RESTORATION ADVISORY BOARD MEETING
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP) CALVERTON
PECONIC RIVER SPORTSMAN'S CLUB
MANORVILLE, NEW YORK
THURSDAY, APRIL 7, 2005

The eighteenth meeting of the NWIRP Calverton Restoration Advisory Board (RAB) began at approximately 7:00 pm. Meeting attendees included representatives from the Navy (Joe Kaminski and Jim Colter), New York State Department of Environmental Conservation (NYSDEC) (Henry Wilkie, Larry Rosenmann, and Stan Farkas), Suffolk County Department of Health Services (SCDHS) (Sy Robbins), and Restoration Advisory Board (RAB) community members (Harry Histand, John Hall, and Bob Conklin). The RAB's technical advisor from SCA Associates (Frank Anastasi) was also in attendance. The RAB's community co-chair, Bill Gunther, arrived after the commencement of the meeting.

WELCOME AND AGENDA REVIEW

The Navy co-Chair, Mr. Joe Kaminski, Naval Air Systems Command, welcomed everyone to the RAB. The topics on the agenda were reviewed. The agenda for the meeting is included as Attachment 1.

REVIEW AND APPROVAL OF MINUTES

Mr. Kaminski inquired if the RAB members received the minutes from the November 4, 2004 meeting. These minutes were distributed in December 2004. He asked if all the RAB members received a copy or would like another copy. Mr. Kaminski noted that only a few of the RAB members were present and that approval of the November 2004 minutes would be addressed in the next RAB meeting, which is scheduled for Thursday, August 4, 2005.

GENERAL PROGRAM STATUS

Mr. Jim Colter, Engineering Field Activity Northeast (EFANE), provided a brief overview of the work accomplished since the last RAB meeting and inquired if everyone received copies of the reports. Mr. Colter then reviewed the agenda and rearranged the order of the presentations to present Site 7 first.

SITE 7 FUEL DEPOT AREA – REMEDIATION SYSTEM PROGRESS UPDATE

Mr. Stavros Patselas from Tetra Tech EC (formerly Tetra Tech FW) provided a progress update for the remediation of the Site 7 – Fuel Depot Area (Attachment 2). Mr. Patselas discussed the progress of the air sparging/soil vapor extraction (AS/SVE) system. Construction of the system was completed in early March 2005, all 8 of the SVE wells

are online, and 8 of the 18 AS wells are operating. Additional AS wells will be brought online until all 18 AS wells are operating. The AS/SVE system runs 24 hours per day.

The AS/SVE system should operate for 2 to 4 years. The system was started up on March 23, 2005 and consisted of a 7-day shakedown period. For operational purposes, the considered start date of the AS/SVE system is March 30, 2005 and the system will be operated for 3 months as a pilot study. After 3 months of operation, the data will be evaluated and the potential need for modifications to the system will be determined. In particular, additional wells may be installed and connected to the system. Mr. Patselas noted that the system has the built-in capacity to connect additional wells. Mr. Patselas continued to note that the overall strategy for this site is to look into other remedial alternatives such as natural attenuation with monitoring as the concentrations of VOCs continue to decrease.

Mr. Patselas went on to explain that the air sparging wells are screened below the water table while the soil vapor extraction wells are screened above the water table. With regards to the Freon contamination at the site, Mr. Patselas explained that a trailer-mounted ozone generator will be used to inject ozone at 6 injection points that correspond to the highest Freon concentrations detected at the site. A moisture separator is being utilized just in case the water level rises into the SVE screen zone and to remove moisture present in the vapor stream. This piece of equipment will ensure that if this happens, the moisture will be removed prior to the treatment of the contaminants.

Mr. Patselas explained that a variety of safety considerations went into the design and construction of this system including automatic shutdown of the system if a problem arises at which point, only a manual restart of the system will be possible. There will be an auto dialer that will alert certain individuals that the system is shut down and the site is totally enclosed by a fence with a lock on the only gate that accesses the property.

Larry Rosenmann (NYSDEC) asked about the purpose of lowering the air injection blower discharge temperature. Mr. Brian Blanchard, lead engineer on the AS/SVE project, replied that the influent air temperature to the air sparge piping is approximately 250 degrees F and that with the aid of a passive heat exchanger unit, the temperature can be lowered so that more cost-effective thermo-plastic piping, such as HDPE (high density polyethylene), can be used.

Mr. Patselas went on to explain that based on available data, specifically pressure measurements and dissolved oxygen (DO) concentrations, the radius of influence (ROI) for the SVE wells is currently 70 feet (the design specification was for 50 feet) and the ROI for the AS wells is currently 40 feet (the design spec was 25 feet). With regards to the ozone injection points, the ROI is currently 15 feet (design spec was 10 feet).

Mr. Patselas explained that two carbon vessels will be used in this process and will be operated in series. It is expected that the VOC removal rate for Vessel #1 will be

around 99% and that measurements will be recorded weekly to monitor for breakthrough.

Frank Anastasi (SCA Associates) asked where the ozone was being injected and whether this is a separate system. Mr. Patselas replied that the ozone was being injected into a separate area, in particular, near a subsurface slab. The ozone would also address Freon contamination detected at different parts of the site. Six (6) injection points will be used and this is a separate system.

Frank Anastasi (SCA Associates) asked what the influent soil vapor concentration was and were the concentrations what was expected. Mr. Patselas replied that the influent soil vapor concentration was approximately 200 parts per million (ppm), with as much as 500 ppm when the system was first turned on. These levels were similar to what was anticipated.

The RAB member representing the Town of Riverhead asked what will be done with the spent granular activated carbon and will the system need to be shutdown during the carbon exchange. Mr. Patselas responded that there are four carbon units at the site and that the operation of the carbon units is closely monitored. Once the initial two carbon units are spent, the spent units are taken off line and two spare units are brought on line. When the spare units are also saturated, the carbon from both sets of units is tested. If the results show that the carbon is hazardous, then the spent carbon will be removed in 55-gallon drums. If the carbon is not hazardous, then the carbon can be removed more efficiently with a vacuum truck. The system will be shutdown for approximately 1 to 2 days during the carbon change-out process.

One RAB member also asked how long the system is expected to run. Mr. Patselas replied that the system is expected to run for 2 for 4 years. Currently, we are in a 3-month pilot study phase. This phase will be followed by 6 months of regular operation.

One RAB member asked what is the total estimated cost including construction and operation and maintenance (O&M). Mr. Patselas responded that the funding for the construction was approximately $2.5 million, which included a pre-design investigation, installation of the AS/SVE wells, remedial system design, and construction.

The same RAB member then asked if that cost included O&M. Mr. Colter replied that the O&M cost is not included because O&M will be performed by a small business firm that is already under contract. The goal is to award an O&M contract for this project later this year and to start work in March 2006. This schedule will allow a seamless transition.

One RAB member asked if this system is similar to the system that was installed at the Fire Training Area. Mr. Colter responded that this system is similar except that the Site 2 system was built to be only temporary.

The RAB member asked if the system will be shut down for winter. Mr. Patselas responded that the system will be shut down during the winter as it is not winterized.

One RAB member inquired on how the O&M contractor is selected. Mr. Colter responded that a request for proposal (RFP) was issued and that the bid process was completed previously. An award was made to a small business firm to perform O&M at all remedial systems for an area of responsibility (AOR) designated as the Delaware Valley AOR for which the State of New York is included. The name of the firm for O&M services in the Delaware Valley AOR is ECOR Solutions, Incorporated.

SITE 1 NORTHEAST POND DISPOSAL AREA – GROUNDWATER RESULTS

Mr. Dave Brayack from Tetra Tech NUS, Inc. provided an update on the Site 1 Northeast Pond Disposal Area groundwater sampling results. Figures are included as Attachment 3. Mr. Brayack explained that the landfill was excavated to a clean level and as a result there have been substantial physical changes to the area since the original investigation. As part of the original investigation, 7 monitoring wells (MW) were installed. MW-4, -5, and -6 are located to the northeast of the former landfill and MW-1 is near the entrance to the site (southwest). MW-2 and -3 were located in the landfill area and were removed during the excavation. Groundwater flow is to the northeast.

Groundwater samples were analyzed for VOCs, SVOCs, PCBs and pesticides, and metals. A letter report was sent out in March 2005 that provided the groundwater data. It was noted that several metals were detected sporadically including thallium, iron, cadmium, and beryllium. No pattern or trend could be determined. Iron is naturally occurring in such areas as peat bogs. Mr. Brayack also noted that beryllium was detected in a duplicate sample at the detection limit and cadmium was detected in one sample. The data collected from the second round of sampling has shown that there are no significant areas of concern or release remaining. All contaminated material has been removed from the site, including approximately 70,000 tons of contaminated soil/waste. Currently, the area is very scenic.

One RAB member inquired when the photos were taken. Mr. Brayack replied that the photos were taken last summer.

One RAB member asked if the re-vegetation worked. Mr. Brayack responded that there are no recent photos, but everything seems to be doing what it should. A RAB member noted that he has been out there and that the area looks good.

One RAB member asked if there is a post-construction erosion plan. Mr. Colter responded that the Erosion/Sediment Plan was for the removal process. There is no plan for a post erosion plan since it is not usually done.

Mr. Colter goes on to discuss the Town of Riverhead's interest in taking land over. Based on the data and the Towns interest, it is recommended that no additional groundwater sampling be conducted. It was noted that the NYSDEC and SCDHS

concurred with the recommendation. Mr. Colter then indicated that a petition will be submitted to remove the site from the Registry of Inactive Hazardous waste sites with a request to transfer the parcel to the Town for non-residential land use. Mr. Colter requested concurrence letters from NYSDEC and the Suffolk County Department of Health Services. The parcel to be transferred is 100-plus acres.

One RAB member questioned how long it would take to transfer the property, e.g. 1 1/2 years. Mr. Colter replied, maybe sooner.

It was noted that NYSDEC/SCDHS will expedite the concurrence letters.

Agricultural Outlease EBST

Mr. Colter provided an update on the Agricultural Outlease EBST and Finding of Suitability to Transfer (FOST). These documents were submitted to regulators and RAB members and this parcel is currently in a 30-day public comment period. The public comment period is scheduled to end in mid April.

