SOIL AND GROUNDWATER MONITORING REPORT IN SUPPORT OF CLOSED-LOOP BIOREACTOR PILOT-SCALE STUDY for AOC 22/SITE 4 FORMER UNDERGROUND STORAGE TANKS

NWIRP BETHPAGE

Bethpage, New York

Naval Facilities Engineering Command
Mid-Atlantic

Contract No. N62472-03-D-0057
Contract Task Order 002

September 2007

SOIL AND GROUNDWATER REPORT IN SUPPORT OF CLOSED LOOP BIOREACTOR PILOT-SCALE STUDY

for

AOC 22 /SITE 4

FORMER UNDERGROUND STORAGE TANKS

NAVAL FACILITIES ENGINEERING COMMAND
MID-ATLANTIC

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

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ACRONYMS

AOC	Area of Concern
ARAR	Applicable or Relevant and Appropriate Requirements
AS	Air Sparging
bgs	below ground surface
BTU	British Thermal Unit
CLB	Closed-Loop Bioreactor
CTO	Contract Task Order
CLEAN	Comprehensive Long-Term Environmental Action Navy
DRO	Diesel Range Organics
FFS	Focused Feasibility Study
GRO	Gasoline Range Organics
J/UJ	estimated
MCL	maximum contaminant level
mg/kg	milligrams per kilogram
MS/MSD	Matrix Spike/Matrix Spike Duplicate
msl	mean sea level
NWIRP	Naval Weapons Station Reserve Plant
NYSDEC	New York State Department of Conservation
NYSDOH	New York State Department of Health
NTU	Nephelometric Turbidity Unit
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PID	Photoionization Detector
ppm	parts per million
PRG	Preliminary Remediation Goal
PVC	polyvinyl chloride
QC	Quality Control
R	unusable
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
STARS	Spill Technology and Remediation Series
SVOC	semi volatile organic compound
TAGM	Technical and Administrative Guidance Memorandum
TCE	Trichloroethene
TPH	Total Petroleum Hydrocarbons
TtNUS	Tetra Tech NUS, Inc.

ACRONYMS (continued)

µg/kg	micrograms per kilogram
µg/L	micrograms per liter
UST	underground storage tank
VE	Vapor Extraction
VOC	volatile organic compound

EXECUTIVE SUMMARY

Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage was a government-owned contractor-operated facility located in Bethpage, New York. The facility was constructed in the early 1940s and operated by Northrop Grumman Corporation until the late 1990s. Until the late 1990s, the facility was approximately 109.5 acres in size. In 2002, 4.5 acres of the property were transferred to Nassau County. The Navy is in the process of transferring an additional 96 acres of the property, but will retain approximately 9 acres of the facility to complete environmental investigation and remediation. Area of Concern (AOC) 22 is on the 9-acre parcel being retained by the Navy. AOC 22 is also known as Site 4 under the Navy's Installation Restoration Program.

Environmental concerns at AOC 22 were first identified during a 1997 investigation by Northrop Grumman investigation of underground storage tanks (USTs) near Plant No. 3. The USTs reportedly contained No. 6 Fuel Oil and were removed sometime between 1980 and 1984.

A Resource Conservation and Recovery Act (RCRA) Facility Assessment field investigation was conducted in 1999 to define the nature and extent of contamination, determine the presence of free product, and evaluate whether groundwater had been impacted by site related contamination. This investigation found that the petroleum contamination at the site was predominately at a depth below the former USTs (10 to 20 feet) and extended to the water table at approximately 50 feet. The estimated areal extent of contamination was approximately 0.3 acres.

The soil contaminants were polynuclear aromatic hydrocarbons (PAHs), which are associated with heavy fuel oils. Several PAHs exceeded New York State cleanup objectives for unrestricted use of the site through direct human exposure and/or protection of groundwater through leaching.

Floating fee product, at a maximum thickness of ¼ inch was observed in two wells underneath the former USTs. Surrounding wells did not contain free product. Based on field tests, it was concluded that free product recovery was not viable at the site. Factors limiting recovery were the relatively thin layer of product present (1/4 inch) and the relatively high viscosity of the material (No. 6 fuel oil).

Site-related groundwater contamination was limited and consisted of benzene (17 micrograms per liter [µg/L]), ethyl benzene (18 µg/L), xylenes (7.6 µg/L), and naphthalene (20 µg/L) in two source area wells at concentrations greater than New York State drinking water standard maximum contaminant levels (MCLs). Except for benzene (4.1 µg/L) in one down gradient well, there was no evidence of migration of these organics beyond the source area. In addition, chlorinated solvents (e.g., trichloroethene [TCE] at 95 µg/L) were identified at the site. These chlorinated solvents are a regional groundwater concern and

are being addressed through groundwater use restrictions and groundwater containment through a separate groundwater program.

In 2003, a Focused Feasibility Study (FFS) was prepared that evaluated several alternatives including capping (cover) with deed restrictions, groundwater monitoring, excavation/off site disposal, and in-situ treatment options of bioremediation, chemical oxidation, and thermally enhanced soil vapor extraction. The recommended alternative was a cap with deed restrictions on subsurface excavation and groundwater monitoring to evaluate potential site impacts on groundwater. Residual petroleum at the site would be slowly addressed through natural processes.

Capping and deed restrictions would be used to prevent direct human exposure to deep soil contamination and restrict future use of site groundwater. Groundwater monitoring would evaluate the natural breakdown of the petroleum and potential effects on groundwater. Excavation and off site disposal would remove the petroleum contaminated soils from the site, but because of the depth of contamination, would be very costly. The in-situ treatment options were determined to be less costly, but the effectiveness in addressing site contaminants was uncertain.

The Navy decided to proceed with a pilot-scale in-situ bioremediation study at the site. The pilot-scale bioremediation study was conducted by a vendor using an innovative technology that combined in-situ and ex-situ bioremediation, Fentons reagent, and soil washing. This technology is referred to as a Closed-Loop Bioreactor (CLB) System. The system features no discharge of soil vapors and adds pure oxygen for biodegradation. The system operated from the fall of 2004 to the spring of 2006.

This monitoring report presents the available data collected before, during, and after the CLB System operation. The majority of the soil data for evaluation of the pilot-scale study was collected by the CLB System vendor and is included as available. During each sample round, twenty soil samples were collected and analyzed for total petroleum hydrocarbons (TPH). These samples were collected from four borings at five depths from 20 to 60 feet below ground surface (bgs). During these rounds, Tetra Tech NUS, Inc (TtNUS) conducted split soil sampling with the CLB System vendor (20 percent of total samples) and analyzed the samples for TPH and PAHs.

TtNUS conducted a complete post-operation soil sampling event in December 2006 and also conducted four rounds of groundwater sampling before, during, and after system operation to evaluate potential effects of the system operation on the groundwater. The soil samples were analyzed for TPH and select samples were analyzed for PAHs. The groundwater samples were analyzed for volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), and metals.

The goal of the CLB System was to biodegrade petroleum hydrocarbons; and therefore degrade the PAHs, which are a constituent of the TPH. The mean TPH concentration before the CLB study was implemented (August 2004) was 8,820 milligrams per kilogram (mg/kg). The mean TPH concentration after the system was complete (December 2006) was 7,350 mg/kg, which corresponds to a 16.6 percent overall reduction. The CLB System had been expected to remove 90 percent of the TPH in approximately one year of operation.

Conclusions and recommendation developed during from this testing are as follows.

- Operation of the CLB System pilot-scale study resulted in an overall 16.6 percent reduction in petroleum at the site during approximately 1.5 years of operation. Ninety percent reduction in one year of operation had been expected. As a result, full scale implementation of this technology at this site is not recommended.

- The concentration of TPH remaining in soil at the site ranges from 14 mg/kg in relatively shallow soils (20 feet bgs) to 36,000 mg/kg at a depth near and below the water table (50 feet). The vertical extent of residual TPH contamination is mostly contained in the 50 and 60-foot depth intervals.

The horizontal extent of TPH contamination includes soil borings SB-101 to SB-104, which are located immediately adjacent to the former UST area, and potentially SB-105 and SB-106, which are located 25 to 30 feet from the former UST area. Soil borings SB-107 and SB-108 are located at a similar distance, but had minimal or no detections. The current estimated area of soil contamination is consistent with the findings from the 1999 soil investigation.

- Free product is present in soil at depth intervals of 50 to 60 feet in soil borings SB-101, SB-102, and SB-103 and in monitoring wells MW-01 and MW-02. This free product in not fluid and has the consistency of tar.

- Soil concentrations exceed the New York State Department of Environmental Conservation (NYSDEC) Technical Administrative Guidance Memorandum (TAGM) #4046 criteria. TAGM 4046 provides separate criteria for direct contact human health risks and protection of groundwater. Residual soil contamination at the site, consisting of PAHs, is primarily at a depth of 50 to 70 feet below ground surface. Most of the PAH exceedences identified are associated with a direct contract human health risk scenario. Only chrysene, in 3 of 12 samples, was detected at a concentration exceeding the TAGM 4046 criteria for protection of groundwater. The maximum detected chrysene concentration was 1,200 micrograms per kilogram (µg/kg) versus a TAGM 4046 criteria of 400 µg/kg.

On the average, the chrysene concentration was less than the TAGM 4046 criteria, indicating that wide-spread significant impact to groundwater from the residual PAHs would not be anticipated.

- Groundwater concentrations exceed NYSDEC groundwater standards for TCE and several metals including iron, manganese, and cadmium in the up gradient and/or down gradient monitoring wells. With the exception of monitoring well MW-06, there was not a significant change in groundwater quality at the site during the CLB pilot-scale study. Iron and manganese concentrations in monitoring well MW-06 increased steadily during the test and an overall increased of a factor of 220 and 130, respectively.

1.0 INTRODUCTION

This soil and groundwater monitoring report has been prepared for the Navy under Contract Task Order (CTO) 002 by the Naval Facilities Engineering Command Mid-Atlantic under the Comprehensive Long-Term Environmental Action Navy (CLEAN) contract number N62472-03-D-0057. The monitoring report addresses Area of Concern (AOC) 22, Former Underground Storage Tanks (USTs), also known as Site 4, at the Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage located in Bethpage, Long Island, New York. The monitoring activities were conducted in accordance with the Tetra Tech NUS, Inc. (TtNUS) letter work plan.

1.1 SCOPE AND OBJECTIVES

The work is being conducted to evaluate the effectiveness of a Closed-Loop Bioreactor (CLB) pilot-scale bioremediation study at the site and to document the post-treatment conditions of soil and groundwater at the site. The primary site contaminant is No. 6 Fuel Oil. Based on previous testing at the site, limited quantities of diesel fuel may also be present. Groundwater in the area is also contaminated with low concentrations (less than 100 [micrograms per liter] µg/L) of chlorinated solvents that are a regional issue.

A CLB System was constructed and operated at the site by the CLB System vendor from the fall of 2004 to the spring of 2006, at which time the system was shut-down (Arusi/Locus, 2004). The CLB system consisted of injecting iron, peroxide, soil vapor, oxygen, surfactant, and biomass into the soil and extracting soil vapor. An ex-situ bioreactor was used to treat the extracted vapors, prior to re-injection (Appendix A).

The goals of the investigation were to:

- Determine the amount of petroleum hydrocarbons remaining in the soil.
- Determine the presence of free product, and if present, the areal extent and thickness of the free product.
- Determine whether the treatment has caused soil contaminants to dissolve and migrate to the groundwater.
- Determine the effectiveness of the CLB system in remediation of the soil.

- Determine if soil and groundwater concentrations exceed New York State Department of Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) #4046 criteria and Groundwater Standards for protection of human health (NYSDEC, 1994).

1.2 PLAN ORGANIZATION

This report presents a review of historical and current information and analytical data pertinent to AOC 22 and presents a technical evaluation of that data. Section 1.0 provides the introduction and the scope and objectives of the report. Section 2.0 provides a summary of the facility background and environmental investigations. Section 3.0 presents a discussion of the field activities conducted at AOC 22. Section 4.0 discusses the historical data, presents the results of recent field activities, evaluates the nature and extent of contamination, and assesses whether contamination in the soil or groundwater exceed NYSDEC screening levels. Section 5.0 discusses the conclusions and recommendations.

2.0 SITE BACKGROUND AND HISTORY

2.1 FACILITY/ SITE DESCRIPTION AND HISTORY

The NWIRP Bethpage is located on Long Island, New York (Figure 2-1). It is located on a relatively flat, featureless, glacial outwash plain. The site and nearby vicinity are highly urbanized. Because of this, most of the natural physical features have been reshaped or destroyed. The topography of the activity is relatively flat with a gentle slope toward the south. Elevations range from greater than 140 feet above mean sea level (msl) in the north to less than 110 feet above msl at the southwest corner. The NWIRP is about 108 acres in size. The dominant features at the NWIRP Bethpage are Plant No. 3, (the manufacturing plant) and three groundwater recharge basins. AOC 22 is located south of Plant No. 3 between Plant No. 3 and the GAC Building. See the site location map in Figure 2-2.

2.2 ENVIRONMENTAL INVESTIGATION HISTORY

Environmental concerns for this area are based on a Northrop Grumman investigation of USTs near Plant No. 3. The USTs were reportedly removed sometime between 1980 and 1984.

In 1997, Northrop Grumman conducted a soil investigation at the former UST location (AOC 22). During this investigation soil borings were installed around and under the former tanks. Approximately 144 soil samples were collected in 8 areas from depth of 8 to 65 feet below ground surface (bgs). This range represents soils from the bottom of the former USTs to the approximate water table. The samples were analyzed for Total Petroleum Hydrocarbons (TPH), petroleum-based volatile organic compounds (VOCs) and semi volatile organic compounds (SVOCs) in accordance with the NYSDEC Spill Technology and Remediation Series (STARS) Memorandum No.1 - Petroleum-Contaminated Soil Guidance Policy (August 1992) (NYSDEC, 1992).

