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NWIRP CALVERTON
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MEETING MINUTES FROM RESTORATION ADVISORY BOARD MEETING ON 5 APRIL 2012

NWIRP CALVERTON NY

7/5/2012

NAVFAC MIDLANT

TETRA TECH

NOR-01456

July 5, 2012

Project Number 112G02045

Reference: Contract No. N62470-08-D-1001
Contract Task Order No. WE08

Subject: April 2012 Draft RAB Meeting Minutes
NWIRP Calverton, New York

MEMORANDUM

FOR THE MEMBERS OF THE RESTORATION ADVISORY BOARD (RAB) FOR THE INSTALLATION RESTORATION PROGRAM AT NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP) CALVERTON, NEW YORK

Attached for your review are the minutes from the RAB meeting held on April 5, 2012. The Navy requests that you review the meeting minutes and provide comments that you have to the Remedial Project Manager, Ms. Lora Fly. These minutes will be discussed and approved at the next meeting in November of 2012. If you need additional information, please call Ms. Lora Fly at (757) 341-2012, or email, lora.fly@navy.mil.

Sincerely,

David D. Brayack
Project Manager

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RESTORATION ADVISORY BOARD MEETING
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP), CALVERTON
CALVERTON COMMUNITY CENTER, CALVERTON, NEW YORK
THURSDAY, APRIL 5, 2012

The thirty-sixth meeting of the Restoration Advisory Board (RAB) was held at the Calverton Community Center. Meeting attendees included representatives from the Navy (Lora Fly and Tom Kreidel), New York State Department of Environmental Conservation (NYSDEC) (Larry Rosenmann, Ajay Shah, and Henry Wilkie), RAB Community Members (John Armentano, Sid Bail, and Bill Gunther), Suffolk County Department of Health Services (SCDHS) (Doug Feldman and Andrew Rapiejko), Tetra Tech (David Brayack, Debbie Cohen, and Robert Sok), H&S Environmental (Jen Good and Al Taormina), Frank Anastasi (SCA Associates), and Resolution Consultants (Michael Spera and Robert Forstner). There were four guests at the meeting. The meeting sign-in sheet is provided as Attachment 1.

WELCOME AND AGENDA REVIEW

The Navy representative, Ms. Lora Fly, welcomed everyone to the RAB meeting and introduced the meeting agenda. The agenda for the meeting is included as Attachment 2. In addition to the noted agenda items, a presentation on the status of Site 7 work was also provided. The Navy presentations are included in Attachment 3.

DISTRIBUTION AND APPROVAL OF MINUTES

Ms. Fly asked whether the RAB members received the November 2011 RAB minutes, which were distributed in March 2012. It was noted that these minutes reflect revisions based on comments from Mr. Bill Gunther, RAB Community Co-chair. Ms. Fly asked whether there were questions or comments on the minutes. There were no questions or comments, and the minutes for the November 2011 RAB meeting were approved.

COMMUNITY UPDATE

For the December 2011 public meeting for NWIRP Calverton environmental remediation, Mr. Frank Anastasi prepared a poster board showing the RAB Community Member participation over the past 15 years as part of NWIRP Calverton's environmental restoration program. He will give the poster board to long-time Community RAB Member, Ms. Jean Mannhaupt.

TECHNICAL PROGRESS – GENERAL OVERVIEW OF INSTALLATION RESTORATION SITES AND STATUS OF SITE 2 REMOVAL ACTION

Ms. Fly provided some general site information and reviewed the status of the munitions response activities for Site 2. The presentation is provided in Attachment 3.

In February 2010, during an investigation to delineate the extent of petroleum-contaminated soil at Site 2, several munitions fragments were found after a heavy rain, in an area that was cleared of vegetation to support soil excavation. A possible source may be from a firing stop butt area (by the Gun Butt Building) that was used for testing, sighting, and static target practice to align gun sights. Before proceeding with the remedial investigation, munitions response is required. Subsequently, a digital geophysical mapping survey was completed in 2010, which identified single-point and high-saturation polygon area anomalies that need to be investigated for whether or not munitions are present. The Navy expects the anomalies are more likely to be metal debris from former fire training activities than munitions. Airplane parts were brought on site to simulate crashes as part of the former fire training activities, which occurred across the site. However, the Navy has to follow the appropriate protocol, which includes manual excavation of anomalies identified in the initial survey, to ensure that there are no munitions. The Navy anticipates mobilization for the next phase to begin in late April 2012 and to be completed by October 2012. In answer to a question of whether there would be a post survey to confirm that there are no munitions, Ms. Fly indicated that there would not be a post survey, but deed restrictions would be required for the site. She explained that when the Navy finds munitions in an unexpected area and the Navy cannot confirm the extent of the munitions in the area, it is identified as a munitions site that requires deed restrictions. No deed restrictions are required for the former Gun Butt Building because the Navy knew where munitions were used and that the munitions went into a targeted area. The target area was a concrete bunker and the Navy was able to remove all of the munitions from this area.

TECHNICAL PROGRESS – 2011 GROUNDWATER INVESTIGATION SUMMARY

Mr. Rob Sok, Tetra Tech, provided a presentation on the status of 2011 groundwater investigation and the current understanding of groundwater contamination at NWIRP Calverton. The presentation is included in Attachment 3.

Sampling in 2011 included the March 2011 facility-wide spring sampling event for groundwater, surface water, and sediment sampling. An interim data summary report was submitted in June 2011. Temporary well sampling programs were conducted in April 2011 to June 2011 and October 2011 to February 2012 to refine the extent of volatile organic compound (VOC)-contaminated groundwater at Sites 2 and 6A and the Southern Area. The annual groundwater monitoring program (groundwater, surface water, and sediment sampling) was conducted in September and October 2011. The Peconic River Sportsman's Club (PRSC) quarterly sampling continued and the Navy continued installation of the water supply line to PRSC.

Mr. Sok reviewed figures showing the groundwater contaminant plume. At Site 2, the temporary well data show some VOC contamination between the source area and perimeter wells. For the groundwater

monitoring well figure, except for monitoring well S2-MW02, VOCs were either not detected (blank on the figure) or detected at concentrations less than New York State Department of Health (NYSDOH) Maximum Contaminant Levels (MCLs) ("NX" on the figure). VOC concentrations at S2-MW02 have shown a decrease.

Mr. Sok reviewed the current Southern Area Plume map, which shows the locations of the sites and portions of the plume that are referred to as the Source Area, Fence Line Area, Offsite High Concentration Area, Offsite Low Concentration Area, and Peconic River Area. The figure also shows the 2009/2010 excavation areas. Mr. Sok reviewed a cross section location map, with the new 2011 locations, and an updated cross section using the 2011 data, noting that the aquitard (clay unit) bound the vertical extent of the groundwater contaminant plume. Mr. Sok also reviewed the groundwater flow maps for April 2010, March 2011, and September 2011. The April 2010 event was conducted after a significant storm event in March 2010, which resulted in a temporary increase in the water table elevation that had a measurable impact on groundwater flow directions in the Southern Area. Groundwater level data for March 2011 and September 2011 indicate that groundwater has returned to previously identified flow directions. The eastern flow component from the ponds can still be seen. Mr. Sok then reviewed figures with the groundwater results based on the areas shown on the Southern Area Plume map.

- **Source Area:** This area includes Sites 6A and 10B. The temporary well results show the highest concentrations of DCA in the source area and concentrations show a general decrease since the soil removal action.

- **Fence Line Area:** This is the area where the groundwater pump and treat system will be installed (fence line treatment system). The recent temporary well results will be used to refine the understanding of the groundwater contamination plume (flow and concentrations) to support design of the extraction and treatment system to capture onsite groundwater contamination before migrating offsite. The capture zone for the system needs to be designed to extract groundwater within the contaminant plume and to minimize capture of surrounding clean groundwater. Mr. Sok explained that the shift in the groundwater plume over time will need to be considered as part of the design of the system so that the zone of pumping will be appropriately identified to adequately capture contamination before flowing off site. For example in the western edge (in the vicinity of TW408 and TW322), the main plume is about 200 feet wide in this area, but data has shown that the plume can shift 100 feet east or west. Although VOC concentrations may be at acceptable levels based on current concentrations, previous detections were considered in delineating the concentrations contours shown on the figures. Mr. Sok reviewed other results in the Fence Line Area, showing the highest concentrations and fluctuations (particularly at PZ-133I) that are related to the shifting groundwater flow. There was discussion

regarding the aquitard, which is approximately 37 feet below ground surface (bgs) in the planned pumping area. Contamination was found above the aquitard in this area. Past sampling below the clay layer has shown where the clay layer is thick, contamination was not found underneath. Where the clay layer becomes thinner there have been some detections of contamination.

- **Offsite High Concentration Area:** This area includes the portion of the offsite plume with 1,1-dichloroethane (DCA) concentrations greater than 500 ug/L. Locations PZ171 and PZ172 were recently installed along the southern edge of this area to better delineate the southern extent of high concentrations. The Navy is expecting the results soon.

- **Offsite Low Concentration Area:** This area is the portion of the offsite plume surrounding the high concentration area and extending to the Peconic River Area. There was discussion about the concentrations at MW131 cluster located south of the high concentration area. At this location, concentrations have fluctuated between no detections and low detections (approximately 10 to 20 ug/L) of contamination. This is an area where the aquitard is thin.

- **Peconic River Area:** The results for this area are showing some higher detections, particularly at PZ123 at the northern edge of this area and along the river at PZ124. In particular, 1,1-DCA concentrations in SAPZ123I1 increased from non detected in September 2010, to 11 ug/L in March 2011, and 85 ug/L in September 2011. Also trichloroethene (TCE) was detected in one surface water sample at 6.2 ug/L. TCE has not been detected in surface water previously or in any of the nearby groundwater monitoring well samples.

Mr. Sok reviewed the updated DCA isoconcentration contour map that includes the 2011 data. The figure shows areas with data gaps along the southwestern edge of the plume near the Peconic River. He then reviewed a map with locations that were recently sampled on County property, noting that the Navy was able to get the appropriate access agreements for PRSC and County property and was able to access the area without disturbing any trees. The water level data for this area will be used to refine the northwestern flow component downgradient of Site 2, in the vicinity of the pond, and around McKay Lake. The Navy is evaluating the data that were recently collected.

Mr. Sok reviewed the remaining activities, which include another round of piezometer sampling. The Navy will coordinate with SCDHS so that Mr. Rapiejko can be there for the round of piezometer sampling. Mr. Brayack explained that the Navy is focusing on evaluating the data for the fence line treatment area to determine whether additional data are needed before completing the design and installation of the fence line treatment system.

There was discussion of how extensive was the DCA contamination greater than 500 ug/L and whether there were concentrations much greater than 500 ug/L. There are some detections of DCA in the onsite portion of the plume (in the Fence Line Area) that are around 1,000 ug/L, but the results do not show this high concentration in the offsite portion of the plume. Recent data were collected to refine the downgradient edge of the 500 ug/L contour and these data are being evaluated. The Navy is seeing a shift in concentrations but does not see concentrations getting worse. There was discussion about whether the 500 ug/L contour for DCA may extend to the river. Mr. Brayack indicated that the data do not support the 500 ug/L contour extending to the river. Although there are some data gaps along the southwestern portion of the plume, the results do not indicate concentrations are getting higher or that the Navy may be missing a portion of the plume. The Navy has collected data to fill these data gaps and is evaluating the data to refine the contours of the plume in this area. Mr. Brayack also noted that surface water data shows that VOC concentrations are at acceptable levels except for the recent detection of TCE in one location. TCE has not been detected in surface water previously. A community member commented on the DCA 50 ug/L isoconcentration contour line being shown as north and west of Connecticut Avenue, despite the reporting of DCA in two wells south and east of Connecticut Avenue. Mr. Brayack indicated that the contour line will be corrected in future figures.

Mr. Gunther indicated that community concern for treatment of VOC concentrations in the Fence Line Area will be the same for the offsite portion of the plume if the Navy is seeing the high VOC concentrations extending to the Peconic River. Once the fence line treatment system is in place, the community will want the Navy to move quickly to address the high levels of contamination in the offsite portion of the plume.

TECHNICAL PROGRESS – SOUTHERN AREA RECORD OF DECISION AND FENCE LINE TREATMENT PLANT DESIGN

Mr. Brayack provided a presentation on the proposed plan for remediation of the Southern Area groundwater contamination and planned fence line treatment plant design. The presentation is included in Attachment 3.

The Navy's proposed remedy for the Southern Area is Alternative 8 that was described and evaluated in the Supplemental Corrective Measure Study (CMS). The public comment period ended in January 2012 and the Navy anticipates completion of the Record of Decision (ROD) in April 2012. NYSDEC is anticipating having a RCRA permit modification, which is required to implement the final remedy, completed at the same time as the ROD. The remedy includes different remedial components for the source area, onsite, and offsite portions of the plume. Mr. Brayack reviewed a map showing the different areas of the plume and the specific components for each area. Source area soil remedies, implemented from 2008 to 2010, included excavation of contaminated soil above the water table and most of the

contamination below the water table; therefore, groundwater concentrations in the source area are expected to decrease to acceptable levels. The Navy will use land use controls (LUCs) and monitoring for the source area with an option for supplemental treatment (biosparging) if monitoring data show that additional source area treatment is required so that groundwater contaminant concentrations meet remediation goals. For the onsite portion of the plume, the Navy will install a groundwater containment system along the property boundary to prevent contaminated groundwater on the property from flowing off of the property. Operation of the fence line containment system is anticipated to result in reduction of contaminant concentrations in the off-site portion of the plume. For the offsite portion of the contaminant plume, the Navy will use LUCs and monitoring with options for supplemental treatment for portions of the plume if monitoring data show that remediation goals are not being met. LUCs will be required as long as groundwater contaminant concentrations are greater than drinking water standards. When groundwater discharges to the wetlands, ecological standards apply. The Remedial Design Work Plan will establish the long-term monitoring program and provide the appropriate triggers for additional action in consideration of the drinking water and ecological standards.

Mr. Brayack reviewed figures showing the planned fence line treatment system that will include two groundwater extraction wells, an air stripper to remove VOCs from the extracted groundwater, and re-injection of the treated groundwater. The Navy is estimating 4 years of continuous operation of the system to reduce concentrations in the Fence Line Area plume; however, if concentrations are not reducing at the anticipated rate, the Navy will determine whether additional source area treatment is necessary. Completion of the design for the system is anticipated in April 2012 so that construction can start in spring or summer 2012 and operation can start by December 2012. Mr. Brayack explained that the Navy normally does not start a remedial design until the ROD is completed; however, the early start in the design of the fence line treatment system will facilitated sooner construction and operation of the system. In addition, the ROD will indicate that the Remedial Design Work Plan will specify the triggers for appropriate action. The work plan is anticipated for summer 2012. In answer to a question of whether a technical meeting would be scheduled to discuss the monitoring values and triggers, Ms. Fly replied that a technical meeting was anticipated for the summer, after the draft work plan has been prepared. It was noted that if the meeting was held in early summer, a summer RAB meeting may be scheduled to present the results. If the technical meeting is late summer, the Navy would wait until the November RAB meeting to present the results.

There was discussion of whether the fence line treatment system would reduce contamination in the offsite portion of the plume (particularly in the Offsite High Concentration Area) and what the Navy was considering for further treatment in the offsite portion of the plume. The Navy anticipates that the fence line treatment system will result in less contaminant loading on the offsite portion of plume and will reduce concentrations offsite; however, the remedy includes contingencies if concentrations are not reducing.

Mr. Brayack explained that sufficient groundwater monitoring data across this portion of the plume are available to show baseline conditions and data would be collected after start of the system to evaluate changes in concentrations during operation of the treatment system. Mr. Brayack mentioned that the Navy may consider installing an extraction well in the offsite area if concentrations are not reducing. Wetlands present in the offsite area are a protected habitat and the County does not want them damaged by remedial action. The Navy would need to consider potential impact to wetlands in this area if pumping was conducted in the offsite area. Also, differences in the groundwater chemistry in the offsite portion of the plume compared with the onsite groundwater would need to be considered to determine whether the treatment system was sufficient to treat the offsite groundwater. For remediation of the offsite area, the Navy needs to find a balance between remediation and being as non-intrusive as possible so that the sensitive environment in this area is not adversely impacted by the remediation. This is why the Navy's first step is to operate the fence line treatment system to reduce continued contaminant loading to the offsite area and then see what additional remedial action is needed for the offsite area contamination.

It was noted that the Navy is preparing the responsiveness summary to respond to comment received during the public comment period on the proposed plan. The responsiveness summary will be included in the ROD. The major comments indicate that the public wants the fence line treatment system installed now and wants to know how the Navy will implement the offsite remedial action. Mr. Gunther mentioned that he appreciates the accelerated schedule for the design and construction of the treatment system so that the fence line system can be in operation as soon as possible.

TECHNICAL PROGRESS – SITE 7 – FUEL DEPOT

Mr. Dave Brayack, Tetra Tech, provided a presentation on the Freon investigation being conducted at Site 7. The presentation is included in Attachment 3.

A groundwater treatment system is in operation at Site 7 since 2006 and is operated seasonally. The system was restarted today after the December 2011 winter shut down. Mr. Brayack indicated that optimization studies have been conducted several times during the operation of the system and modifications to the treatment system have been made based on the results of these studies. The optimization work is being done with NYSDEC involvement.

Mr. Brayack reviewed a map showing the pre-treatment (early 1990s) and recent (2009 and 2001) extents of the groundwater contamination plume. As discussed at the November 2011 RAB meeting, a continuing source of Freon (former contaminated fuel leaching chamber) was identified in the vicinity of SV11. The Navy delineated a small area of Freon-contaminated soil and groundwater, and in December 2011, the Navy installed three new air sparge (AS) wells and one new vapor extraction (SVE) well to address the contamination in this area. Previous sampling results show that the Freon plume does not

extend outside the SV11 area and that the treatment system has kept the Freon contamination contained in this small source area. The newly installed AS/SVE wells will treat this source area. The well in this area is sampled twice a year, at system start up and then after system shut down. The best time to assess the effectiveness of the system modification in this area will be after the March 2013 sampling. Mr. Brayack also mentioned that the Navy is monitoring the concentration rebound at SV13.

CLOSING REMARKS

Ms. Fly explained that the Navy will be transitioning new work to Resolution Consultants, as Tetra Tech completes their contracted work. For example, the next round of groundwater monitoring will be conducted by Resolution Consultants.

Ms. Fly discussed the next RAB meeting was anticipated for November 8, 2012. However, if a technical meeting is held in July 2012, the Navy would consider having a RAB meeting in August. Ms. Fly thanked everyone for coming to the meeting and asked whether the RAB members had any other questions. There were no further questions. The meeting was then adjourned.

