTON BACKGROUND

NWIRP Calverton is located in Suffolk County, Long Island, NY, within the municipality of Riverhead. The Navy has owned all or parts the facility since the early 1950s, when the property was collectively purchased from private owners. Various parcels of land have since been transferred to other parties (e.g., the Veterans Administration, the NYSDEC, and the Town of Riverhead). The facility currently covers approximately 207 acres of the original 6,000-acre facility. The Navy retains portions of the facility (i.e., parcels of land) associated with Environmental Restoration Program (ERP) sites currently under investigation and remedial decision/action processes.

NWIRP Calverton was used for the development, assembly, testing, refitting, and retrofitting of Naval combat aircraft. The government owned, contractor operated facility supported aircraft design and production at nearby NWIRP Bethpage. Northrop Grumman Corporation operated the facility until 1996. The majority of industrial activities at the facility were confined to the developed area in the central and south-central portions of the facility. Hazardous waste generation at the facility was related to metal finishing processes (e.g., metal cleaning and electroplating). The painting of aircraft and components resulted in additional waste generation (Naval Energy and Environmental Support Activity [NEESA], 1986; Halliburton NUS, 1992).

Currently, there are no operational activities or process-type operations being conducted at NWIRP Calverton that could generate hazardous waste nor are there any requirements for storage of hazardous materials on the Navy's property (Tetra Tech, 2009b). Similarly, there will be no hazardous materials

brought onto the NWIRP Calverton property to be used as part of any process-type operations. Investigation- and remediation-derived wastes from ongoing activities are stored in designated staging areas onsite for less than 90 days.

3. SITE DESCRIPTION

This section presents an assessment of the environmental conditions at the site. The Navy has evaluated the site conditions via several previous and ongoing investigations.

a. Background

The Southern Area is located southeast of Sites 6A and 10B, extending beyond the facility boundary to the southeast ([Figure 2](#)). This area is hydraulically downgradient of Sites 6A and 10B and the facility's general industrial complex (groundwater flows southeast to the Peconic River).

The Southern Area is mostly wooded with shallow ponds and intermittent wetlands. The ponds and wetlands receive surface runoff as well as drainage directly from Site 6A via a swale and culvert. From the late 1980s to the early 1990s, VOC-contaminated groundwater from a petroleum free product remedial effort at Site 6A was discharged into this drainage swale and culvert and into the western pond (Tetra Tech, 2009a).

The PRSC is located at the southern end of the Southern Area along the banks of Donally Pond created by a dam across the Peconic River ([Figures 2](#) and [3](#)). Three water supply wells currently provide potable water to the PRSC Main Lodge, PRSC Activities Center, and a private residence. Groundwater from one of these wells is run through an adsorption treatment system (see below). A former supply well at the pistol range was shut down because of elevated VOC concentrations in groundwater. Fire protection is provided by a fifth high capacity well. VOC groundwater data and the estimated chlorinated VOC plume in the Southern Area and PRSC vicinity are provided on [Figures 4a](#) and [4b](#).

b. Removal Site Evaluation

Data from previous and ongoing environmental investigations at Sites 6A and 10B indicate off-site contamination extending into the Off-Site Southern Area. There are no known or suspected contaminant sources of chlorinated VOCs in the Off-Site Southern Area. The groundwater contamination in the Southern Area is believed to have resulted from either intermittent releases at Sites 6A and 10B or from potential overland migration through a series of ditches and ponds in the area. From 1985 to 1986, the Navy conducted an Initial Assessment Study (IAS) for NWIRP Calverton, which identified Site 6A as a potential Area of Concern (NEESA, 1986).

In 1987, a groundwater and petroleum free product extraction system was installed and operated until 1993. Passive free product recovery continued until 1996, and then was restarted in 2000. The Navy conducted a Site Investigation at Calverton in 1991 to 1992 and confirmed the presence of contamination (Halliburton NUS, 1992). The SI Report recommended that a Remedial Investigation (RI) be conducted to delineate the nature and extent of contamination. The Navy conducted a RCRA Facility Investigation (RFI) in 1994 to 1995 (Halliburton NUS, 1995a and 1995b), followed by an RI at Sites 2, Site 6A, and 10B from 1997 to 1998 under the CERCLA framework (Tetra Tech, 2001). The RI results indicated unacceptable risk from exposure to on-site soils and on- and off-site groundwater, and the report recommended a Feasibility Study (FS). The Navy conducted supplemental investigations (TtNUS, 2005 and 2006c), adding to the groundwater dataset to support an FS.

In 2001, routine monitoring of PRSC water supplies by Suffolk County Department of Health Services (SCDHS) indicated the presence of chlorinated VOCs. One well was shut down and an adsorption treatment system (using granular activated carbon [GAC]) was installed by PRSC for the water supply from another well in 2007. Based on direction from SCDHS, PRSC started quarterly groundwater monitoring. In January 2008, the Navy started quarterly groundwater monitoring from the four active wells, including collection of post-adsorption treatment samples.

The site-related groundwater contaminants in the Southern Area plume ([Figures 4a](#) and [4b](#)) consist of chlorinated VOCs (e.g., trichloroethane [TCA], dichloroethane [DCA], and dichloroethene [DCE]), fuel-related constituents (e.g., benzene, toluene, ethylbenzene, and xylenes [BTEX]), and other miscellaneous organics. Similar contaminants were detected in groundwater at Site 6A, Site 10B, and the *On-Site Southern Area*. Contamination in this area is detected generally at depths of 60 feet to 90 feet below ground surface.

The most abundant chlorinated VOC present in the Southern Area groundwater plume is 1,1-DCA (TtNUS, 2005 and 2010). The November 2009 concentrations of 1,1-DCA and 1,1-DCE detected in PRSC wells exceed the New York State Department of Health (NYSDOH) (2007) Maximum Contaminant Levels (MCLs) of 5 µg/L ([Figures 4a](#) and [4b](#)). [Figure 5](#) shows the estimated horizontal extent of the 1,1-DCA plume across the Southern Area. The off-site portion of the plume is estimated to encompass approximately 92 acres.