It was noted that the SCDHS had no comments. Mr. Colter requested a letter (concurrence/comments/concerns) from NYSDEC, United States Environmental Protection Agency (USEPA), and the SCDHS. Mr. Colter also submitted the information to Mr. Charles Hamilton (NYSDEC). NYSDEC noted that a concurrence letter has been drafted and requested a list of people to copy.

Mr. Colter went on to say that the Agricultural Outlease will be transferred to NYSDEC in an "as is" condition which will include monitoring well MW-03 which SCDHS had requested remain on the property. It will be up to NYSDEC and SCDHS to work out an access agreement so that the health department can continue to monitor this well. All other wells on this parcel will be abandoned in accordance with NYSDEC standards prior to conveyance. This will be done when wells at IR Site 1 are abandoned and a Letter Work plan and Letter Report of Activities will be submitted.

At this point, the RAB Community Co-Chair, Mr. Bill Gunther, arrives at the meeting.

Site 6A/Southern Area – Field Investigation Progress Update

Mr. Brayack provided an update of the Site 6A/Southern Area (Fuel Calibration Area) field activities, see Attachment 4. Drilling and groundwater and surface water sampling activities were completed in March 2005. With two exceptions, all of the field activities in the Work Plan were conducted.

The exceptions are installation of vertical profile boring (VPB) SA-VPB-119 and associated piezometer SA-PZ-119S and collection of surface water sample SA-SW-102. These locations are in an area of dense vegetation and the only access is through several hundred feet of wetland. We have been working with the NYSDEC and the driller regarding possible options to minimize damage to the wetlands needed to get the

equipment to the area. At this point in time, we are deferring work in this area until we determine an actual need for the data. In particular, an additional boring was installed near Connecticut Avenue and could potentially replace the boring in the wetland.

A surveyor is currently on site to determine coordinates of the piezometers and other reference points for the site. This data will be used to better define groundwater flow near the Peconic River and the need for drilling at SA-VPB-119 and SA-PZ-119S.

Mr. Brayack reviewed the results collected to date. Data collected from vertical profile borings over the past several months detected low level VOC contamination at depth, with most of the detections near or below groundwater/drinking water criteria. Except for one sample, the maximum VOC detected in groundwater at Site 6A was xylene at 16.2 ug/l at 20 feet below ground surface. The boring is in an area of known floating free product.

In one vertical profile boring, FC-VPB-111-300, VOCs were detected at a concentration of approximately 800 ug/l at a depth of 300 feet below ground surface. Groundwater samples collected in the boring up to this depth were consistently non-detect. As a result of this finding, a second vertical profile boring was installed in this area and re-sampled from 290 to 350 feet below ground surface. Groundwater from the second vertical profile boring did not detect any VOCs. A piezometer was also installed at this depth.

Piezometer data for Site 6A indicated a strong downward gradient of approximately 10 feet head difference over approximately 200 vertical feet of formation. In addition, the borings found a silty clay unit at 60 to 90 feet below ground surface and a second unit at 160 to 180 feet below ground surface. These units likely represent aquitards and would inhibit the downward migration of contaminated groundwater.

Based on this finding, and the known presence of shallow groundwater contamination, it was speculated that the vertical gradient across an aquitard at the site may cause false positive detections at depth during a vertical profile boring program. During the vertical profile boring, a temporary conduit is created at the boring and shallow contaminated groundwater could migrate downward along the augers and effect water samples. During boring abandonment, as well as piezometer installation, these temporary conduits are sealed. As a result, the piezometer groundwater data could be used to confirm the presence or absence of contamination at depth.

Groundwater samples were collected from the piezometers in late March 2005, and most of the data had just been received. The deep piezometer groundwater samples found no reported detections of VOCs. This data conflicts with some earlier vertical profile boring data which had indicated low level concentration of VOCs at depth.

Mr. Brayack noted that they are currently waiting on the validated data from a second laboratory. The majority of the data was presented during the March 2, 2005 telecom. Mr. Colter added that currently, the FS is being done which will address what is there

and include that cost analysis. The Data Report is will be submitted in May and the FS will be submitted one month after.

One RAB member questioned the change in directions of the groundwater flow. Mr. Brayack replied that the predominate flow direction for groundwater at Site 6A is to the east southeast, toward the Peconic River. Early on, there was a concern that because of a regional groundwater divide north of the Site (near Site 7), the deep groundwater at Site 6A could flow in another direction, e.g., to the north. The groundwater north of the divide flows northeast and the groundwater south of the divide flows southeast. Current, more accurate data does not appear to support a northern component to groundwater flow, but additional data is still being collected.

One RAB member inquired if quality control sample blanks were taken. Mr. Brayack responded that trip blanks were done. Also, split samples were also sent to a second laboratory.

One RAB member inquired on the depth of wells. Mr. Brayack replied that the deep wells in the Site 6A area are approximately 280 to 300 feet below ground surface and that the deep well in the Southern Area are approximately 150 feet below ground surface.

One RAB member asked if there could be a need to gather more data from the piezometers. Mr. Brayack responded that not all the piezometers were sampled. Some of the piezometers were only installed to collect water level measurements to determine groundwater flow.

Mr. Colter inquired whether the additional well installed on Connecticut Avenue (SA-VPB-123I) would remove the need for installing the well in the swamp/wetland (SA-PZ-119S). Mr. Brayack responded that probably; however, the data must first be more fully evaluated.

One RAB member asked if SA-PZ-119 was the location that could not be accessed. Mr. Brayack responded that SA-PZ-119 is the location in the wetland that could not be accessed.

One RAB member asked if piezometers at SA-PZ-121 were sampled. Mr. Brayack replied that SA-PZ-121 S, I, D were not sampled. These piezometers are located on the other side of the Peconic River and were installed to determine the potential for contaminated groundwater to flow under the river. However, the data is still coming in and these piezometers could be sampled in the future, if data indicates that contamination is flowing under the river.

For the Southern Area, the deepest contamination detected was in the Pistol Range. Confirmed contamination was found at a depth of 70 to 90 feet below ground surface. VOCs were detected in some of the deeper vertical profile boring samples, but the detections were not confirmed by the piezometer data.

One RAB member asked for clarification on clay zones in the Southern Area that might cause a lack of communication. Mr. Brayack replied that this issue is being evaluated.

One RAB member asked if there is nothing to hold the contamination at depth, would it flow upward and discharge into the stream. Mr. Brayack responded that this scenario is likely. The groundwater head elevation at depth is higher than in the river, so it is possible that the flow could be going upward towards the river. The report should be coming out in the next 6 weeks and better define this issue.

One RAB member inquired how many groundwater samples have been taken. Mr. Brayack replied that over 50 groundwater samples were collected.

The same RAB member then asked how many points were sampled. Mr. Brayack replied, there were 14 offsite and 12 onsite points.

One RAB member commented that it is clear that a lot of work has been done, and we have a lot more information then we had a year ago.

One RAB member asked, with the preliminary results finding some of our worst fears, will there be confirmation testing of further downgradient wells. Mr. Brayack replied that contamination has been found on Connecticut before and that we are not finding any new contamination. Our biggest concern at this time was to determine the maximum vertical extent of the contamination and whether the contamination is flowing under the Peconic River.

One RAB member asked what is the depth and width of the Peconic River at this point. Mr. Brayack replied that the river is approximately 2 to 3 feet deep and 20 to 30 feet wide.

On RAB member inquired if there was anything south of the Peconic dirt road. Mr. Brayack responded that at the SA-SW-103 location there is a set of culverts. The area is all State property, with no residential development.

Mr. Colter added, at this point that we are recommending abandoning field activities at SA-PZ-119 and SA-SW-102 points, because of accessibility problems to the boring. Mr. Brayack then added, if we really need to get there, we may be able to hand drill it.

Closing Remarks – Joe Kaminski

The next RAB meeting is scheduled for Thursday, August 4, 2005.

Mr. Kaminski asked what topics will be discussed at the next meeting. Mr. Colter replied, by that August, a number of reports will have been submitted (Data Report for Site 6a and the Southern Area, draft FS for Site 6a (onsite) and the Southern Area (Site

6a offsite), Letter WP for well abandonment and activities, and Site 7 Pilot Study recommendations). Hopefully, the letters for the land transfer will also be in.

One RAB member asked if everything is running at Site 7. Mr. Patselas replied, yes, everything is up and running.

Mr. Farkas stated that this will probably be his last meeting since he is contemplating retirement.

The meeting was adjourned at approximately 9 p.m.

Action Items:

1. RAB members to review November 2004 meeting minutes.
2. Navy will be issuing several reports including Site 6A/Southern Area Data Summary Reports and Feasibility Studies, and Site 1 property transfer documents.

ATTACHMENT 1

AGENDA

Agenda

Restoration Advisory Board
Naval Weapons Industrial Reserve Plant Calverton

April 7, 2005
Peconic River Sportsman's Club, Manorville NY
7:00 p.m.

Welcome and Agenda Review
Joe Kaminski
Naval Air Systems Command

Review and Approval of Minutes
All Members

General Program Status
Jim Colter
Engineering Field Activity, Northeast

Site 7 Fuel Depot Area - Remediation System Progress Update
Stavros Patselas
Tetra Tech EC

Site 6A/Southern Area - Field Investigation Progress Update
Dave Brayack
Tetra Tech NUS

Site 1 Northeast Pond Disposal Area - Groundwater Results
Dave Brayack
Tetra Tech NUS

Agricultural Outlease EBST
Jim Colter
Engineering Field Activity, Northeast

Closing Remarks
Joe Kaminski
Naval Air Systems Command

Presenters will be available after the program for questions.