ATTACHMENT 1

APRIL 5, 2012 RAB MEETING SIGN-IN SHEET

36th RAB Meeting for NWIRP Calverton
April 5, 2012
Sign-In List

Name	Address (if interested in being on mailing list) — EMAIL —	Organization	How Did You Hear of Meeting?
Bill Gunther		RAB	
		YAPHANK CIVIC ASS	
MARIE GOES	TANGOHOLD@YAHOO.COM		
John ARMENTANO		PRSC	
HENRY WILKE	NYSDEC	Regulator	
Sid Bail	WRCivic@optonline.net	Wading River Civic	
LARRY ROSENMANN		NYSDEC	Regulator
Frank Anastasi	SCA Assoc	-	-
Andrew Radiski	SCDHS		
AJAY SHAH	NYSDEC	ajshah@gw.dec.state.ny.us	
Jen Good		H+S	Navy
DOUG FELDMAN		SCDHS	(SCA business card)
GEORGE BARTNEK		NFEC	MAILING

36th RAB Meeting for NWIRP Calverton
April 5, 2012
Sign-In List

Name	Address (if interested in being on mailing list)	Organization	How Did You Hear of Meeting?
Robert Sofe		T.I.	
Al TAORMINA		H&S	
Michael L. Spera		Resolution/AECOM	
Robert Forstner		Resolution/AECOM	
Tom Kreidel		NAVFAC	
David Brayack		Tetra Tech	
Lora Fly		NAVFAC Midlant	

36th RAB Meeting for NWIRP Calverton
April 5, 2012
Sign-In List

Name	Address (if interested in being on mailing list)	Organization	How Did You Hear of Meeting?
Barbara Bluss	Bablass2@gmail.com POBox 2009 Jamesport NY 11947	NYLCV	email
Bill Faulk	bill.faulk@suffolkcountyny.gov 423 Griffing Av Riverhead NY 11945	SC Legislature	
Debbie Cohen	Tetra Tech	Deborah.Cohen@tetratech.com	

ATTACHMENT 2

APRIL 5, 2012 RAB MEETING AGENDA

Agenda

Restoration Advisory Board
Naval Weapons Industrial Reserve Plant Calverton

April 5, 2012
Calverton Community Center, Calverton NY
7:00 p.m.

Welcome and Agenda Review
Lora Fly, NAVFAC Mid-Atlantic

Distribution of Minutes
All Members

Community Update
Bill Gunther, RAB Co-chair

Technical Progress

General Overview of ER Sites and Status of Site 2 Removal Action
Lora Fly, NAVFAC Mid-Atlantic

Site 7 Remedial Action Update
Dave Brayack, Tetra Tech

2011 Groundwater Investigation Summary
Rob Sok, Tetra Tech

Southern Area Record of Decision, Statement of Basis, and Fence line Design
Dave Brayack, Tetra Tech

Closing Remarks
Lora Fly

Presenters will be available after the program for questions.

ATTACHMENT 3

NAVY PRESENTATIONS

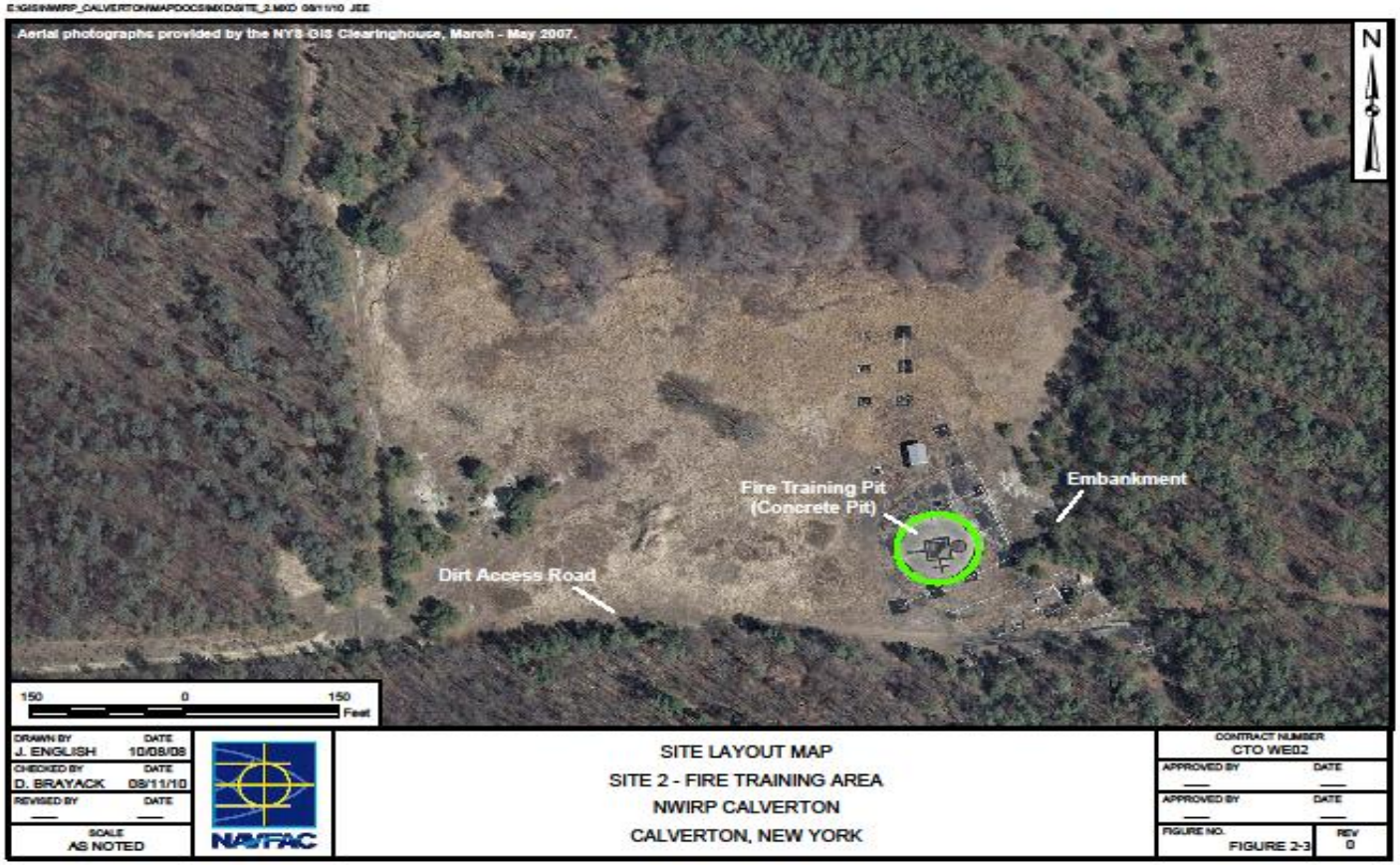
NWIRP Calverton (Site 2), Munitions Response (Fire Training Center) Resource Advisory Board Meeting April 2012

AGVIQ ENVIRONMENTAL SERVICES
CH2M HILL
JOINT VENTURE

Outline

- Site 2
  - Location and Proximity
  - Munitions Response/Remedial Action Operations
  - Project Schedule
- Questions and Comments

Site 2 Location



Site 2: Munitions Response Operation

- Background
  - Used for development, assembly, testing, refitting, and retrofitting of combat aircraft until 1996
  - Firing stop butt area used for testing, sighting, and performing static target practice to align gun sights
  - As the plant closed and the facilities were decommissioned, the aircraft firing stop butt was abandoned in place
  - In February 2010, the Navy was in the process of delineating petroleum-contaminated soils
  - Several (5) 20 mm fragments were found on the ground surface
  - Remedial operations have been on hold, RI/FS investigations continuing

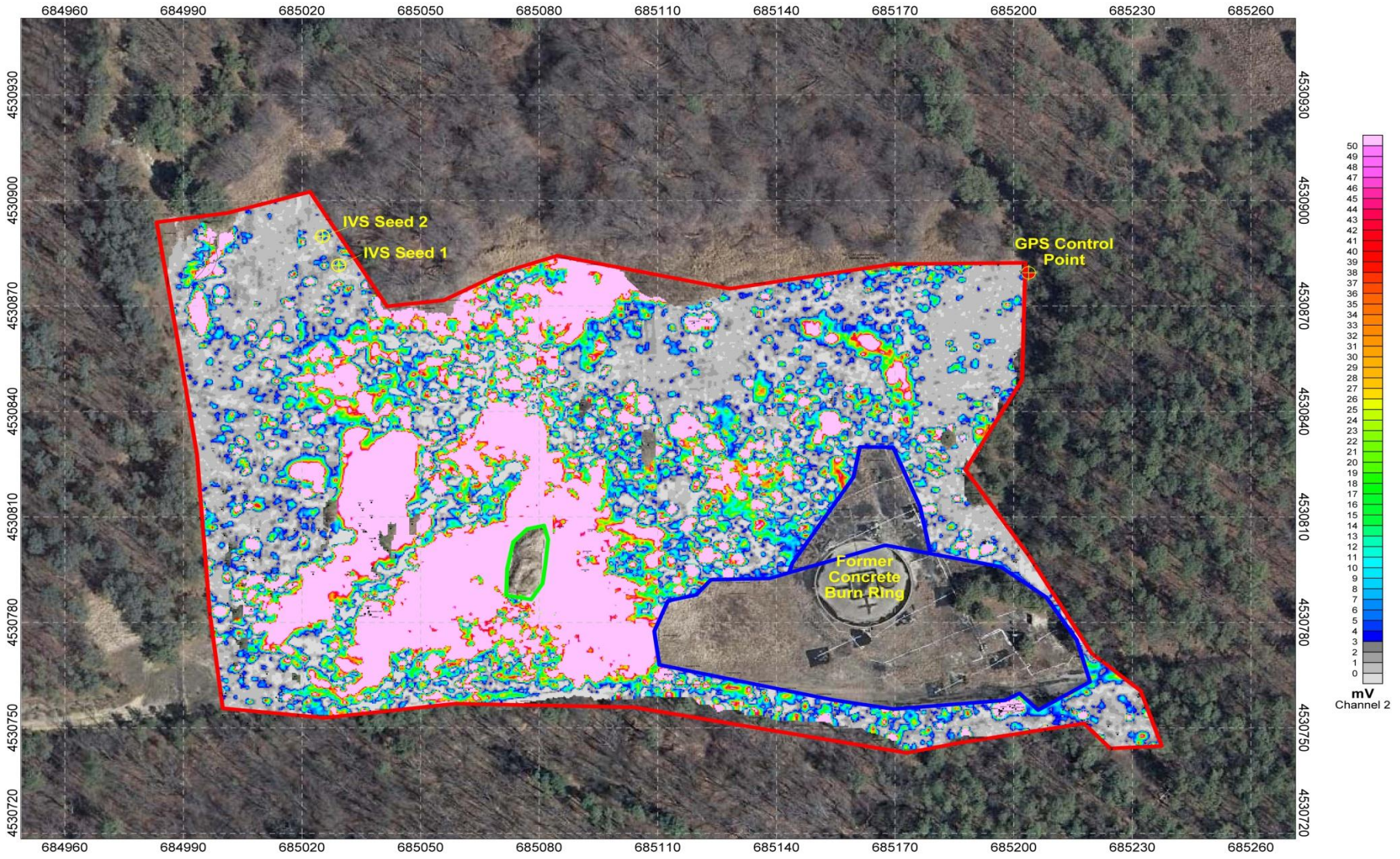
Proximity of Gun Butt Building

Site 2: Munitions Response Operation

- Response/Removal Action Status
  - Digital Geophysical mapping Survey completed in 2010
  - Explosive Safety Submission approved in May 2011
  - Remedial/Response Action Work Plan

- Munitions Response (Type of MPPEH) (Munitions Presenting a Potential Explosive Hazard)
  - Approximately 7.0 acres to be investigated/response/removal action
  - 20-mm M97 HEI projectile 664
  - 20-mm M56A4 HE projectile 535

Site 2: Digital Geophysical Map

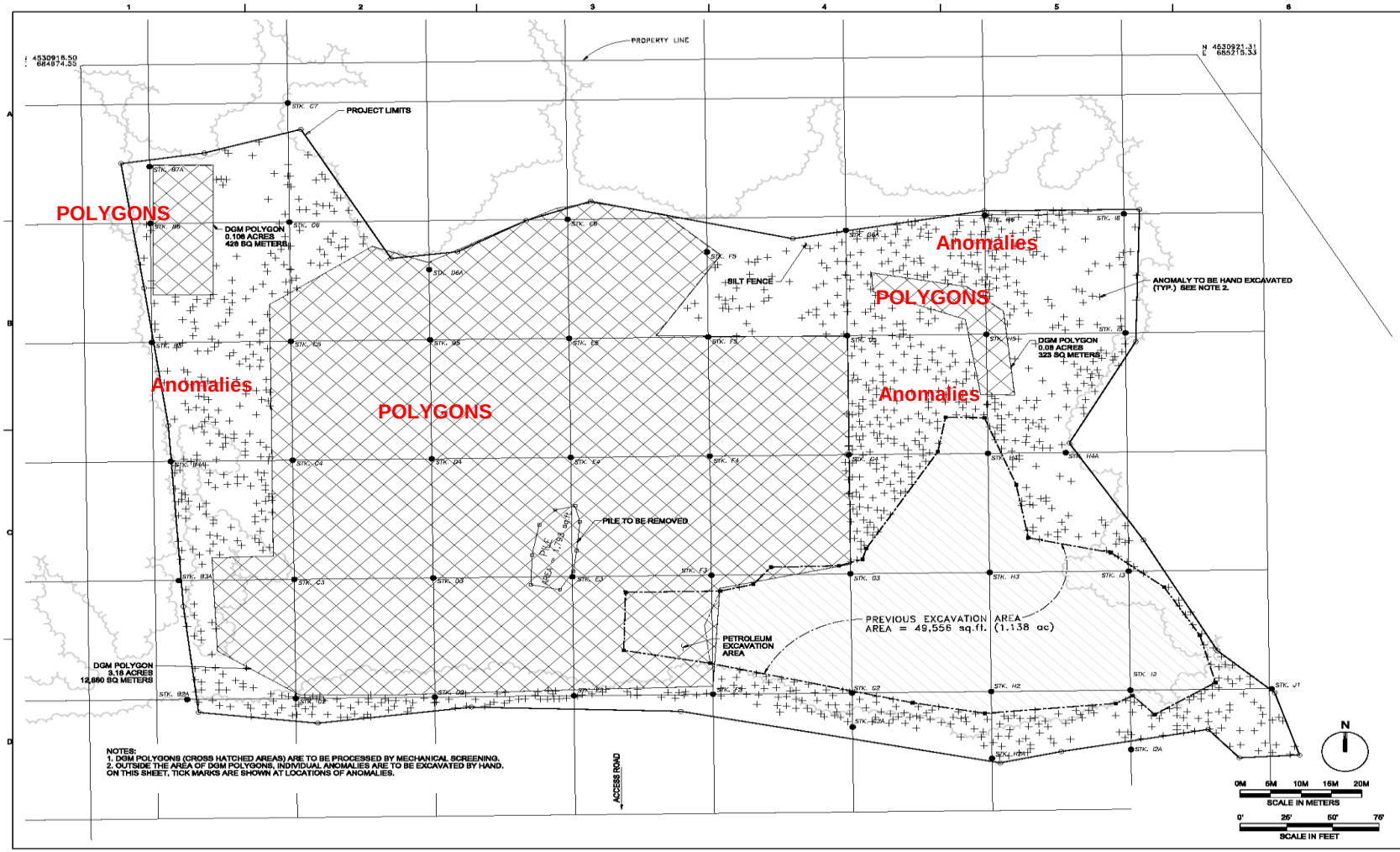


Site 2: Munitions Response Operation/ Remedial Action

- Manual investigation/excavation anomalies
  - Investigation of individual anomalies include use of EM61 and Schonstedt (metal detectors) to identify outside of the polygon areas
  - 2,438 single point targets were located across the site
    - Excavate by hand and visual identifications and segregated
  - 1.85 acres contained saturated responses (areas in which individual anomalies could not be selected).
    - Mechanical screening and processing of ~ 4,800 cubic yards of soil at Site 2

- Remedial Action (Site 2)
    - Excavation of ~400 cubic yards of petroleum contaminated soil

Site Layout Map (Site 2)



Current Project Schedule

- Project Status – Currently in the planning phase
  - Mobilization Late April 2012
  - Mechanical Soil Screening (June 2012 – July 2012)
  - Site Restoration (July 2012 – August 2012)
  - Demobilize (August 2012)
  - After Action Report (October 2012)

Questions and Comments

Questions?

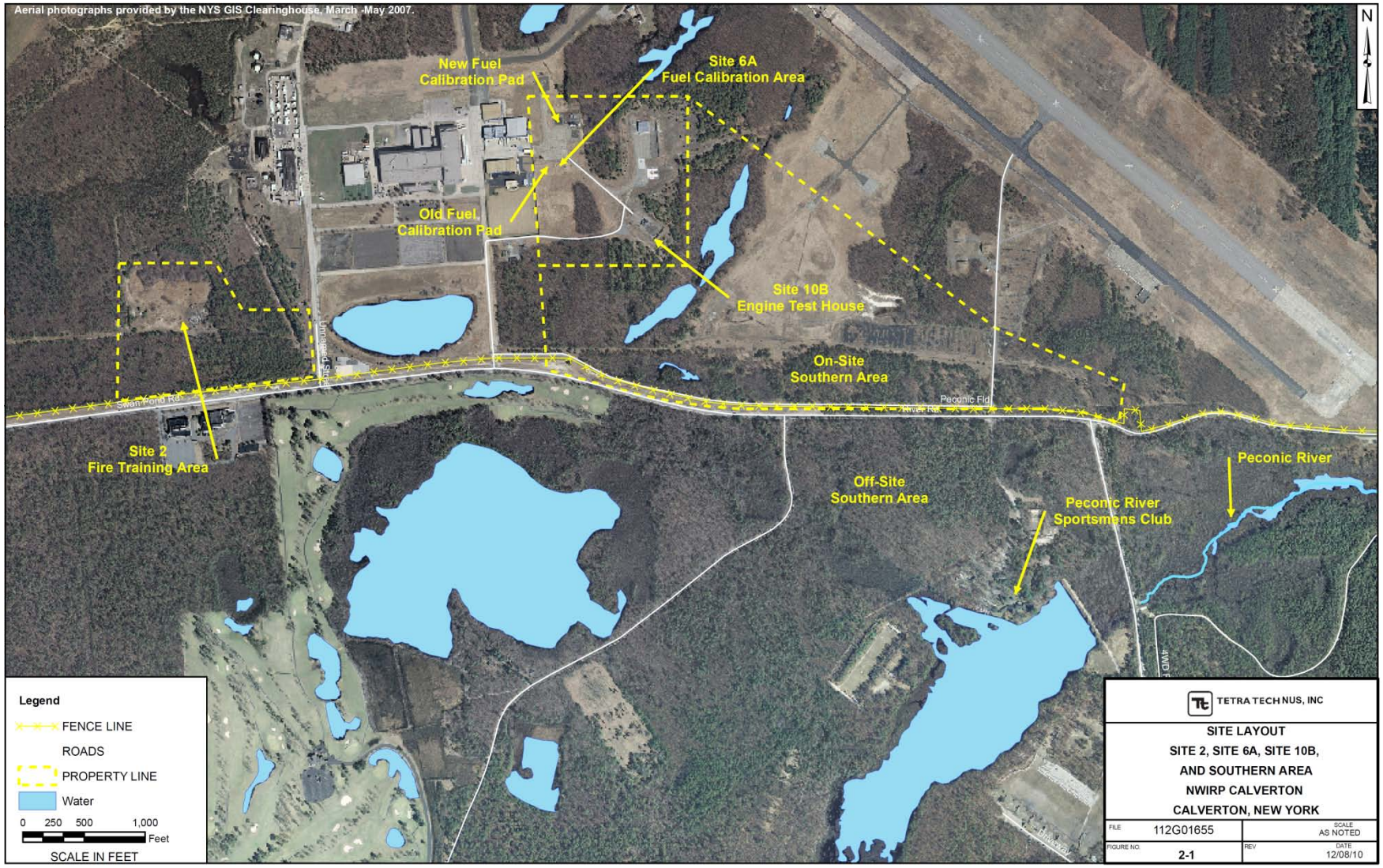
NAVFAC
Naval Facilities Engineering Command
NAVFAC MID-ATLANTIC