The Navy performed an engineering evaluation and cost analysis (EE/CA) in 2009 to evaluate removal action alternatives to mitigate potential risk from exposure to VOCs in groundwater (Tetra Tech, 2009a). The EE/CA recommended the extension of a municipal water line to the PRSC vicinity and direct service lines to PRSC structures (addressed herein).

c. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

Chlorinated VOC-contaminated groundwater has migrated off the facility into the Off-Site Southern Area. Exposure to VOC-impacted groundwater poses a threat to human health (Tetra Tech, 2001 and 2009a) as determined by exceedances of NYSDOH MCLs. The most abundant site-related contaminant and primary risk driver is 1,1-DCA.

d. National Priorities List (NPL) Status

NWIRP Calverton is not a Federal NPL site.

e. Maps, Pictures, and Other Graphic Representation

[Figures 1](#), [2](#), [3](#), [4a](#), [4b](#), and [5](#) (referenced throughout this memorandum) are provided in Attachment A. [Figure 1](#) shows the location of NWIRP Calverton on Long Island, NY, while [Figures 2](#) and [3](#) show the location and the layout of the Off-Site Southern Area, respectively. [Figure 3](#) also shows the proposed Off-Site Southern Area water line(s) (i.e., the proposed municipal water main extension and direct service lines). [Figures 4a](#) and [4b](#) show concentrations of VOCs in the Southern Area and the PRSC vicinity, respectively, and [Figure 5](#) shows the estimated Southern Area 1,1-DCA groundwater plume.

4. OTHER ACTIONS TO DATE

a. Previous Actions

- **Free product recovery system at Site 6A under the UST Program:** Mixed petroleum free product and groundwater recovery with an oil/water separator was installed in 1987 and shut down in 1993. Approximately 1,900 gallons of petroleum product were removed from the site. Passive free product recovery has continued (1993 to 1996 and 2000 to present).
- **UST Removals at Site 6A and 10B:** Various USTs were removed in the 1990s.
- **Groundwater treatment system at PRSC:** An adsorption treatment system using GAC was installed to treat groundwater for potable use at the PRSC in 2007 (see [Section 3\[b\]](#)). The Navy continues to operate and maintain this system. This system will be shut down following the removal action described herein.
- **Ongoing remedial actions at Sites 6A and 10B:** Demolition of buildings and excavation petroleum- and polychlorinated biphenyl (PCB)-contaminated soil removals began in 2009 and are ongoing (see [Section 4\[c\]](#)).

b. Investigations and Assessments

Several investigations have been conducted at the site and are described in the following reports (also see the [References](#) section for ancillary reports):

IAS of NWIRP Bethpage and NWIRP Calverton, NY (NEESA, 1986).

SI for NWIRP Calverton, NY (Halliburton NUS, 1992).

RFI for NWIRP Calverton, NY (Halliburton NUS, 1995a and 1995b).

RI for Site 6A – Fuel Calibration Area, Site 10B – Engine Test House, and Southern Area, NWIRP Calverton, NY (Tetra Tech, 2001).

Data Summary Report for Site 6A - Fuel Calibration Area and Southern Area, NWIRP Calverton, NY (Tetra Tech, 2005).

FS / Corrective Measures Study for Site 6A-Fuel Calibration Area, Site 10B-Engine Test House, and On-Site Southern Area Plume, NWIRP Calverton, NY (Tetra Tech, 2006a).

FS / Corrective Measures Study for Off-Site Southern Area Plume, NWIRP Calverton, NY (Tetra Tech, 2006b).

Site 6A Data Gap Investigation, NWIRP Calverton, NY (Tetra Tech, 2006c).

EE/CA for Site 6A – Southern Area, Water Supply Line, NWIRP Calverton, NY (Tetra Tech, 2009a).

Draft Data Summary Report for 2009 Groundwater Investigation Activities, Site 2 – Former Fire Training Area, Site 6A – Fuel Calibration Area, Site 10B – Engine Test House, and Southern Area, NWIRP Calverton, NY (Tetra Tech, 2010).

c. Current Actions

- **Groundwater Treatment System and groundwater/tap water monitoring at PRSC:** The Navy continues to operate, maintain, and monitor the adsorption treatment system at PRSC. Groundwater and tap water monitoring locations consist of the Main Lodge – kitchen sink; Activity Center – prior to carbon units, between carbon units, after carbon units, and from sink in main area; Private Residence – outside spigot in front of residence; and the Fire Suppression well. The well at the Pistol Range Trailer was shut down and is no longer sampled.
- **Groundwater monitoring at Sites 6A, 10B, and the Southern Area:** The Navy performs groundwater monitoring at PRSC and the entire Southern Area, Site 6A, and Site 10B.
- **Remedial Actions at Sites 6A and 10B:** Remedial actions to demolish old buildings and excavate petroleum- and PCB-contaminated soil are taking place at both Sites 6A and 10B. (Tetra Tech, 2010).

5. STATE AND LOCAL AUTHORITIES ROLE

a. State and Local Actions to Date.

Site 6A and the on-site portion of the Southern Area are located on property held by the Navy, and the off-site portion of the Southern Area VOCs plume resulted from historical activities on the Navy property. Subsequently, the Navy holds responsibility for removal actions, risk reduction, and remediation of the on-site and off-site plume. NWIRP Calverton is identified on the New York State List of Inactive Hazardous Waste Sites and is also regulated under a RCRA Permit (i.e., under corrective actions portions of the NYSDEC “373 permit”). NYSDOH and NYSDEC provide oversight of actions and review of documents for sites under the ERP (including the Off-Site Southern Area).

An SCDHS groundwater sampling effort at PRSC in 2001 indicated the presence of chlorinated VOCs. One well was shut down and a treatment system was installed for the water supply from another well (see [Section 3\[b\]](#)). SCDHS recommended quarterly groundwater monitoring, which was performed by PRSC and then (and currently) the Navy.

The local community provides input on the Navy’s action through participation in the Restoration Advisory Board (RAB). The RAB is a group of community members who meet with Navy representatives periodically to discuss progress and provide input on ERP sites. The September and November 2009 groundwater data from the Southern Area will be presented to the RAB in April 2010.

The Tetra Tech (2010) EE/CA was made available for public review and comment from February 4 to March 8, 2010 (see the public notice in Attachment B). No public comments were received (thus, no responsiveness summary is provided).

b. Potential for Continued State and Local Response.

NYSDEC will continue to oversee investigations and removal actions at NWIRP Calverton. NYSDEC is supported by NYSDOH and SCDHS. The local community will continue to provide input on actions through the RAB.

6. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Potential threats to public health, welfare or the environment posed by site contaminants, and statutory and regulatory authorities that apply to the site are discussed in this section. Conditions at the Off-Site Southern Area present an endangerment to the public health and meet the conditions for a removal action as stated in the National Contingency Plan (NCP), Title 40 of the Code of Federal Regulations (CFR), Section 300.415(b)(2) as follows:

a. Threats to Public Health or Welfare.

Several chlorinated VOCs have been detected in groundwater samples collected from On- and Off-Site Southern Area wells (including PRSC-vicinity-wells), all of which are *Principal Organic Contaminants* under New York State's Code, Rules, and Regulations (NYCRR), Title 10 (10 NYCRR), Chapter I, Part 5, Subpart 5-1 (Public Water Systems; NYSDOH [2007]). The concentrations of some of the chlorinated VOCs (e.g., 1,1-DCA) have been detected above NYSDOH MCLs ([Figures 4a](#) and [4b](#)).

b. Threats to the Environment.