VOCs were detected infrequently in the soil samples, and none of the detected results exceeded STARS Memorandum Guidance Values (Table 2 of the guidance). SVOCs were detected more frequently and approximately 23 percent of the soil samples had one or more STARS Memorandum SVOC parameters (polynuclear aromatic hydrocarbons [PAHs]) at a concentration greater than the STARS Memorandum Guidance Values. STARS Memorandum Guidance Value exceedances were noted in all of the soil boring locations including most sample depths from shallow soils (8 feet bgs) to deeper soils near the water table. However, the maximum SVOC concentration detected that exceeded a STARS Memorandum criteria was only 4.3 milligrams per kilogram (mg/kg), indicating that although petroleum hydrocarbons are wide spread, concentrations are relatively low.

TPH testing was conducted to evaluate potential fuel oil contamination. This testing found petroleum in soils at concentrations up to 18,000 mg/kg and at depths near the water table. The petroleum hydrocarbons were of the diesel range organics (DRO) that are consistent with No. 4 and No. 6 fuel oils reportedly used at this location.

In August 1999, TtNUS conducted an additional investigation at AOC 22 (TtNUS, 2003). The purpose of the investigation was to further characterize the horizontal extent of contamination in subsurface soils, to determine if groundwater had been impacted, to determine if free product was present, and to characterize the free product for recovery and disposal purposes.

Soil borings were installed at AOC 22 and samples were collected for TPH-DRO and TPH-GRO (Gasoline Range Organics) analysis. Three samples were analyzed for VOCs and SVOCs. Based on field observations during this investigation, petroleum-contaminated soils were observed from 20 feet bgs to the water table at the area within 5 to 10 feet of the former USTs. At a distance of approximately 10 to 40 feet from the former UST area, petroleum-contaminated soils were only observed at the water table. At distances greater than 60 feet, there was no evidence of petroleum-contaminated soils.

Five permanent monitoring wells were installed during the 1999 investigation (Figure 2-3). Two of the wells (MW-01 and MW-02) were installed at close proximity to the presumed source area in soil borings that showed evidence of free product. Two monitoring wells (MW-03 and MW-04) were installed at the perimeter of the AOC where limited free product was evident. One monitoring well (MW-05) was installed inside Plant No. 3 in order to determine if free product or groundwater contamination existed beneath the plant.

Evidence of free product was observed in MW-01 and MW-02 at a maximum thickness of 0.02 feet. Because of the limited volume of free product, two composite samples of free product were collected and analyzed for VOCs, SVOCs, polychlorinated biphenyls (PCBs), pesticides, Resource Conservation and Recovery Act (RCRA) metals, flash point, British Thermal Units (BTUs), and chloride.

Results from the 1999 investigation concluded that there was no VOC contamination in the soil. The SVOCs detected were PAHs which are constituents of DRO. The results were compared to NYSDEC TAGM criteria. The only PAH which exceeded TAGM criteria was chrysene. TPH-DRO and TPH-GRO contamination was present in samples collected in close proximity to the former UST area. Samples taken from a distance of 60 feet or more from the former UST area displayed no contamination, therefore it was determined that there was limited horizontal extent of soil contamination. In groundwater, chlorinated hydrocarbon contamination was present in up gradient wells MW-03 and MW-05 which indicated that the presence of these chemicals may be from a source further up gradient and not site-

related. Wells MW-01 and MW-02, down gradient of the former USTs, contained the highest concentrations of aromatic VOCs and PAHs. Concentrations of benzene, ethylbenzene, xylenes, and naphthalene were detected in excess of the NYSDEC groundwater criteria. It was concluded that the absence of these chemicals in the up gradient wells indicates that the fuel product from the source area may have impacted groundwater; however, based on the concentrations, the impact was minor. Results from the free product analyses indicated the present product was characteristic of weathered heavy fuel oils and was not classified as hazardous.

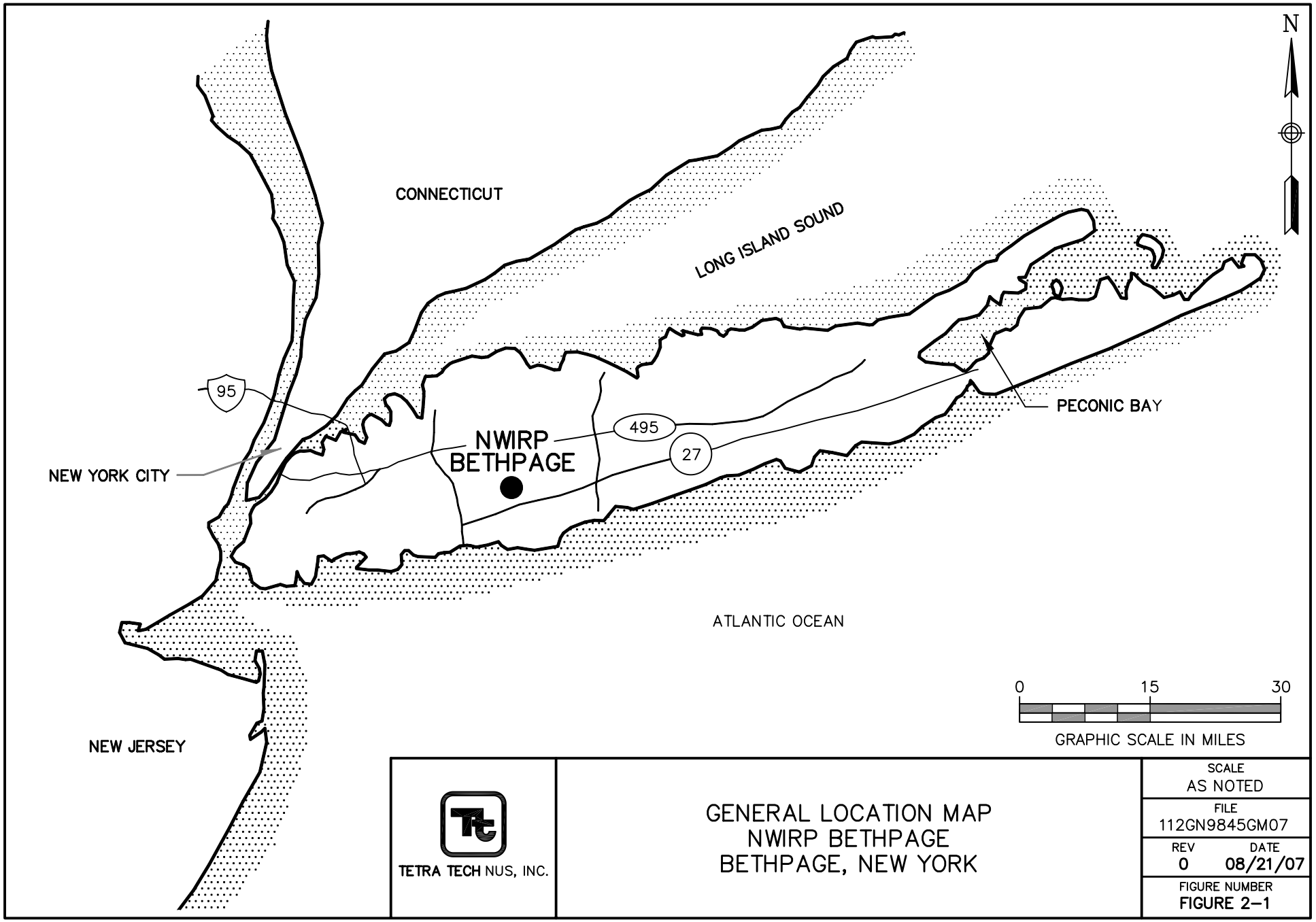
Based on conclusions from the 1999 investigation, contaminated soil and groundwater needed to be addressed in order to prevent human exposure to soil and groundwater contaminants that exceed Preliminary Remediation Goals (PRGs), to prevent leaching of contaminants from soil to groundwater that would exceed groundwater PRGs, to prevent further migration of contaminants originating from AOC 22, and to comply with appropriate Applicable or Relevant and Appropriate Requirements (ARARs).

In 2003, a Focused Feasibility Study (FFS) was prepared that evaluated several alternatives including capping (cover) with deed restrictions, groundwater monitoring, excavation/off site disposal, and in-situ treatment options of bioremediation, chemical oxidation, and thermally enhanced soil vapor extraction. The recommended alternative was a cap with deed restrictions on subsurface excavation and groundwater monitoring to evaluate potential site impacts on groundwater. Residual petroleum at the site would be slowly addressed through natural processes, including biodegradation. Capping and deed restrictions would be used to prevent direct human exposure to deep soil contamination and restrict future use of site groundwater. Groundwater monitoring would evaluate the natural breakdown of the petroleum and potential effects on groundwater.

The Navy decided to proceed with a pilot-scale in-situ bioremediation study at the site. A CLB pilot-scale system study was conducted by a vendor using an innovative technology that combined in-situ and ex-situ bioremediation, Fentons reagent, and soil washing. This technology is referred to as the CLB System. The CLB system features no discharge of soil vapors and adds pure oxygen for biodegradation.

In the summer of 2004, the remedy of a CLB pilot-scale study was implemented on site. The CLB system vendor combined vapor extraction (VE), air sparging (AS), vacuum enhanced product recovery, desorption of hydrocarbons from soil particles, and enhanced bio-degradation via surfactant injection. The in-situ CLB System was located in the vadose and saturated soil zone. Air from the groundwater sparge points to vadose injection and vacuum extraction wells was continuously circulated, creating a closed-loop system. Baseline soil and groundwater samples were collected before the system was initiated. To monitor the progress of the remedial program, soil and groundwater samples were

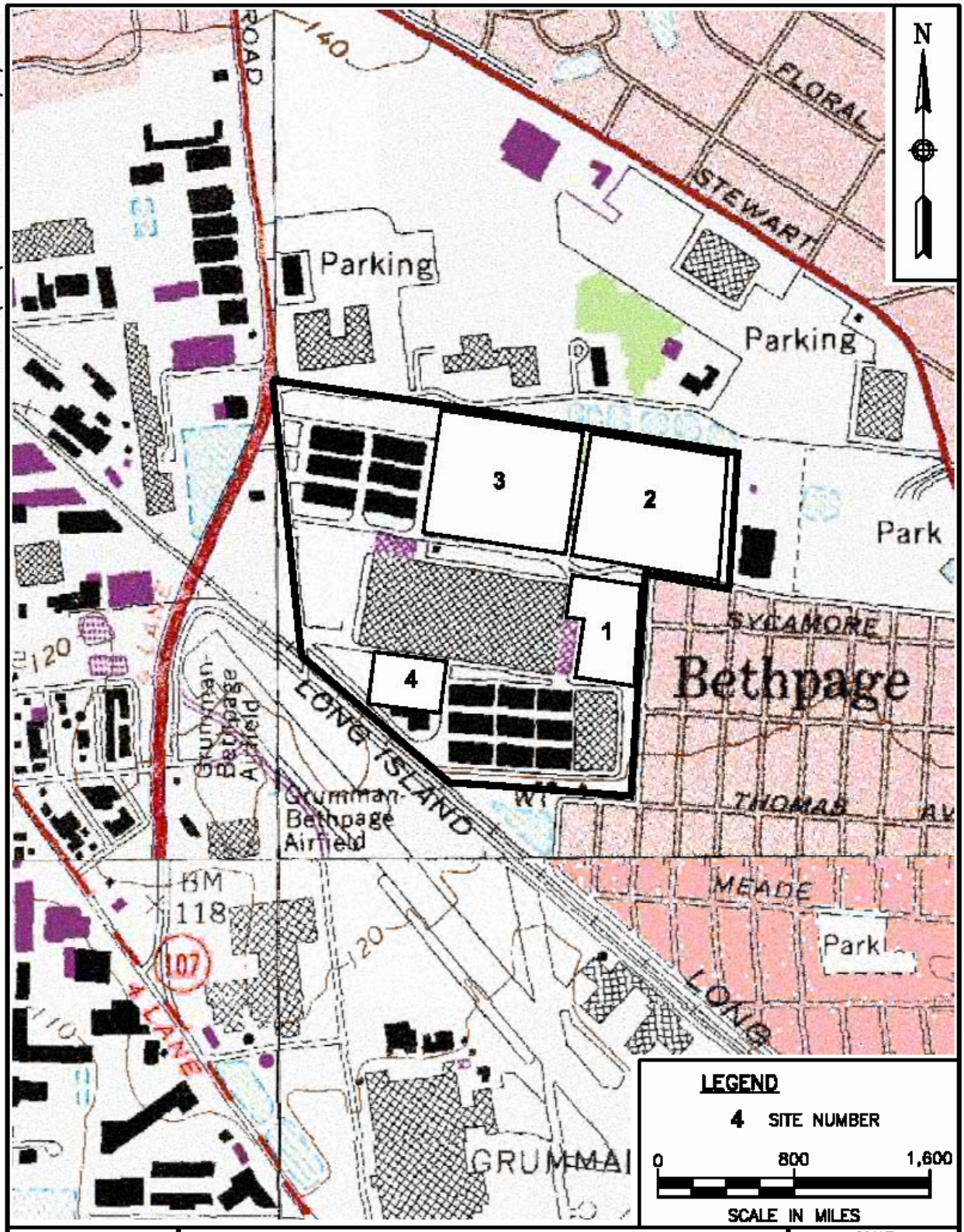
periodically collected as the CLB system was operating. The system was shut down in the spring of 2006.