Restoration Advisory Board (RAB) Meeting

2011 Groundwater Investigation Summary

Naval Weapons Industrial Reserve Plant (NWIRP)
Calverton, New York
April 5, 2012

Facility Map



Summary of Work (2011)

Facility Wide Spring Sampling Event (March 2011):

- Spring sampling conducted to evaluate seasonal fluctuations
- 69 wells/piezometers sampled at Site 2, Site 6A, Site 10B, and in Southern Area
- Semi-annual surface water and sediment sampling at 4 locations along the Peconic River
- Interim Data Summary Report submitted in June 2011

Temporary Well (TW) Program (Southern Area, Site 6A, and Site 2):

- Fieldwork conducted in April through June 2011
- 21 locations and approximately 77 groundwater grab samples were collected to refine the extent of VOC-contaminated groundwater at Site 6A and in the Southern Area; and further investigate groundwater at Site 2

Summary of Work (2011)

Annual Groundwater Monitoring Program (September – October 2011):

- Approximately 72 wells/piezometers sampled at Site 2, Site 6A, Site 10B, and in Southern Area
- Semi-annual surface water and sediment sampling at 4 locations along the Peconic River

Temporary Well (TW) and Piezometer Program (Southern Area and Site 2):

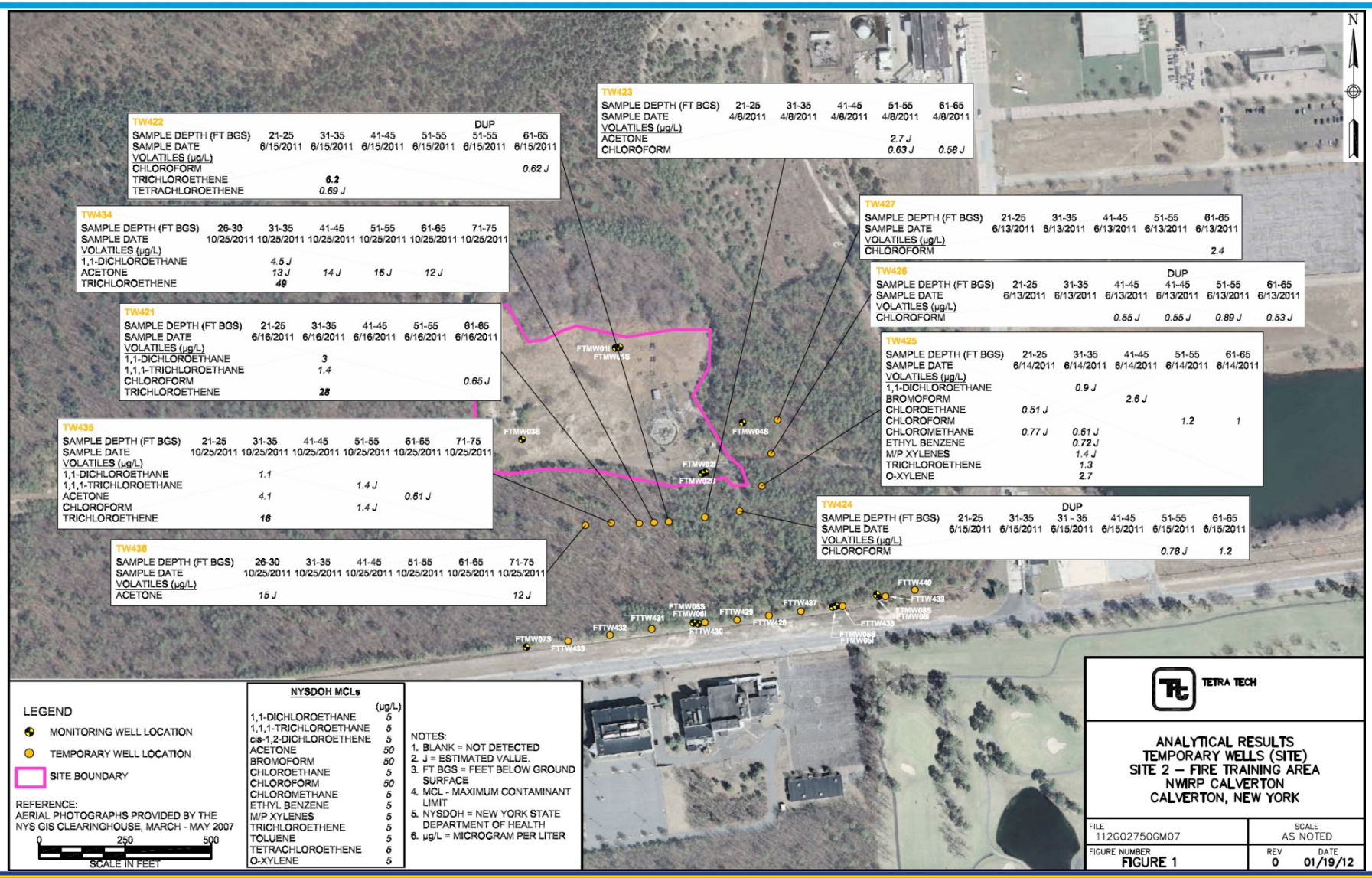
- October 2011 through February 2012 fieldwork
- 14 locations and approximately 65 groundwater grab samples to refine the extent of VOC-contaminated groundwater in the Southern Area; and further investigate groundwater at Site 2.
- 13 offsite piezometers also installed in December 2011, sampled and surveyed in late February 2012.

Summary of Work (2011)

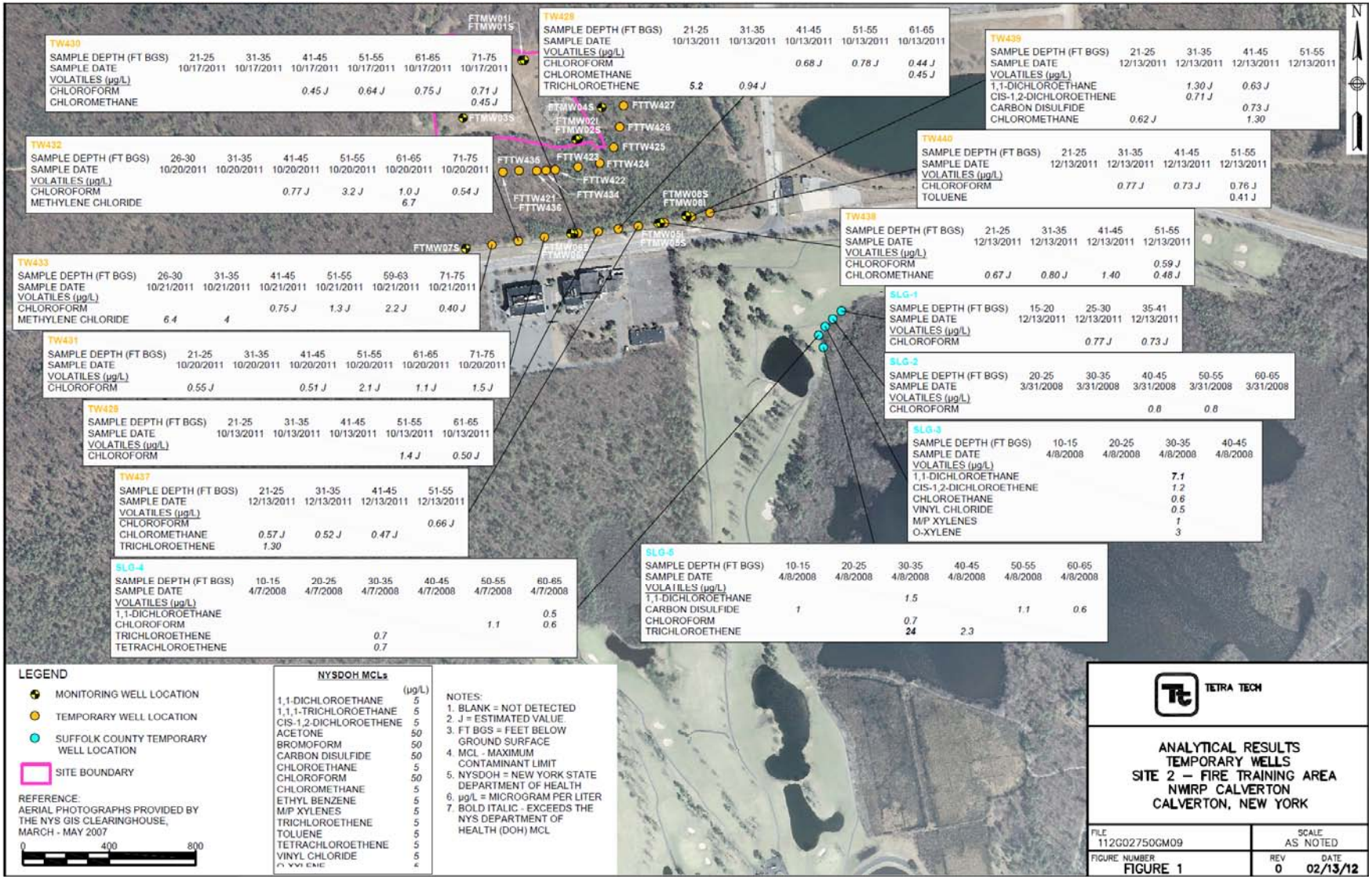
Peconic River Sportsman Club (PRSC):

- Three quarters of sampling conducted in 2011 (6 samples each quarter)
- Fourth quarter sampling conducted in January 2012 due to delayed water line installation
- Waterline installation planned for Spring 2012

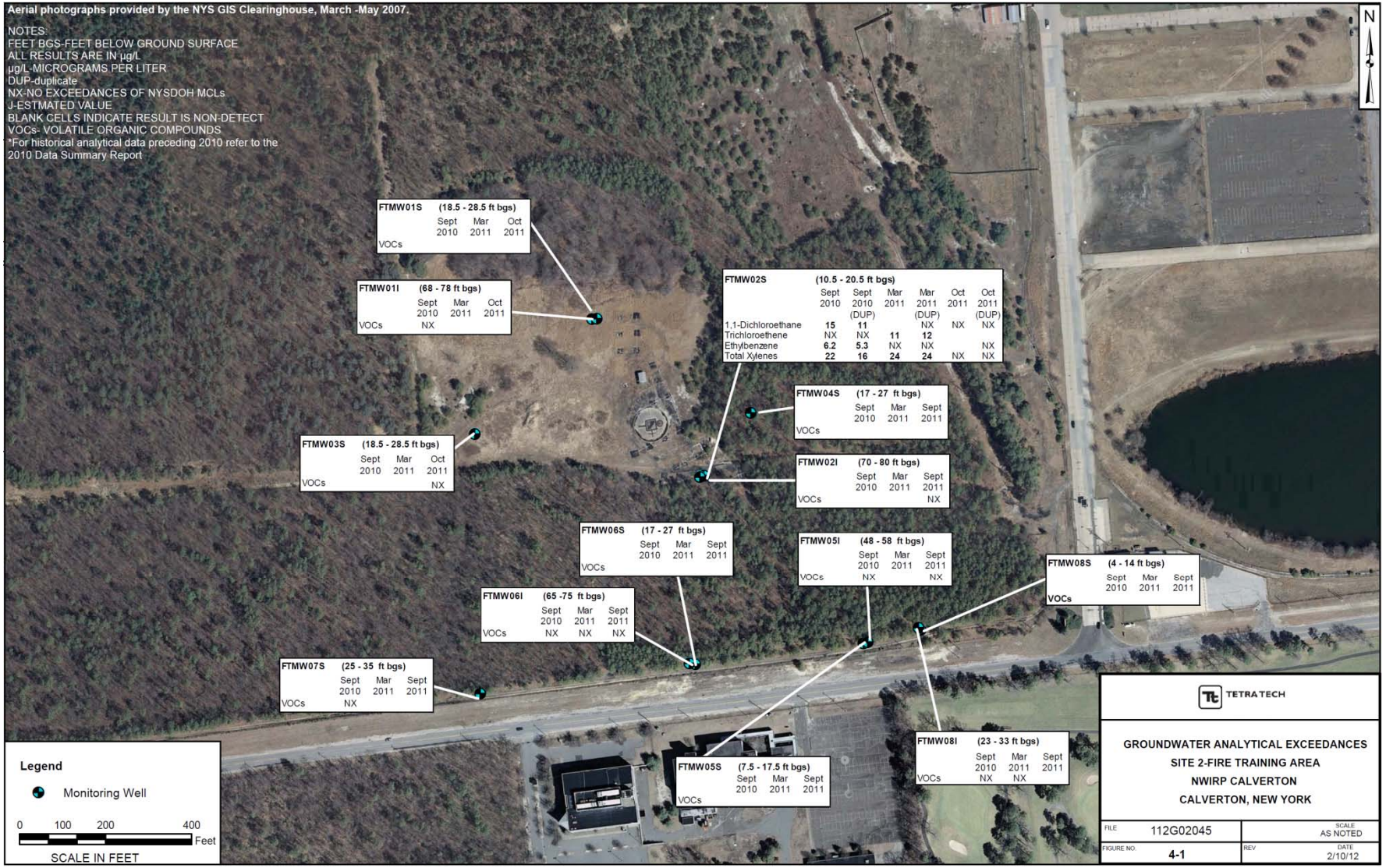
Site 2 TW Results



Site 2 TW Results



Site 2 Groundwater Results



Site 2 Remedial Investigation

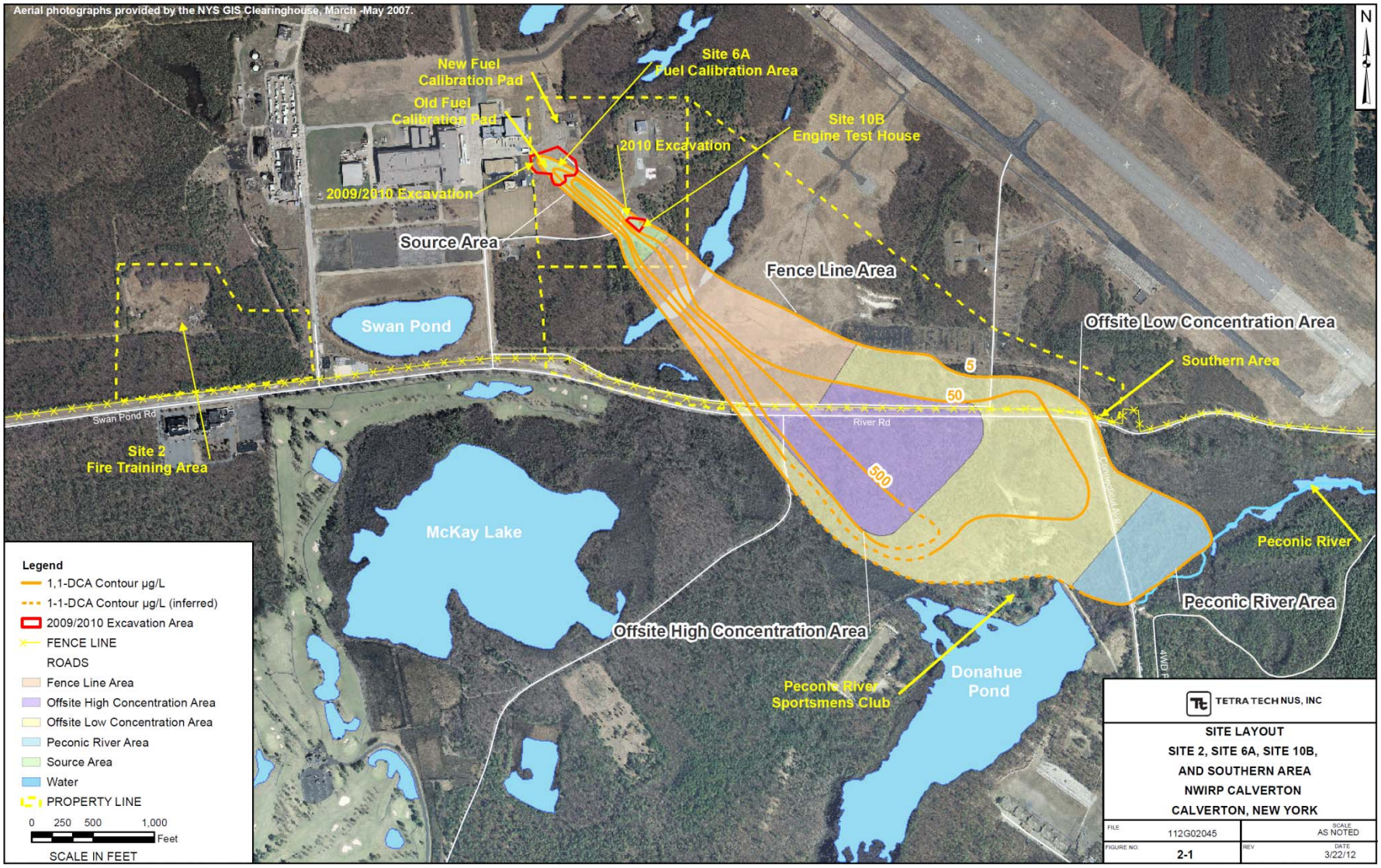
Temporary Well (TW) and Piezometer Program (Site 2):

- October through December 2011 fieldwork conducted
- Sampling of piezometers completed in February 2012
- Survey completed in March 2012
- Data validation almost completed

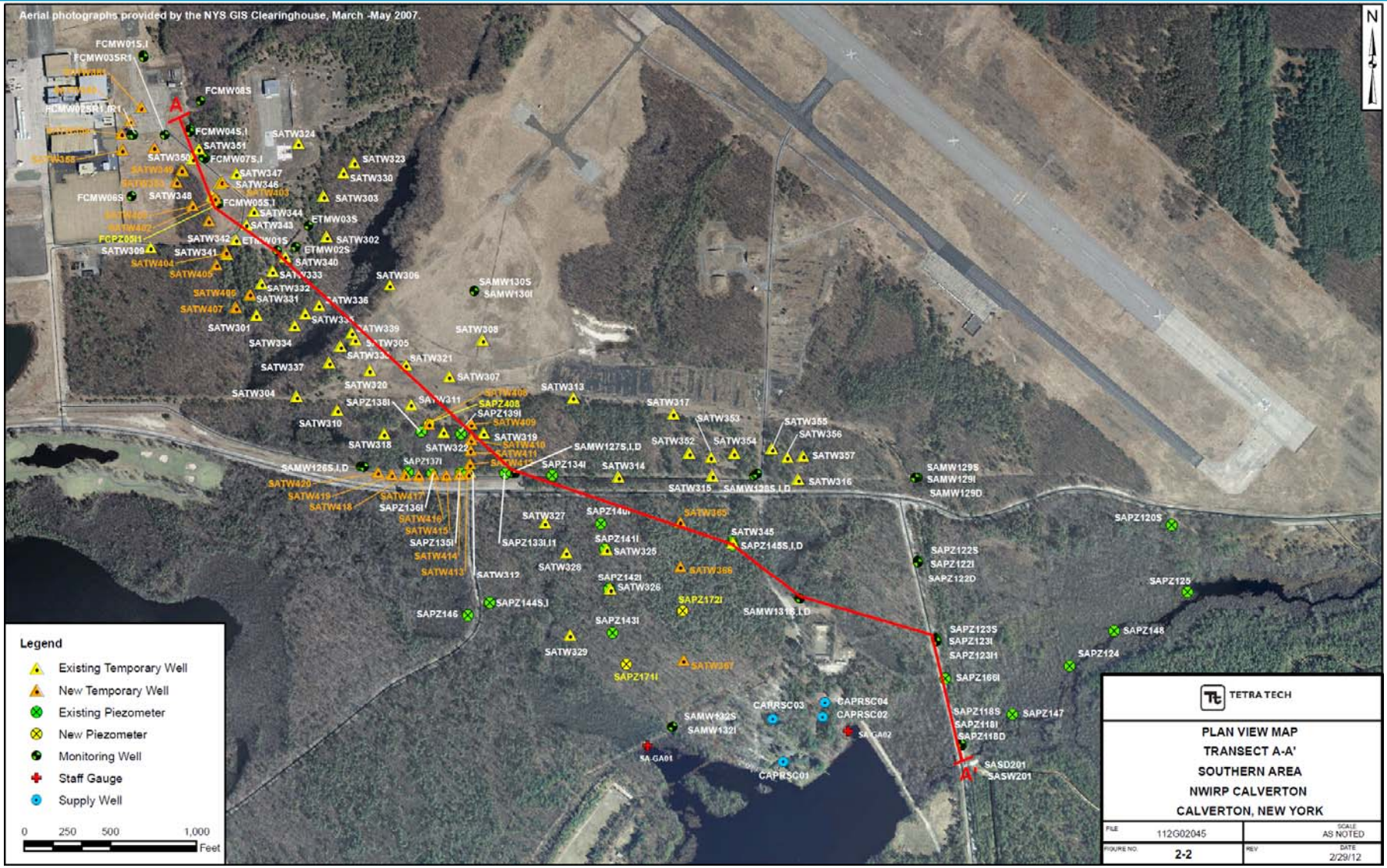
Site 2 Remedial Investigation:

- Soil sampling completed in December 2011
- Remedial Investigation Report is in progress

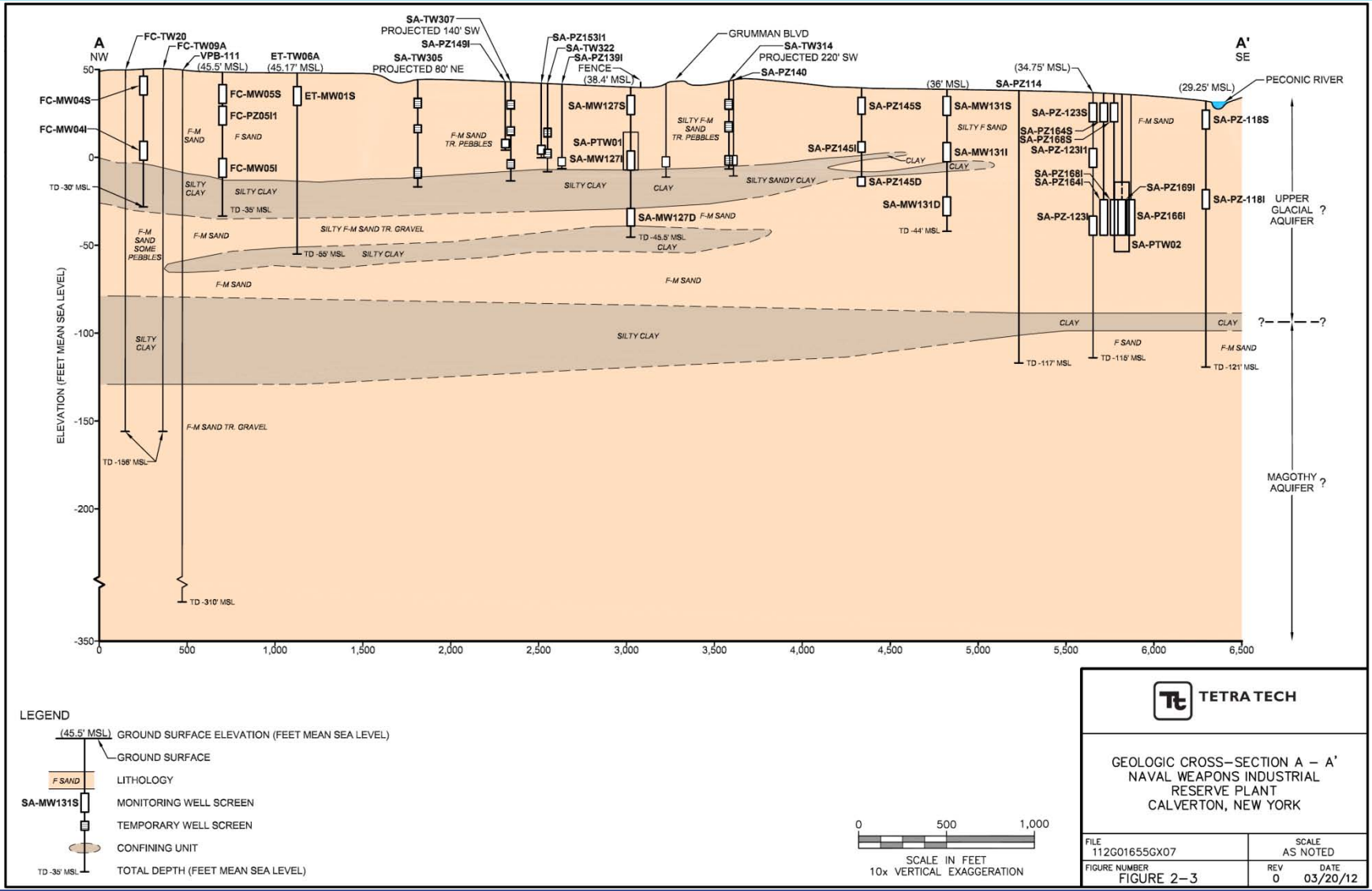
Southern Area Plume Map



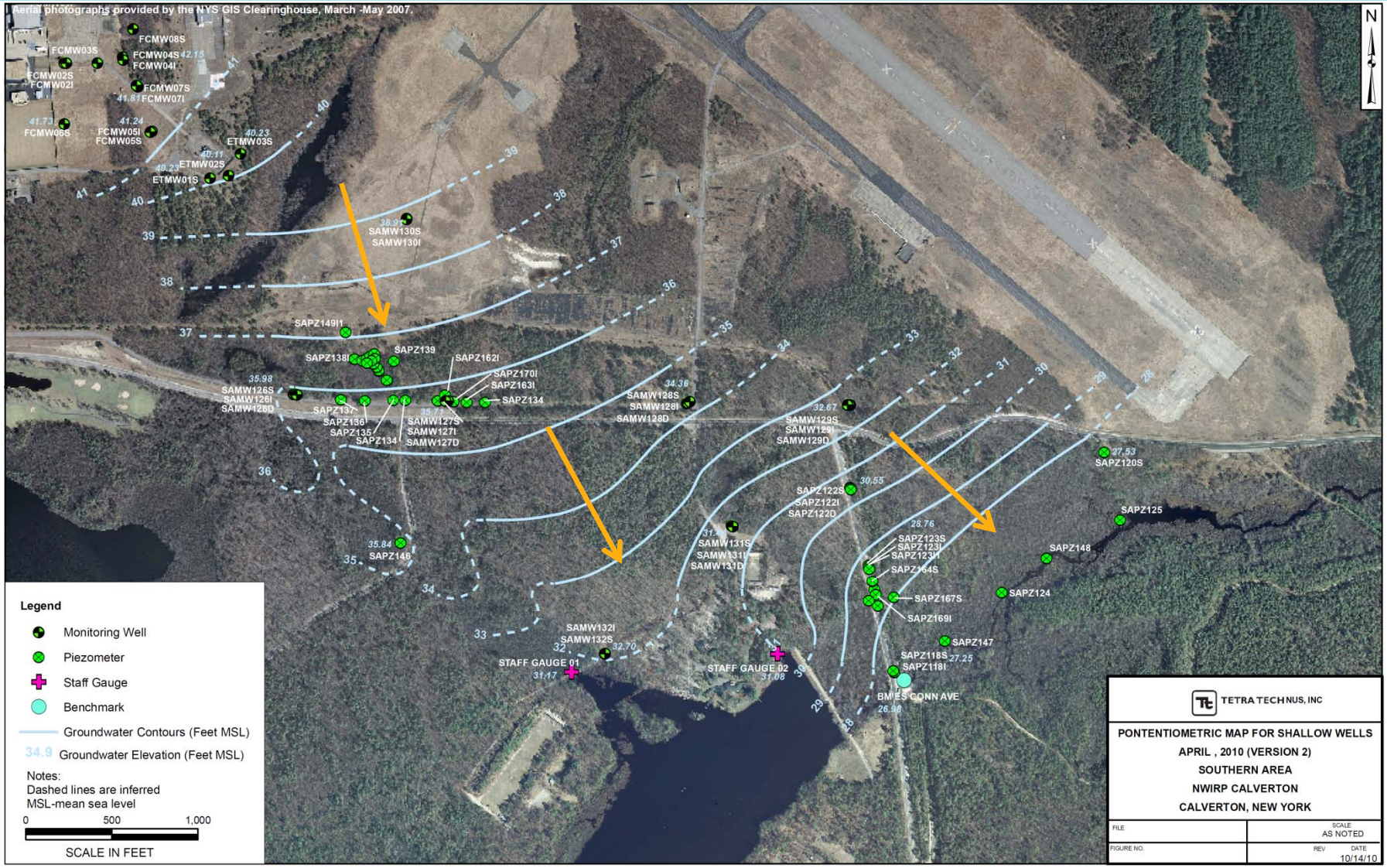
Cross Section Location Map



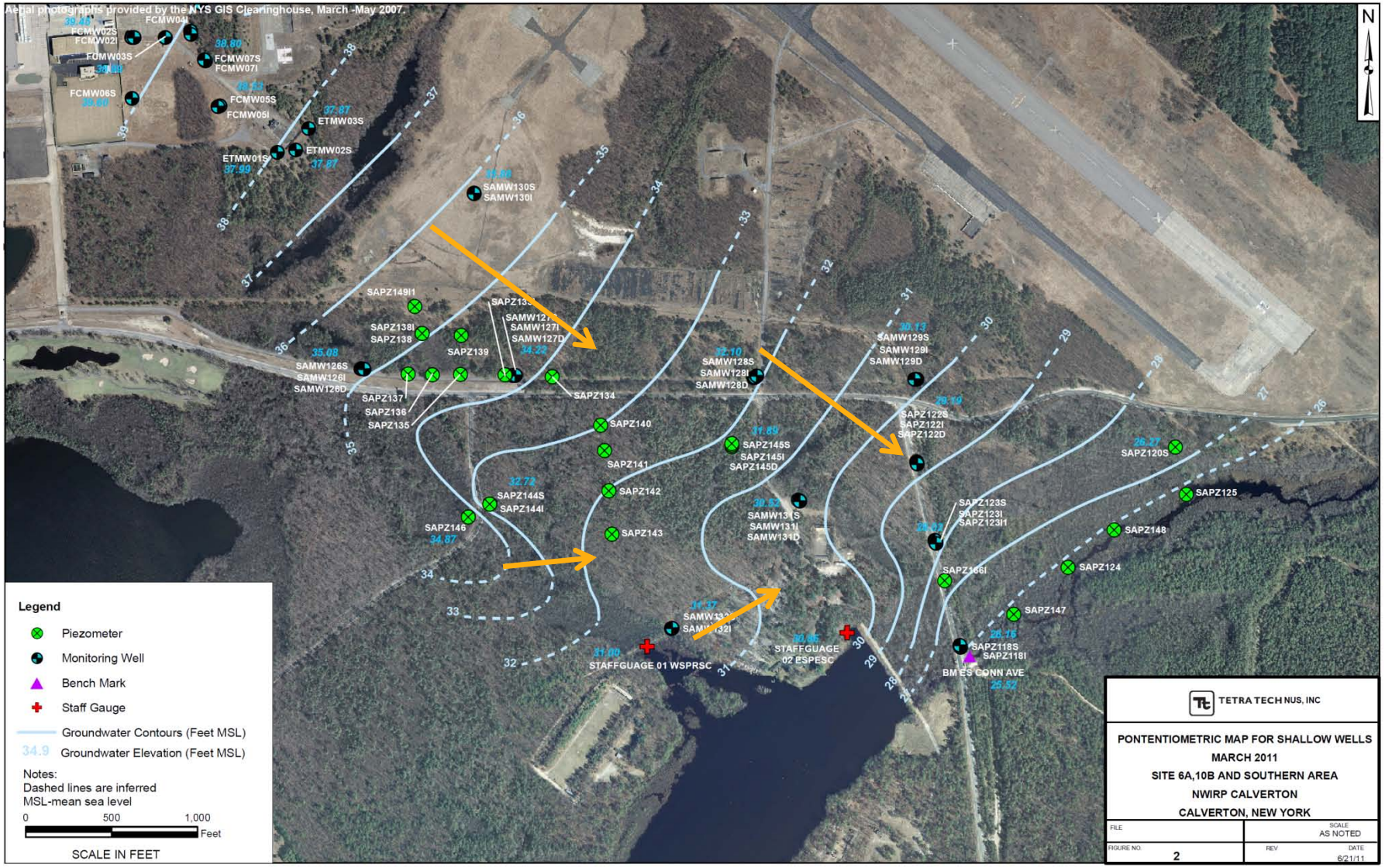
Geological Cross Section



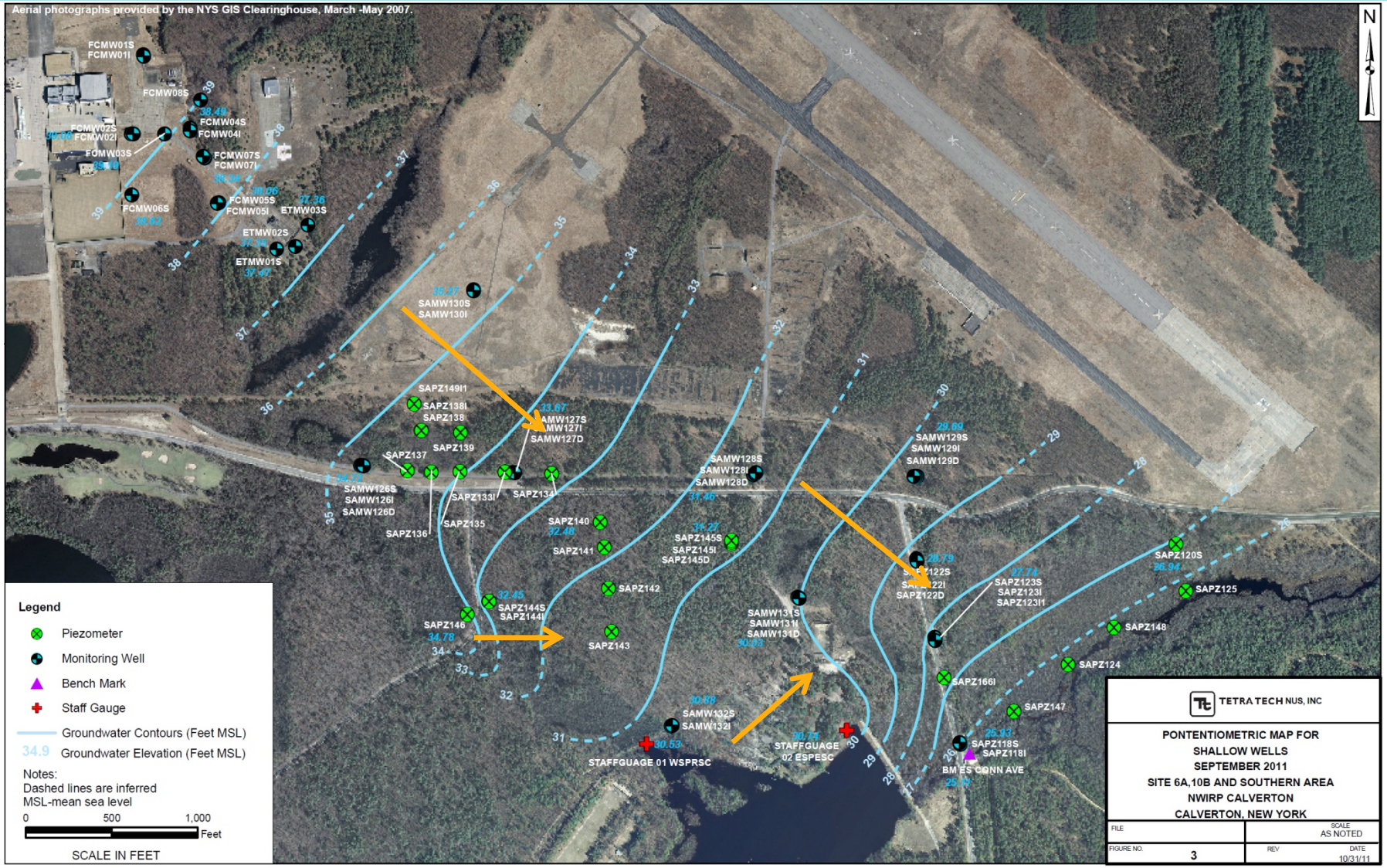
Groundwater Flow (April 2010)



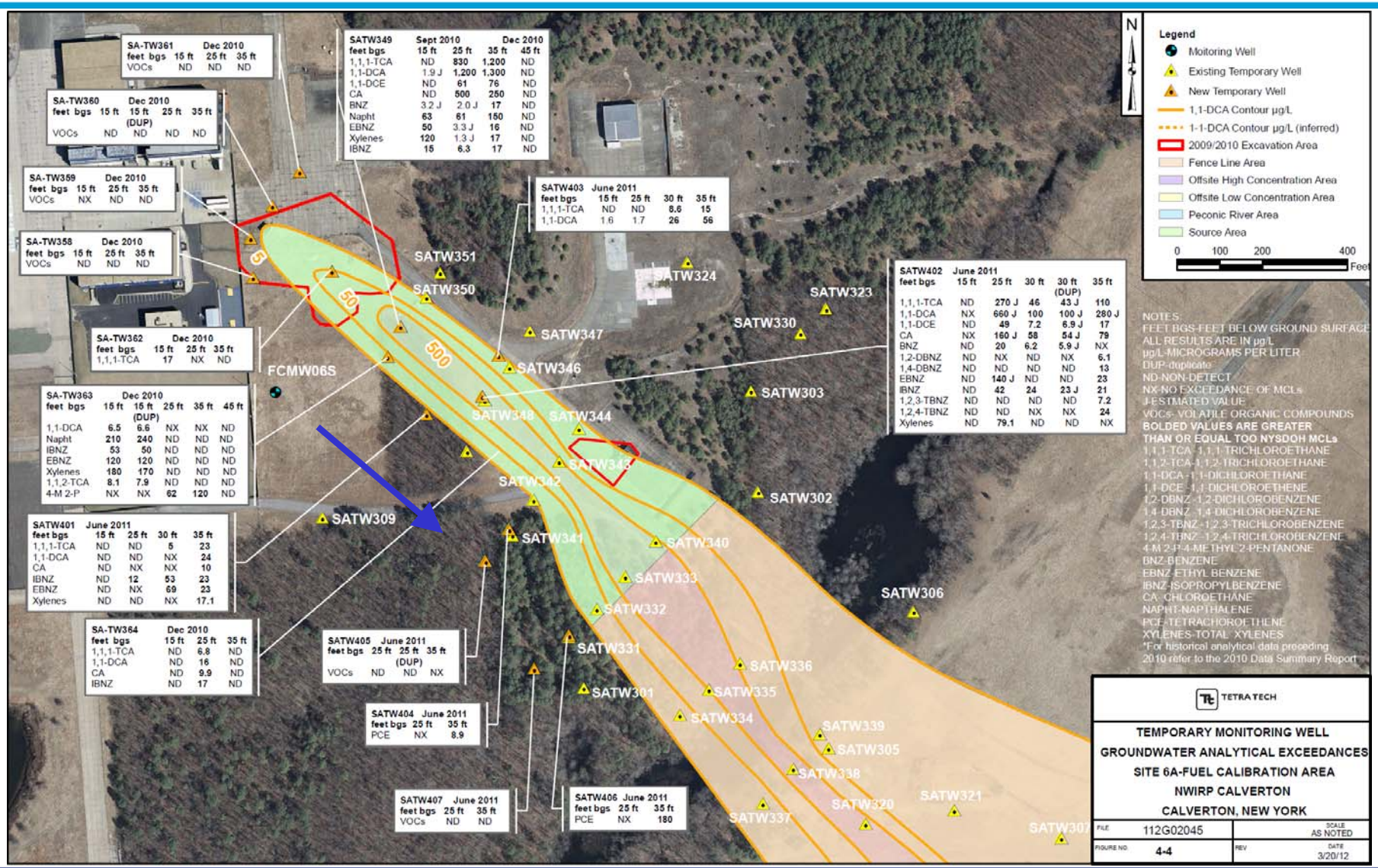
Groundwater Flow (March 2011)