The NYSDEC Environmental Mapping System indicates that the Southern Area plume (especially the off-site portion) is in an area with the potential for *Significant Natural Communities, Rare Plants, and Rare Animals*. According to the U.S. Fish and Wildlife Service, no federally listed endangered or threatened species reside within a 4-mile radius of the study area; however, transient protected species such as the bald eagle (*Haliaeetus leucocephalus*) may periodically inhabit the study area.

Information provided by NYSDEC and the New York Natural Heritage Program indicate several NY State endangered and threatened animal species exist within the Southern Area (TtNUS, 2006c). The most notable, tiger salamander (*Ambystoma tigrinum*), may reside in the ponds and wetlands. Other species include the northern cricket frog (*Acris crepitans*) and the least tern (*Sterna antillarum*). Endangered and threatened plant species also are present in the Southern Area. According to the information supplied by NYSDEC, the wetland areas surrounding the Peconic River, including Swan Pond, include significant habitat for many State endangered and threatened animals and plants.

c. Regulatory Authorities.

The Off-Site Southern Area VOCs groundwater plume is addressed under the Navy's ERP. NYSDEC provides regulatory oversight through the Corrective Action portion of the RCRA Permit (Section 373) and the State Superfund Program (Section 375). Criteria and mitigation in this case are based on the statutory and regulatory values provided in 10 NYCRR, Chapter I, Part 5, Subpart 5-1 (Public Water Systems; NYSDOH [2007]).

7. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the removal action described herein, would present an elevated risk to public health, welfare, or the environment. The Navy has determined that this threat can be eliminated by undertaking the removal action addressed in this Action Memorandum.

8. PROPOSED ACTIONS AND ESTIMATED COSTS

This section describes the proposed removal action to mitigate the conditions cited in [Section 6](#).

a. Proposed Action.

The proposed action includes extending the existing Riverhead Water District water main to the east so that potable water service can be provided to current (i.e., PRSC) and future occupants. An 8-inch diameter ductile iron water line will be extended 4,400 feet from its current termination to a point approximately 50 feet east of the PRSC access road ([Figure 3](#)). To minimize the potential for impacts on wetlands, the pipeline will be installed along Grumman Boulevard and River Road. Fire hydrants will be installed at intervals of 1,000 feet. The new water line will pass underneath the new entrance gate road through a steel pipe sleeve and horizontal boring (both to be installed). A valve will be installed at the new pipeline termination to allow for future expansion of the system.

A water service line connection for PRSC will be tapped into the new water supply main near the PRSC access road. The service line will extend approximately 1,500 feet adjacent to the access road to the PRSC. From there, individual water pipes will branch off to each building currently or formerly supplied with well water (i.e., Main Lodge, Activities Center, residence, and pistol range trailer). Because of the long service connection run, 2-inch high-density polyethylene (HDPE) pipe will be used to minimize the pressure drop.

A backflow preventer will be installed in a vault near River Road, and a water meter will be installed in an underground vault near the PRSC buildings. Individual backflow preventers also will be installed inside each building that has water service. After the new connections are complete, the four existing supply wells will be abandoned.

An alternative potable water source will prevent exposure to contaminated groundwater in the Off-Site Southern Area and allow the PRSC drinking water wells to be abandoned. Investigative and remedial efforts to address the VOCs plume are ongoing as a separate effort from this NTCRA.

b. Contribution to Remedial Performance.

This NTCRA will provide a final remedy for human exposure to VOCs in groundwater in the Off-Site Southern Area.

c. Alternative Actions Considered.

The following three removal action alternatives were developed in the EE/CA (Tetra Tech, 2009a):

- Alternative 1 – No Action
- Alternative 2 – Extension of Municipal Water Line
- Alternative 3 – Point of Entry Well Water Treatment

Alternative 1 would not be protective, and Alternative 3 would include indefinite post-removal action site controls (operation and maintenance of adsorption treatment system and associated groundwater and tap water monitoring).

d. Engineering Evaluation/Cost Analysis (EE/CA)

The EE/CA (Tetra Tech, November 2009a) was performed in accordance with current EPA and Navy guidance documents for a NTCRA under the CERCLA framework. The objective of the EE/CA for the Off-Site Southern Area potable water supply was to develop a removal alternative to prevent human exposure to groundwater (including showering, drinking, and irrigation) having site-related contaminant concentrations greater than NYSDOH MCLs. Three alternatives (see above) were identified, evaluated, and ranked.

The comparative analysis included evaluating the effectiveness, implementability, and cost of each alternative. The evaluation of effectiveness included reviewing the protectiveness of the alternative; compliance with applicable or relevant and appropriate requirements (ARARs) to the extent practicable; long-term effectiveness and permanence; reduction in toxicity, mobility, or volume; short-term effectiveness; and its ability to meet the removal action objective. The evaluation of implementability included looking at the technical feasibility, availability, and administrative feasibility of the alternatives. The evaluation of cost included a review of implementation and future costs.

Based on the comparative analysis of the alternatives completed in the EE/CA, the recommended removal action is Alternative 2 – Extension of Municipal Water Line. This alternative meets the objective of the removal action and provides the best balance of trade-offs based on the evaluation criteria. Copies of the EE/CA were made available to the public for the required 30-day public comment period starting on February 4, 2010. An advertisement announcing the 30-day public comment period was placed in the *Riverhead News Review* on February 4, 2010. The public comment period ended on March 8, 2010. No comments were received.

e. Applicable or Relevant and Appropriate Requirements (ARARs)

The NCP requires that removal actions attain federal and state ARARs with limited exception, to the extent practicable. ARARs were identified and evaluated in the EE/CA. The removal action proposed in this Action Memorandum will comply with ARARs.

f. Project Schedule

Field activities are anticipated to start in 2011 and be completed in 2012.

g. Estimated Costs

The cost for the interim removal action is approximately \$1,268,000 (all capital/implementation cost) (Tetra Tech, 2009a). There are no future costs associated with this action. This cost is based on using HDPE for the service connection.

9. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If the NTCRA is not implemented, indefinite groundwater treatment will be required for a potable water source to current or future occupants in the Off-Site Southern Area. Without this action, human receptors could be exposed to groundwater contaminated with chlorinated VOCs.

10. OUTSTANDING POLICY ISSUES

None identified.

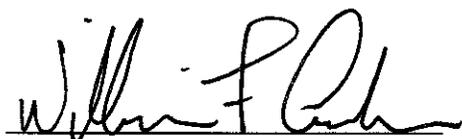
11. ENFORCEMENT

Regulatory agencies are anticipated to remain in an oversight role for the duration of the removal action, reviewing design documents, work plans, and completion reports to assure compliance with regulations under the ERP.