TETRA TECH NUS, INC.

GENERAL LOCATION MAP
NWIRP BETHPAGE
BETHPAGE, NEW YORK

SCALE	AS NOTED
FILE	112GN9845GM07
REV	0
DATE	08/21/07
FIGURE NUMBER	FIGURE 2–1



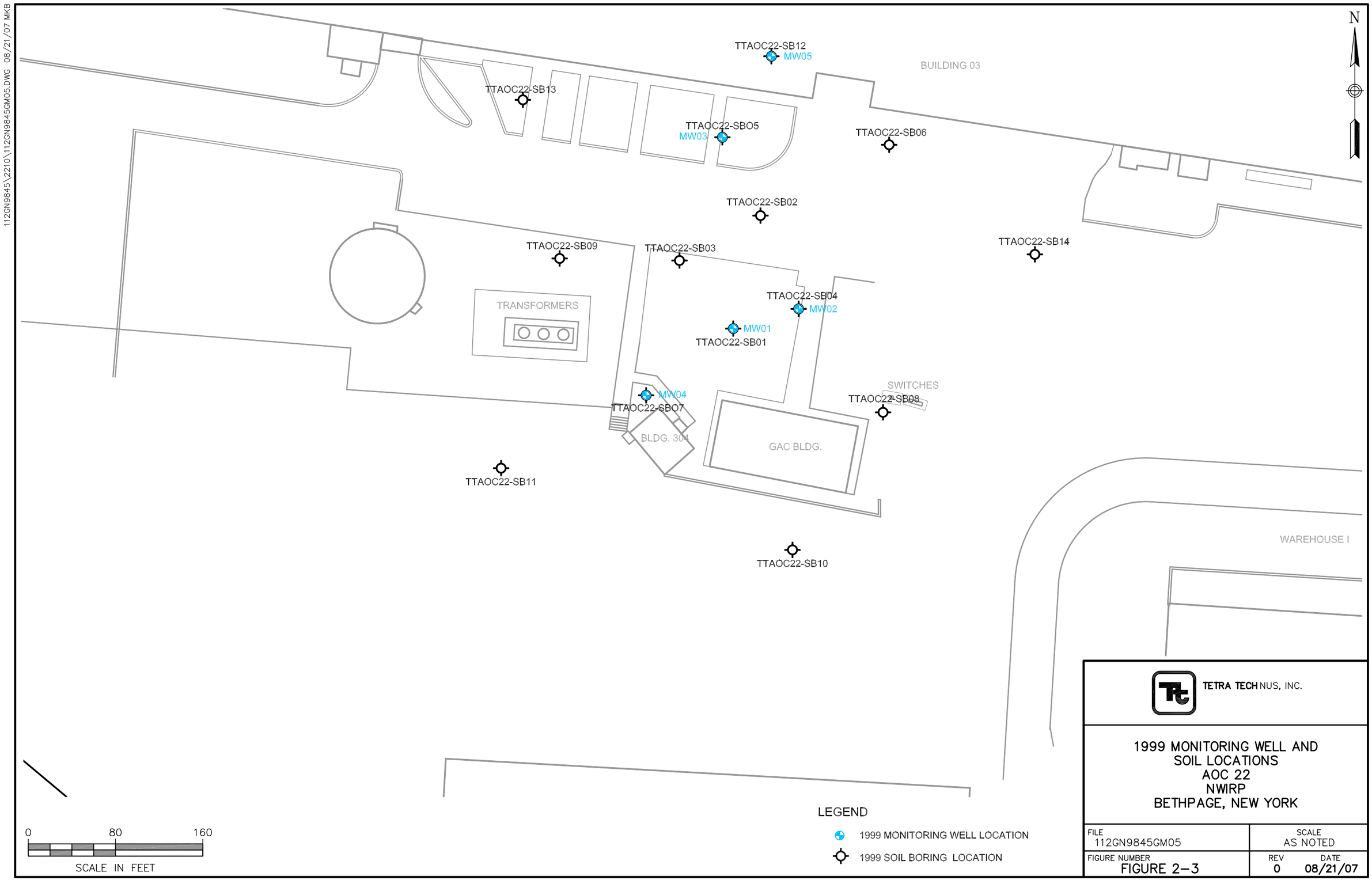
TETRA TECHNUS, INC.

SITE LOCATION MAP

NWIRP
BETHPAGE, NEW YORK

SCALE	AS NOTED
FILE	112GN9845GM06
REV	0
DATE	08/21/07
FIGURE NUMBER	FIGURE 2-2

112GN9845\2210\112GN9845GM05.DWG 08/21/07 MKB



TETRA TECH NUS, INC.

1999 MONITORING WELL AND
SOIL LOCATIONS
AOC 22
NWIRP
BETHPAGE, NEW YORK

FILE	SCALE
112GN9845GM05	AS NOTED
FIGURE NUMBER	REV / DATE
FIGURE 2–3	0 / 08/21/07

3.0 FIELD INVESTIGATIONS

The field events described in this section occurred before, during, and after the CLB system was implemented. Monitoring well installation and soil and groundwater sampling were conducted from August 2004 through December 2006. The sections below describe each field event.

3.1 MONITORING WELL INSTALLATION AND DEVELOPMENT

Six additional monitoring wells, MW-06 through MW-11 were installed in August 2004 (Figure 3-1). The monitoring wells were installed at the perimeter of contaminated area at AOC 22 and are located down gradient of the site. Before drilling was commenced a utility clearance was conducted at each proposed well location.

The wells were installed using the hollow-stem auger drilling method. Two-foot split-spoon samples were obtained and lithologically logged for the well screen intervals only (see Appendix B). The wells were constructed with 2-inch diameter polyvinyl chloride (PVC) well screens and risers. The well screen openings were 0.02 inch wide. The filter pack consisted of appropriately sized sand (#2 Silica Quartz and #00 Silica Quartz) and extended from the bottom of the borehole to a height of approximately 3 to 4 feet above the top of the screen. An annular seal consisting of bentonite slurry was installed above the filter packs. The seal had a minimum thickness of 4 feet. The remainder of the annular space was backfilled with a bentonite/cement grout. A concrete collar was installed and the well was flush-mounted with the ground surface. Boring logs and well construction diagrams are contained in Appendix B.

The new wells were developed between September 13 and 16, 2004. Wells were developed with a submersible pump. Turbidity was monitored during development until a turbidity value less than 10 Nephelometric Turbidity Units (NTUs) was achieved. The field geologist recorded the field-measured parameters of pH, temperature, and turbidity on well development logs. Groundwater elevations were obtained prior to and after well development activities. Well development logs are contained in Appendix B.

3.2 GROUNDWATER SAMPLING

3.2.1 <u>September 2004 Groundwater Sampling Event</u>

Groundwater from existing site monitoring wells, MW-03 through MW-05, and the newly installed wells, MW-06 through MW-11 were sampled on September 19 and 30, 2004. The low-flow sampling procedure was used to purge and sample the wells. All the samples were sent to a laboratory for VOC, SVOC, and

total metals analyses. Field measurements were collected including pH, conductivity, turbidity, dissolved oxygen, temperature, and oxidation-reduction potential. Sample log sheets and purge data sheets can be found in Appendix B.

The following observations were noted during the sampling:

- MW-03 had a petroleum odor and sheen on the water surface.
- MW-04 had a solvent odor and a slight sheen on the water surface.

3.2.2 March 2005 Groundwater Sampling Event

A second round of groundwater samples were collected between March 14 and 16, 2005. The second round included the perimeter monitoring wells only, MW-06 through MW-11. The low-flow sampling procedure was used to purge and sample the wells. The samples were sent to a laboratory for VOC, SVOC, and total metals analyses. Field measurements were collected including pH, conductivity, turbidity, dissolved oxygen, temperature, and oxidation-reduction potential. Sample log sheets and purge data sheets can be found in Appendix B. No odors or sheen were noted during the sampling.

3.2.3 October 2005 Groundwater Sampling Event

A third round of groundwater samples were collected between October 10 and 12, 2005. The third round included the perimeter monitoring wells only, MW-06 through MW-11. The low-flow sampling procedure was used to purge and sample the wells. The samples were sent to the laboratory for VOC, SVOC, and total metals analyses. Field measurements were collected including pH, conductivity, turbidity, dissolved oxygen, temperature, and oxidation-reduction potential. Sample log sheets and purge data sheets can be found in Appendix B. No odors or sheen were noted during the sampling.

3.2.4 December 2006 Groundwater Sampling Event

A fourth and complete round of groundwater samples were collected from all monitoring wells at AOC 22 from December 4 through 7, 2006. Samples were not collected at wells MW-01 and MW-02 because of free product in the wells. All other wells were purged and sampled using a Grundfos pump. The samples were sent to the laboratory for VOC, SVOC, and total metals analyses. Field measurements were collected including pH, conductivity, turbidity, dissolved oxygen, temperature, and oxidation-reduction potential. Sample log sheets and purge data sheets can be found in Appendix B.

The following observations were noted during the sampling:

- MW-01 and MW-02 contained free product similar to tar. These wells could not be sampled.

3.3 SOIL SAMPLING

3.3.1 August 2004 Soil Sampling Event

On August 19, 2004, the CLB System vendor conducted soil borings at four locations, SB-101 through SB-104 (Figure 3-1). Soil samples were collected by the CLB System vendor from 2-foot split spoons every ten feet to depth starting at 20 feet. On August 23, 2004, TtNUS collected split samples from the four soil samples. The soil samples were analyzed for SVOC and DRO. The split samples were analyzed for the same parameters as the CLB System vendor soil samples.

These observations were noted during the split sampling:

- All four split samples were characterized as having a fuel oil-like odor.
- The SB-101 60-foot sample contained heavy oil staining.
- The SB-102 50-foot sample contained minor staining.

3.3.2 December 2004 Soil Sampling Event

A second round of soil samples were collected on December 15 through 17, 2004 by the CLB System vendor. The borings were completed using a hand auger to five feet and a Geoprobe to depth. Samples were collected every ten feet to a depth of 60 feet. Split soil samples were collected by Tetra Tech. All the split samples contained a fuel oil odor. The samples were sent to the laboratory for SVOC and DRO analyses.

3.3.3 March 2005 Soil Sampling Event

The CLB System vendor collected the third round of soil samples from the AOC 22 site on March 8 and 9, 2005. The borings were completed using a hand auger to five feet and a drill rig with split spoons to depth. The CLB System vendor collected samples every ten feet to a depth of 60 feet starting at 20 feet. Split soil samples were collected by TtNUS from each location at the deepest sampling point. The samples were sent to the laboratory for SVOC and DRO analyses.

- These observations were noted during the sampling:

- All the split samples contained a fuel oil odor.
- Three of the four split samples exhibited staining.

3.3.4 May 2005 Soil Sampling Event

The CLB System vendor collected the fourth round of soil samples from the AOC 22 site on May 17 and 18, 2005. Samples were collected every ten feet to a depth of 60 feet starting at 20 feet. The drilling subcontractor switched from 2-foot split spoons to 3-foot split spoons because the spoons were coming back with low recoveries. The 3-foot split spoons recovered more volume. TtNUS collected split samples at depth at the four boring locations. The samples were sent to the laboratory for SVOC and DRO analyses.

- These observations were noted during the sampling:
- Sample SB-101 and SB-103 contained staining and odors in the split samples.
- Sample SB-102 and SB-104 contained faint odors in the split samples.

3.3.5 August 2005 Soil Sampling Event

The CLB System vendor collected the fifth round of soil samples from the AOC 22 in August 2005. Samples were collected every ten feet to a depth of 60 feet starting at 20 feet. TtNUS did not collect split spoon samples for this round of sampling. Samples were analyzed for the same parameters as in previous sampling rounds.

3.3.6 December 2006 Soil Sampling Event

TtNUS collected the sixth round of soil samples from the AOC 22 site on December 12-15, 2006. The borings were drilled using the hollow stem auger method with 5-foot augers. When the sampling depths were reached, 2-foot split spoons were used to collect samples. The borings were lithologically logged. The boring log sheets are included in Appendix B. Photoionization Detector (PID) readings were not taken for SB-101 through SB-104 because the PID was not working. Four new locations were drilled and logged, SB-105 through SB-108. These locations extended approximately 40 feet from the center of AOC 22 to the north, south, east, and west. All samples were sent to the laboratory for DRO analysis. Select samples were sent to the laboratory for SVOC analysis.

These observations were noted during the December 2006 sampling:

- SB-101 and SB-103 contained visible evidence of product between 50 and 60 feet with odor.

- SB-102 contained visible evidence of product between 60 and 70 feet.