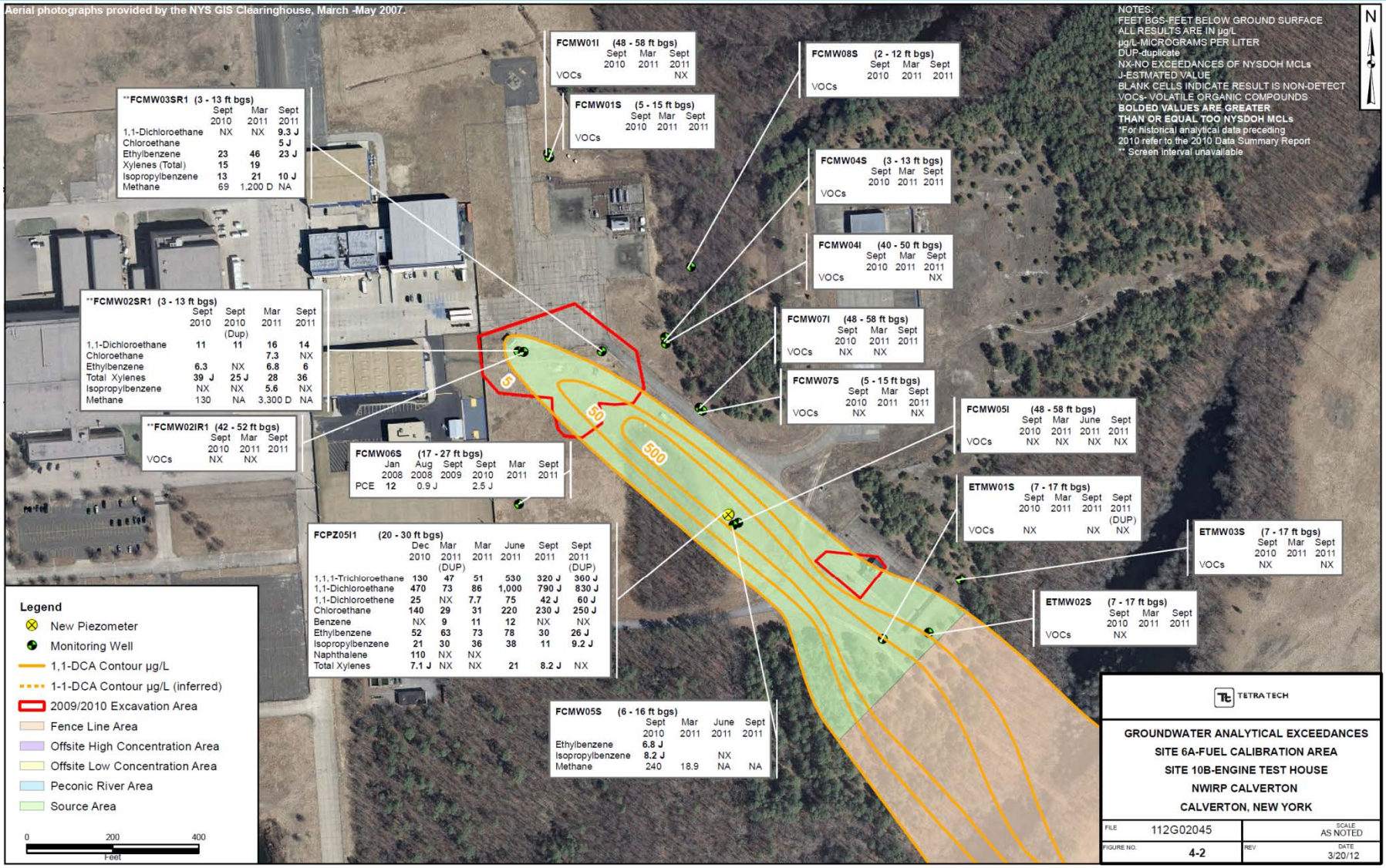
Groundwater Flow (September 2011)



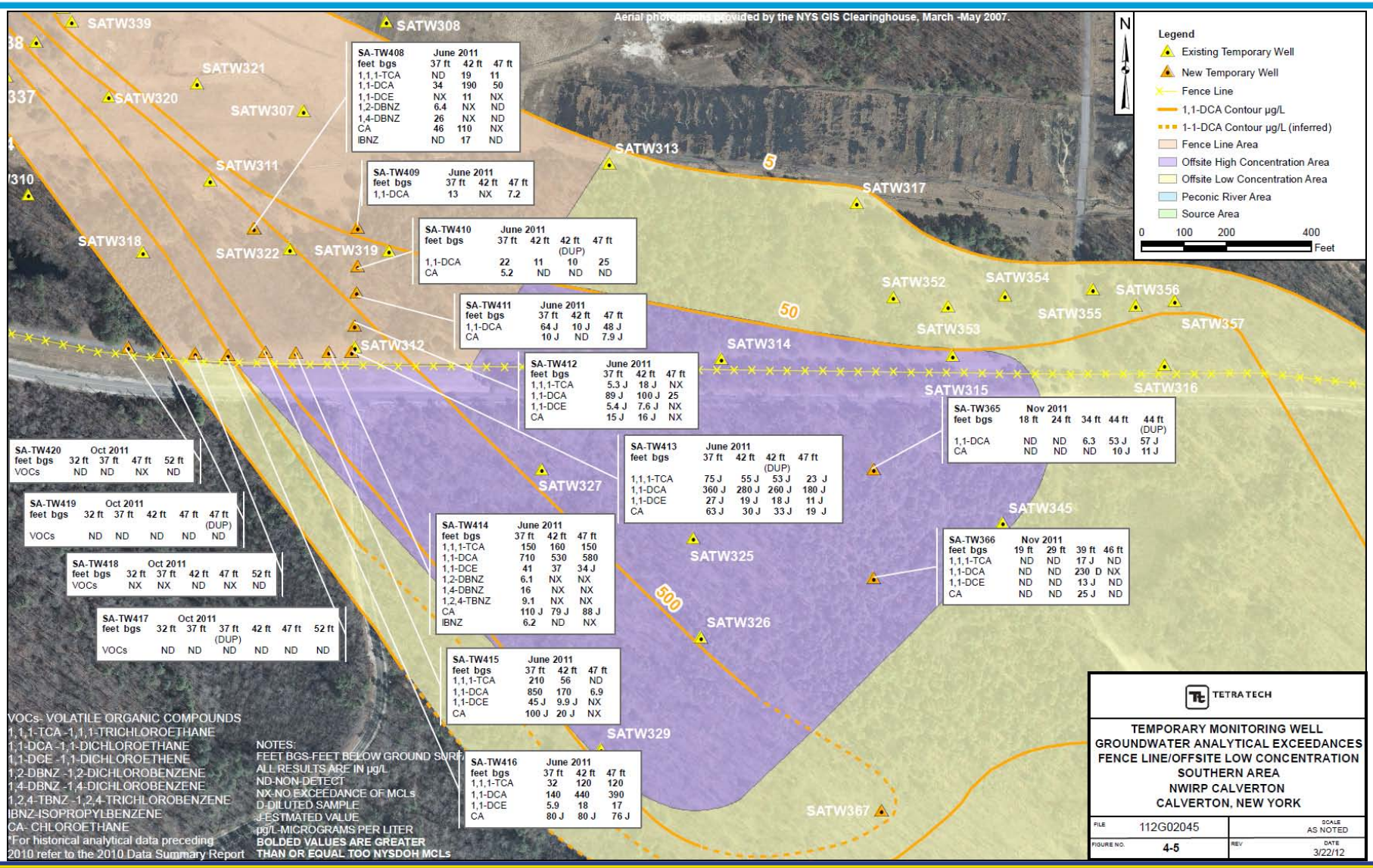
Temporary Well Results



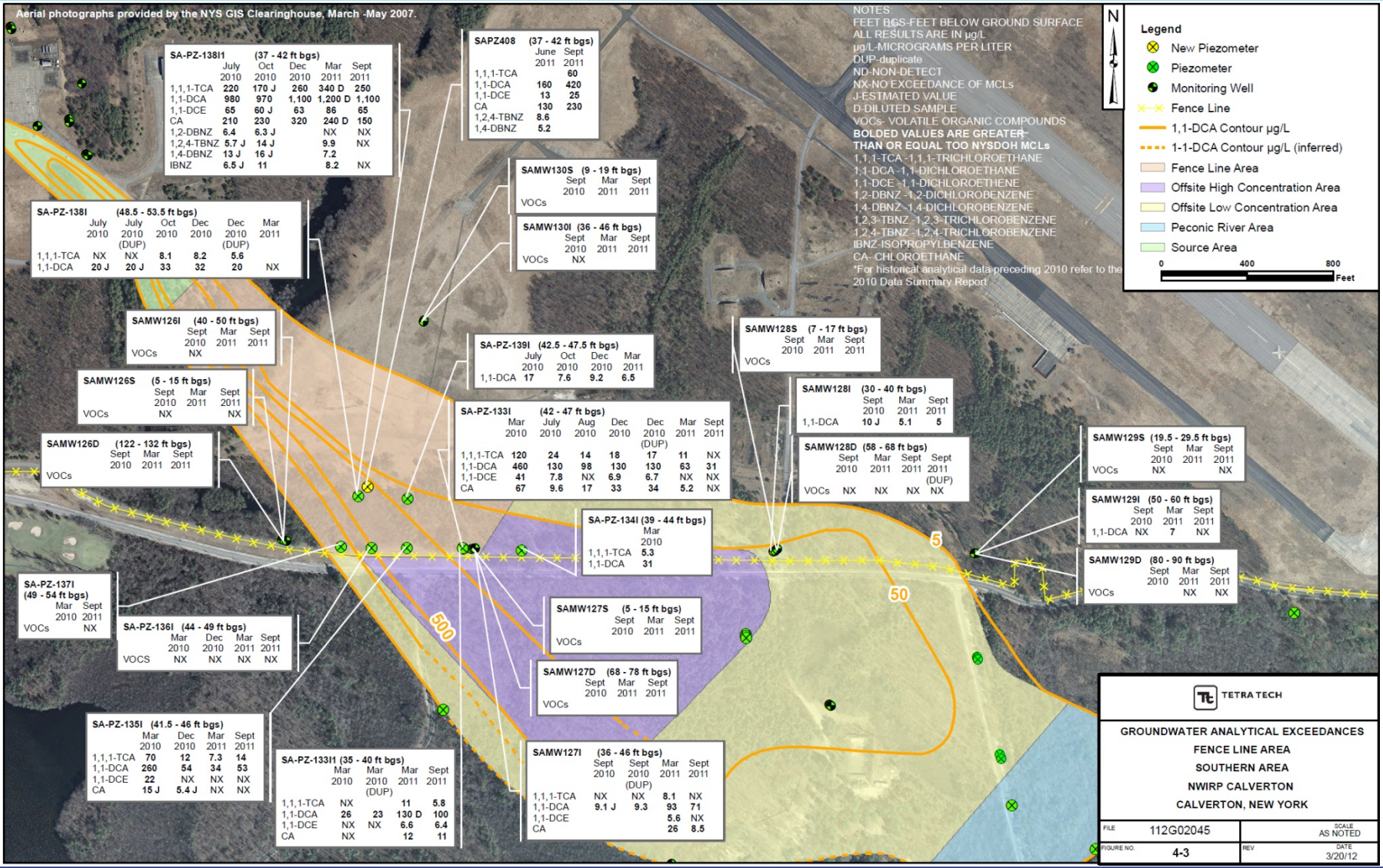
Site 6A – Source Area Network



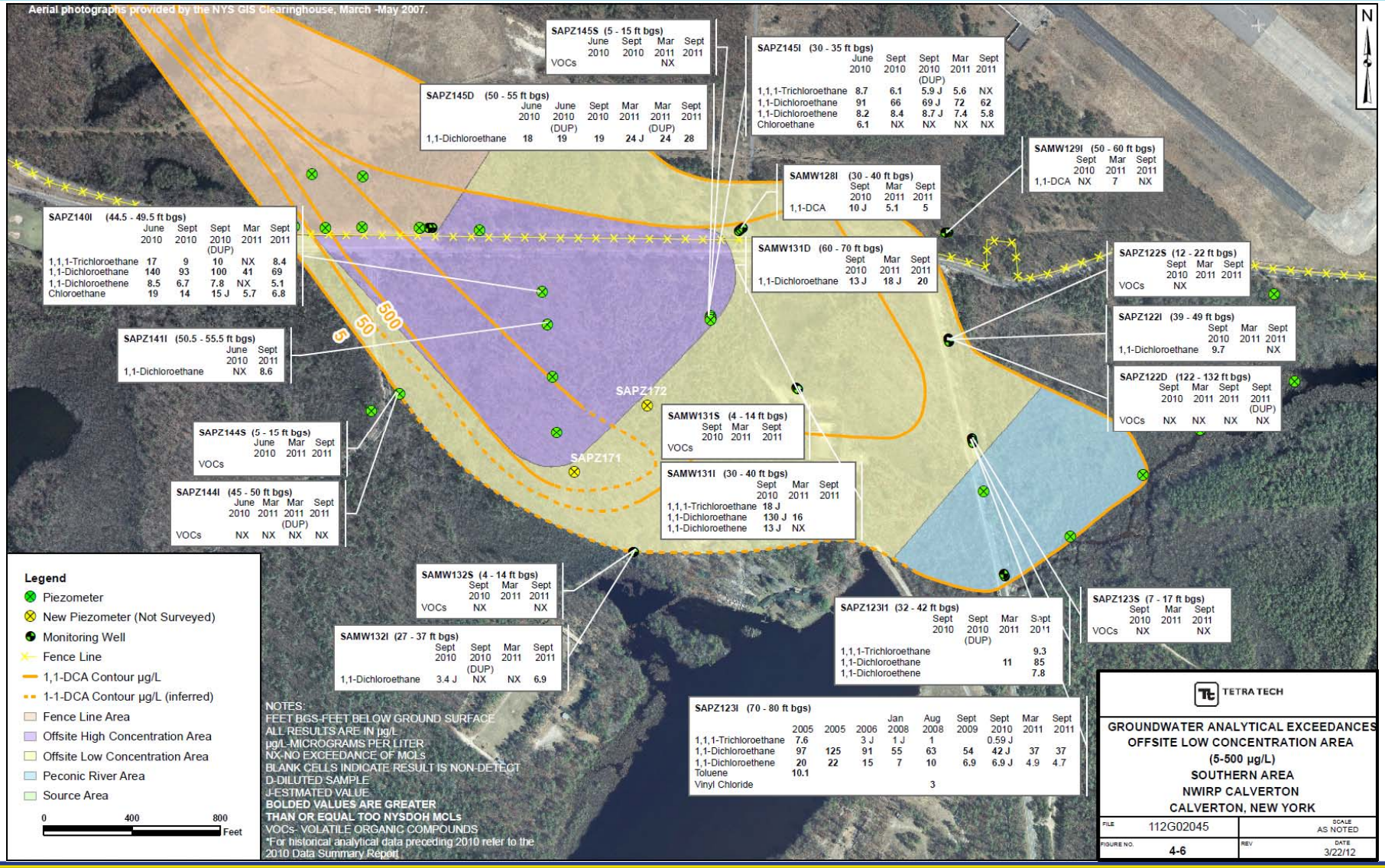
Fence Line/Offsite Temporary Well Results