12. RECOMMENDATION

Conditions at the site meet removal action criteria in 40 CFR 300.415(b)(2). Therefore, the Navy recommends the implementation of the proposed action.

Approvals:



William F. Cords
Director of Infrastructure Business Operations
Naval Air Systems Command

Date: 5/4/10

13. REFERENCES

C.F. Braun (C.F. Braun Engineering Corporation), 1997. *RCRA Facility Assessment – Sampling Visit Addendum, NWIRP Calverton, NY*. January.

NEESA (Naval Energy and Environmental Support Activity), 1986. *Initial Assessment Study of NWIRP Bethpage and NWIRP Calverton, NY*. December.

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Halliburton NUS, 1995b. *RCRA Facility Investigation Addendum, NWIRP Calverton, NY*. September.

NYSDOH (New York State Department of Health), 2007. Codes, Rules, and Regulations of the State of New York, Title 10 (Department of Health), Chapter I (State Sanitary Code), Part 5 (Drinking Water Supplies), Subpart 5-1 (Public Water Systems). Specifically Table 3 – Organic Chemicals Maximum Contaminant Level Determination and Table 9D - Organic Chemicals – Principal Organic Contaminants Minimum Monitoring Requirements. Code, Rules and Regulations current through October 1, 2007. <http://www.health.state.ny.us/environmental/water/drinking/part5/subpart5.htm>. Visited on March 12, 2010.

SCA Associates, 2003. *Evaluation Report Review of Remedial Investigation at Calverton Naval Weapons Industrial Reserve Plant, Calverton, New York, Installation Restoration Sites 6A – Fuel Calibration Area, 10B – Engine Test Area, and Off-site Southern Area*. August.

Tetra Tech, 1998. *EE/CA for Sites 2, 6A, and 10B, NWIRP Calverton, NY*. September.

Tetra Tech, 1999. *Draft Action Memorandum Removal of Free Product Naval Weapons Industrial Reserve Plant Calverton, NY*. January.

Tetra Tech, 2001. *Phase 2 Remedial Investigation for Site 6A – Fuel Calibration Area, Site 10B – Engine Test House, and Southern Area, NWIRP Calverton, NY*. July.

Tetra Tech, 2002. *Technical Memorandum for Site 2-Fire Training Area Site 6A – Fuel Calibration Area Test Pitting Activities, NWIRP Calverton, NY*. January.

Tetra Tech, 2005. *Data Summary Report for Site 6A - Fuel Calibration Area and Southern Area, NWIRP Calverton, NY*. September.

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Tetra Tech, 2006b. *Feasibility Study / Corrective Measures Study for Site 6A – Fuel Calibration Area, Site 10B – Engine Test House, and On-Site Southern Area Plume, NWIRP Calverton, NY*. May.

Tetra Tech, 2006c. *Site 6A Data Gap Investigation, NWIRP Calverton, NY*. May.

Tetra Tech, 2008. *Data Summary Report for Pre-Design Investigation Groundwater Investigation at Site 6A-Fuel Calibration Area, Site 10B-Engine Test House, and Southern Area, NWIRP Calverton, NY*. June.

Tetra Tech, 2009a. *EE/CA for Site 6A – Southern Area, Water Supply Line, NWIRP Calverton, NY*. November.

Tetra Tech, 2009b. *Site Management Plan, Fiscal Year 2009, NWIRP Calverton, NY*. December.

Tetra Tech, 2010. *Draft Data Summary Report for 2009 Groundwater Investigation Activities at Site 2 – Fire Training Area, Site 6A – Fuel Calibration Area, and Site 10B – Engine Test House, and Southern Area, NWIRP Calverton, NY*. February.

Attachment A – Figures

Figure 1 – General Location Map

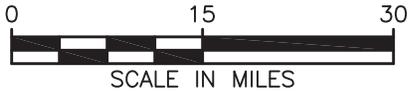
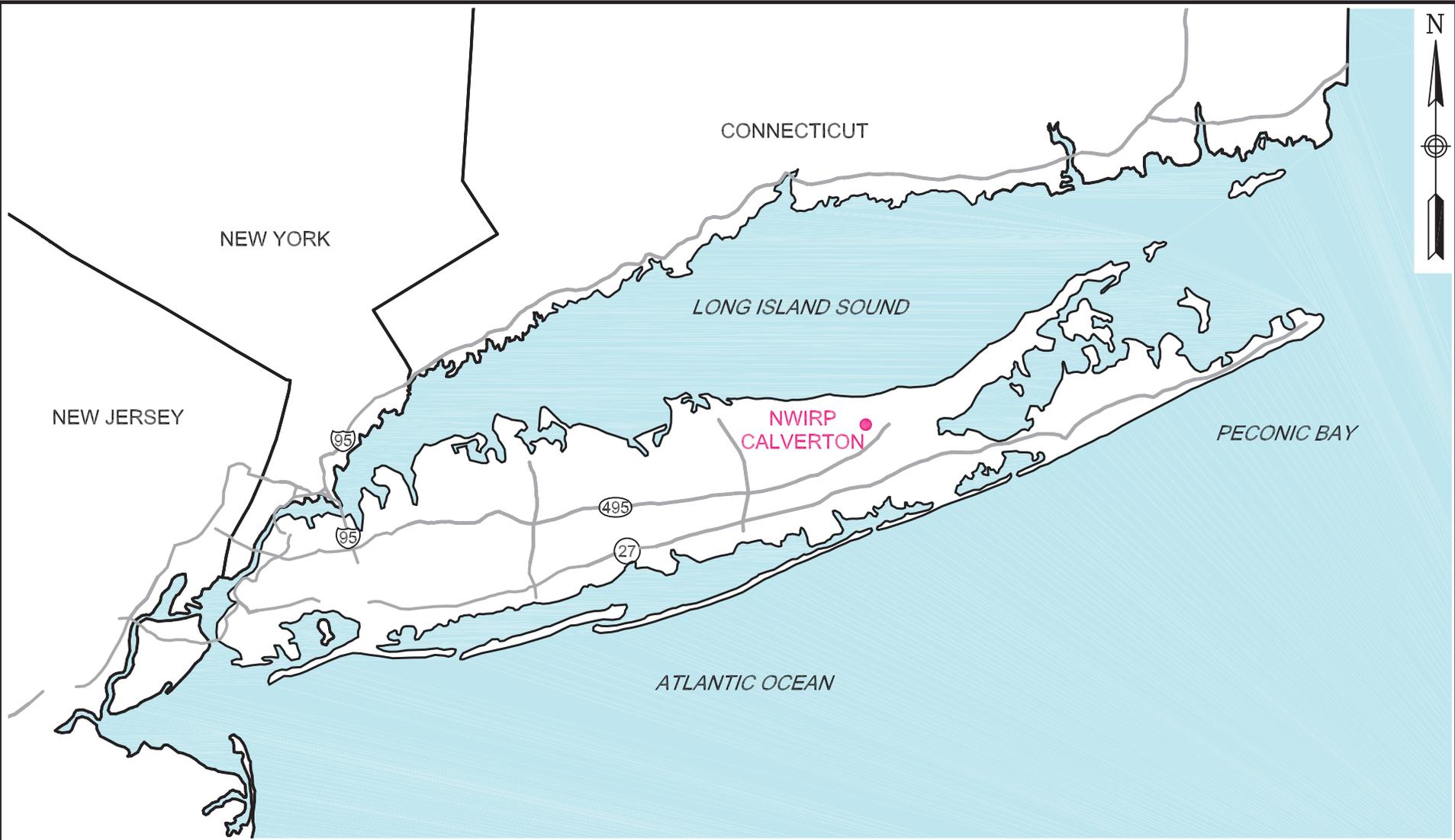
Figure 2 – Site Location Map