ATTACHMENT 2

SITE 7 - FUEL DEPOT AREA PRESENTATION

April 2005 RAB

Groundwater Remediation Project

Naval Weapons Industrial Reserve Plant
Calverton, NY
Site 7: Former Fuel Depot

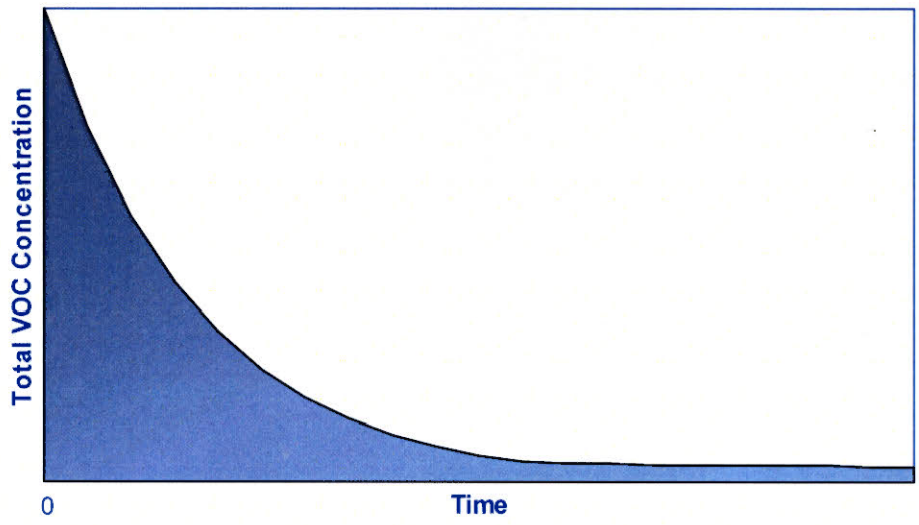
Restoration Advisory Board Meeting
April 7, 2005

TETRA TECH EC, INC.

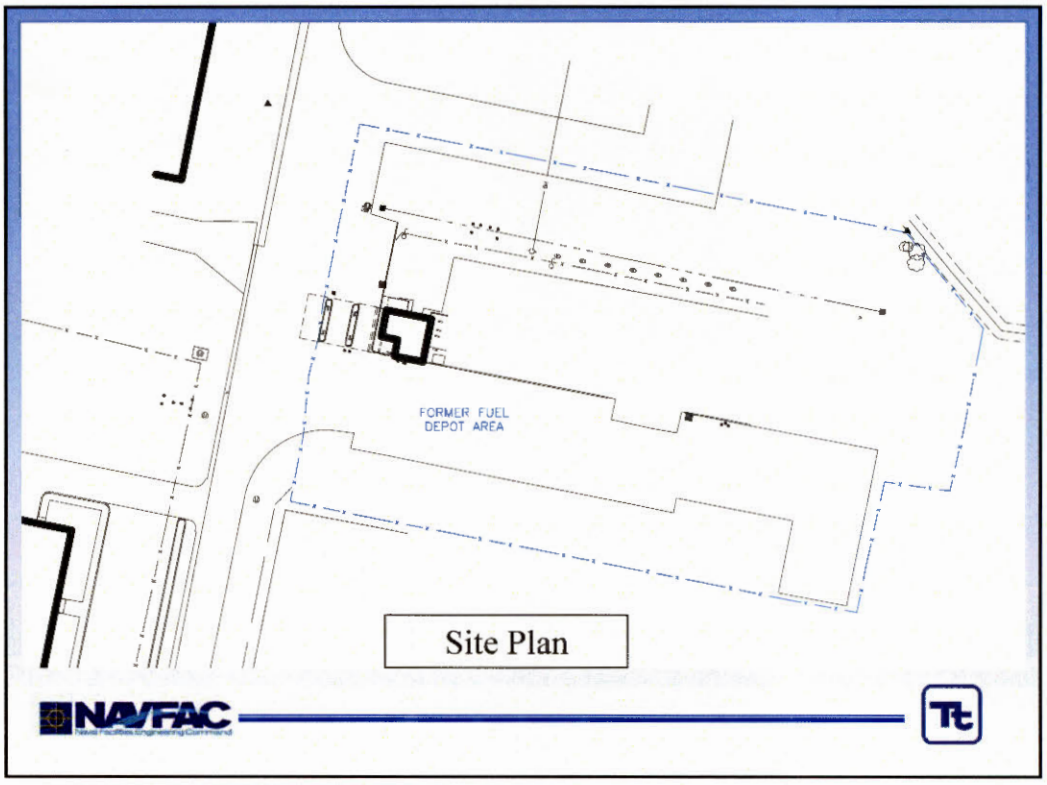
OVERVIEW

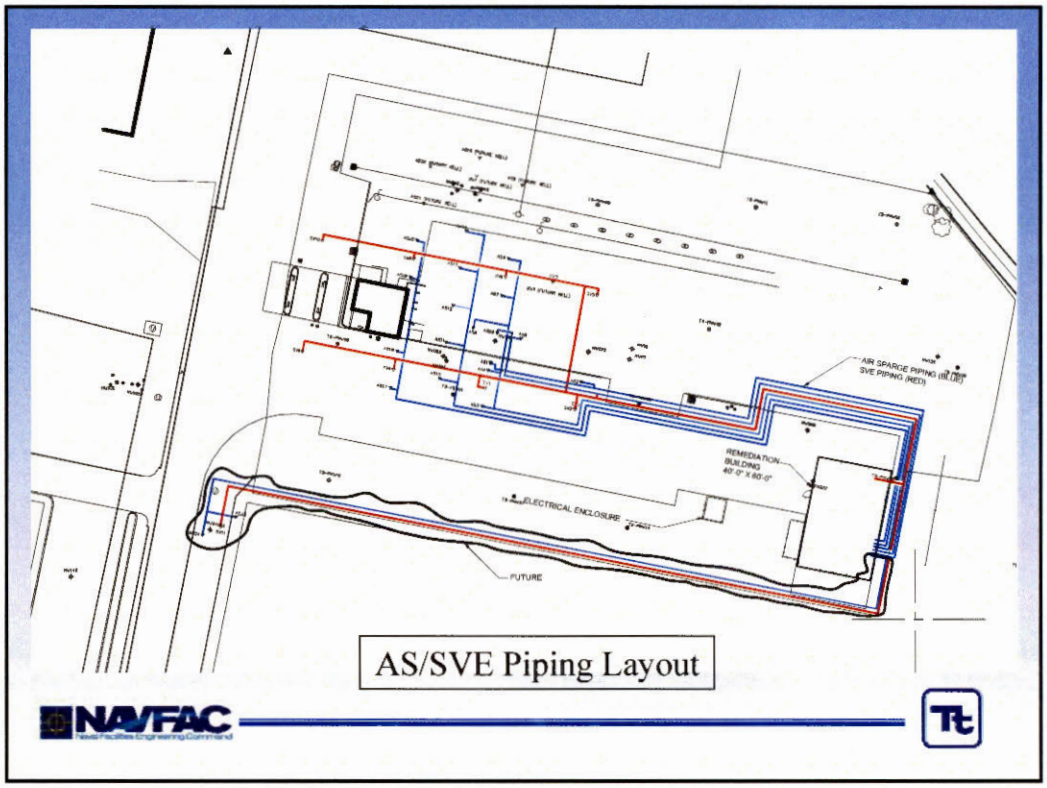
- Contaminants of Concern:
  - Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene & Freon
- Goal:
  - Mass removal of groundwater contaminants
  - Operate & Maintain treatment plant 2-4 years