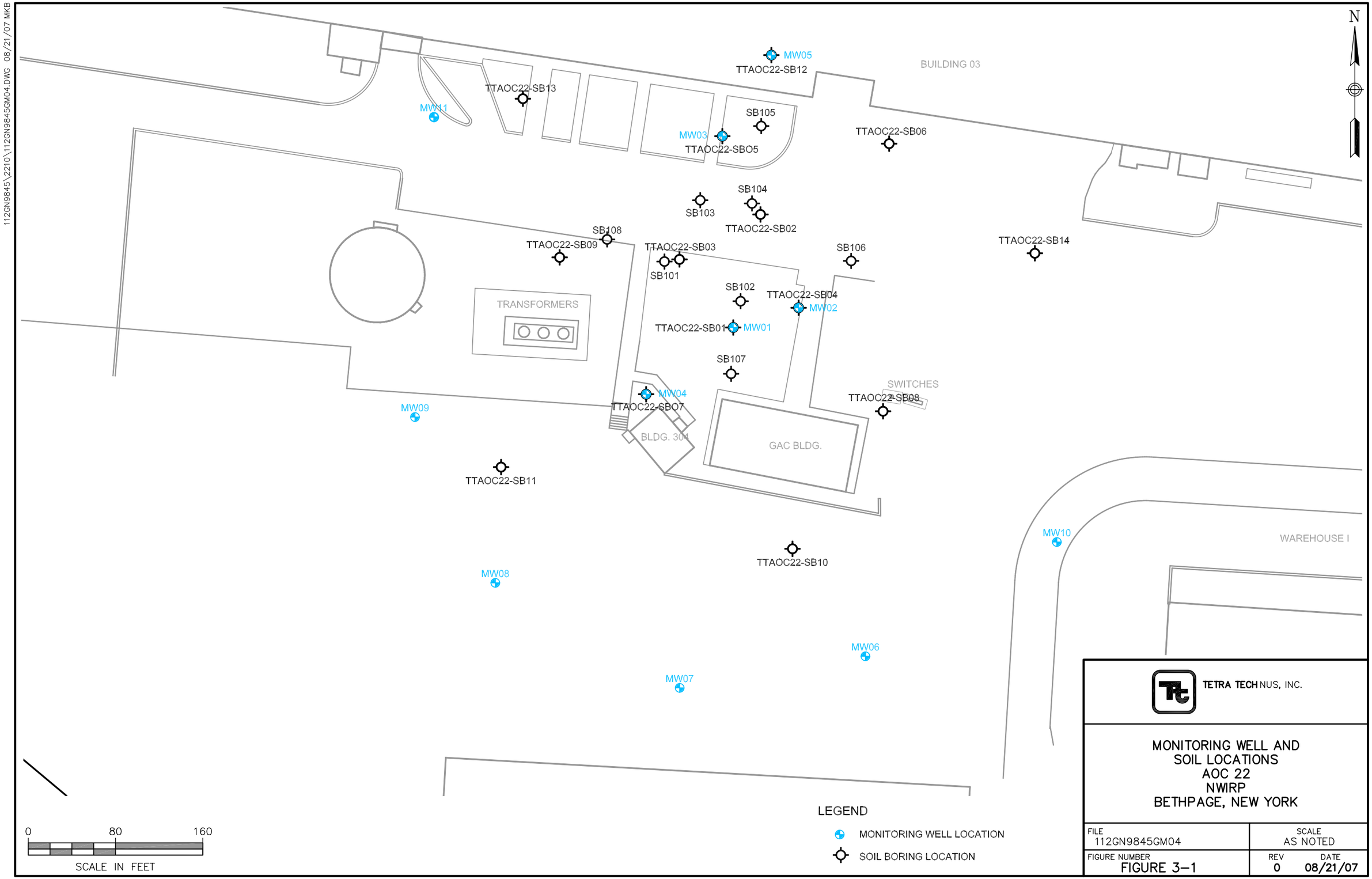
- SB-104 contained staining at 45 feet and strong odors between 50 and 60 feet.

- SB-105 exhibited about 2 feet of staining at a depth of approximately 55-58 feet. Slightly elevated PID reading of 4.5 parts per million (ppm) at the area of staining.

- SB-106 exhibited staining and odors between 50 and 58 feet. Slightly elevated PID reading of 4.5 ppm at the area of staining.

- SB-107 and -108 did not contain visible evidence of product or elevated PID readings.

112GN9845\2210\112GN9845GM04.DWG 08/21/07 MKB



TETRA TECH NUS, INC.

MONITORING WELL AND
SOIL LOCATIONS
AOC 22
NWIRP
BETHPAGE, NEW YORK

FILE	SCALE
112GN9845GM04	AS NOTED
FIGURE NUMBER	REV / DATE
FIGURE 3–1	0 / 08/21/07

4.0 DATA EVALUATION

This section presents the results of the chemical analyses performed for the subsurface soils and groundwater samples collected from August 2004 to December 2006 soil and groundwater sampling events. The evaluation includes data collected by the CLB System Vendor and TtNUS. The majority of the soil data collected between August 2004 and August 2005 was collected and analyzed by the CLB System vendor. During the operation, TtNUS collected limited split samples with the CLB System vendor. TtNUS collected and analyzed 100 percent of the groundwater samples during the system evaluation as well as the December 2006 soil sampling event. The data are summarized in tables for each sampling media and in tables comparing analytical results to corresponding NYSDEC screening criteria.

4.1 DATA USABILITY

The level of data review for the data collected by the CLB System vendor is unknown; therefore, the CLB System vendor data will be used for qualitative purposes only. Data from the CLB System vendor was limited to TPH results. A complete data review was performed on the December 2006 soil and groundwater data and is discussed below.

Most of the groundwater data were successfully analyzed by the laboratory and was considered usable for this data evaluation. The non-detected results for methyl acetate were qualified as unusable (R) because this compound did not meet calibration criteria. This compound is not a compound of concern at this site. Other detected and non-detected VOC, SVOC, and metals results for the groundwater samples were qualified as estimated (J/UJ) due to exceedances of quality control (QC) criteria.

Most of the soil data were successfully analyzed by the laboratory and was considered usable for this data evaluation. The non-detected results for indeno(1,2,3-cd)pyrene, benzo(a,h)anthracene, and benzo(g,h,i)perylene were qualified as R due to matrix spike/matrix spike duplicate (MS/MSD) noncompliance. Other detected and non-detected PAH results for the soil samples were qualified as J/UJ due to exceedances of QC criteria. In the TPH fraction, one set of field duplicate results were qualified as J due to field duplicate precision noncompliance.

Several positive results were qualified as estimated (J) because the detected concentration was below the reporting limit but above the method detection limit. Chain of Custody sheets can be found in Appendix B. Analytical results can be found in Appendix C. Data validation reports for the December 2006 samples can be found in Appendix D.

4.2 EXTENT OF SOIL CONTAMINATION

4.2.1 Total Petroleum Hydrocarbon Results

The CLB System vendor collected soil samples from August 2004 to August 2005. During this time, five sampling events were conducted with each sampling event consisting of four boring locations (SB-101, -102, -103, and -104) and samples collected at ten-foot depth intervals, from 20 to 60 feet bgs. Soil borings from each round were offset by approximately 2 feet from borings installed during previous rounds. Samples were analyzed for TPH. Samples results are presented in Table 4-1 and Figure 4-1.

Soil samples collected in August 2004 represent pre-CLB system operation. At this time, average TPH concentrations in the 20- to 50-foot interval ranged from 4,599 mg/kg to 6,645 mg/kg and the average TPH concentration in the 60-foot interval was 21,320 mg/kg. This data is consistent with previous test data that indicated the majority of the petroleum contamination was located near the water table. The overall average TPH concentration was 8,819 mg/kg and represents the baseline TPH concentration for evaluating the effectiveness of the CLB System pilot-scale study.

During system operation, soil samples were collected in December 2004, March 2005, May 2005, and August 2005. During this period, the overall average TPH concentration varied from 6,887 to 10,361 mg/kg, with no consistent trend. Using the August 2004 and August 2005 data, there was an overall 11 percent decrease in TPH concentrations. TPH concentrations in individual depth intervals did exhibit some trends. TPH concentrations in the 20-, 30- and 40-foot intervals decreased over time, with reductions ranging from 76 percent in the 30-foot interval to 19 percent in the 50-foot interval. However, the TPH concentration in the 60-foot interval increased by 28 percent, suggesting that one effect of the CLB pilot-scale study was to cause the petroleum to migrate downward, with the groundwater table at approximately 50 feet inhibiting further downward migration.

Samples collected by TtNUS in December 2006 were generally consistent with the data collected by the CLB System vendor between August 2004 and August 2005; see Table 4-1 and Figure 4-1. The only significant differences between the August 2005 and December 2006 data were that the TPH concentration in the 60-foot interval decreased to 16,190 mg/kg and the TPH concentration in the 50-foot interval increased to 12,250 mg/kg. The overall average TPH concentration in December 2006 was 7,353 mg/kg, for an overall average TPH reduction of 16.6 percent. The average TPH concentrations in the 20-, 30- and 40-foot intervals were 905, 4,273, and 3,145 mg/kg, respectively. Mean TPH soil concentrations at ten-foot intervals can be found in Figure 4-3.

In December 2006, because of the observed trend of the petroleum migrating downward, TtNUS also collected soil samples at a depth of approximately 70 feet bgs, which is approximately 18 feet below the water table. TPH results in this interval ranged from 37.5 mg/kg to 5,100 mg/kg, indicating low to moderate levels of TPH at this depth. Data from pre-CLB System operation from this depth are not available, so conclusions can not be derived from this data.

Four additional boring locations (SB-105, -106, -107, and -108) were installed approximately 25 to 50 feet radially from the former UST area to determine whether there was any horizontal spread of petroleum. The four additional boring locations were sampled at depth only (42 to 58 feet). Historically, the shallow soil in these areas did not exhibit evidence of petroleum contamination. The TPH concentration in soil borings SB-105 and SB-106 ranged from 1700 to 3600 mg/kg, indicating limited petroleum contamination in this area. SB-107 and SB-108 TPH concentrations ranged from none detected to 95 mg/kg, indicating the relative absence of petroleum contamination.

4.2.2 December 2006 Soil Results

Between August 2004 and December 2005, TtNUS split one soil sample per boring with the CLB System vendor. The TtNUS samples were collected at a depth of 50 or 60 feet. The CLB vendor did not consistently collect and analyze soil samples for PAHs. As a result of an incomplete data history for PAHs, discussion of PAH results will focus on the December 2006 samples. In December 2006, soil samples at depths of 20, 50, and 70 feet were also analyzed for PAHs, see Table 4-1 and Figure 4-2.

In December 2006, PAHs were not detected in the 20-foot depth sample interval, but were detected in either the 50-foot and/or 70-foot depth interval in each of the soil borings. Several PAHs, including benzo(a)pyrene (1,500 micrograms per kilogram [µg/kg]), benz(a)anthracene (230 µg/kg), chrysene (1,200 µg/kg), 2-methylnaphthalene (1,000 µg/kg), pyrene (12,000 µg/kg), phenanthrene (1,300 µg/kg) were detected in one or both depth intervals at concentrations greater than NYSDEC TAGM values for protection of human health through a direct contact exposure scenario. For protection of groundwater via soil leaching, only chrysene in 3 of 12 samples exceeded the NYSDEC TAGM value of 400 µg/kg. The average chrysene concentration was 219 µg/kg. As will be discussed in Section 4.3, chrysene was not detected in any of the groundwater samples.

4.3 EXTENT OF GROUNDWATER CONTAMINATION

4.3.1 Groundwater Results

Groundwater samples were collected by TtNUS before, during, and after the CLB System pilot-scale study to evaluate potential migration from treatment. A complete round of 11 monitoring wells (MW-01 to MW-11) were to be sampled prior to the pilot-scale study (September 2004) and after the pilot-scale study was completed (December 2006). Because of the presence of a fluid free floating product prior to the test and a tar like free product in monitoring wells MW-01 and MW-02, these wells were not sampled. In addition, two rounds of 6 monitoring wells (MW-06 to MW-11) were sampled during the operation of the pilot-scale study, one in March 2002 and one in October 2005. Results are presented in Table 4-2 and Figure 4-4.

Overall, with the exception of the free product in monitoring wells MW-01 and MW-02 solidifying during the test, there were no obvious impacts to groundwater from the pilot-scale study. As discussed below, some potential impacts to groundwater may have occurred.

The iron concentrations in several monitoring wells, including MW-05, MW-07, MW-08, and MW-09, increased by a factor of 10 or more. The iron concentration in MW-06, which is likely downgradient of the test area, increased steady from 36.65 to 8,210 µg/L during the course of the test, suggesting the possible release and migration of iron. Iron and hydrogen peroxide were added during a portion of the pilot-scale study to help degrade the petroleum. Iron can also become soluble in biologically active systems, from natural sources of iron. The iron concentration in monitoring wells MW-03 and MW-04, the two wells nearest the treatment area, actually decreased by a factor of 20 to 40 during the course of the pilot-scale study.

The manganese concentration in monitoring wells MW-04 and MW-06 also increased by a factor of 10 and 130, respectively. For MW-04, there is no data during the pilot-scale study and a trend can not be evaluated. For MW-06, the manganese trended upward during the study.

Other chemicals detected in the December 2006 groundwater sampling event included VOCs in six wells including MW-03, MW-05, MW-06, MW-09, MW-10, and MW-11. Of the six wells, MW-03, MW-05, and MW-11 are up gradient of AOC 22. Three wells, MW-04, MW-07, and MW-08, had no VOC contamination. These wells are immediately down gradient of AOC 22.

Except for bis(2-ethylhexyl)phthalate in two samples at low concentrations (2 and 3 µg/L), SVOCs were not detected in the groundwater. Bis(2-ethylhexyl)phthalate is a common laboratory contaminant and is

not site-related. PAHs detected in the soil samples were not present in the groundwater samples. The SVOCs that were detected in the September 2004 sampling round were not detected in the December 2006 data.

4.3.2 Groundwater Screening

The groundwater results were screened against the New York State Department of Health (NYSDOH) Maximum Contaminant Levels (MCLs). Table 4-2 presents the results and exceedances from September 2004 through December 2006. Groundwater concentrations that exceeded NYSDOH MCLs are presented in Figure 4-4.

Trichloroethene (TCE) results exceeded the MCL at three locations, MW-03, MW-05, and MW-10. Monitoring wells MW-03 and MW-05 are up gradient of AOC 22. Well MW-10 is located down gradient of AOC 22. TCE is not a site-related contaminant; it is a known regional concern and is being addressed separately as part of the Groundwater Record of Decision (ROD) for NWIRP Bethpage.