Figure 3 – Site Layout and Water Supply Line Extension

Figure 4a – Groundwater Analytical Results – Southern Area

Figure 4a – Groundwater Analytical Results – Southern Area – Peconic River Sportsmen Club

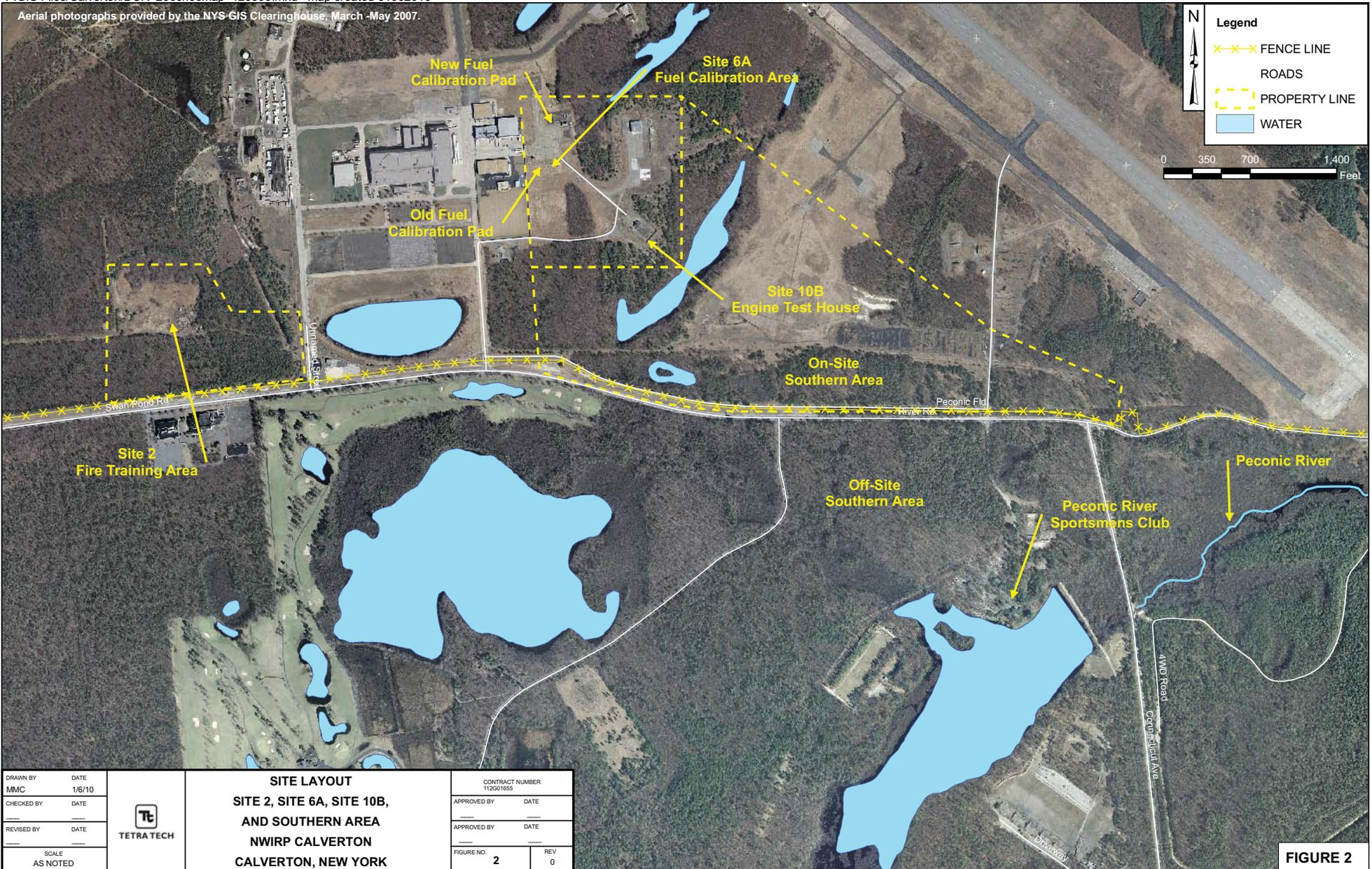
Figure 5 – 1,1-Dichloroethane Isoconcentration Contour Map – Southern Area



GENERAL LOCATION MAP
 NWIRP CALVERTON
 CALVERTON, NEW YORK

SCALE NOT TO SCALE	
FILE 112G02045CM02	
REV 0	DATE 09/30/09
FIGURE NUMBER FIGURE 1	

Aerial photographs provided by the NYS GIS Clearinghouse, March -May 2007.