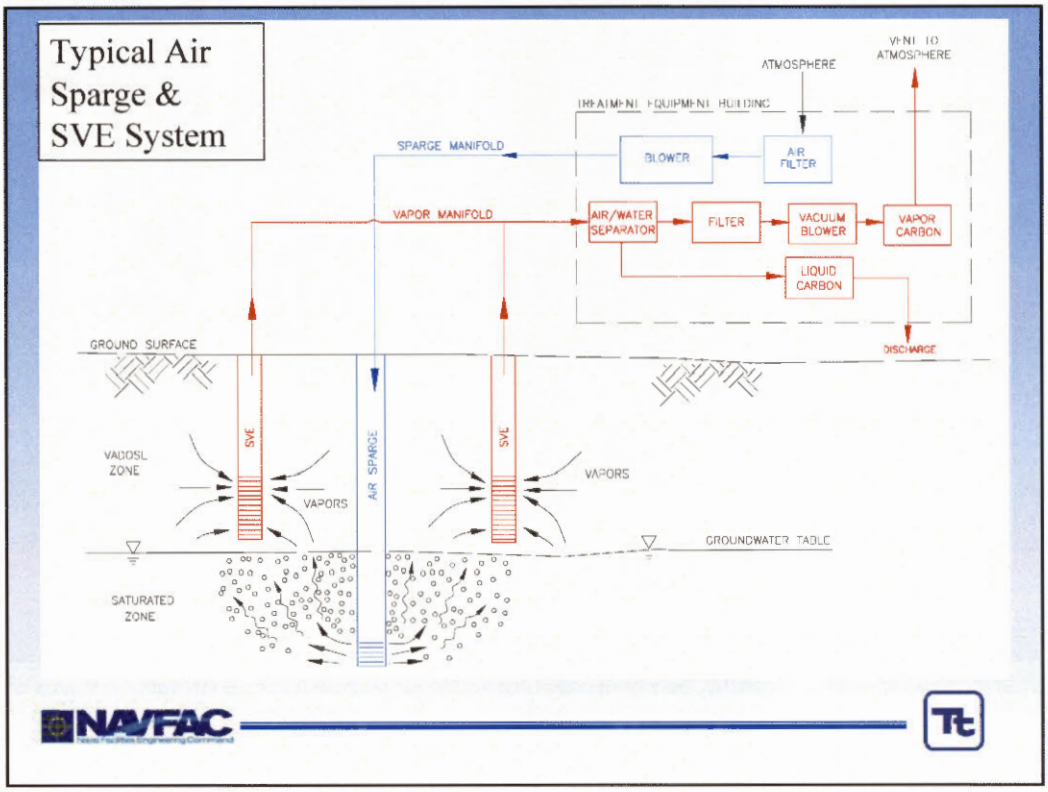
Total VOC Concentrations Over Time

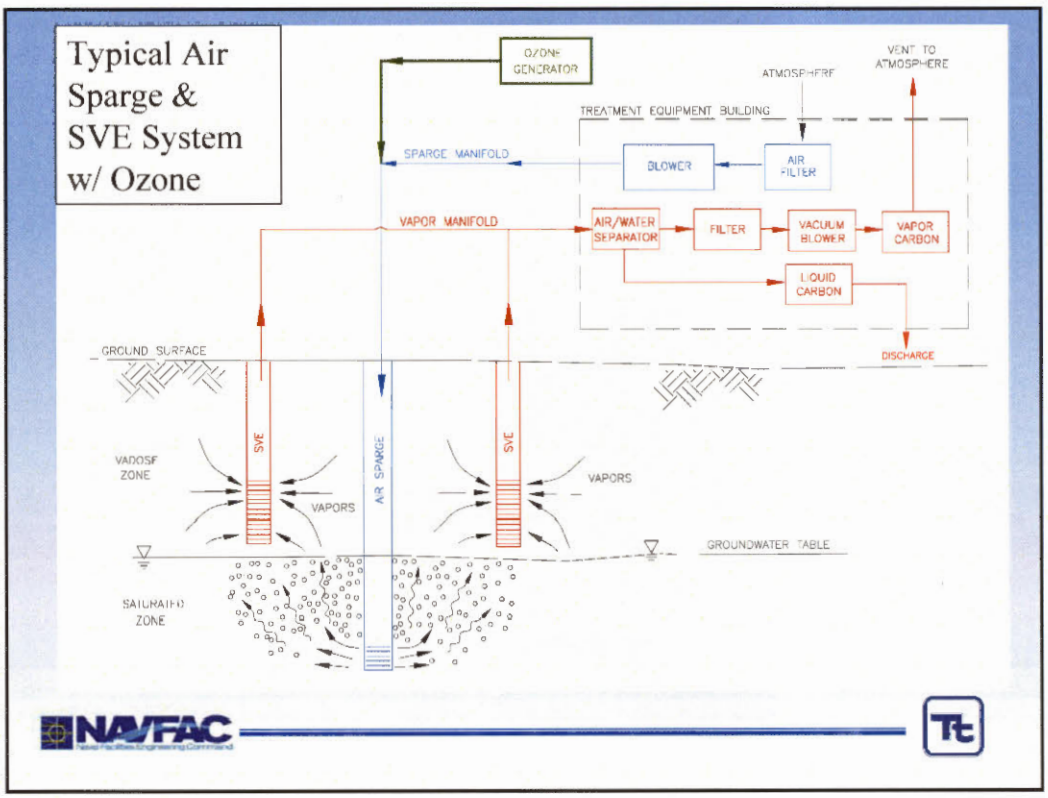


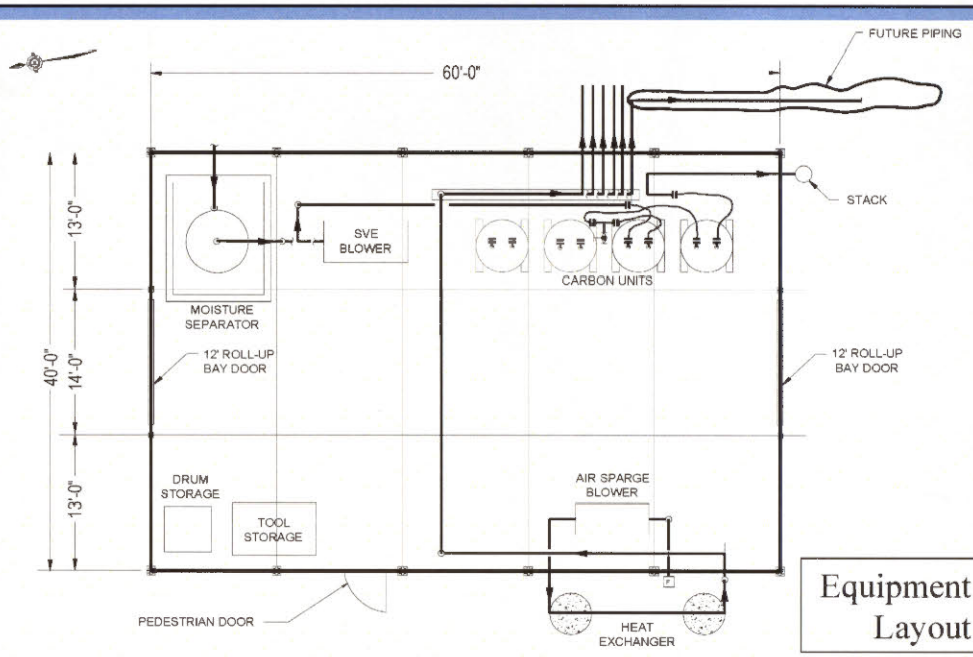
Area Map


FORMER FUEL
DEPOT AREA
Site Plan
NAVFAC


AIR SPARGE PIPING (BLUE)
SVE PIPING (RED)
REMEDIATION
BUILDING
40'-0" X 60'-0"
ELECTRICAL ENCLOSURE
FUTURE
AS/SVE Piping Layout
NAVFAC


Typical Air Sparge & SVE System
VENT TO ATMOSPHERE
ATMOSPHERE
TREATMENT EQUIPMENT BUILDING
SPARGE MANIFOLD
BLOWER
AIR FILTER
VAPOR MANIFOLD
AIR/WATER SEPARATOR
FILTER
VACUUM BLOWER
VAPOR CARBON
LIQUID CARBON
DISCHARGE
GROUND SURFACE
VADOSL ZONE
SVE
AIR SPARGE
VAPORS
GROUNDWATER TABLE
SATURATED ZONE
NAVFAC


Typical Air Sparge & SVE System w/ Ozone
OZONE GENERATOR
VENT TO ATMOSPHERE
ATMOSPHERE
TREATMENT EQUIPMENT BUILDING
SPARGE MANIFOLD
BLOWER
AIR FILTER
VAPOR MANIFOLD
AIR/WATER SEPARATOR
FILTER
VACUUM BLOWER
VAPOR CARBON
LIQUID CARBON
DISCHARGE
GROUND SURFACE
VADOSE ZONE
SVE
AIR SPARGE
VAPORS
GROUNDWATER TABLE
SATURATED ZONE
NAVFAC



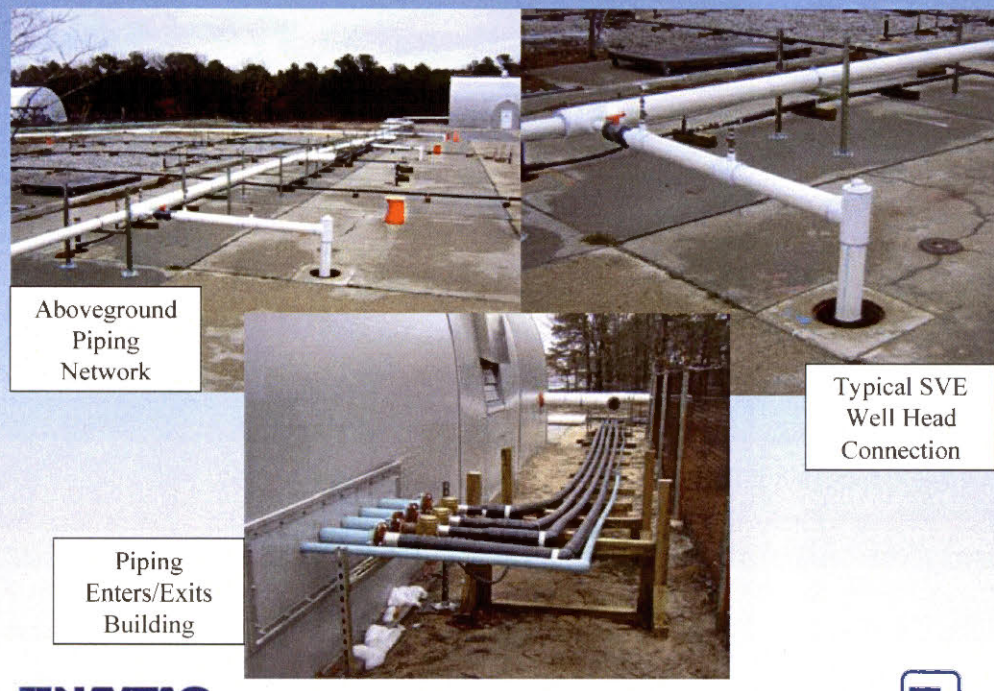
Equipment Layout

Safety Considerations

- Instrumentation
  - Monitor key operating parameters
  - Automatic shut-down
  - Requires manual restart only
  - Autodialer notifies personnel of shut-down
- Locked fence surrounds system and piping

Operation & Maintenance

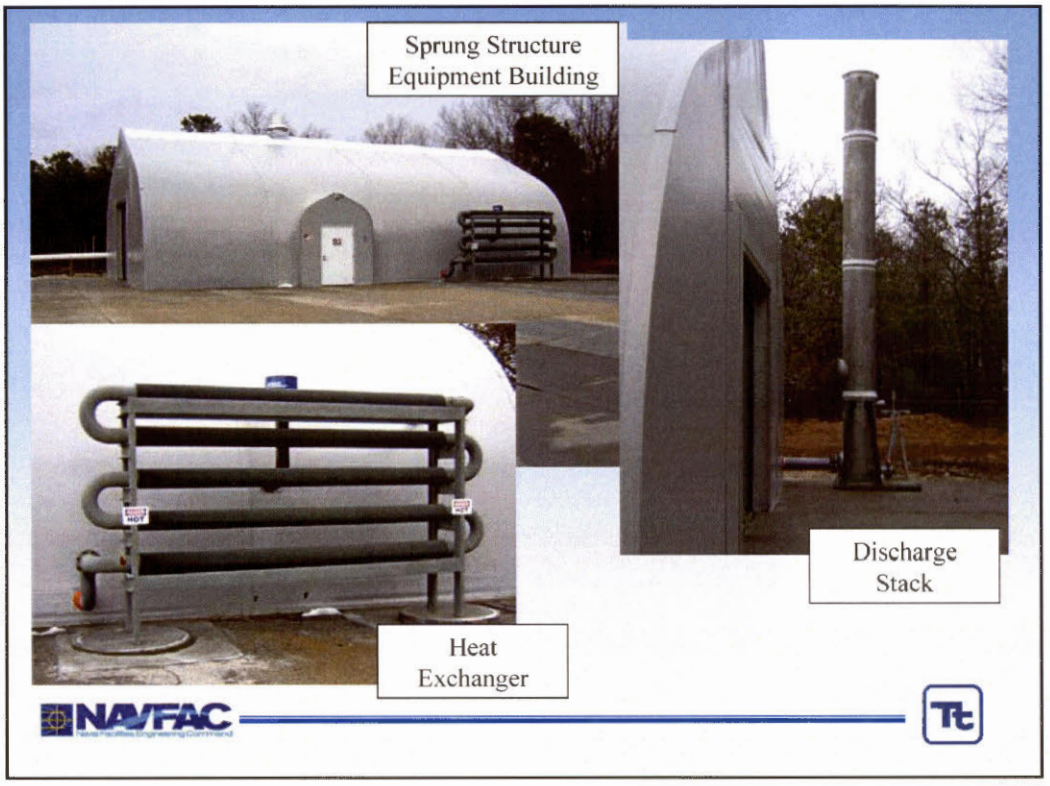
- Operate 24 hours per day
- Trained personnel visits
  - 1-2 days per week during initial 3 months
  - Additional visits as needed