No SVOC exceedances were present in the groundwater. Historically, caprolactum has been detected in MW-05 at a concentration exceeding the MCL, but was not detected in the last sampling event.

Cadmium contamination is present in side gradient monitoring wells MW-09 and MW-11. The concentrations exceeded MCLs and were consistent throughout the sampling events.

Thallium was detected at concentrations above the MCL during the March 2005 event in monitoring wells MW-07, MW-08, MW-09, and MW-10. However, this seemed to be an isolated event because thallium was not detected again in these wells.

TABLE 4-1
POSITIVE TPH AND PAH DETECTIONS IN SUBSURFACE SOIL
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	(1) NYSDEC Soil Cleanup Objectives Allowable Soil	(1) NYSDEC Soil Cleanup Objectives to Protect GW	SB101	SB101	SB101	SB101	SB101	SB101	SB101	SB101	SB101	SB101
Sample Date:			12/14/2006	12/14/2006	12/14/2006	12/17/2004	12/14/2006	8/23/2004	3/9/2005	5/18/2005	12/14/2006	12/14/2006
Top Depth (feet):			19	29	39	45	49	59	59	59	59	69
Bottom Depth (feet):			21	31	41	47	51	61	61	61	61	71
ORGANICS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Petroleum Hydrocarbons	NA	NA		14000	5800	5700	36000	6900	18000	33000	25000	37.5
SEMIVOLATILES	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
2,4-Dimethylphenol	NA	NA	NA	NA	NA	220 J	NA				NA	NA
2-Methylnaphthalene	**364**	**36,400**		NA	NA			**38,000 J**	33,000	20,000 J	NA	
Acenaphthene	**920**	920,000		NA	NA			**2,100 J**	**1,300 J**		NA	
Anthracene	**7,000**	700,000		NA	NA				1,800 J		NA	
Benz(a)anthracene	**28**	**2,800**		NA	NA			**2,500 J**	**1,900 J**	**3,000 J**	NA	
Benzo(a)pyrene	**110**	11,000		NA	NA		**1,500 J**		**600 J**		NA	
Benzo(b)fluoranthene	**11**	**1,100**		NA	NA	**260 J**			**3,300 J**		NA	
Benzo(g,h,i)perylene	80,000	8,000,000		NA	NA		1,400 J				NA	
Benzo(k)fluoranthene	**11**	1,100		NA	NA						NA	
Bis(2-ethylhexyl)phthalate	4,350	435,000	NA	NA	NA		NA				NA	NA
Chrysene	4	**400**		NA	NA	**620 J**		**3,700 J**	**4,100 J**	**5,200 J**	NA	
Fluoranthene	19,000	1,900,000		NA	NA				1,500 J		NA	
Fluorene	**3,650**	365,000		NA	NA			2,300 J	**8,400**		NA	
Indeno(1,2,3-cd)pyrene	**32**	3,200		NA	NA						NA	
Naphthalene	**130**	**13,000**		NA	NA			**6,700 J**	**4,000 J**		NA	
Phenanthrene	**130**	**13,000**		NA	NA			**15,000 J**	**11,000**	**12,000 J**	NA	
Pyrene	**6,650**	665,000		NA	NA	1,400 J	**12,000 J**	**9,400 J**	**13,000 J**	**8,900 J**	NA	

Data Qualifiers:
J -- Value is considered estimated.
(Blank value) -- Result is non-detected. Detection limits are omitted for clarity.
NA -- No result is available/applicable for this parameter in this sample.
mg/kg -- milligrams per kilogram
µg/kg -- micrograms per kilogram
(1) NYSDEC, 1994. New York State Department of Environmental Conservation (NYSDEC) TAGM 4046
(2) For the SB101 to 104 average, non detected values were assigned as zero.
Table 2-semi-Volatile Organic Contaminants. January. http://www.dec.ny.gov/regulations/30566.html
The average of the sample and duplicate was used for individual samples. Half the reporting limit was used for non-detected results.
Bolded values indicate the concentration exceeded NYSDEC Allowable Soil Concentration.
Shaded cells indicate the concentration exceeded the NYSDEC Objectives for Protection of Groundwater.
Database source file: D:\BETHPAGE\DATA SUMMARY\AOC22RES.DBF data retrieved on: 06/19/07

TABLE 4-1
POSITIVE TPH AND PAH DETECTIONS IN SUBSURFACE SOIL
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	(1) NYSDEC Soil Cleanup Objectives Allowable Soil	(1) NYSDEC Soil Cleanup Objectives to Protect GW	SB102	SB102	SB102	SB102	SB102	SB102	SB102	SB102	SB102	SB102
Sample Date:			12/15/2006	12/15/2006	12/15/2006	12/16/2004	8/23/2004	5/17/2005	12/15/2006	3/9/2005	12/15/2006	12/15/2006
Top Depth (feet):			19	29	39	40	49	49	49	59	59	69
Bottom Depth (feet):			21	31	41	42	51	51	51	61	61	71
ORGANICS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Petroleum Hydrocarbons	NA	NA	14	14000	5800	750	5600	2100	5300	50000	16000	125
SEMIVOLATILES	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
2,4-Dimethylphenol	NA	NA	NA	NA	NA				NA		NA	NA
2-Methylnaphthalene	**364**	**36,400**		NA	NA		**950 J**			**49,000**	NA	
Acenaphthene	**920**	920,000		NA	NA		850 J			**4,200 J**	NA	
Anthracene	**7,000**	700,000		NA	NA		890 J			4,800 J	NA	
Benz(a)anthracene	**28**	**2,800**		NA	NA		**710 J**			**3,100 J**	NA	
Benzo(a)pyrene	**110**	11,000		NA	NA					**1,900 J**	NA	
Benzo(b)fluoranthene	**11**	**1,100**		NA	NA						NA	
Benzo(g,h,i)perylene	80,000	8,000,000		NA	NA	320 J		330 J		1,100 J	NA	
Benzo(k)fluoranthene	**11**	1,100		NA	NA						NA	
Bis(2-ethylhexyl)phthalate	4,350	435,000	NA	NA	NA	240 J			NA		NA	NA
Chrysene	4	**400**		NA	NA		**1,300 J**		**1,000 J**	**7,300 J**	NA	
Fluoranthene	19,000	1,900,000		NA	NA					2,600 J	NA	
Fluorene	**3,650**	365,000		NA	NA		1,100 J			**22,000**	NA	
Indeno(1,2,3-cd)pyrene	**32**	3,200		NA	NA						NA	
Naphthalene	**130**	**13,000**		NA	NA					**9,400 J**	NA	
Phenanthrene	**130**	**13,000**		NA	NA		**4,700 J**			**23,000**	NA	
Pyrene	**6,650**	665,000		NA	NA	170 J	2,900 J	340 J	3,900 J	**33,000**	NA	

Data Qualifiers:
J -- Value is considered estimated.
(Blank value) -- Result is non-detected. Detection limits are omitted for clarity.
NA -- No result is available/applicable for this parameter in this sample.
mg/kg -- milligrams per kilogram
µg/kg -- micrograms per kilogram
(1) NYSDEC, 1994. New York State Department of Environmental Conservation (NYSDEC) TAGM 4046
(2) For the SB101 to 104 average, non detected values were assigned as zero.
Table 2-semi-Volatile Organic Contaminants. January. http://www.dec.ny.gov/regulations/30566.html
The average of the sample and duplicate was used for individual samples. Half the reporting limit was used for non-detected results.
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TABLE 4-1
POSITIVE TPH AND PAH DETECTIONS IN SUBSURFACE SOIL
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	(1) NYSDEC Soil Cleanup Objectives Allowable Soil	(1) NYSDEC Soil Cleanup Objectives to Protect GW	SB103	SB103	SB103	SB103	SB103	SB103	SB103	SB103	SB103	SB103
Sample Date:			12/13/2006	12/13/2006	12/13/2006	12/15/2004	12/13/2006	8/23/2004	3/9/2005	5/17/2005	12/13/2006	12/13/2006
Top Depth (feet):			19	29	39	40	49	59	59	59	59	66
Bottom Depth (feet):			21	31	41	42	51	61	61	61	61	68
ORGANICS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Petroleum Hydrocarbons	NA	NA	2100	2400	6100	5300	6100	10000	21000	24000	23000	2600
SEMIVOLATILES	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
2,4-Dimethylphenol	NA	NA	NA	NA	NA	300 J	NA				NA	NA
2-Methylnaphthalene	**364**	**36,400**		NA	NA			**51,000 J**	**68,000 J**	**73,000**	NA	**1,000**
Acenaphthene	**920**	920,000		NA	NA			**4,400 J**	**6,300 J**	**6,400 J**	NA	170 J
Anthracene	**7,000**	700,000		NA	NA			4,600 J	**7,500 J**	**8,400 J**	NA	280 J
Benz(a)anthracene	**28**	**2,800**		NA	NA	**540 J**		**3,500 J**	**4,200 J**		NA	**230 J**
Benzo(a)pyrene	**110**	11,000		NA	NA	**520 J**	**560 J**		**2,700 J**		NA	**130 J**
Benzo(b)fluoranthene	**11**	**1,100**		NA	NA	**350 J**					NA	
Benzo(g,h,i)perylene	80,000	8,000,000		NA	NA	410 J					NA	
Benzo(k)fluoranthene	**11**	1,100		NA	NA						NA	
Bis(2-ethylhexyl)phthalate	4,350	435,000	NA	NA	NA		NA				NA	NA
Chrysene	4	**400**		NA	NA	**1,100 J**		**4,000 J**	**8,600 J**	**8,600 J**	NA	**430 J**
Fluoranthene	19,000	1,900,000		NA	NA	200 J			3,400 J		NA	
Fluorene	**3,650**	365,000		NA	NA			**4,800 J**	**25,000 J**	**9,500 J**	NA	350 J
Indeno(1,2,3-cd)pyrene	**32**	3,200		NA	NA						NA	
Naphthalene	**130**	**13,000**		NA	NA			**11,000 J**	**13,000 J**	**15,000 J**	NA	87 J
Phenanthrene	**130**	**13,000**		NA	NA			**22,000 J**	**33,000**	**39,000 J**	NA	**1,300**
Pyrene	**6,650**	665,000		NA	NA	3,800 J	2,800 J	**18,000 J**	**36,000**	**28,000 J**	NA	1,400 J

Data Qualifiers:
J -- Value is considered estimated.
(Blank value) -- Result is non-detected. Detection limits are omitted for clarity.
NA -- No result is available/applicable for this parameter in this sample.
mg/kg -- milligrams per kilogram
µg/kg -- micrograms per kilogram
(1) NYSDEC, 1994. New York State Department of Environmental Conservation (NYSDEC) TAGM 4046
(2) For the SB101 to 104 average, non detected values were assigned as zero.
Table 2-semi-Volatile Organic Contaminants. January. http://www.dec.ny.gov/regulations/30566.html
The average of the sample and duplicate was used for individual samples. Half the reporting limit was used for non-detected results.
Bolded values indicate the concentration exceeded NYSDEC Allowable Soil Concentration.
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Database source file: D:\BETHPAGE\DATA SUMMARY\AOC22RES.DBF data retrieved on: 06/19/07

TABLE 4-1
POSITIVE TPH AND PAH DETECTIONS IN SUBSURFACE SOIL
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	(1) NYSDEC Soil Cleanup Objectives Allowable Soil	(1) NYSDEC Soil Cleanup Objectives to Protect GW	SB104	SB104	SB104	SB104	SB104	SB104	SB104	SB104	SB104	SB104
Sample Date:			12/14/2006	12/14/2006	12/14/2006	8/23/2004	12/15/2004	3/8/2005	5/17/2005	12/14/2006	12/14/2006	12/14/2006
Top Depth (feet):			19	29	39	49	50	49	49	49	59	69
Bottom Depth (feet):			21	31	41	51	51	51	51	51	61	71
ORGANICS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Petroleum Hydrocarbons	NA	NA	1500	630	435 J	1800	2800	4900	3100	1600	750	5100
SEMIVOLATILES	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
2,4-Dimethylphenol	NA	NA	NA	NA	NA					NA	NA	NA
2-Methylnaphthalene	**364**	**36,400**		NA	NA	180 J	250 J	120 J			NA	
Acenaphthene	**920**	920,000		NA	NA	330 J	720 J				NA	
Anthracene	**7,000**	700,000		NA	NA	380 J	420 J				NA	
Benz(a)anthracene	**28**	**2,800**		NA	NA	**380 J**	**550 J**	**1,400 J**	**380 J**		NA	**720 J**
Benzo(a)pyrene	**110**	11,000		NA	NA		**310 J**	**1,000 J**	**300 J**		NA	
Benzo(b)fluoranthene	**11**	**1,100**		NA	NA		**190 J**	**2,400 J**			NA	
Benzo(g,h,i)perylene	80,000	8,000,000		NA	NA		310 J	290 J			NA	
Benzo(k)fluoranthene	**11**	1,100		NA	NA			**150 J**			NA	
Bis(2-ethylhexyl)phthalate	4,350	435,000	NA	NA	NA			320 J		NA	NA	NA
Chrysene	4	**400**		NA	NA	**520 J**	**980 J**	**2,600 J**	**440 J**		NA	**1200 J**
Fluoranthene	19,000	1,900,000		NA	NA	210 J	450 J	1,600 J			NA	
Fluorene	**3,650**	365,000		NA	NA	380 J	820 J	3,400 J			NA	
Indeno(1,2,3-cd)pyrene	**32**	3,200		NA	NA			**200 J**			NA	
Naphthalene	**130**	**13,000**		NA	NA						NA	
Phenanthrene	**130**	**13,000**		NA	NA	**1,000 J**	**2,300 J**	**300 J**			NA	**550 J**
Pyrene	**6,650**	665,000		NA	NA	1,300 J	2,300 J	6,600	1,700 J		NA	3,900