DRAWN BY MMC	DATE 1/6/10
CHECKED BY	DATE
REVISED BY	DATE
SCALE AS NOTED	

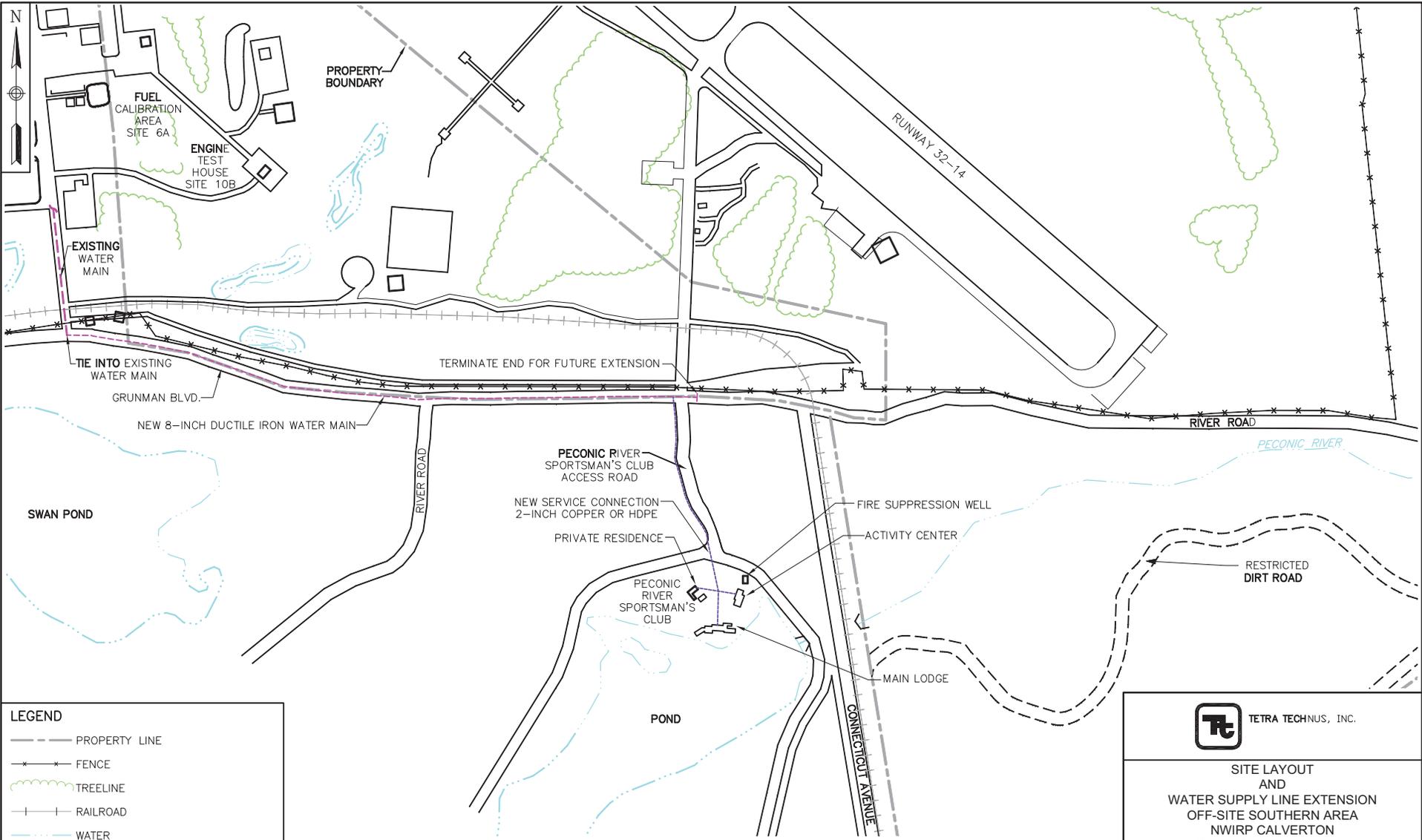


SITE LAYOUT
SITE 2, SITE 6A, SITE 10B,
AND SOUTHERN AREA
NWIRP CALVERTON
CALVERTON, NEW YORK

CONTRACT NUMBER 112001655	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO. 2	REV 0

FIGURE 2

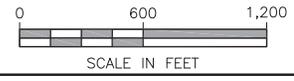
112G02045\0910\112G02045GM02.DWG 10/05/09 MKR



LEGEND

	PROPERTY LINE
	FENCE
	TREELINE
	RAILROAD
	WATER
	EXISTING WATER MAIN
	PROPOSED WATER MAIN EXTENSION
	PROPOSED SERVICE CONNECTION

NOTE: 1. FIRE HYDRANTS TO BE LOCATED AT SPACING OF 1,000 FEET.



TETRA TECHNUS, INC.	
SITE LAYOUT AND WATER SUPPLY LINE EXTENSION OFF-SITE SOUTHERN AREA NWIRP CALVERTON, NEW YORK	
FILE 112G02045GM02	SCALE AS NOTED
FIGURE NUMBER FIGURE 3	REV DATE 0 10/05/09

Aerial photographs provided by the NYS GIS Clearinghouse, March - May 2007.