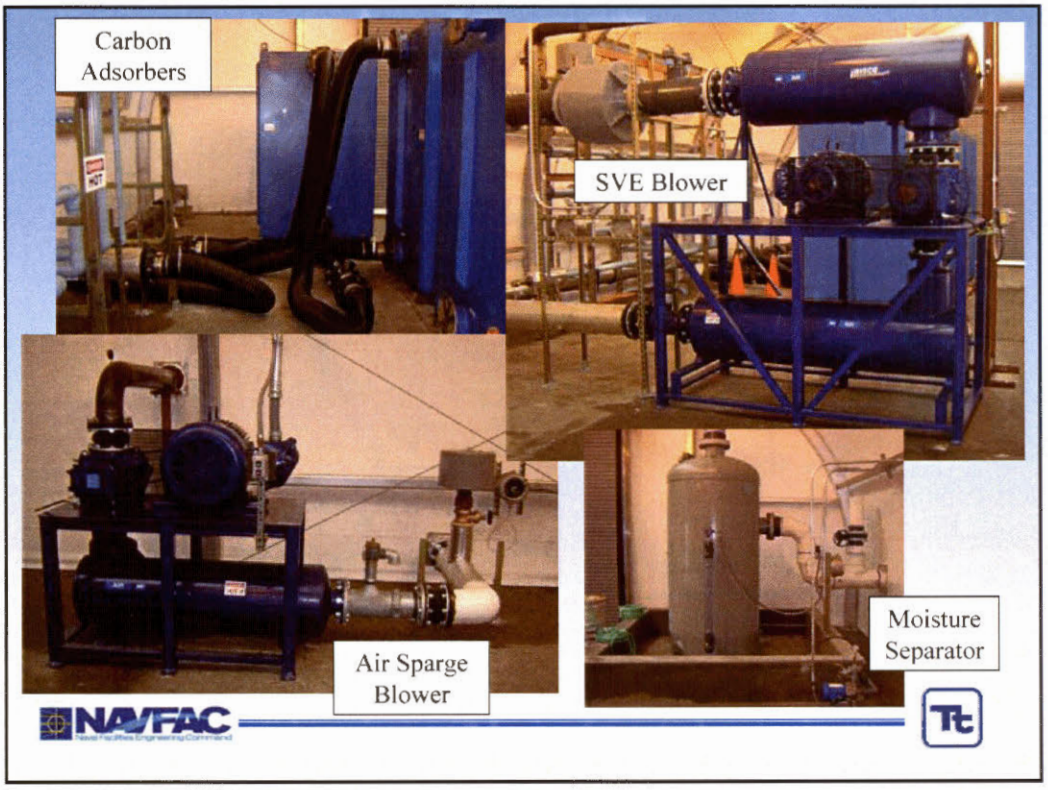


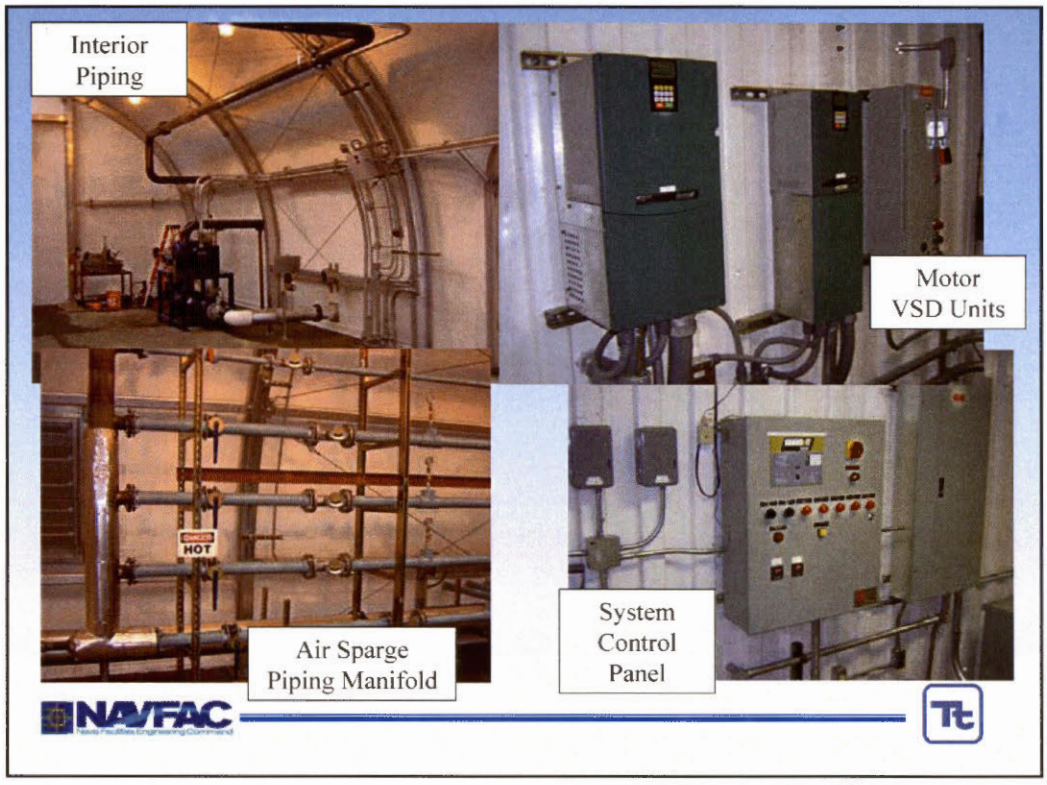
Aboveground Piping Network

Typical SVE Well Head Connection

Piping Enters/Exits Building


Sprung Structure
Equipment Building
Discharge
Stack
Heat
Exchanger
NAVFAC


Carbon
Adsorbers
SVE Blower
Air Sparge
Blower
Moisture
Separator
NAVFAC



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Operation, Maintenance and Monitoring Plan

- Establishes method of operating & tracking progress of system
- Sampling frequency (system & wells)
  - Groundwater and vapor
- Emergency response and troubleshooting

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Operation, Maintenance and Monitoring Plan (cont'd)

- Components:
  - Regulatory requirements
  - System Safety
  - System control and monitoring system
  - Vapor extraction and treatment systems
  - Preventative maintenance

Operation, Maintenance and Monitoring Plan (cont'd)

- Appendices:
  - Final list of equip., instrumentation & valves
  - Recommended spare parts list
  - Maintenance schedule
  - System start-up procedure
  - Record drawings (surveys, process, etc.)

Current Operating Conditions

- All 8 SVE wells on-line
- 8 of 18 Air Sparge wells on-line
- Radius of Influence (ROI)
  - SVE = 70 feet (design = 50 feet)
  - Air Sparge = 40 feet (design = 25 feet)
  - Ozone = 15 feet (design = 10 feet)
- 99% VOC removal at first carbon unit

Current Status

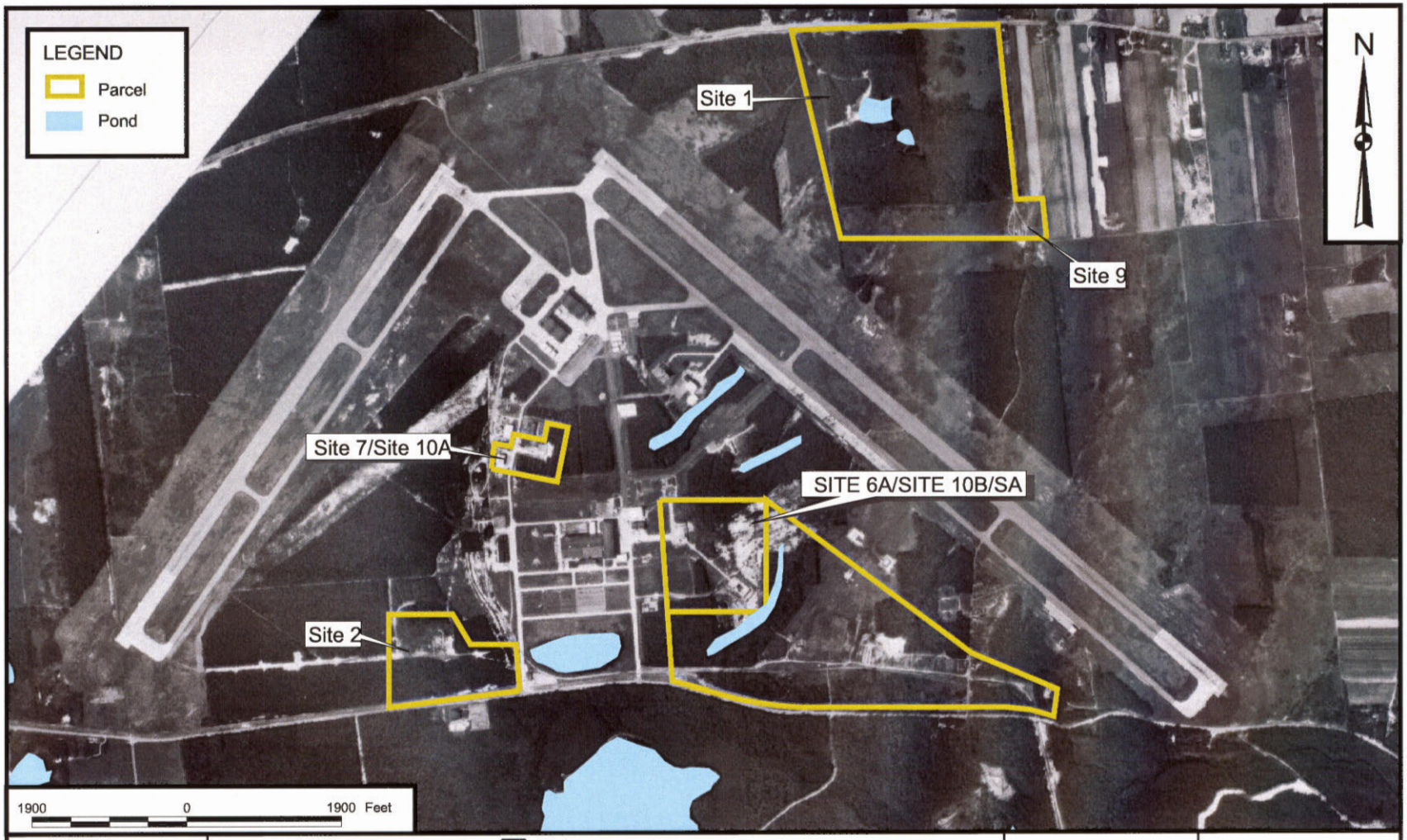
- March 30, 2005 time zero of pilot study
- Evaluate all data at end of 3 months
- Determine system modifications
- Install additional wells as necessary
- Connect new wells to system
- System has additional built-in capacity

Wrap-up

Questions?