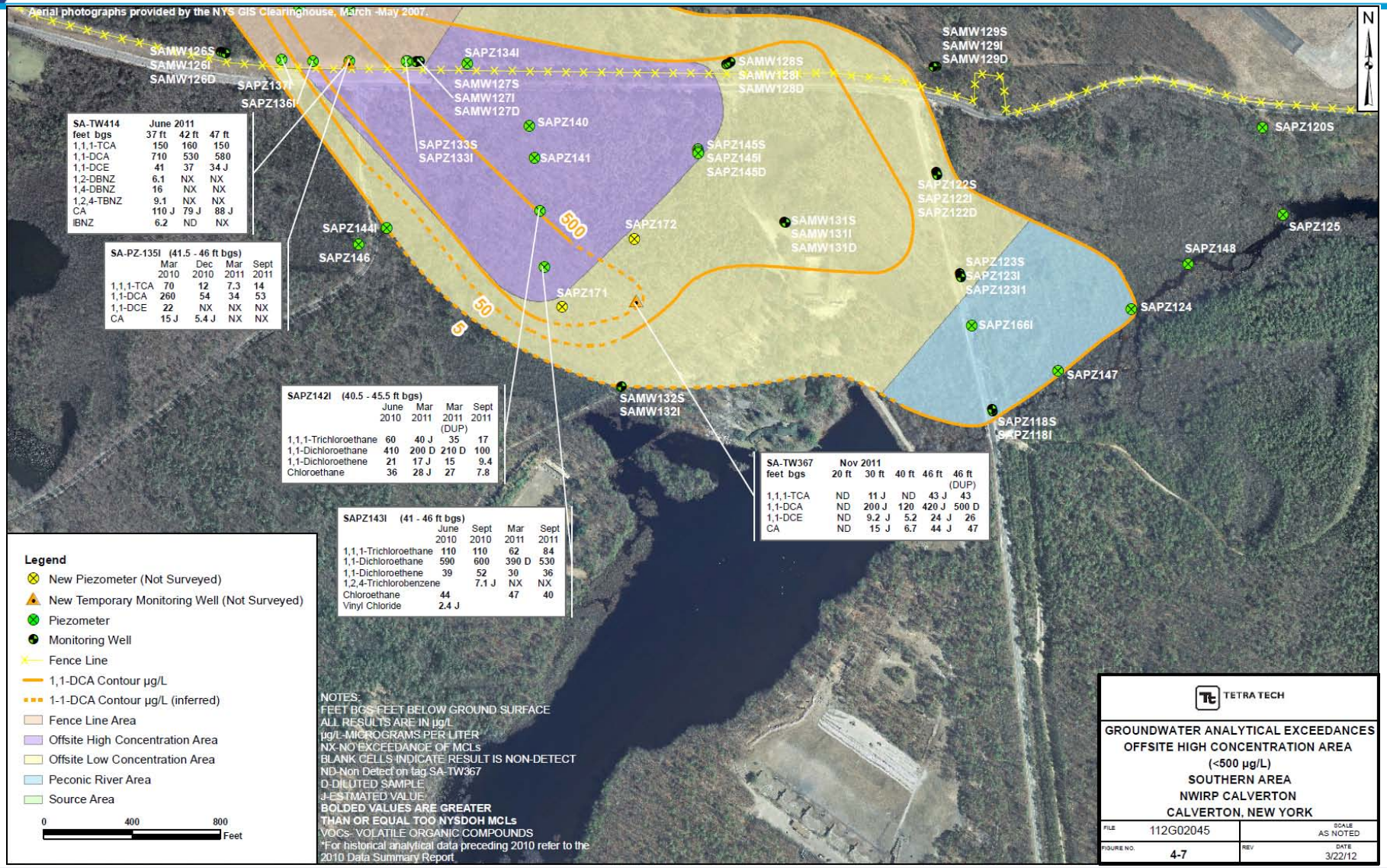
Fence Line Area Results



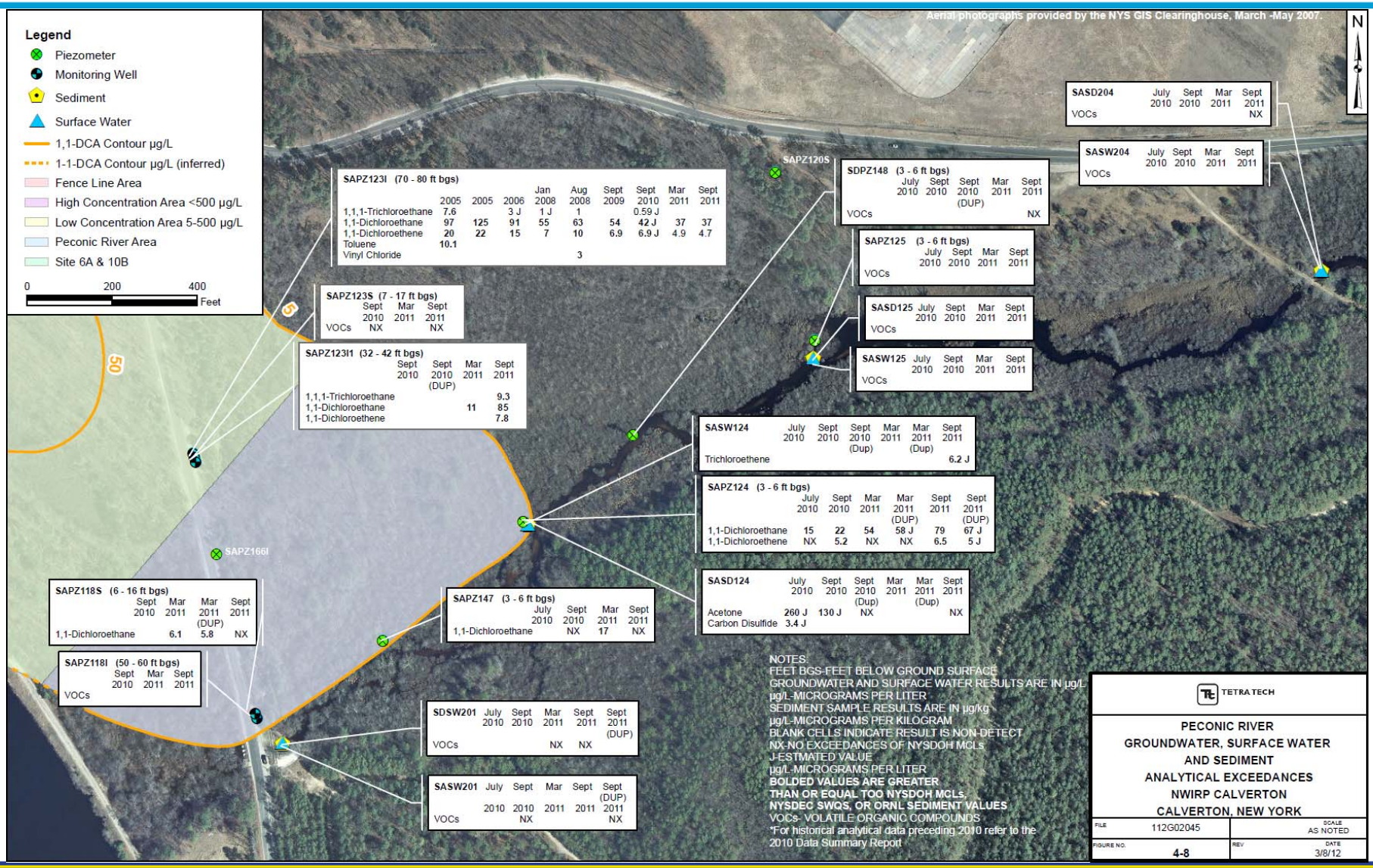
Offsite Low Concentration Area Results



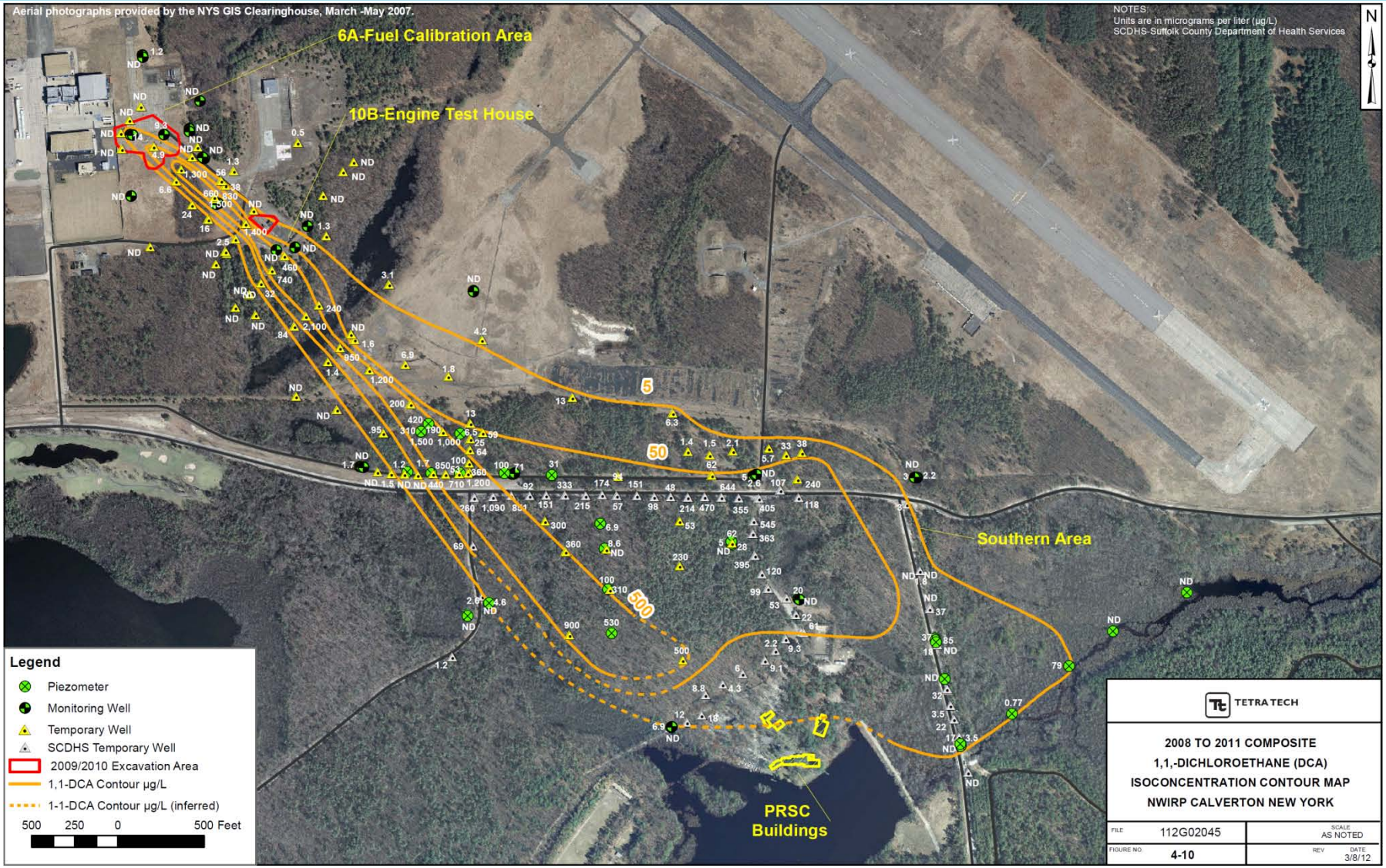
Offsite High Concentration Area Results



Peconic River Area Results



DCA - Isoconcentration Contour Map



County Property Locations

Summary

- **Site 2 – Former Fire Training Area:**
  - Onsite temporary well program completed
  - Onsite soil borings completed
  - Initial offsite work completed in December 2011, additional investigation anticipated
  - Remedial Investigation Report - anticipated in Summer 2012
- **Site 6A – Former Fuel Calibration Area:**
  - Completed delineation of upgradient groundwater
  - Additional monitoring wells to be installed downgradient
  - Monitor and evaluate effectiveness of source area treatment
- **Site 10B – Engine Test House:**
  - No exceedences since monitoring began in January 2008
  - Source area excavation completed in 2010

Summary

- **Southern Area:**
  - Primary VOCs consist of 1,1-DCA, 1,1,1-TCA, 1,1-DCE, and CA
  - Evidence of plume shift east and west near Fence Line Area
  - Plume shift addressed in final remedial design
  - Analytical data and survey of new piezometers on county property will be used to evaluate western plume boundary and refine groundwater flow

Remaining Activities

- **2011 Data Summary Report:**
- **Monitoring Well Evaluation and Work Plan:**
  - Monitoring wells needed downgradient of Site 6A area (MW05 area) to better monitor and evaluate source area
  - Monitoring well network evaluation to determine if any additional data gaps exist and need for additional monitoring wells and/or surplus wells for abandonment
  - Remedial Design Work plan to be developed for future long-term groundwater monitoring
- **2012 Annual Sampling:**
  - Annual event planned for September 2012
  - Semi annual surface water/sediment sampling

QUESTIONS ?

NAVFAC
Naval Facilities Engineering Command
NAVFAC MID-ATLANTIC

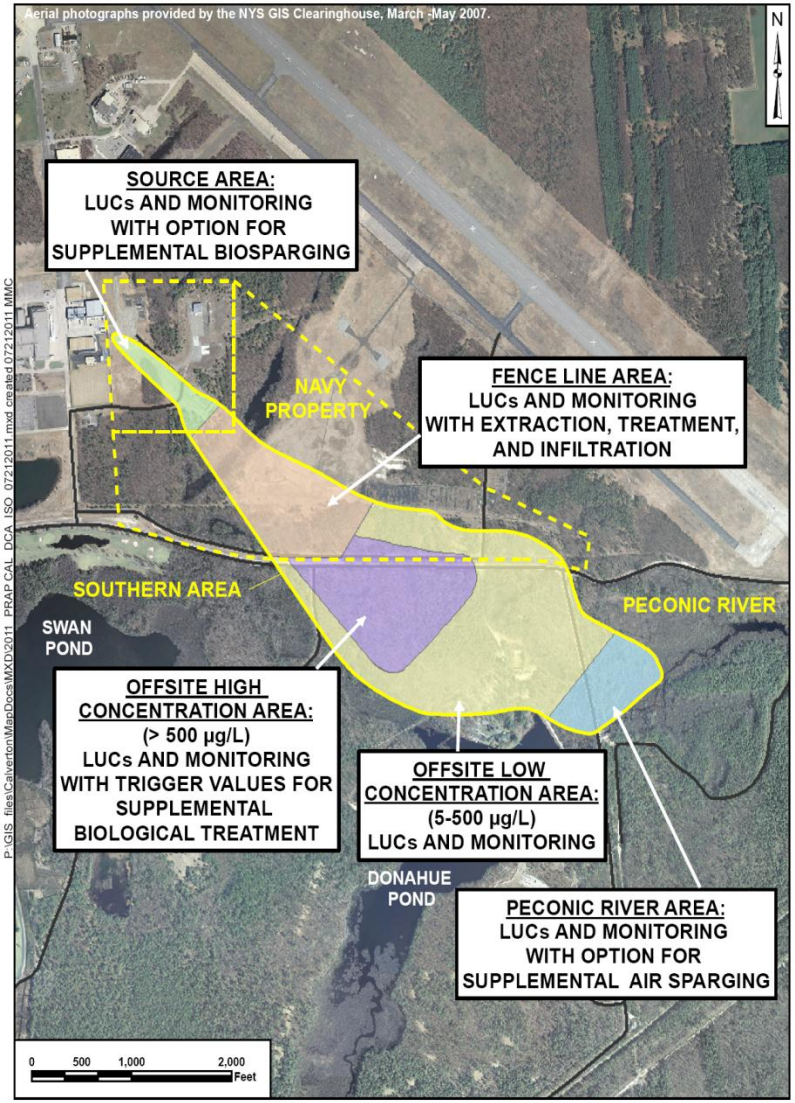
Restoration Advisory Board

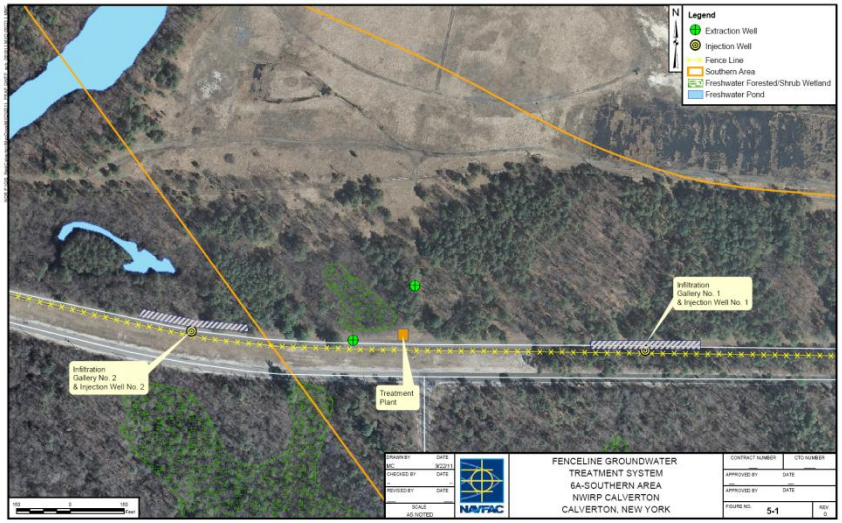
Southern Area Record of Decision and Fence Line Treatment Plant Design