Data Qualifiers:
J -- Value is considered estimated.
(Blank value) -- Result is non-detected. Detection limits are omitted for clarity.
NA -- No result is available/applicable for this parameter in this sample.
mg/kg -- milligrams per kilogram
µg/kg -- micrograms per kilogram
(1) NYSDEC, 1994. New York State Department of Environmental Conservation (NYSDEC) TAGM 4046
(2) For the SB101 to 104 average, non detected values were assigned as zero.
Table 2-semi-Volatile Organic Contaminants. January. http://www.dec.ny.gov/regulations/30566.html
The average of the sample and duplicate was used for individual samples. Half the reporting limit was used for non-detected results.
Bolded values indicate the concentration exceeded NYSDEC Allowable Soil Concentration.
Shaded cells indicate the concentration exceeded the NYSDEC Objectives for Protection of Groundwater.
Database source file: D:\BETHPAGE\DATA SUMMARY\AOC22RES.DBF data retrieved on: 06/19/07

TABLE 4-1
POSITIVE TPH AND PAH DETECTIONS IN SUBSURFACE SOIL
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	(1) NYSDEC Soil Cleanup Objectives Allowable Soil	(1) NYSDEC Soil Cleanup Objectives to Protect GW	SB105	SB106	SB106	SB107	SB107	SB108	SB108	SB101 to 104 Avg[2]
Sample Date:			12/12/2006	12/13/2006	12/13/2006	12/12/2006	12/12/2006	12/11/2006	12/11/2006	Dec-06
Top Depth (feet):			56	51	56	42	52	45	55	19
Bottom Depth (feet):			58	53	58	44	54	47	57	71
ORGANICS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Petroleum Hydrocarbons	NA	NA	3400	1700	3600			95		7266
SEMIVOLATILES	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	**364**	**36,400**	NA	NA	NA	NA	NA	NA	NA	83
Acenaphthene	**920**	920,000	NA	NA	NA	NA	NA	NA	NA	14
Anthracene	**7,000**	700,000	NA	NA	NA	NA	NA	NA	NA	23
Benz(a)anthracene	**28**	**2,800**	NA	NA	NA	NA	NA	NA	NA	**79**
Benzo(a)pyrene	**110**	11,000	NA	NA	NA	NA	NA	NA	NA	**183**
Benzo(b)fluoranthene	**11**	**1,100**	NA	NA	NA	NA	NA	NA	NA	0
Benzo(g,h,i)perylene	80,000	8,000,000	NA	NA	NA	NA	NA	NA	NA	117
Benzo(k)fluoranthene	**11**	1,100	NA	NA	NA	NA	NA	NA	NA	0
Bis(2-ethylhexyl)phthalate	4,350	435,000	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	4	**400**	NA	NA	NA	NA	NA	NA	NA	**219**
Fluoranthene	19,000	1,900,000	NA	NA	NA	NA	NA	NA	NA	0
Fluorene	**3,650**	365,000	NA	NA	NA	NA	NA	NA	NA	29
Indeno(1,2,3-cd)pyrene	**32**	3,200	NA	NA	NA	NA	NA	NA	NA	0
Naphthalene	**130**	**13,000**	NA	NA	NA	NA	NA	NA	NA	7
Phenanthrene	**130**	**13,000**	NA	NA	NA	NA	NA	NA	NA	**154**
Pyrene	**6,650**	665,000	NA	NA	NA	NA	NA	NA	NA	2,000

Data Qualifiers:
J -- Value is considered estimated.
(Blank value) -- Result is non-detected. Detection limits are omitted for clarity.
NA -- No result is available/applicable for this parameter in this sample.
mg/kg -- milligrams per kilogram
µg/kg -- micrograms per kilogram
(1) NYSDEC, 1994. New York State Department of Environmental Conservation (NYSDEC) TAGM 4046
(2) For the SB101 to 104 average, non detected values were assigned as zero.
Table 2-semi-Volatile Organic Contaminants. January. http://www.dec.ny.gov/regulations/30566.html
The average of the sample and duplicate was used for individual samples. Half the reporting limit was used for non-detected results.
Bolded values indicate the concentration exceeded NYSDEC Allowable Soil Concentration.
Shaded cells indicate the concentration exceeded the NYSDEC Objectives for Protection of Groundwater.
Database source file: D:\BETHPAGE\DATA SUMMARY\AOC22RES.DBF data retrieved on: 06/19/07

TABLE 4-2
POSITIVE GROUNDWATER DETECTIONS
AOC 22
NWIRP BETHPAGE, LONG ISLAND, NEW YORK

Location:	[1] NYSDOH MAXIMUM CONTAMINANT LEVELS (MCLs)	MW03		MW04		MW05		MW06			
Sample ID:		MW03	MW03	MW04	MW04	MW05	MW05	MW06	MW06	MW06	MW06
Sample Date:		9/30/04	12/6/06	9/29/04	12/7/06	9/30/04	12/6/06	9/29/04	3/15/05	10/11/05	12/5/06
Duplicate:											
INORGANICS	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Aluminum	---	32.3	34	114	141	31.8	251	36.65	76.2	188	1260
Arsenic	50	32.7	22.8	8.1					1.9	1.6	8.4
Barium	2000	37.5	31.25 J	25.9	22.1 J	61.7	66.4 J	32.7	86.1	95	175 J
Beryllium	4	0.42		1.03		0.82		0.8	1.5	0.34	1.1
Cadmium	5	1.4		0.625							1.8 J
Calcium	---	27200	13200 J	11750	9730 J	6570	6880 J	9695	20300	23400	42700 J
Chromium	100		1.6 J		2.6 J	79.8	40.1 J		1.9	0.48	8.5 J
Cobalt	---	2.5	10.55	2	2.1				0.73	4.5	15.7
Copper	---	1.2	2.2		3.6		4				8.1
Iron	300	**65000**	**15850**	**21850**	**1390**	46.4	**993**	36.65	171	**550**	**8210**
Lead	---						1.8				1.7
Magnesium	---	4300	2695 J	1770	1900 J	1980	2700 J	2305	4820	5240	8140 J
Manganese	300	**1130**	**1270**	93.4	**1020**	11.8	51.2	7.95	23.3	163	**1020**
Mercury	2									0.06	
Nickel	---		4.25		0.73		4.9		7.2	16.2	31.9
Potassium	---	2330	2390	945	1160	2070	2160	1955	4890	4260	9500
Selenium	50		7.05 J					2		2.6	14.3 J
Silver	100		1.09	0.44		0.47		0.57	0.64		
Sodium	---	24900	28250	2035	2100	23900	21200	2310	7370	9200	17300
Thallium	2										
Vanadium	---	2.2		1.2		0.65	2.2				4.5
Zinc	5000	4.8	15.65	4.7	18.8 J	0.71	19.5 J	4.25	22.9	67.2	95.9 J
SEMIVOLATILES		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Bis(2-ethylhexyl)phthalate	6		3 J								2 J
Caprolactam	50					**110**					
Carbazole	50			1.15 J							
Diethylphthalate	50										
VOLATILES		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1,2-Dichloroethene (cis)	5		0.39 J								
Methyl Cyclohexane	50		0.3 J								
Methyl Tert-butyl Ether	10		0.605				0.58				
Tetrachloroethene	5						0.68				0.64
Trichloroethene	5	1.8 J	**5.85**			2.8 J	**7.4**				0.83

Data Qualifiers:
J -- Value is considered estimated due to exceedance of technical quality control criteria or because result is less than the Contract Required Quantitation Limit (CRQL).
(Blank value) -- Result is non-detected. Detection limits are omitted for clarity.
Bolded values indicates the value excceds the NYS Department of Health (DOH) MCL.
http://www.health.state.ny.us/nysdoh/phforum/nycrr10.htm
The average of the sample and duplicate was used. Half the reporting limit was used for non-detected results.
--- Indicates no MCL is available for this analyte.
Database source file: H:\BETHPAGE\DATA SUMMARY\AOC22RES.DBF data retrieved on: 03/16/07
µg/L -- micrograms per liter
(1) NYSDOH, 1991. New york State Department of health Laws and regulations Title: section 5 -6.10 Maximum Contaminant Levels. June.

TABLE 4-2
POSITIVE GROUNDWATER DETECTIONS
AOC 22
NWIRP BETHPAGE, LONG ISLAND, NEW YORK

Location:	NYSDOH MAXIMUM CONTAMINANT LEVELS (MCLs)	MW07				MW08				MW09				MW10			
Sample ID:		MW07	MW07	MW07	MW07	MW08	MW08	MW08	MW08	MW09	MW09	MW09	MW09	MW10	MW10	MW10	MW10
Sample Date:		9/29/04	3/15/05	10/12/05	12/5/06	9/29/04	3/15/05	10/11/05	12/4/06	9/29/04	3/15/05	10/11/05	12/5/06	9/29/04	3/16/05	10/12/05	12/5/06
Duplicate:																	
INORGANICS	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Aluminum	---	1910	1900	2660	2180	413	106.45	55.5	380	28.4	45.6	61.8	550	29.2	180	231	48.2
Arsenic	50		2.3	2.6	3.1			1.4			2.8				3.9	2.2	
Barium	2000	71.1	46.6	90.5	40.9 J	10	7.65	10.7	14.1 J	41.8	26.1	29.2	40.6 J	38.1	45.1	61.2	62.8 J
Beryllium	4	2.7	2.8	2.1	0.94	0.38	1.5			0.35	1.1	0.26	0.15	0.7	1.5		
Cadmium	5	1.7	1	1.2	0.56 J					**66.2**	**28**	**22.1**	**22.8 J**				
Calcium	---	18200	9480	24100	18000 J	11400	11150	32300	11800 J	15800	9600	10200	12000 J	6700	9060	13200	10330 J
Chromium	100	0.57	3.1	1.6	12 J	1.9	1.55	0.76	7.6 J	8.6	14	12.9	13.3 J	6.3	9.2	8.1	9.1 J
Cobalt	---	3.3	3.1	2	3.5		0.36	0.58		0.93	0.96	0.64			0.62		
Copper	---	3.4	2.2	4.9	10.1				3.4	0.96		1.1	5.6				1.75
Iron	300	35.8	59.3	144	**371**	149	74.35	97.9	**1280**	37.9	99	56.6	**537**	46.7	**558**	**779**	158.5
Lead	---				2												
Magnesium	---	3750	2330	5470	4650 J	819	2740	10200	3540 J	3680	2070	2110	2660 J	1940	2540	4380	3210 J
Manganese	300	**571**	**336**	**689**	**443**	2.2	2.25	2.2	11.1	154	9	2.6	27	13.4	15.1	4.2	5.4
Mercury	2			0.046				0.056				0.054				0.041	
Nickel	---	39.6	19	26.1	18.3		1.9		3.3	5.4	9.6	1.1	7.1		1.7	0.43	
Potassium	---	3180	947	1820	2180	16200	1075	1280	1990	2290	2000	1610	1990	991	1530	1720	1780
Selenium	50							3.1			3.4					1.8	
Silver	100		0.45			0.46	0.61					0.35		0.43	0.47		
Sodium	---	3330	2110	5010	6410	6110	1035	3450	1100	11300	9030	9410	9160	11800	11800	15100	16600
Thallium	2		**3**				**2.1**	**6**			**5.5**				**3**		
Vanadium	---	0.78			0.68	1.6			2				1.8		0.66		
Zinc	5000	155	95.4	123	67.2 J	7.8		8.5	13.1	64.8	25.8	21.2	43.4 J	0.81		3.7	7.85
SEMIVOLATILES		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Bis(2-ethylhexyl)phthalate	6							2.8 J								2 J	
Caprolactam	50	2.5 J				2.1 J											
Carbazole	50																
Diethylphthalate	50					2.5 J											
VOLATILES		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1,2-Dichloroethene (cis)	5																1.35
Methyl Cyclohexane	50																
Methyl Tert-butyl Ether	10															1.3 J	0.53
Tetrachloroethene	5																1.1
Trichloroethene	5									**7.7 J**	5 J		0.79	4.1 J	4.5 J	**8.6 J**	**17**

Data Qualifiers:
J -- Value is considered estimated due to exceedance of technical quality
control criteria or because result is less than the Contract Required Quantitation
(Blank value) -- Result is non-detected. Detection limits are omitted for clarity.
Bolded values indicates the value excceds the NYS Department of Health (DOH) MCL.
http://www.health.state.ny.us/nysdoh/phforum/nycrr10.htm
The average of the sample and duplicate was used. Half the reporting limit was used for non-detected results.
--- Indicates no MCL is available for this analyte.
Database source file: H:\BETHPAGE\DATA SUMMARY\AOC22RES.DBF data retrieved on: 03/16/07
µg/L -- micrograms per liter
(1) NYSDOH, 1991. New york State Department of health Laws and regulations
Title: section 5 -6.10 Maximum Contaminant Levels. June.