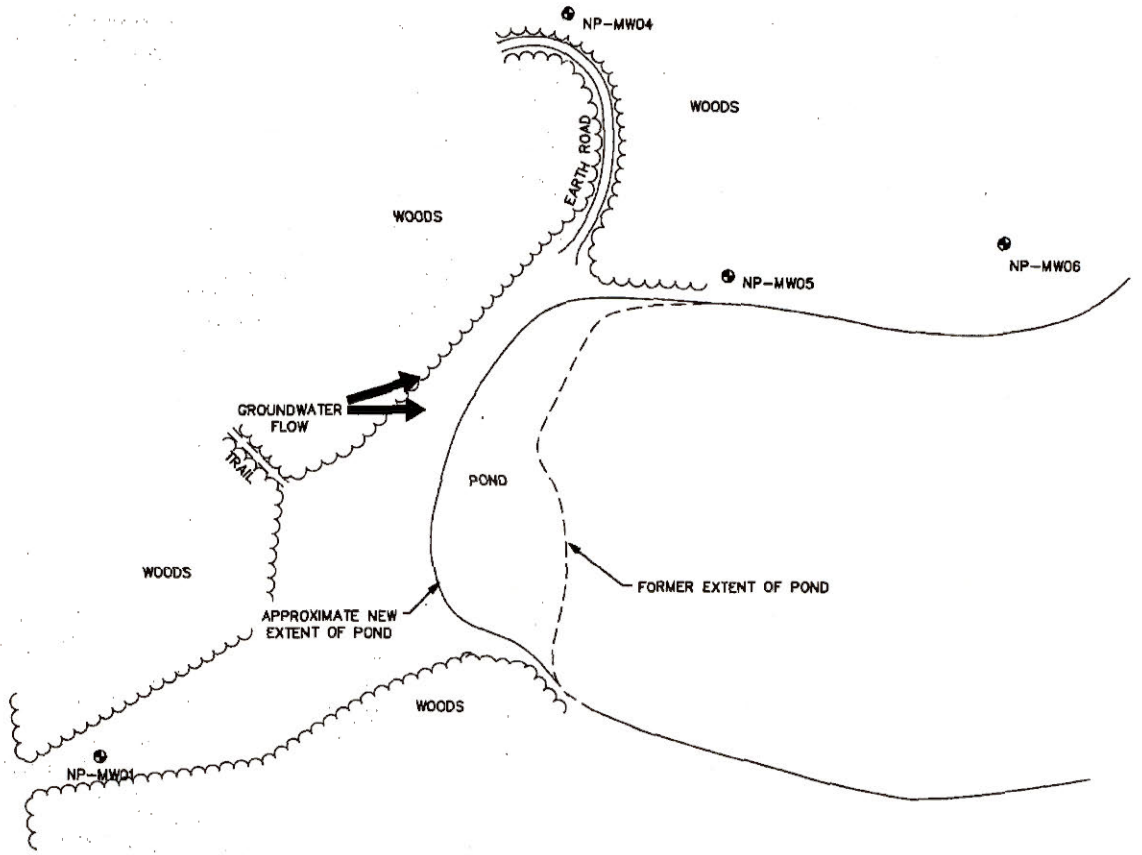
ATTACHMENT 3

SITE 1 - NORTHEAST POND HANDOUTS



DRAWN BY: J. LAMEY	DATE: 11/22/99	Tetra Tech NUS, Inc.	CONTRACT NUMBER: 7398 / OWNER NUMBER: 0270
CHECKED BY: ___	DATE: ___		APPROVED BY: ___ DATE: ___
COST/SCHEDULE-AREA		SITE LOCATION MAP NWIRP CALVERTON, NEW YORK	APPROVED BY: ___ DATE: ___
SCALE: AS NOTED			DRAWING NO.: FIGURE 2 / REV: 0

P:\GIS\NWIRP_CALVERTON\SURFACE_WATER_HYDROLOGY.APR SITE LOCATION MAP 01/04/01 JAL



LEGEND:

MONITORING WELL LOCATION

0 100 200

SCALE IN FEET

REVISIONS	NO.	DATE	BY	CHKD	APPD	REFERENCES

DRAWN BY HJB DATE 4/22/04
CHECKED BY DATE
COST/SCHED—AREA
SCALE AS NOTED

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOCATIONS
SITE 1 — NORTHEAST POND DISPOSAL AREA
NWIRP CALVERTON, NEW YORK

CONTRACT NO. 1610 | OWNER NO. 004
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3 | REV. 0

FORM CADD NO. TtNUS_SH.DGN – REV 0 – 1/20/98

CTO 0004

ATTACHMENT 4

SITE 6A/SOUTHERN AREA HANDOUTS

ACAD:1610QP08.dwg 04/04/05 DM PIT

N

PROPERTY BOUNDARY

RUNWAY 32-14

FUEL CALIBRATION AREA

ENGINE TEST HOUSE

RIVER ROAD

MAIN GATE

SWAN POND

PECONIC RIVER SPORTSMEN CLUB ACCESS ROAD

RIVER ROAD

PECONIC RIVER

RESTRICTED DIRT ROAD

POND

CONNECTICUT AVENUE

LEGEND:

- PROPERTY LINE
- FENCE LINE
- TREELINE
- RAILROAD
- WATER

0 800 1600

GRAPHIC SCALE IN FEET

DRAWN BY DM	DATE 4/4/05	Tetra Tech NUS, Inc.	STUDY AREA SITE 6A AND SOUTHERN AREA NWIRP CALVERTON CALVERTON, NEW YORK
CHECKED BY	DATE		
REVISED BY	DATE		
SCALE AS NOTED			

CONTRACT NO. 1610

OWNER NO. 0004

APPROVED BY DATE

DRAWING NO. FIGURE 1

REV. 0

FORM CADD NO. TTNUS-BH.DWG - REV 1 - 9/10/98

94783012

ACAD:1610CP09.dwg 04/04/05 DM PIT

N

PROPERTY BOUNDARY

FC-PZ-106D2
FC-VPB-112

FC-MW-01-I
FC-MW-01-S

FC-TW-20A

FC-PZ-102D

FC-MW-08-S

FC-MW-04-I
FC-MW-04-S

FC-MW-02-S

FC-PZ-103D

FC-MW-02-I

FC-MW-03-S

FC-PZ-104D
FC-PZ-104D1
FC-PZ-104D2
FC-VPB-111

FC-VPB-110
FC-PZ-02D1
FC-PZ-02D2
FC-PZ-02D

FUEL CALIBRATION AREA

FC-PZ-101D

FC-MW-07-S

FC-TW-09A

FC-TW-21A

FC-MW-06-S

FC-PZ-105D1
FC-PZ-105D2

FC-MW-05-S

FC-MW-05-I

ET-TW-15A

ET-TW-11A

GROUNDWATER FLOW
(SHALLOW & INTERMEDIATE)

ET-TW-7A

ET-TW-03A

ENGINE TEST HOUSE

LEGEND:

- PIEZOMETER LOCATION
- EXISTING PERMANENT MONITORING WELL
- FORMER TEMPORARY WELLS
- PROPERTY LINE
- TREELINE
- RAILROAD
- WATER

NOTE:
PIEZOMETER LOCATIONS ARE APPROXIMATE.

0 200 400
GRAPHIC SCALE IN FEET

DRAWN BY: DM	DATE: 4/4/05
CHECKED BY:	DATE:
REVISED BY:	DATE:
SCALE: AS NOTED	

Tetra Tech NUS, Inc.

SAMPLE LOCATION MAP
SITES 6A - FUEL CALIBRATION AREA
NWIRP CALVERTON
CALVERTON, NEW YORK

CONTRACT NO. 1610	
OWNER NO. 0004	
APPROVED BY	DATE
DRAWING NO. FIGURE 2	REV. 0

ACAD: 1610GT03.dwg 04/04/05 DM PIT

N

FC-VPB-112	(DEPTH – FEET BGS)													
PARAMETER (ug/L)	18	40	60	80	100	120	140	160	180	200	220	240	260	280
BENZENE												5		

PROPERTY BOUNDARY

FC-MW-01-I
FC-MW-01-S
FC-MW-08-S
FC-MW-02-S
FC-MW-04-I
FC-MW-04-S
FC-MW-02-I
FC-MW-03-S
FUEL CALIBRATION AREA
FC-MW-07-S
FC-MW-06-S
FC-MW-05-S
FC-MW-05-I

FC-VPB-111	(DEPTH – FEET BGS)																						
PARAMETER (ug/L)	14	40	60	80	100	120	140	160	180	200	220	240	260	280	290	300	300R	310	320	330	340	350
BENZENE																2.49						
ETHYLBENZENE																105						
TOLUENE																97						
XYLENES																680						

FC-VPB-110	(DEPTH – FEET BGS)														
PARAMETER (ug/L)	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300
1,1,1-TRICHLOROETHANE			0.7												
1,1-DICHLOROETHANE			0.7												
ETHYLBENZENE	1.7		1.2			1.0		0.5							
TOLUENE	1.0		1.2			0.8									
XYLENES	16.2	2.6	10.6	3.2		7.0	2.6	1.3		0.6			2.4	0.8	

GROUNDWATER FLOW (SHALLOW & INTERMEDIATE)

ENGINE TEST HOUSE

LEGEND:

- PIEZOMETER LOCATION
- EXISTING PERMANENT MONITORING WELL
- PROPERTY LINE
- TREELINE
- RAILROAD
- WATER

NOTE:

1. LOCATIONS SHOWN ARE APPROXIMATE.
2. ONLY POSITIVE DETECTIONS ARE PRESENTED.

0 300 600
GRAPHIC SCALE IN FEET

DRAWN BY DM	DATE 4/4/05
CHECKED BY	DATE
REVISED BY	DATE
SCALE AS NOTED	

Tetra Tech NUS, Inc.