Naval Weapons Industrial Reserve Plant (NWIRP) Calverton, New York

April 5, 2012

Alternative 8 - Proposed Remedy

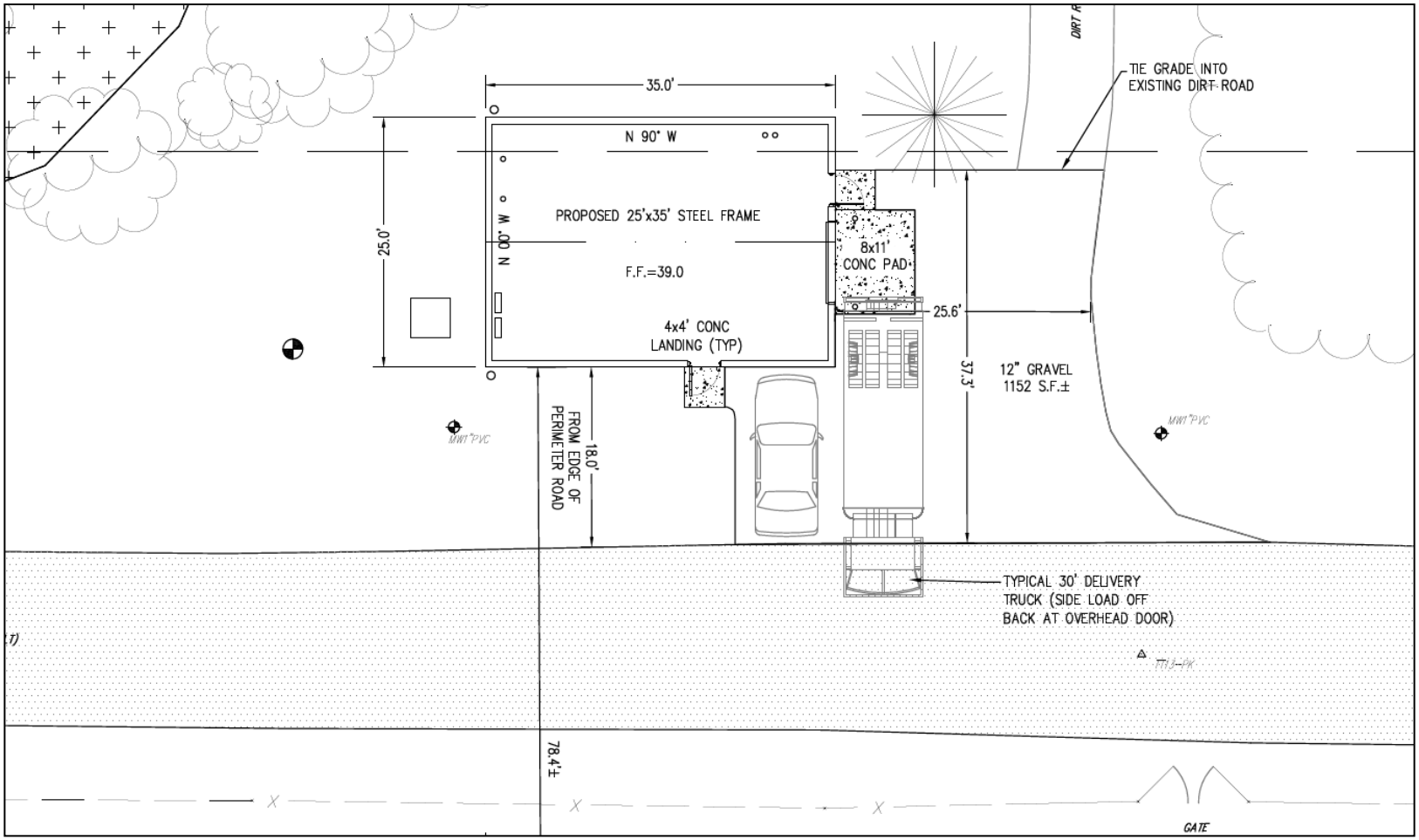




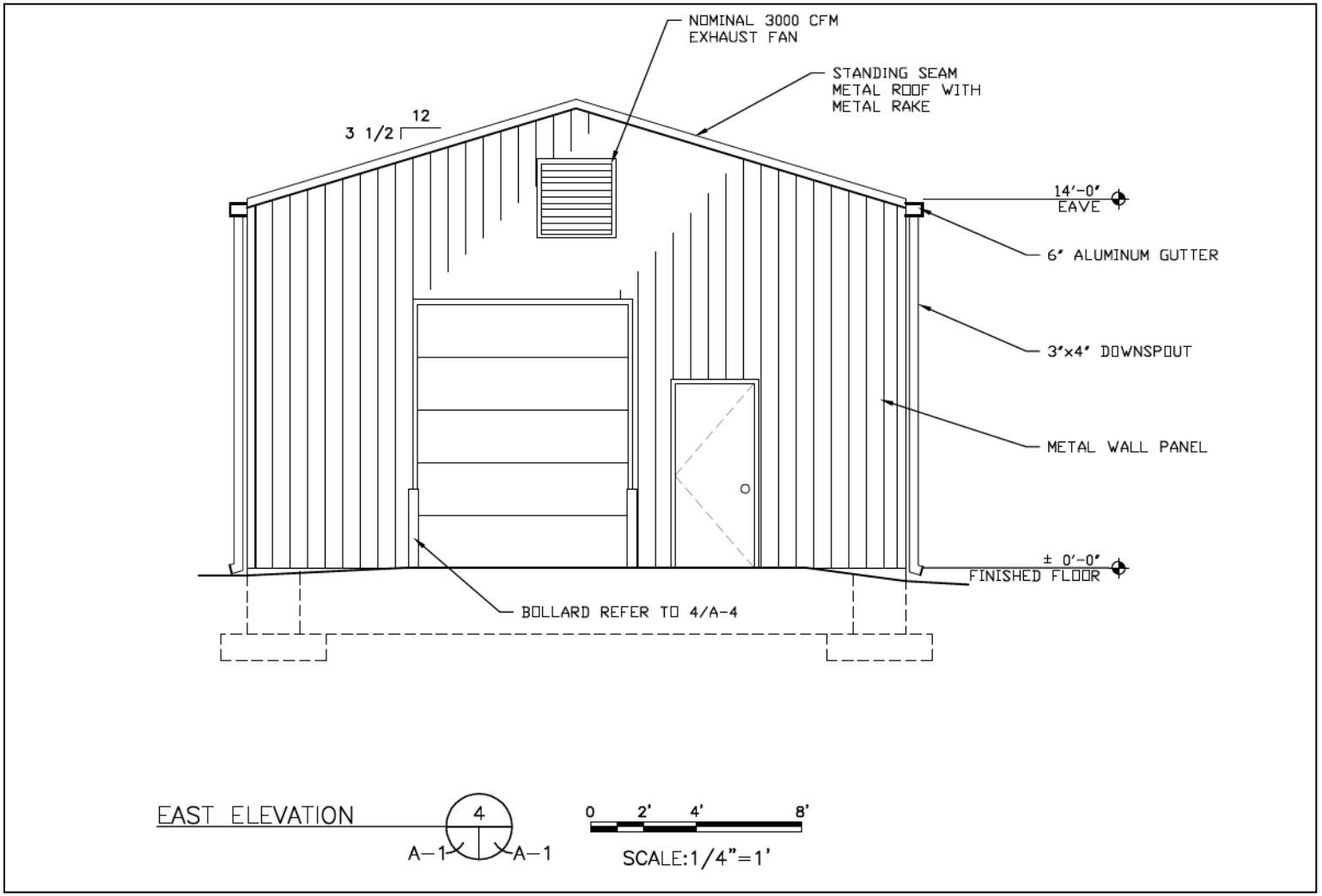
- TWO EXTRACTION WELLS, TOTAL OF 100 GALLONS PER MINUTE
- AIR STRIPPER TO REMOVE VOCS
- RE-INJECT GROUNDWATER

- ESTIMATED CAPITAL COST: $1,650,000
- 4-YEAR ESTIMATED TOTAL COST OF $2,237,000

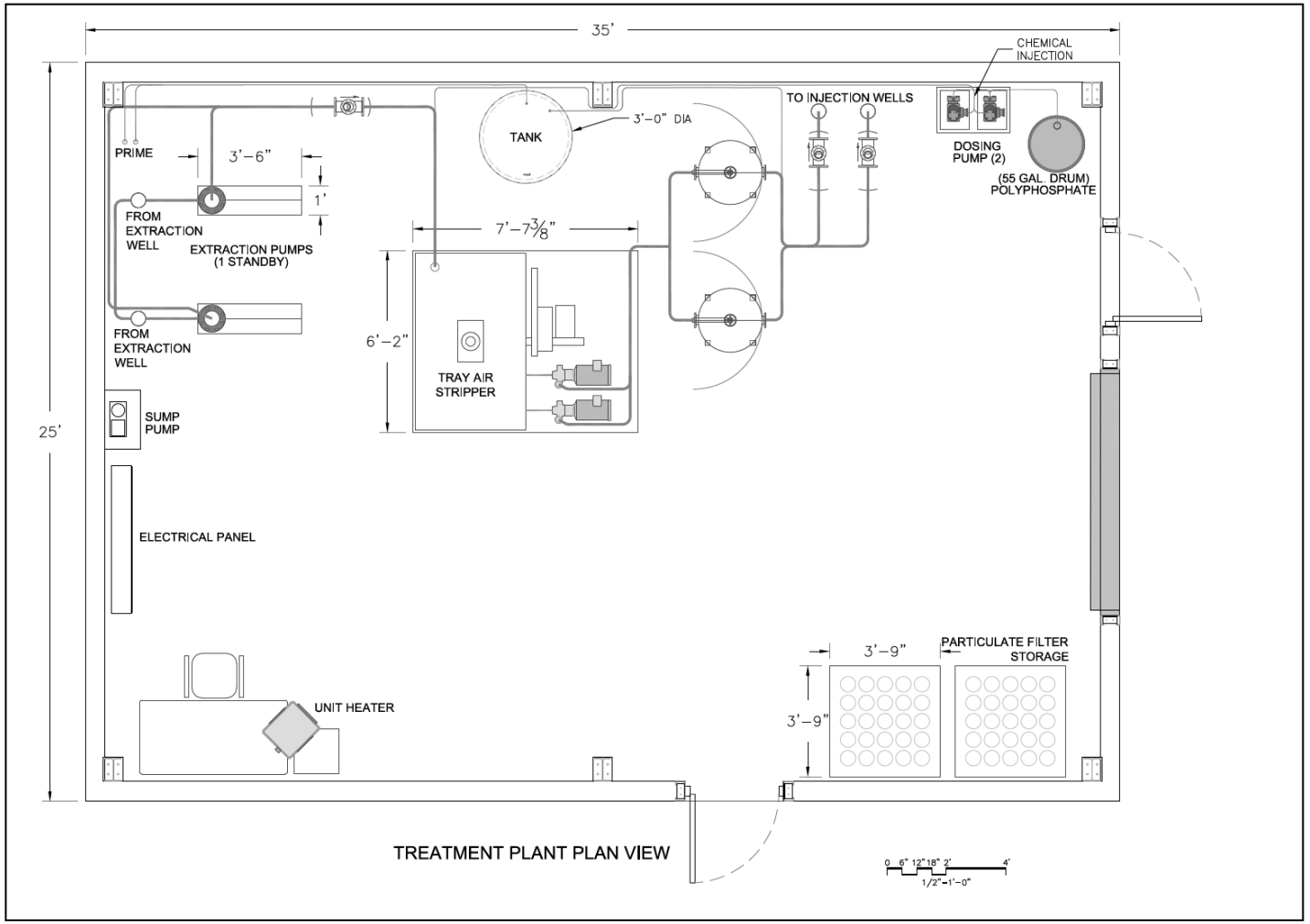
Fence Line Treatment System



Fence Line Treatment System



Fence Line Treatment System



Path Forward

- Public comment period extended through January 17, 2012
- Currently preparing Record of Decision (April 2012)
- Design completed in April 2012
- Construction start Spring/Summer 2012
- Remedial Design Work Plan to establish long-term monitoring program and trigger values Summer 2012
- Operation December 2012

QUESTIONS ?

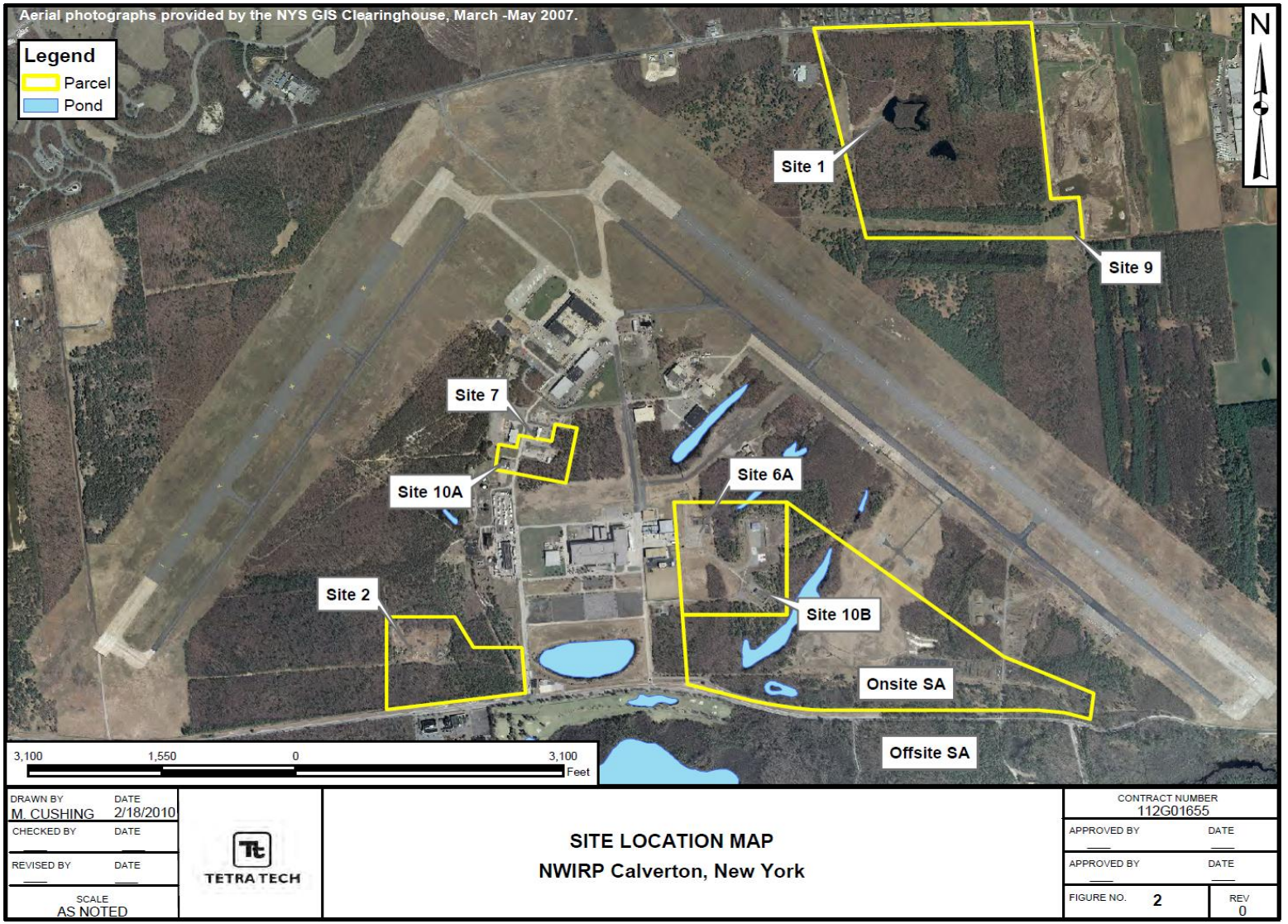
NAVFAC
Naval Facilities Engineering Command
NAVFAC MID-ATLANTIC

Restoration Advisory Board (RAB) Meeting

Site 7 – Fuel Depot

Naval Weapons Industrial Reserve Plant (NWIRP)
Calverton, New York
April 5, 2012

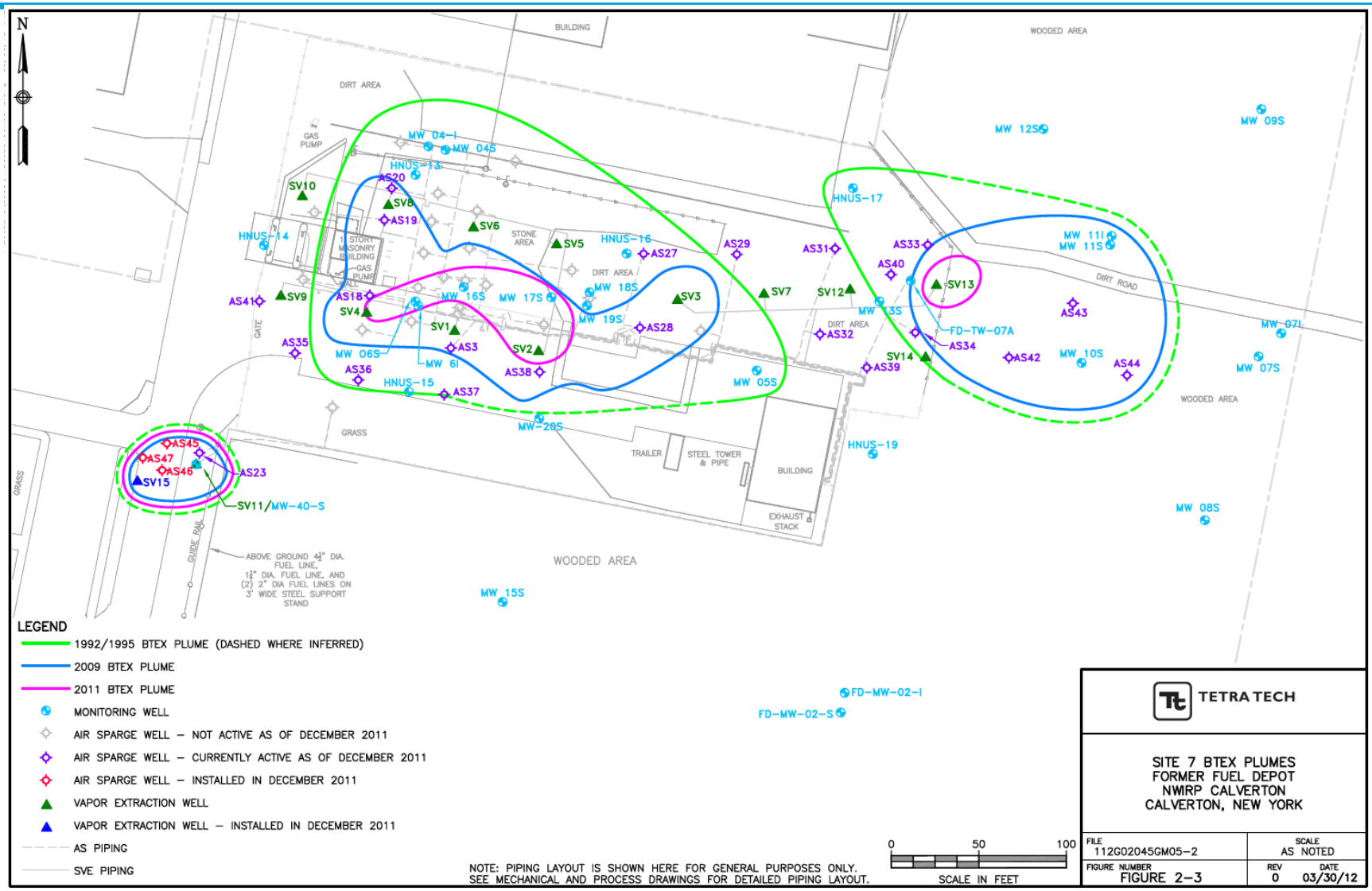
Site Location Map



Current Operation

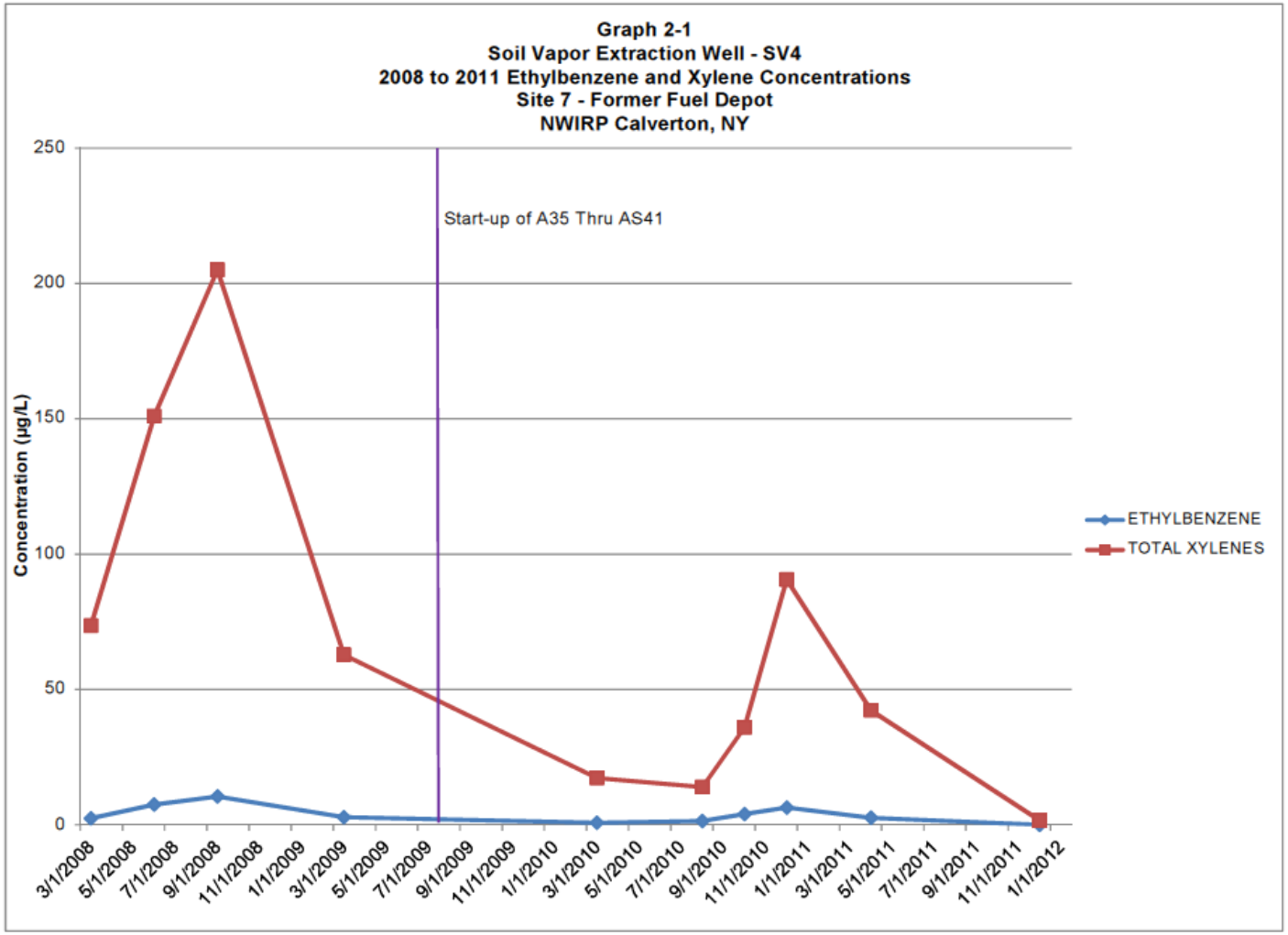
- System started operation in 2006 and has been running seasonally through December 2011
- Groundwater sampling and analysis two to four times per year
- Optimization Studies conducted in 2009, 2010, and 2011
- Resulted in the addition of 13 air injection wells and 2 soil vapor extraction wells, and the shutdown of 21 air injection wells
- Three new air injection wells and one soil vapor extraction well installed in December 2011 (Freon Area), startup in April 2012
- Pre-startup samples collected in March 2012
- Startup to occur week of April 5, 2012, operation to continue through at least 2012