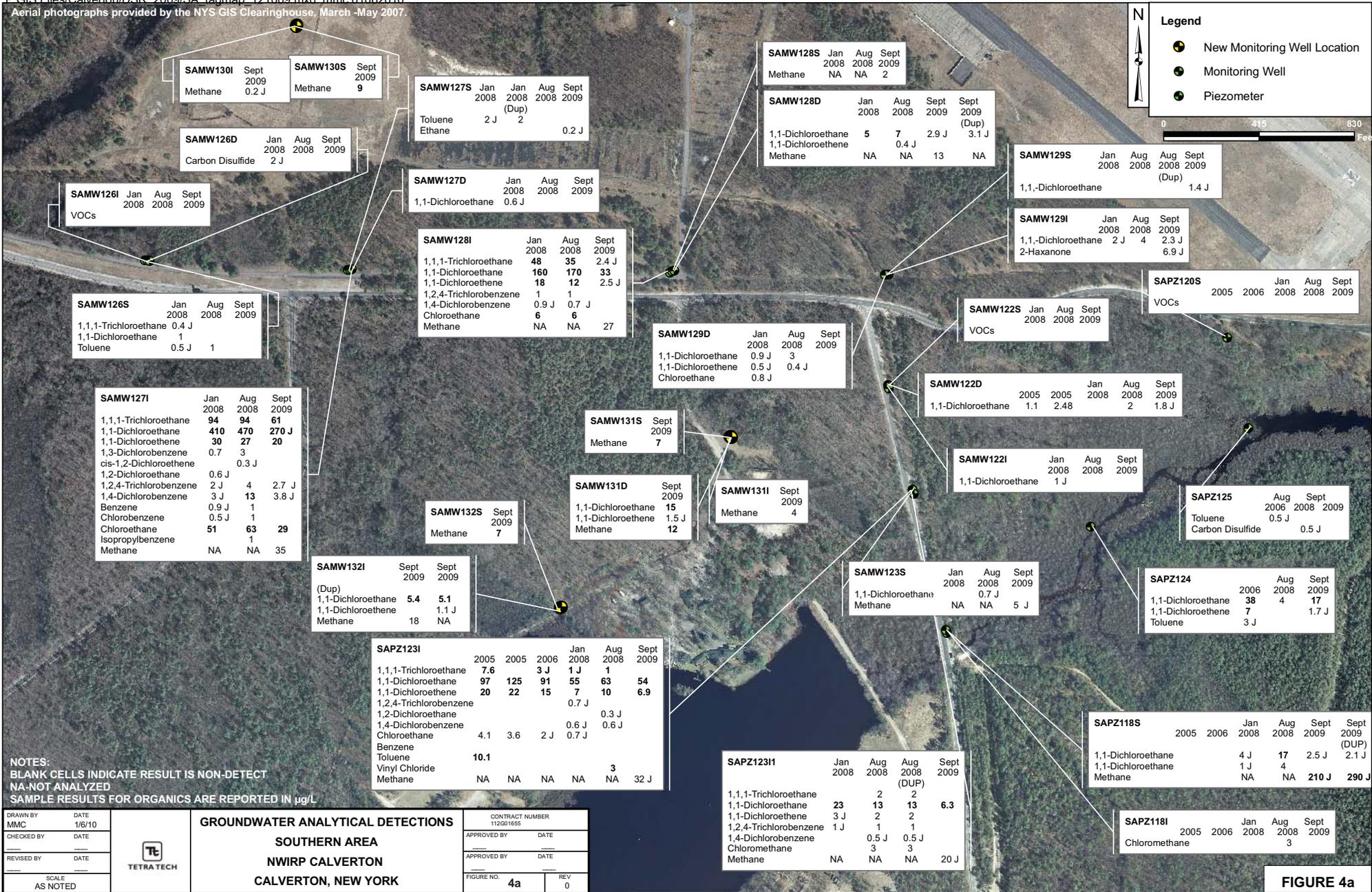


FIGURE 4a

Aerial photographs provided by the NYS GIS Clearinghouse, March -May 2007.

Legend

● Supply Well Sample Location

CAPRSC04

Jan 2008	June 2008	Aug 2008	Dec 2008	Mar 2009	June 2009	Sept 2009	Nov 2009
VOCs							

CAPRSC03

Jan 2008	June 2008	Aug 2008	Dec 2008	Mar 2009	Mar 2009 (Dup)	June 2009	Sept 2009	Sept 2009 (Dup)	Nov 2009
VOCs									

CAPRSC0202

Jan 2008	June 2008	Aug 2008	Dec 2008	Mar 2009	Jun 2009	June 2009	Sept 2009	Nov 2009
1,1-Dichloroethane								
1,2-Dichloroethane								
Isopropylbenzene								

CAPRSC0201

	Jan 2008	Jan 2008 (Dup)	June 2008	Aug 2008	Dec 2008	Dec 2008 (Dup)	Mar 2009	Jun 2009	June 2009 (Dup)	Sept 2009	Nov 2009
1,1-Dichloroethane	12	12	7	13	12	12	12	12	12	11	9.3
1,1-Dichloroethene		5 J	4	4	5	5	3.3 J	3.6 J	3.5 J	6	4.4J
1,2-Dichloroethane	0.5 J	0.6 J	0.6 J		0.4 J	0.4 J					
1,2-Dichloroethene (total)	2 J	1 J	2 J	1 J	1 J	1 J					
cis-1,2-Dichloroethene	2 J	1 J	2	1 J	1	1		1.3 J	1.3 J		1.4J
Trichloroethene	0.8 J	0.8 J	0.7 J	0.6 J	0.9 J	0.9 J					
Vinyl Chloride			1 J								
Benzene					0.3 J	0.3 J					
Naphthalene											2.4J

CAPRSC0203

Jan 2008	June 2008	June 2008 (Dup)	Aug 2008	Dec 2008	Mar 2009	Jun 2009	June 2009	Sept 2009	Nov 2009
Chloromethane									
Isopropylbenzene									
Methyl tert-butyl ether									

CAPRSC01

Jan 2008	June 2008	Aug 2008	Dec 2008	Mar 2009	June 2009	Sept 2009	Nov 2009
Naphthalene							

DRAWN BY MMC	DATE 2/18/10
CHECKED BY	DATE
REVISED BY	DATE
SCALE AS NOTED	



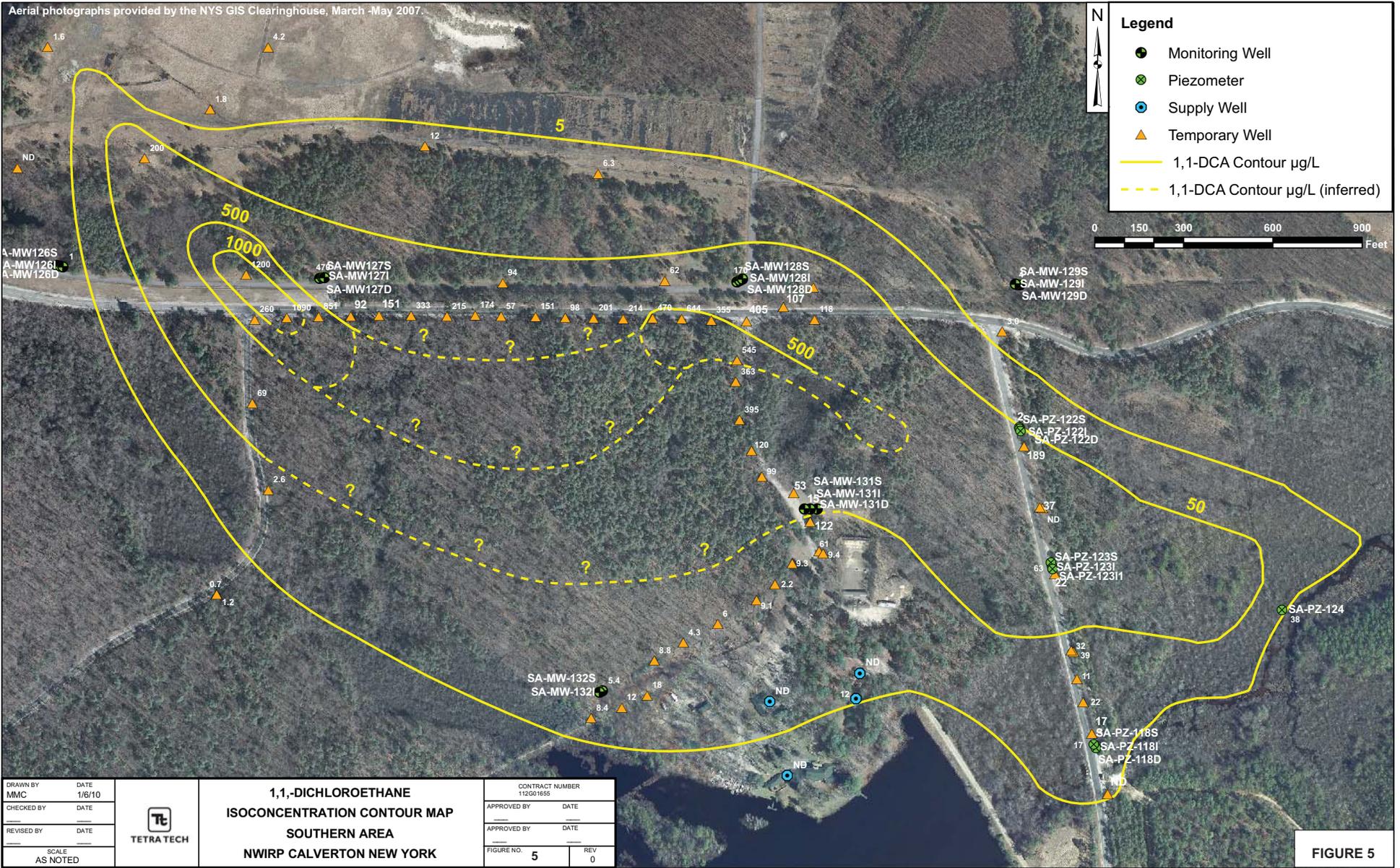
GROUNDWATER ANALYTICAL RESULTS
SOUTHERN AREA
PECONIC RIVER SPORTSMEN CLUB
NWIRP CALVERTON
CALVERTON, NEW YORK