SAMPLING RESULTS
SITES 6A - FUEL CALIBRATION AREA
NWIRP CALVERTON
CALVERTON, NEW YORK

CONTRACT NO. 1610	
OWNER NO. 0004	
APPROVED BY	DATE
DRAWING NO. FIGURE 3	REV. 0

FORM CADD NO. TTNUS-BH.DWG - REV 1 - 9/10/98

4/7/2005

ACAD:1610GT04.dwg 04/05/05 DM PIT

N

PROPERTY BOUNDARY

FC-PZ-106D2
FC-VPB-112

FC-MW-01-I
FC-MW-01-S

PARAMETER (ug/L)	FC-MW-102D
VOCs	NO DETECTIONS

FC-PZ-102D

FC-TW-20A

FC-MW-08-S

PARAMETER (ug/L)	FC-MW-08S
VOCs	NO DETECTIONS

PARAMETER (ug/L)	FC-MW-103D
VOCs	NO DETECTIONS

FC-PZ-103D

FC-MW-02-S

FC-MW-04-I

FC-MW-04-S

PARAMETER (ug/L)	FC-MW-04S	FC-MW-04I
VOCs	NO DETECTIONS	

FC-MW-02-I

FC-MW-03-S

	FC-MW-03S
	NO DETECTIONS

FC-VPB-110
FC-PZ-02D1
FC-PZ-02D2
FC-PZ-02D

FUEL CALIBRATION AREA

FC-PZ-104D
FC-PZ-104D1
FC-PZ-104D2
FC-VPB-111

PARAMETER (ug/L)	FC-MW-07S	FC-MW-104D1	FC-PZ-104D2	FC-PZ-104D
VOCs	NO DETECTIONS			

FC-MW-07-S

FC-PZ-101D

FC-TW-09A

	FC-MW-06S
VOCs	NO DETECTIONS

FC-MW-06-S

FC-TW-21A

PARAMETER (ug/L)	FC-MW-101D
VOCs	NO DETECTIONS

FC-PZ-105D1
FC-PZ-105D2

FC-MW-05-S

FC-MW-05-I

PARAMETER (ug/L)	FC-MW-05S	FC-MW-05I
VOCs	NO DETECTIONS	

PARAMETER (ug/L)	FC-MW-02S	FC-MW-02I	FC-PZ-02D1	FC-PZ-02D2	FC-PZ-02D2
CHLOROETHANE	26	NO DETECTIONS			
1-1-DICHLOROETHANE	41				
1,1,1-TRICHLOROETHANE	24				
XYLENE	11				

ET-TW-15A

ET-TW-11A

GROUNDWATER FLOW
(SHALLOW & INTERMEDIATE)

ET-TW-7A

ET-TW-03A

ENGINE TEST HOUSE

LEGEND:

- PIEZOMETER LOCATION
- EXISTING PERMANENT MONITORING WELL
- FORMER TEMPORARY WELLS
- PROPERTY LINE
- TREELINE
- RAILROAD
- WATER

NOTE:
PIEZOMETER LOCATIONS ARE APPROXIMATE.

0 200 400
GRAPHIC SCALE IN FEET

DRAWN BY	DATE
DM	4/4/05
CHECKED BY	DATE
REVISED BY	DATE
SCALE	AS NOTED

Tetra Tech NUS, Inc.

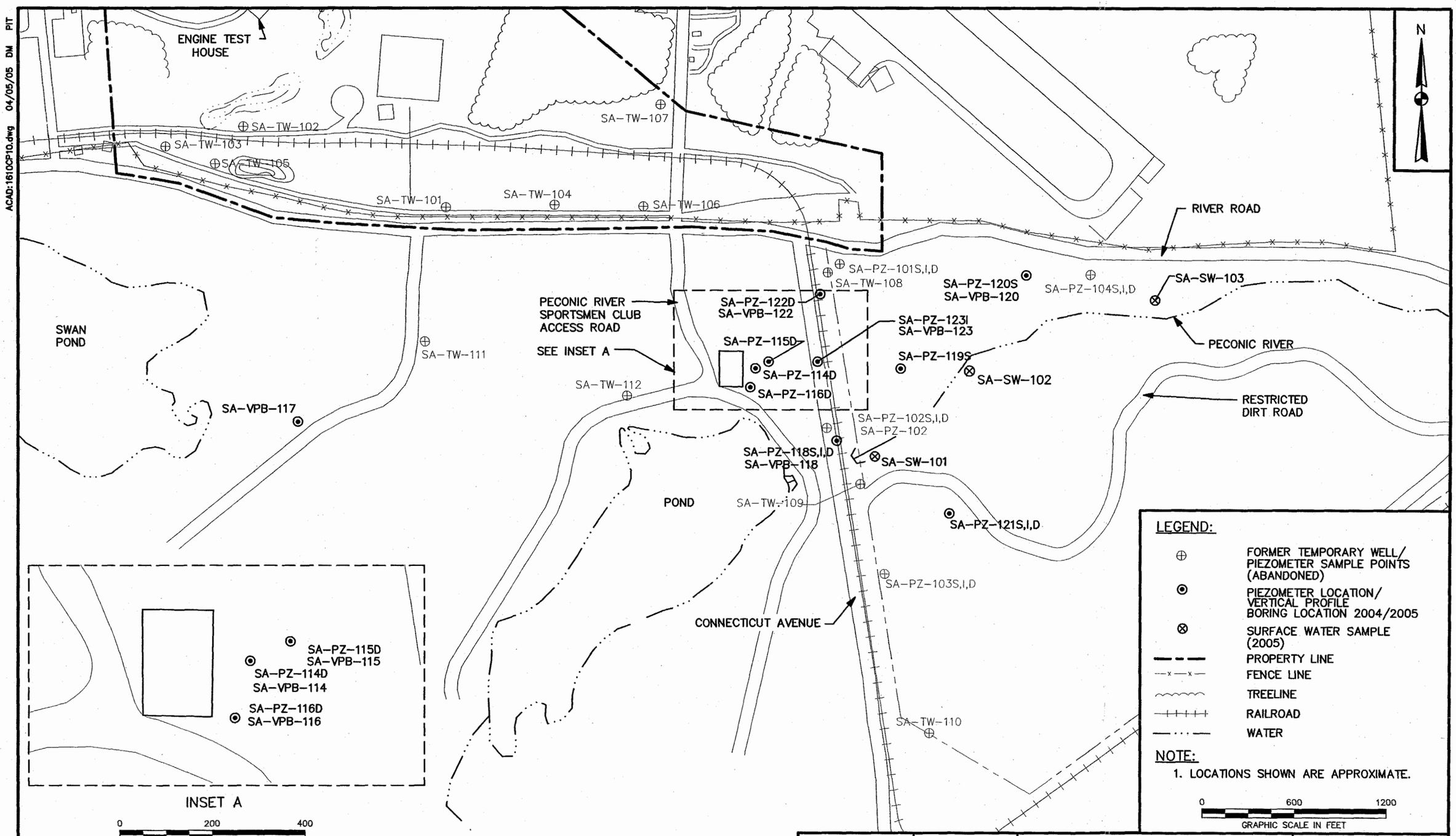
SAMPLING RESULTS
SITES 6A - FUEL CALIBRATION AREA
NWIRP CALVERTON
CALVERTON, NEW YORK

CONTRACT NO.	
1610	
OWNER NO.	
0004	
APPROVED BY	DATE
DRAWING NO.	REV.
FIGURE 4	0

FORM CADD NO. TTNUS-BH.DWG - REV 1 - 9/10/98

947B044

ACAD:1610CP10.dwg 04/05/05 DM PIT



INSET A

0 200 400

GRAPHIC SCALE IN FEET

LEGEND:

- ⊕ FORMER TEMPORARY WELL/ PIEZOMETER SAMPLE POINTS (ABANDONED)
- ⊙ PIEZOMETER LOCATION/ VERTICAL PROFILE BORING LOCATION 2004/2005
- ⊗ SURFACE WATER SAMPLE (2005)
- PROPERTY LINE
- FENCE LINE
- TREELINE
- RAILROAD
- WATER

NOTE:

1. LOCATIONS SHOWN ARE APPROXIMATE.

0 600 1200

GRAPHIC SCALE IN FEET

DRAWN BY DM	DATE 4/4/05	Tetra Tech NUS, Inc.	SAMPLE LOCATION MAP SOUTHERN AREA NWIRP CALVERTON CALVERTON, NEW YORK
CHECKED BY	DATE		
REVISED BY	DATE		
SCALE AS NOTED			

CONTRACT NO. 1610	
OWNER NO. 0000	
APPROVED BY	DATE
DRAWING NO. FIGURE 5	REV. 0

FORM CADD NO. TTNUS-BH.DWG - REV 1 - 9/10/98

9473B027

ACAD:1610GT05.dwg 04/04/05 DM PIT

ENGINE TEST HOUSE

SA-TW-102
SA-TW-103
SA-TW-105
SA-TW-107
SA-TW-101
SA-TW-104
SA-TW-106
SA-TW-108
SA-TW-111
SA-TW-112
SA-TW-109
SA-TW-110

SA-PZ-101S,I,D
SA-PZ-104S,I,D
SA-PZ-120S
SA-PZ-122D
SA-PZ-123I
SA-VPB-123
SA-PZ-115D
SA-PZ-114D
SA-PZ-116D
SA-PZ-119S
SA-PZ-102S,I,D
SA-PZ-102
SA-PZ-118S,I,D
SA-PZ-121S,I,D
SA-PZ-103S,I,D

SA-SW-103
SA-SW-102
SA-SW-101

RIVER ROAD
PECONIC RIVER
RESTRICTED DIRT ROAD
CONNECTICUT AVENUE

PECONIC RIVER SPORTSMEN CLUB ACCESS ROAD

SEE INSET A

SWAN POND

POND

SA-VPB-120 (DEPTH-FT.BGS)

PARAMETER (ug/L)	12	30	50	70
NO DETECTIONS				

SA-VPB-122 (DEPTH – FEET BGS)