Current Operation

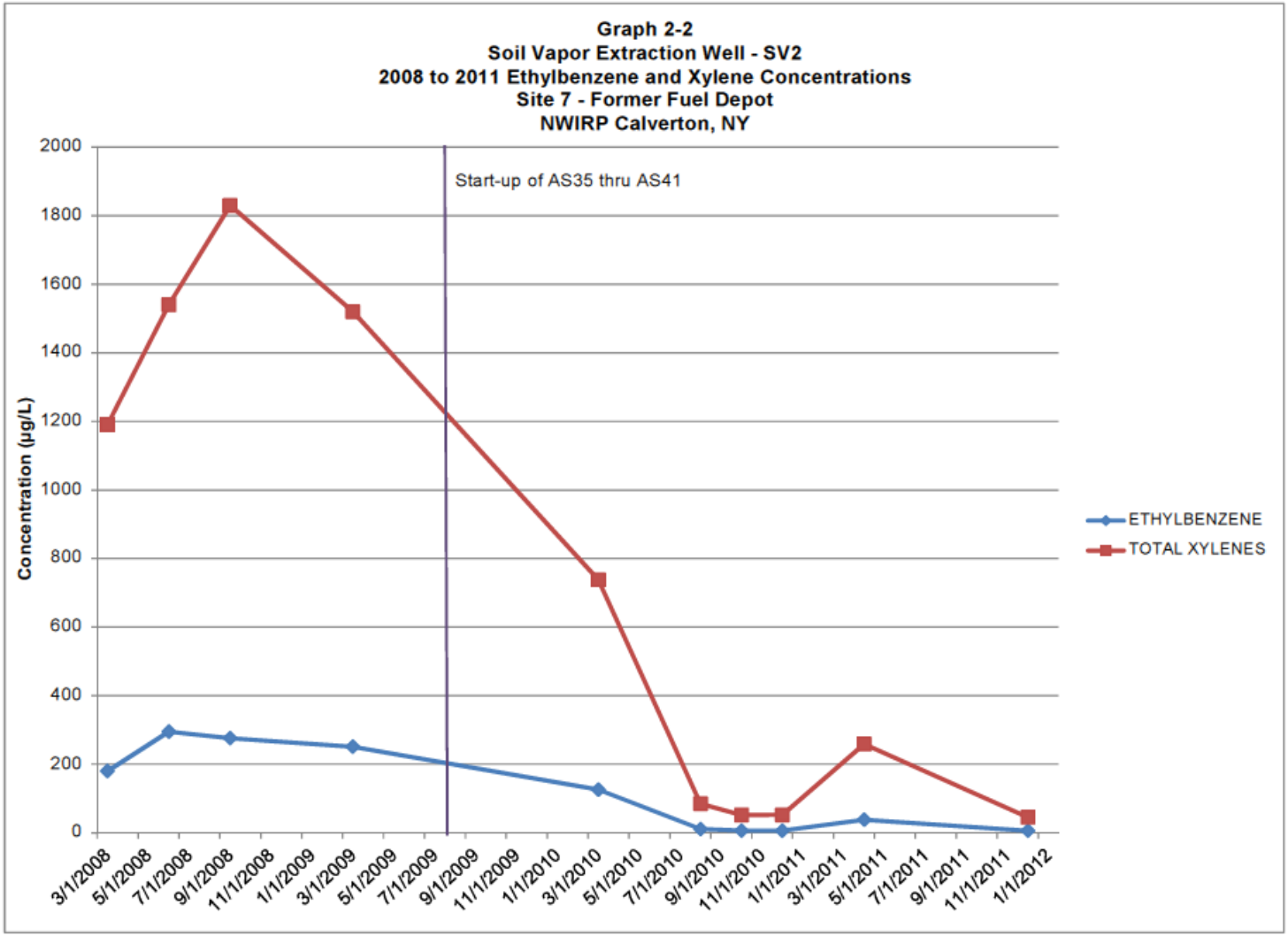


Current Operation

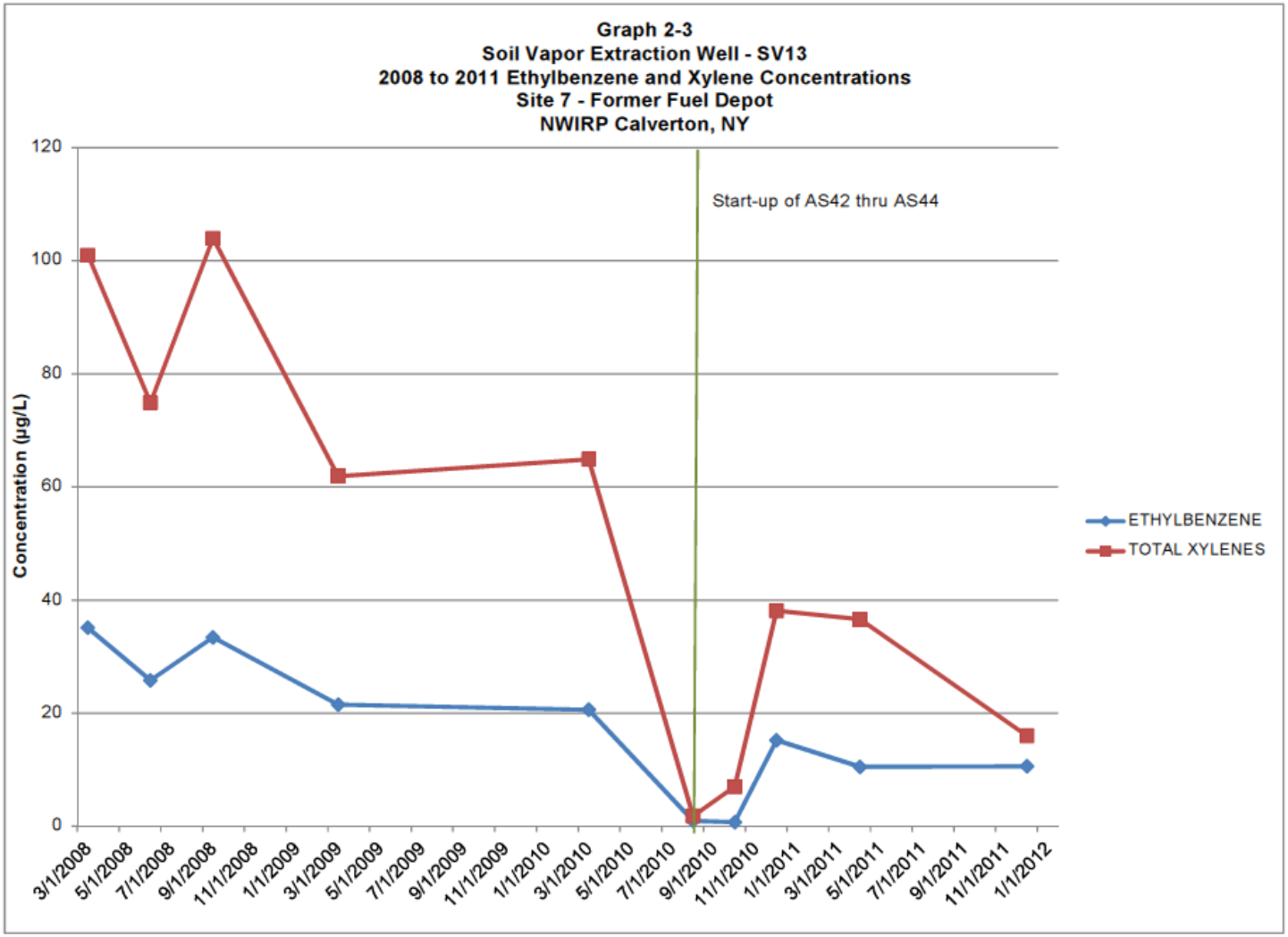
Current Operation



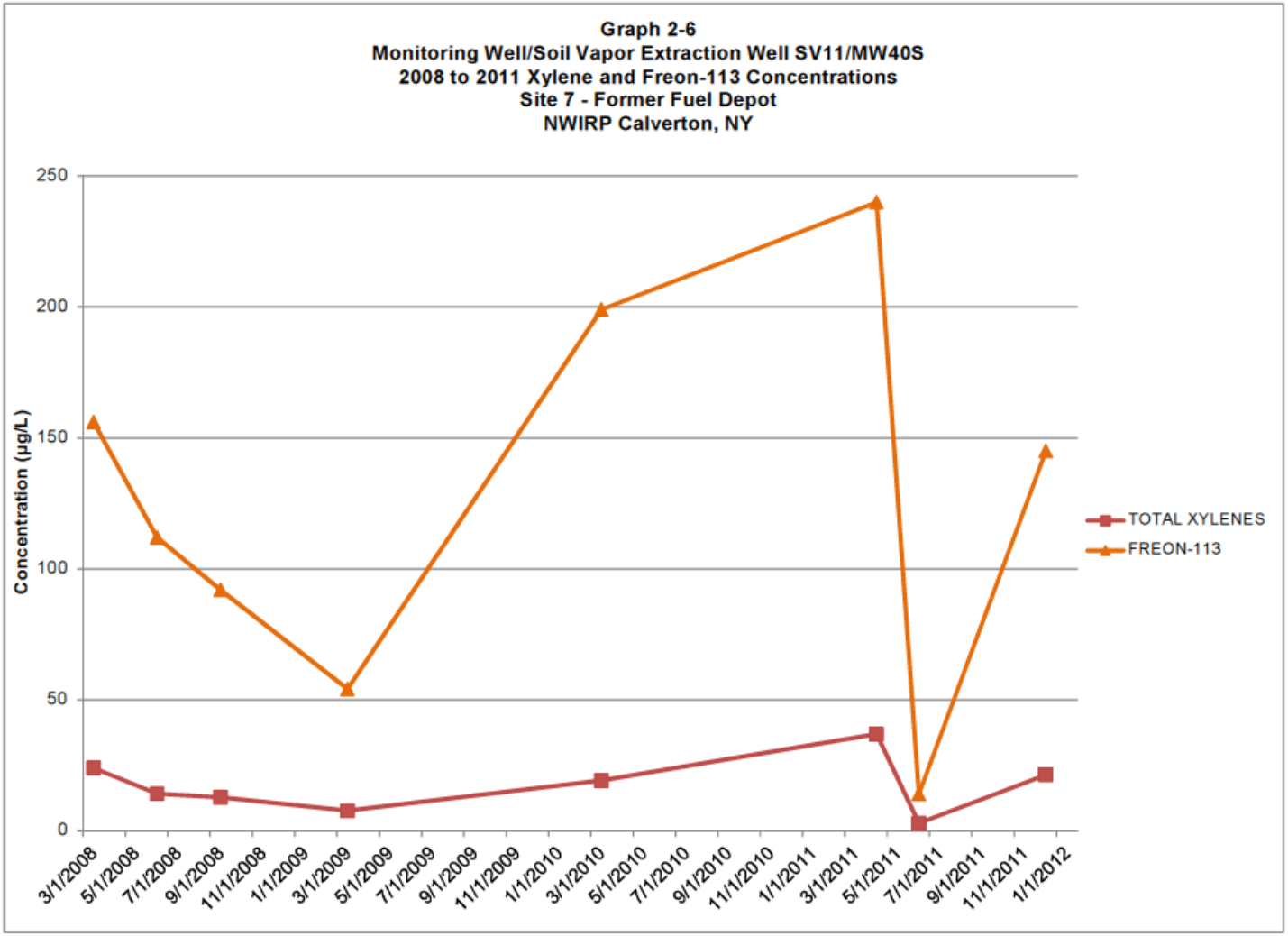
Current Operation



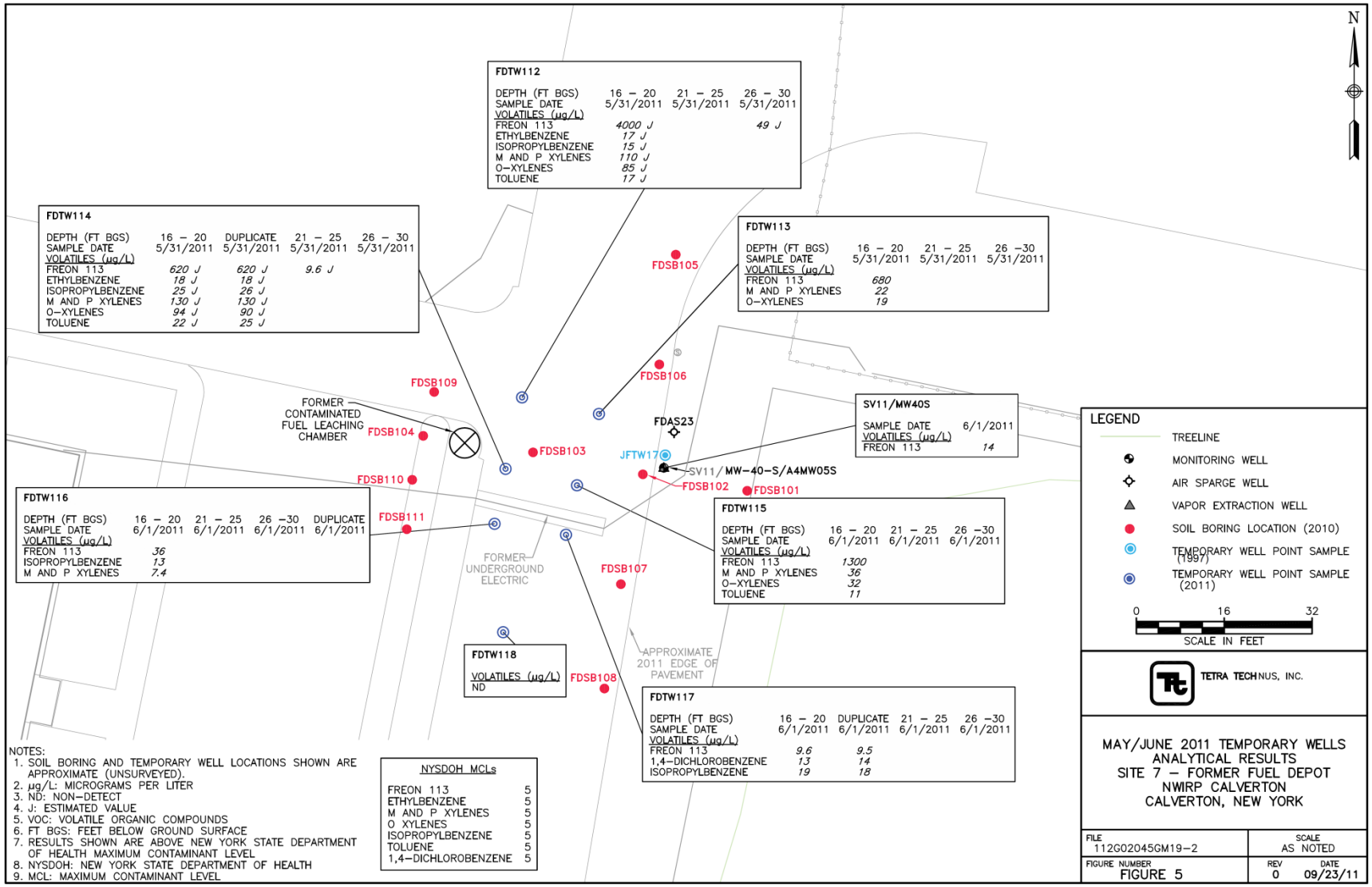
Current Operation



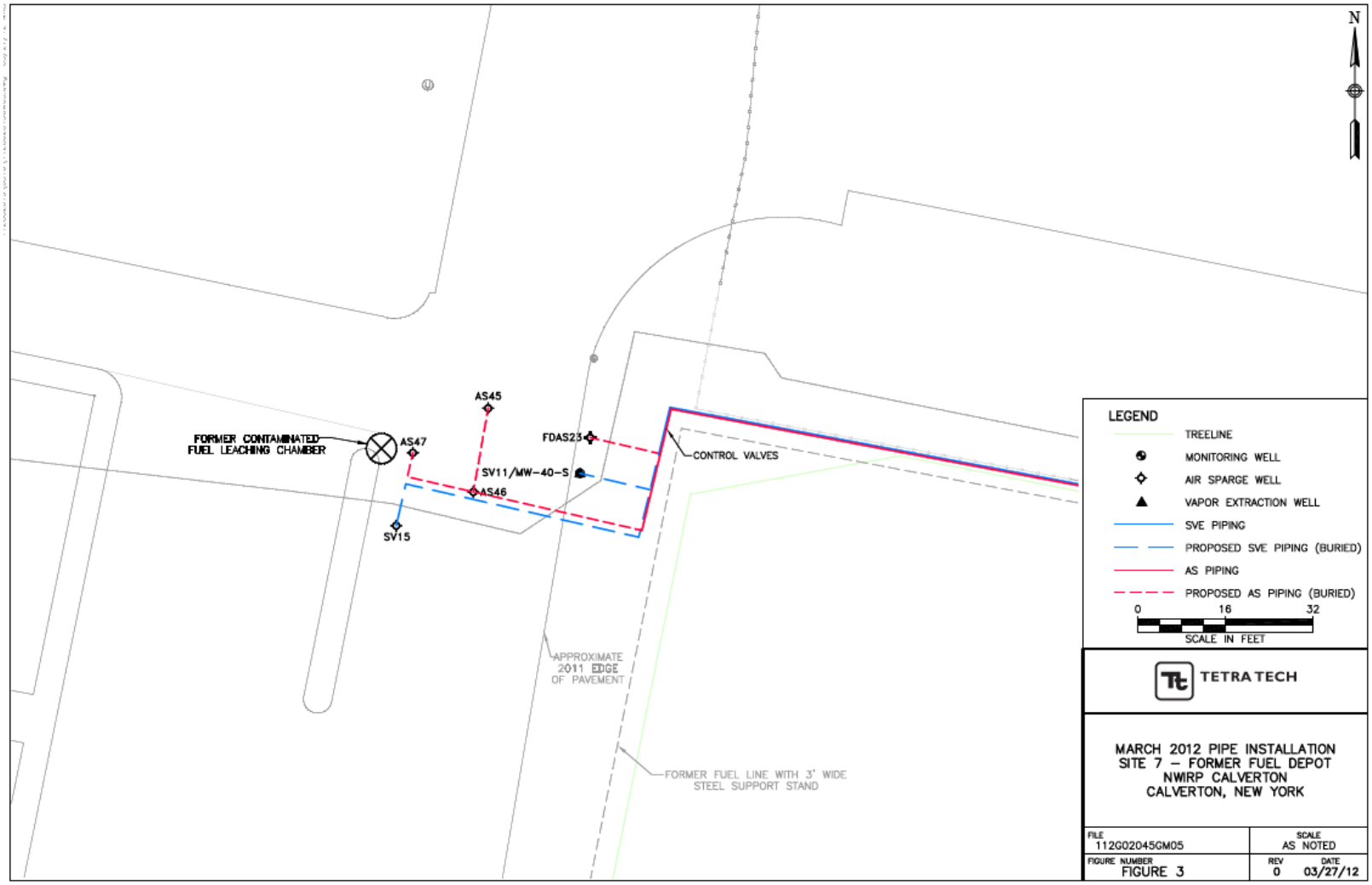
Current Operation



Groundwater Results 2011



AS/SVE System Modification



AS/SVE System Modification

QUESTIONS ?