TABLE 4-2
POSITIVE GROUNDWATER DETECTIONS
AOC 22
NWIRP BETHPAGE, LONG ISLAND, NEW YORK

Location:	**NYSDOH**	**MW11**			
Sample ID:	**MAXIMUM**	**MW11**	**MW11**	**MW11**	**MW11**
Sample Date:	**CONTAMINANT**	**9/27/04**	**3/16/05**	**10/10/05**	**12/6/06**
Duplicate:	**LEVELS (MCLs)**				
INORGANICS	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**
Aluminum	---	31.3	72.4	28.35	55.8
Arsenic	50				
Barium	2000	39.1	47.1	60.35	66.8 J
Beryllium	4	0.32	1.5		
Cadmium	5	**19**	**21.4**	**19.3**	**25.3** J
Calcium	---	11000	12200	12650	13300 J
Chromium	100	1.3	12.7	15.65	10.9 J
Cobalt	---		0.74		
Copper	---				2
Iron	300	32.8	67.5	43.6	31.4
Lead	---				
Magnesium	---	1970	3280	4120	4410 J
Manganese	300	27.5	8.8	2.2	1.5
Mercury	2			0.036	
Nickel	---		3	1.15	1.6
Potassium	---	1260	1870	3855	3070
Selenium	50				
Silver	100		0.59		
Sodium	---	4880	15400	22500	31600
Thallium	2				
Vanadium	---				
Zinc	5000	6.5	12.2	19.45	36.1 J
SEMIVOLATILES		**µg/L**	**µg/L**	**µg/L**	**µg/L**
Bis(2-ethylhexyl)phthalate	6			3.1 J	
Caprolactam	50				
Carbazole	50				
Diethylphthalate	50				
VOLATILES		**µg/L**	**µg/L**	**µg/L**	**µg/L**
1,2-Dichloroethene (cis)	5				
Methyl Cyclohexane	50				
Methyl Tert-butyl Ether	10				
Tetrachloroethene	5				
Trichloroethene	5	2.1 J	3.3 J	1.35 J	1.9

Data Qualifiers:
J -- Value is considered estimated due to exceedance of technical quality control criteria or because result is less than the Contract Required Quantitation Limit
(Blank value) -- Result is non-detected. Detection limits are omitted for clarity.
Bolded values indicates the value excceds the NYS Department of Health (DOH) MCL.
http://www.health.state.ny.us/nysdoh/phforum/nycrr10.htm
The average of the sample and duplicate was used. Half the reporting limit was used for non-detected results.
--- Indicates no MCL is available for this analyte.
Database source file: H:\BETHPAGE\DATA SUMMARY\AOC22RES.DBF data retrieved on: 03/16/07
µg/L -- micrograms per liter
(1) NYSDOH, 1991. New york State Department of health Laws and regulations Title: section 5 -6.10 Maximum Contaminant Levels. June.

112GN9845\2210\112GN9845GM02-5.DWG 07/10/07 MKB

N

	SB103									
	12/13/06 19' TD 21' BD	12/13/06 29' TD 31' BD	12/13/06 39' TD 41' BD	12/15/04 40' TD 42' BD	12/13/06 49' TD 51' BD	8/23/04 59' TD 61' BD	3/9/05 59' TD 61' BD	5/17/05 59' TD 61' BD	12/13/06 59' TD 61' BD	12/13/06 66' TD 68' BD
PETROLEUM HYDROCARBONS Petroleum Hydrocarbons	mg/kg *2100*	mg/kg *2400*	mg/kg *6100*	mg/kg *5300*	mg/kg *6100*	mg/kg *10000*	mg/kg *21000*	mg/kg *24000*	mg/kg *23000*	mg/kg *2600*

	SB105
	12/12/06 56' TD 58' BD
PETROLEUM HYDROCARBONS Petroleum Hydrocarbons	mg/kg *3400*

	SB104									
	12/14/06 19' TD 21' BD	12/14/06 29' TD 31' BD	12/14/06 39' TD 41' BD	8/23/04 49' TD 51' BD	12/15/04 50' TD 51' BD	3/8/05 49' TD 51' BD	5/17/05 49' TD 51' BD	12/14/06 49' TD 51' BD	12/14/06 59' TD 61' BD	12/14/06 69' TD 71' BD
PETROLEUM HYDROCARBONS Petroleum Hydrocarbons	mg/kg *1500*	mg/kg *630*	mg/kg *435 J*	mg/kg *1800*	mg/kg *2800*	mg/kg *4900*	mg/kg *3100*	mg/kg *1600*	mg/kg *750*	mg/kg *5100*

	SB108	
	12/31/06 45' TD 47' BD	12/31/06 55' TD 57' BD
PETROLEUM HYDROCARBONS Petroleum Hydrocarbons	mg/kg *95*	mg/kg -

	SB106	
	12/31/06 51' TD 53' BD	12/31/06 56' TD 58' BD
PETROLEUM HYDROCARBONS Petroleum Hydrocarbons	mg/kg *1700*	mg/kg *3600*

SB107

	SB101									
	12/14/06 19' TD 21' BD	12/14/06 29' TD 31' BD	12/14/06 39' TD 41' BD	12/17/04 45' TD 47' BD	12/14/06 49' TD 51' BD	8/23/04 59' TD 61' BD	3/9/05 59' TD 61' BD	5/18/05 59' TD 61' BD	12/14/06 59' TD 61' BD	12/14/06 69' TD 71' BD
PETROLEUM HYDROCARBONS Petroleum Hydrocarbons	mg/kg -	mg/kg *14000*	mg/kg *5800*	mg/kg *5700*	mg/kg *36000*	mg/kg *6900*	mg/kg *18000*	mg/kg *33000*	mg/kg *25000*	mg/kg *37.5 J*

	SB102									
	12/15/06 19' TD 21' BD	12/15/06 29' TD 31' BD	12/15/06 39' TD 41' BD	12/16/04 40' TD 42' BD	8/23/04 49' TD 51' BD	5/17/05 49' TD 51' BD	12/15/06 49' TD 51' BD	3/9/05 59' TD 61' BD	12/15/06 59' TD 61' BD	12/15/06 69' TD 71' BD
PETROLEUM HYDROCARBONS Petroleum Hydrocarbons	mg/kg *14*	mg/kg *61.5*	mg/kg *99*	mg/kg *750*	mg/kg *5600*	mg/kg *2100*	mg/kg *5300*	mg/kg *50000*	mg/kg *16000*	mg/kg *125*

0 80 160

SCALE IN FEET

LEGEND

- SOIL BORING LOCATION
- *J* VALUE IS CONSIDERED ESTIMATED
- \- TPH WAS NOT DETECTED

TETRA TECH NUS, INC.

SOIL TPH RESULTS
AUGUST 2004 THROUGH DECEMBER 2006
AOC 22
NWIRP
BETHPAGE, NEW YORK

FILE	SCALE
112GN9845GM02-5	AS NOTED
FIGURE NUMBEP **FIGURE 4-1**	REV 0 / DATE 07/10/07

112GN9845\2210\112GN9845GM02-4.DWG 03/20/07 MKB

	NYSDEC Soil Cleanup Objectives Allowable Soil Concentration	NYSDEC Soil Cleanup Objectives to Protect Groundwater	SB103 12/13/06 19' TD 21' BD	12/15/04 40' TD 42' BD	12/13/06 49' TD 51' BD	8/23/04 59' TD 61' BD	3/9/05 59' TD 61' BD	5/17/05 59' TD 61' BD	12/13/06 66' TD 68' BD
SEMIVOLATILES	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
2,4-Dimethylphenol	NA	NA	-	-	-	-	-	-	-
2-Methylnaphthalene	364	36,400	-	-	-	***51000 J***	***68000 J***	***73000***	1,000
Acenaphthene	920	920,000	-	-	-	4400 J	6300 J	6400 J	-
Anthracene	7,000	700,000	-	-	-	-	7500 J	8400 J	-
Benz(a)anthracene	28	2,800	-	540 J	-	***3500 J***	***4200 J***	-	230 J
Benzo(a)pyrene	110	11,000	-	520 J	560 J	-	2700 J	-	130 J
Benzo(b)fluoranthene	11	1,100	-	350 J	-	-	-	-	-
Benzo(g,h,i)perylene	80,000	8,000,000	-	-	-	-	-	-	-
Benzo(k)fluoranthene	11	1,100	-	-	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	4,350	435,000	-	-	-	-	-	-	-
Chrysene	4	400	-	***1100 J***	-	***4000 J***	***8600 J***	8600 J	***430 J***
Fluoranthene	19,000	1,900,000	-	-	-	-	-	-	-
Fluorene	3,650	365,000	-	-	-	4800 J	25000 J	9500 J	-
Indeno(1,2,3-cd)pyrene	32	3,200	-	-	-	-	-	-	-
Naphthalene	130	13,000	-	-	-	11000 J	13000 J	***15000 J***	-
Phenanthrene	130	13,000	-	-	-	***22000 J***	***33000***	***39000 J***	1,300
Pyrene	6,650	665,000	-	-	-	18000 J	36,000	28000 J	-

	NYSDEC Soil Cleanup Objectives Allowable Soil Concentration	NYSDEC Soil Cleanup Objectives to Protect Groundwater	SB104 12/14/06 19' TD 21' BD	8/23/04 49' TD 51' BD	12/15/04 50' TD 51' BD	3/8/05 49' TD 51' BD	5/17/05 49' TD 51' BD	12/14/06 49' TD 51' BD	12/14/06 69' TD 71' BD
SEMIVOLATILES	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
2,4-Dimethylphenol	NA	NA	-	-	-	-	-	-	-
2-Methylnaphthalene	364	36,400	-	-	-	-	-	-	-
Acenaphthene	920	920,000	-	-	-	-	-	-	-
Anthracene	7,000	700,000	-	-	-	-	-	-	-
Benz(a)anthracene	28	2,800	-	*380 J*	*550 J*	*1400 J*	*380 J*	-	*720 J*
Benzo(a)pyrene	110	11,000	-	-	*310 J*	*1,000 J*	*300 J*	-	-
Benzo(b)fluoranthene	11	1,100	-	-	*190 J*	***2400 J***	-	-	-
Benzo(g,h,i)perylene	80,000	8,000,000	-	-	-	-	-	-	-
Benzo(k)fluoranthene	11	1,100	-	-	-	*150 J*	-	-	-
Bis(2-ethylhexyl)phthalate	4,350	435,000	-	-	-	-	-	-	-
Chrysene	4	400	-	***520 J***	***980 J***	***2600 J***	***440 J***	-	***1200 J***
Fluoranthene	19,000	1,900,000	-	-	-	-	-	-	-
Fluorene	3,650	365,000	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	32	3,200	-	-	-	*200 J*	-	-	-
Naphthalene	130	13,000	-	-	-	-	-	-	-
Phenanthrene	130	13,000	-	*1,000 J*	*2,300 J*	*300 J*	-	-	*550 J*
Pyrene	6,650	665,000	-	-	-	-	-	-	-

	NYSDEC Soil Cleanup Objectives Allowable Soil Concentration	NYSDEC Soil Cleanup Objectives to Protect Groundwater	SB101 12/14/06 19' TD 21' BD	12/17/04 45' TD 47' BD	12/14/06 49' TD 51' BD	8/23/04 59' TD 61' BD	3/9/05 59' TD 61' BD	5/18/05 59' TD 61' BD	12/14/06 69' TD 71' BD
SEMIVOLATILES	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
2,4-Dimethylphenol	NA	NA	-	-	-	-	-	-	-
2-Methylnaphthalene	364	36,400	-	-	-	***38000 J***	-	-	-
Acenaphthene	920	920,000	-	-	-	*2100 J*	*1300 J*	-	-
Anthracene	7,000	700,000	-	-	-	-	-	-	-
Benz(a)anthracene	28	2,800	-	-	-	*2500 J*	*1900 J*	***3000 J***	-
Benzo(a)pyrene	110	11,000	-	-	*1500 J*	-	*600 J*	-	-
Benzo(b)fluoranthene	11	1,100	-	*260 J*	-	-	***3300 J***	-	-
Benzo(g,h,i)perylene	80,000	8,000,000	-	-	-	-	-	-	-
Benzo(k)fluoranthene	11	1,100	-	-	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	4,350	435,000	-	-	-	-	-	-	-
Chrysene	4	400	-	***620 J***	-	***3700 J***	***4100 J***	***5200 J***	-
Fluoranthene	19,000	1,900,000	-	-	-	-	-	-	-
Fluorene	3,650	365,000	-	-	-	-	*8,400*	-	-
Indeno(1,2,3-cd)pyrene	32	3,200	-	-	-	-	-	-	-
Naphthalene	130	13,000	-	-	-	*6700 J*	*4000 J*	-	-
Phenanthrene	130	13,000	-	-	-	***15000 J***	*11,000*	*12000 J*	-
Pyrene	6,650	665,000	-	-	*12000 J*	*9400 J*	*13000 J*	*8900 J*	-

	NYSDEC Soil Cleanup Objectives Allowable Soil Concentration	NYSDEC Soil Cleanup Objectives to Protect Groundwater	SB102 12/15/06 19' TD 21' BD	12/16/04 40' TD 42' BD	8/23/04 51' TD 51' BD	5/17/05 49' TD 51' BD	12/15/06 49' TD 51' BD	3/9/05 59' TD 61' BD	12/15/06 69' TD 71' BD
SEMIVOLATILES	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
2,4-Dimethylphenol	NA	NA	-	-	-	-	-	-	-
2-Methylnaphthalene	364	36,400	-	-	*950 J*	-	-	***49000***	-
Acenaphthene	920	920,000	-	-	-	-	-	*4200 J*	-
Anthracene	7,000	700,000	-	-	-	-	-	-	-
Benz(a)anthracene	28	2,800	-	-	*710 J*	-	-	***3100 J***	-
Benzo(a)pyrene	110	11,000	-	-	-	-	-	*1900 J*	-
Benzo(b)fluoranthene	11	1,100	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	80,000	8,000,000	-	-	-	-	-	-	-
Benzo(k)fluoranthene	11	1,100	-	-	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	4,350	435,000	-	-	-	-	-	-	-
Chrysene	4	400	-	-	***1300 J***	-	***1000 J***	***7300 J***	-
Fluoranthene	19,000	1,900,000	-	-	-	-	-	-	-
Fluorene	3,650	365,000	-	-	-	-	-	*22,000*	-
Indeno(1,2,3-cd)pyrene	32	3,200	-	-	-	-	-	-	-
Naphthalene	130	13,000	-	-	-	-	-	*9400 J*	-
Phenanthrene	130	13,000	-	-	*4700 J*	-	-	***23000***	-
Pyrene	6,650	665,000	-	-	-	-	-	*33,000*	-

BUILDING 03

SB107

BLDG. 304

GAC BLDG.