PARAMETER (ug/L)	15	30	50	70	90	110	130	150
1,1,1–TRICHLOROETHANE				0.6				
1,1–DICHLOROETHANE				20		0.9		
1,1–DICHLOROETHENE					1.1			

SA-VPB-117 (DEPTH – FEET BGS)

PARAMETER (ug/L)	13	30	50	70
1,1–DICHLOROETHENE			0.6	

SA-VPB-118 (DEPTH-FT.BGS)

PARAMETER (ug/L)	10	30	50	70
NO DETECTIONS				

SA-VPB-123 (DEPTH – FEET BGS)

PARAMETER (ug/L)	15	30	50	70	90	110	130	150
1,1–DICHLOROETHANE				32	13			

SA-VPB-115 (DEPTH – FEET BGS)

PARAMETER (ug/L)	15	32	52	72	92	112	132	152
1,1–DICHLOROETHANE			0.5	0.6	7.0	11.7	5.4	4.5
1,1–DICHLOROETHENE					1.2	3.1	1.4	0.8

SA-VPB-114 (DEPTH – FEET BGS)

PARAMETER (ug/L)	22	32	52	72	92	112	132	152
1,1,1–TRICHLOROETHANE					21.1			
1,1–DICHLOROETHANE				2.0	292			0.9
1,2–DICHLOROETHANE					1.1			
1,4–DICHLOROBENZENE					1.3			
BENZENE					1.4			
CHLOROETHANE					7.9			
CIS–1,2–DICHLOROETHENE					0.6			

SA-VPB-116 (DEPTH – FEET BGS)

PARAMETER (ug/L)	15	32	52	72	92	112	132	152	172	192
1,1,1–TRICHLOROETHANE			1.06	14.8				0.7		
1,1–DICHLOROETHANE			12.5	130.0	1.7		1.5	8.4		
1,1–DICHLOROETHENE			1.21	19.1				1.1		
1,2–DICHLOROETHANE				0.7						
1,4–DICHLOROBENZENE				1.2						
CHLOROETHANE				2.8						
MTBE			7.45							

INSET A

0 200 400
GRAPHIC SCALE IN FEET

N

LEGEND:

- FORMER TEMPORARY WELL/ PIEZOMETER SAMPLE POINTS (ABANDONED)
- PIEZOMETER LOCATION/ VERTICAL PROFILE BORING LOCATION 2004/2005
- SURFACE WATER SAMPLE (2005)
- PROPERTY LINE
- FENCE LINE
- TREELINE
- RAILROAD
- WATER

NOTE:

1. LOCATIONS SHOWN ARE APPROXIMATE.
2. ONLY POSITIVE DETECTIONS ARE PRESENTED.

0 600 1200
GRAPHIC SCALE IN FEET

DRAWN BY DM	DATE 4/4/05
CHECKED BY	DATE
REVISED BY	DATE
SCALE AS NOTED	

Tetra Tech NUS, Inc.

SAMPLING RESULTS
SOUTHERN AREA
NWIRP CALVERTON
CALVERTON, NEW YORK

CONTRACT NO. 1610	
OWNER NO. 0000	
APPROVED BY	DATE
DRAWING NO. FIGURE 6	REV. 0

FORM CADD NO. TTNUS-BH.DWG - REV 1 - 9/10/98

ACAD:1610CP07.dwg 04/01/05 HJB PIT

FC-PZ-106D2
FC-VPB-112
A
FC-MW-02-S
FC-PZ-101D
FC-TW-20A
FC-MW-02-I
FC-PZ-104D1
FC-PZ-104D2
FC-VPB-111
FC-PZ-104D
FC-VPB-110
FC-PZ-02D1
FC-PZ-02D2
FC-PZ-02D
FC-TW-09A
ET-TW-11A
ET-TW-7A
49
50
McKay Lake
44
39
ROAD
Wells Cem
RIVER
CONNECTICUT
SA-VPB-115
SA-PZ-115D
SA-TW-113
SA-PZ-114D
SA-VPB-114
SA-TW-111
SA-VPB-116
SA-PZ-116D
SA-TW-112
SA-PZ-102S,I,D
SA-PZ-102
SA-PZ-118S,I,D
SA-VPB-118
A'
SA-PZ-121S,I,D
Swan Pond
37
ROAD
N

LEGEND:
- PIEZOMETER LOCATION
- EXISTING PERMANENT MONITORING WELL
- FORMER TEMPORARY WELLS
- CULVERT
- CROSS SECTION LOCATION

0 600 1200
GRAPHIC SCALE IN FEET

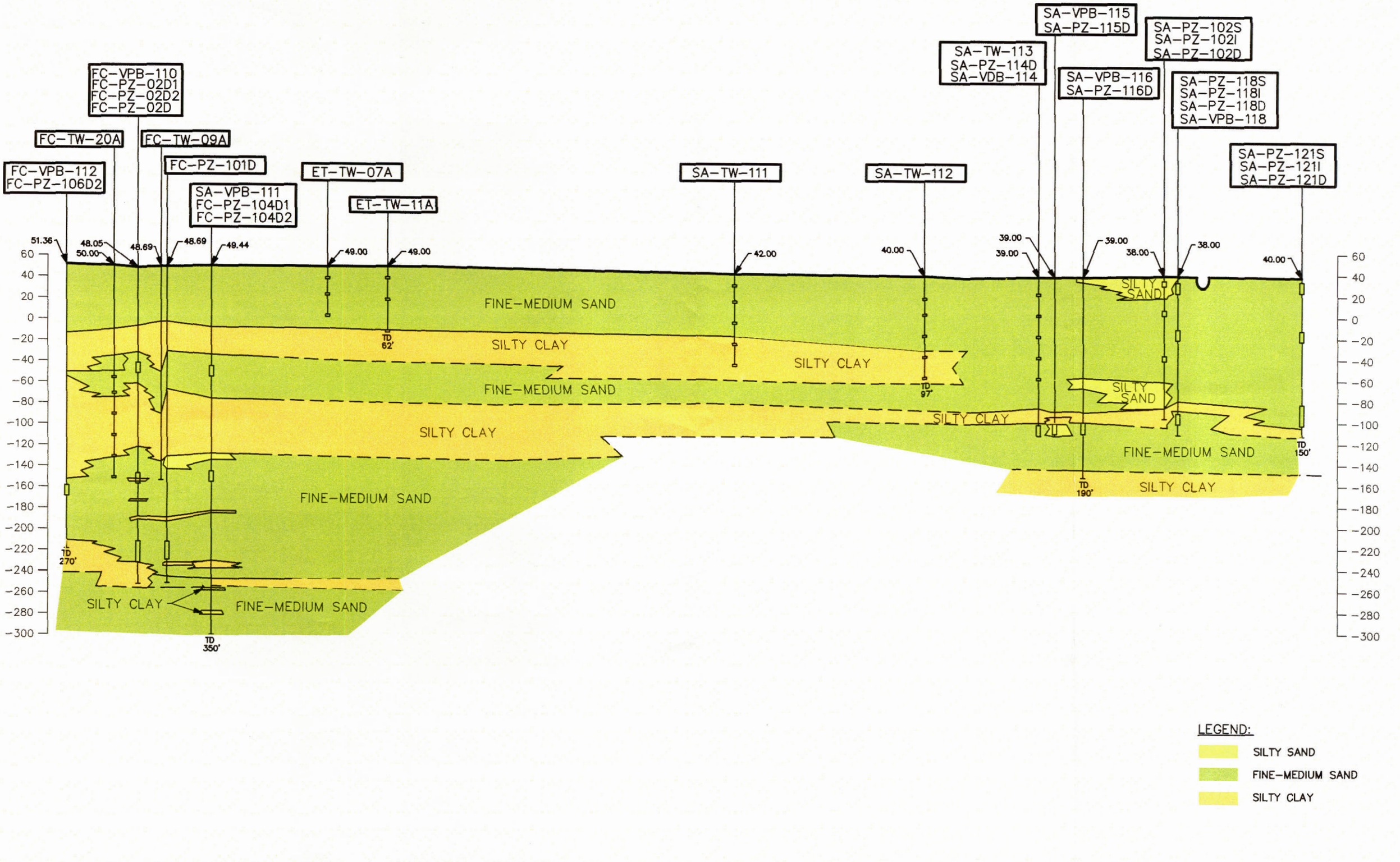
DRAWN BY DM	DATE 3/23/05
CHECKED BY	DATE
REVISED BY	DATE
SCALE AS NOTED	

Tetra Tech NUS, Inc.

GENERALIZED CROSS SECTION PLAN
NWIRP CALVERTON
CALVERTON, NEW YORK

CONTRACT NO. 1610	
OWNER NO. 0000	
APPROVED BY	DATE
DRAWING NO. FIGURE	REV. 0

FORM CADD NO. TTNUS-BH.DWG - REV 1 - 9/10/98


FC-VPB-110
FC-PZ-02D1
FC-PZ-02D2
FC-PZ-02D
FC-TW-20A
FC-TW-09A
FC-VPB-112
FC-PZ-106D2
FC-PZ-101D
SA-VPB-111
FC-PZ-104D1
FC-PZ-104D2
ET-TW-07A
ET-TW-11A
SA-TW-111
SA-TW-112
SA-VPB-115
SA-PZ-115D
SA-TW-113
SA-PZ-114D
SA-VDB-114
SA-PZ-102S
SA-PZ-102I
SA-PZ-102D
SA-VPB-116
SA-PZ-116D
SA-PZ-118S
SA-PZ-118I
SA-PZ-118D
SA-VPB-118
SA-PZ-121S
SA-PZ-121I
SA-PZ-121D
51.36
48.05
50.00
48.69
48.69
49.44
49.00
49.00
42.00
40.00
39.00
39.00
39.00
38.00
38.00
40.00
FINE-MEDIUM SAND
SILTY CLAY
SILTY CLAY
FINE-MEDIUM SAND
SILTY CLAY
FINE-MEDIUM SAND
SILTY CLAY
FINE-MEDIUM SAND
SILTY SAND
SILTY SAND
SILTY CLAY
FINE-MEDIUM SAND
SILTY CLAY
TD 62'
TD 97'
TD 150'
TD 190'
TD 270'
TD 350'
60
40
20
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
-200
-220
-240
-260
-280
-300
LEGEND:
SILTY SAND
FINE-MEDIUM SAND
SILTY CLAY