CONTRACT NUMBER 112G01655	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO. 4b	REV 0

NOTES:
 BLANK CELLS INDICATE RESULT IS NON-DETECT
 SAMPLE RESULTS FOR ORGANICS ARE REPORTED IN µg/L

FIGURE 4b

Aerial photographs provided by the NYS GIS Clearinghouse, March -May 2007.



DRAWN BY MMC	DATE 1/6/10
CHECKED BY	DATE
REVISED BY	DATE
SCALE AS NOTED	



1,1-DICHLOROETHANE	
ISOCONCENTRATION CONTOUR MAP	
SOUTHERN AREA	
NWIRP CALVERTON NEW YORK	
CONTRACT NUMBER 112G01655	APPROVED BY _____ DATE _____
APPROVED BY _____ DATE _____	APPROVED BY _____ DATE _____
FIGURE NO. 5	REV 0

FIGURE 5

Attachment B – Public Notice and Responsiveness Summary

The attached public notice for the proposed NTCRA for the Off-Site Southern Area was placed in the River Head News Review on February 4, 2010. No public comments were received during the public review period of February 4 through March 8, 2010, and a public meeting was not requested. Subsequently, a responsiveness summary and meeting record are not provided.

ENGAGEMENTS



PAUL VIRGINTINO AND MARGHERITA LUCE

Luce — Virgintino

Mr. and Ms. Ralph Luce of Riverhead have announced the engagement of their daughter, Margherita, to Paul Virgintino, son of Mr. and Ms. Vincent Virgintino, also of Riverhead.

Margherita, a 2007 graduate of St. Joseph's College, is a teacher at Westhampton Beach Learning Center. Paul, a 2005 graduate of SUNY Maritime College, is chief engineer on a tugboat in Staten Island.

A fall 2011 wedding is planned.

BIRTHS

Alexis Lysogorski—On Dec. 27, 2009, at Southampton Hospital, to Bryan and Kathleen (Condon) Lysogorski of Manorville, a daughter, Alexis Madeline Lysogorski. Ms. Lysogorski is a former resident of Mattituck.

ACHIEVEMENTS

• **Brian Meier** of South Jamesport has been named to the fall 2009 dean's list at Springfield (Mass.) College, where he is a third-year student majoring in movement and sports studies.

• **Jonathan Caiola and Katie Podlas**, both of Riverhead, have been named to the fall 2009 dean's list at Hofstra University, where they are currently studying English.

• **Jayson Kratoville** of Riverhead has earned a place on the fall 2009 dean's list at the University at Albany.

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PUBLIC NOTICE

**NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP)
CALVERTON, NEW YORK**

**announces the availability of and the start of the public comment period on the
ENGINEERING EVALUATION/COST ANALYSIS FOR A NON-TIME CRITICAL REMOVAL ACTION
AT SITE 6A - SOUTHERN AREA OFF-SITE WATER SUPPLY**

This notice is being provided to inform interested parties that the Department of Navy (Navy) prepared an Engineering Evaluation/Cost Analysis (EE/CA) for a non-time critical removal action at the former Naval Weapons Industrial Reserve Plant (NWIRP) at Calverton, New York. This action is an interim remedy to provide an alternative drinking water supply for off-site groundwater users.

The Southern Area is the area where volatile organic compound (VOC)-contaminated groundwater was found that may be attributable to Site 6A (Fuel Calibration Area) at NWIRP. The Southern Area begins within NWIRP boundary and extends off site to the southeast. A portion of a private club property is located within the Southern Area contaminated groundwater plume. During a routine sampling event, chlorinated solvent-type VOCs were detected in two of the potable wells on the property. Based on these detections, one well was shut down and a treatment system was placed on the other well. In January 2008, the Navy started quarterly sampling and analysis of the four active wells at the private club. To evaluate alternatives for addressing exposure to contamination in these water supply wells, an EE/CA was prepared. The EE/CA evaluated two action alternatives, Alternative 2 - Extending the Riverhead Water District Water Line and Alternative 3 - Installation of a Point-of-Entry (POE) System and Groundwater Monitoring. The Navy is proposing to implement Alternative 2 that includes extending the existing Riverhead Water District water main to provide potable water service to the private club. After the new water service connection is provided, the four existing club wells would be abandoned.

Copies of the EE/CA have been distributed to the New York State Department of Environmental Conservation (NYSDEC), New York State Department of Health (NYSDOH), Suffolk County Department of Health Services (SCDHS), and members of the Calverton Restoration Advisory Board (RAB) who have all been informed of the proposed remedy selection and will also be reviewing these documents and providing comments. A copy of the document has been placed in the Navy's Information Repository located at the Reference Desk of the Riverhead Free Library, 330 Court Street, Riverhead, New York, 11901. Hours of operation are Monday through Friday from 9:00 am to 9:00 pm; Saturday from 9:00 am to 5:00 pm, and Sunday from 1:00 pm to 5:00 pm. (October through May). Please note that the library copy is for review only and may not be removed from the library.

A 30-day public comment period has been established for review of the document starting **February 4, 2010** and ending **March 8, 2010**.

All public comments on the EE/CA must be returned to the address provided below on or before (postmark by) March 8, 2010 to be considered, addressed, and documented in the administrative record. Parties interested in obtaining a copy of this document can write to the address below or call the Public Affairs Officer at (757) 322-8005.

Public Affairs Officer, Code 09PA
Naval Facilities Engineering Command Mid-Atlantic
9742 Maryland Ave., Bldg. A-81
Norfolk, Va. 23511

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