BLDG 10

WHSE E

N

0 80 160

SCALE IN FEET

NOTES
1. ALL VALUES EXCEED SOIL CLEANUP OBJECTIVES ALLOWABLE SOIL CONCENTRATIONS.
2. BOLDED VALUES EXCEED BOTH THE ALLOWABLE SOIL CONCENTRATIONS AND OBJECTIVES TO PROTECT GROUNDWATER.

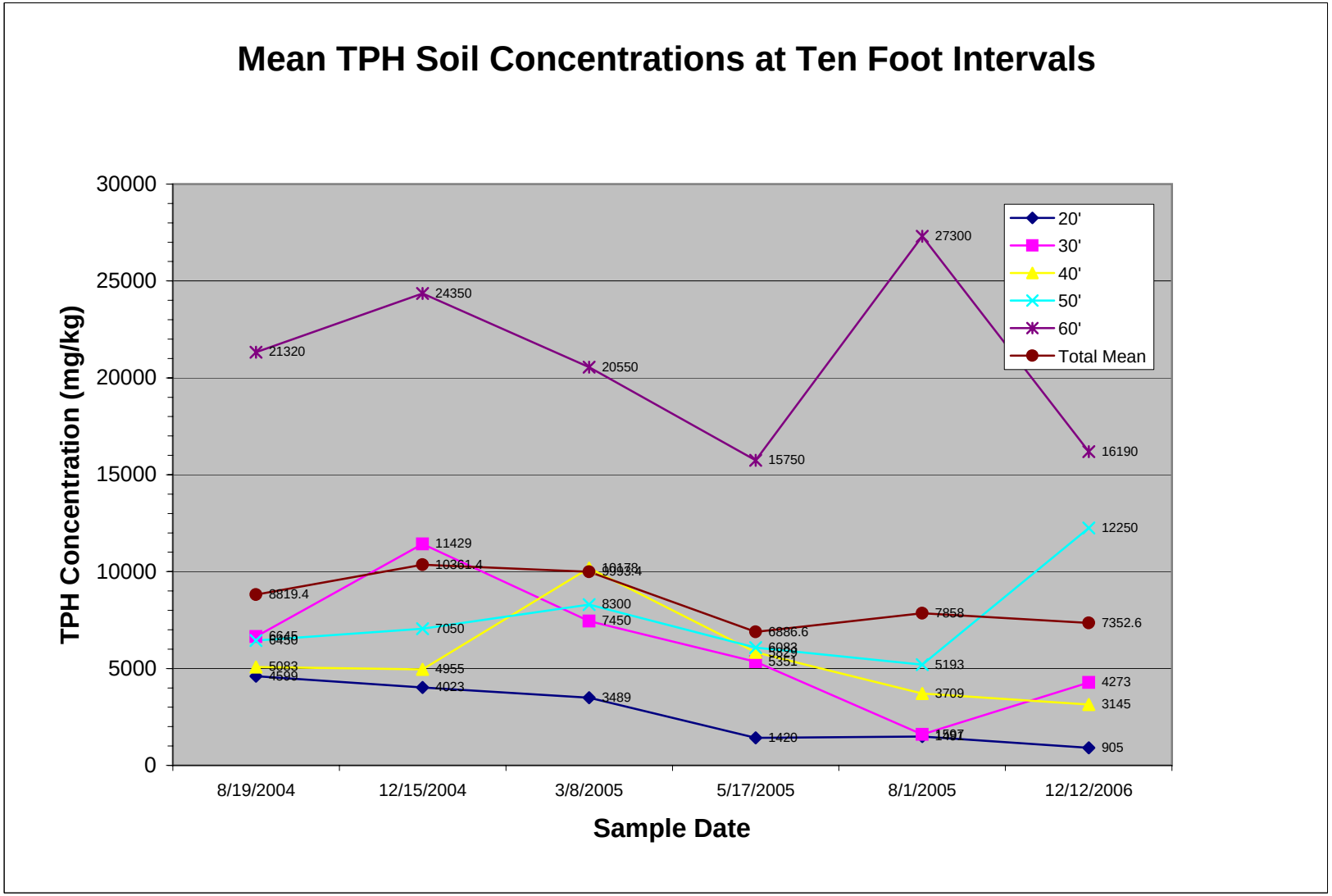
LEGEND
- SOIL BORING LOCATION
- J VALUE IS CONSIDERED ESTIMATED

TETRA TECH NUS, INC.

SOIL PAH RESULTS
AUGUST 2004 THROUGH DECEMBER 2006
AOC 22
NWIRP
BETHPAGE, NEW YORK

FILE	SCALE
112GN9845GM02-4	AS NOTED
FIGURE NUMBER **FIGURE 4-2**	REV 0 / DATE 06/29/07

FIGURE 4-3
AOC 22, NWIRP BETHPAGE, NEW YORK



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	NYSDOH Maximum Contaminant Levels (MCLs)	MW11			
		9/27/04	3/16/05	10/10/05	12/6/06
INORGANICS	ug/L	ug/L	ug/L	ug/L	ug/L
Cadmium	5	***19***	***21.4***	***19.3***	***25.3 J***
Iron	300	-	-	-	-
Manganese	300	-	-	-	-
Thallium	2	-	-	-	-
SEMIVOLATILES		ug/L	ug/L	ug/L	ug/L
Caprolactam	50	-	-	-	-
VOLATILES		ug/L	ug/L	ug/L	ug/L
Trichloroethene	5	-	-	-	-

	NYSDOH Maximum Contaminant Levels (MCLs)	MW04	
		9/29/04	12/7/06
INORGANICS	ug/L	ug/L	ug/L
Cadmium	5	-	-
Iron	300	***21850***	***1390***
Manganese	300	-	***1020***
Thallium	2	-	-
SEMIVOLATILES		ug/L	ug/L
Caprolactam	50	-	-
VOLATILES		ug/L	ug/L
Trichloroethene	5	-	-

	NYSDOH Maximum Contaminant Levels (MCLs)	MW05	
		9/30/04	12/6/06
INORGANICS	ug/L	ug/L	ug/L
Cadmium	5	-	-
Iron	300	-	***993***
Manganese	300	-	-
Thallium	2	-	-
SEMIVOLATILES		ug/L	ug/L
Caprolactam	50	***110***	-
VOLATILES		ug/L	ug/L
Trichloroethene	5	-	***7.4***

	NYSDOH Maximum Contaminant Levels (MCLs)	MW03	
		9/30/04	12/6/06
INORGANICS	ug/L	ug/L	ug/L
Cadmium	5	-	-
Iron	300	***65000***	***15850***
Manganese	300	***1130***	***1270***
Thallium	2	-	-
SEMIVOLATILES		ug/L	ug/L
Caprolactam	50	-	
VOLATILES		ug/L	ug/L
Trichloroethene	5	-	***5.85***

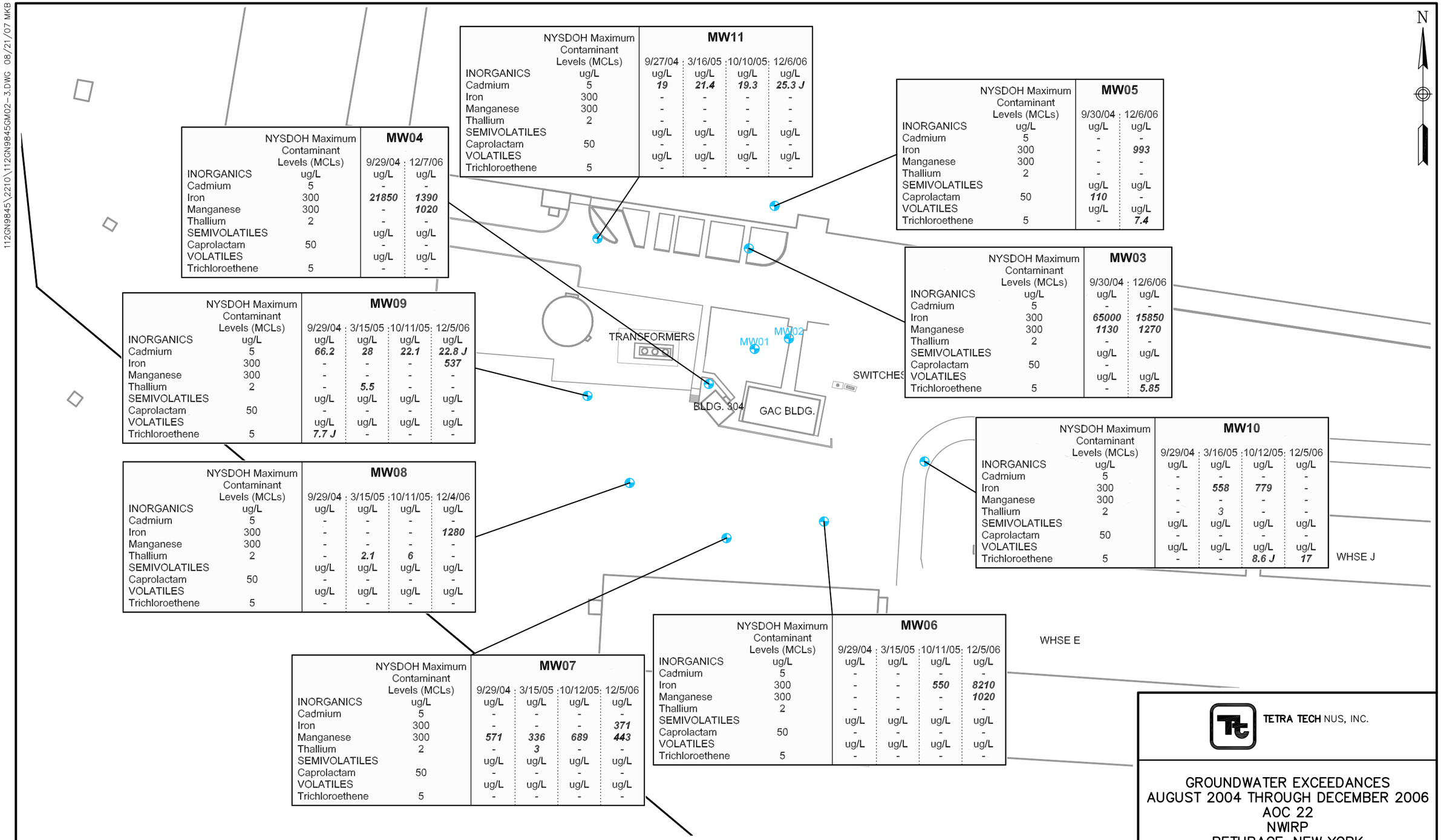
	NYSDOH Maximum Contaminant Levels (MCLs)	MW09			
		9/29/04	3/15/05	10/11/05	12/5/06
INORGANICS	ug/L	ug/L	ug/L	ug/L	ug/L
Cadmium	5	***66.2***	***28***	***22.1***	***22.8 J***
Iron	300	-	-	-	***537***
Manganese	300	-	-	-	-
Thallium	2	-	***5.5***	-	-
SEMIVOLATILES		ug/L	ug/L	ug/L	ug/L
Caprolactam	50	-	-	-	-
VOLATILES		ug/L	ug/L	ug/L	ug/L
Trichloroethene	5	***7.7 J***	-	-	-

	NYSDOH Maximum Contaminant Levels (MCLs)	MW10			
		9/29/04	3/16/05	10/12/05	12/5/06
INORGANICS	ug/L	ug/L	ug/L	ug/L	ug/L
Cadmium	5	-	-	-	-
Iron	300	-	***558***	***779***	-
Manganese	300	-	-	-	-
Thallium	2	-	*3*	-	-
SEMIVOLATILES		ug/L	ug/L	ug/L	ug/L
Caprolactam	50	-	-	-	-
VOLATILES		ug/L	ug/L	ug/L	ug/L
Trichloroethene	5	-	-	***8.6 J***	***17***

	NYSDOH Maximum Contaminant Levels (MCLs)	MW08			
		9/29/04	3/15/05	10/11/05	12/4/06
INORGANICS	ug/L	ug/L	ug/L	ug/L	ug/L
Cadmium	5	-	-	-	-
Iron	300	-	-	-	***1280***
Manganese	300	-	-	-	-
Thallium	2	-	***2.1***	***6***	-
SEMIVOLATILES		ug/L	ug/L	ug/L	ug/L
Caprolactam	50	-	-	-	-
VOLATILES		ug/L	ug/L	ug/L	ug/L
Trichloroethene	5	-	-	-	-

	NYSDOH Maximum Contaminant Levels (MCLs)	MW07			
		9/29/04	3/15/05	10/12/05	12/5/06
INORGANICS	ug/L	ug/L	ug/L	ug/L	ug/L
Cadmium	5	-	-	-	-
Iron	300	-	-	-	***371***
Manganese	300	***571***	***336***	***689***	***443***
Thallium	2	-	***3***	-	-
SEMIVOLATILES		ug/L	ug/L	ug/L	ug/L
Caprolactam	50	-	-	-	-
VOLATILES		ug/L	ug/L	ug/L	ug/L
Trichloroethene	5	-	-	-	-

	NYSDOH Maximum Contaminant Levels (MCLs)	MW06			
		9/29/04	3/15/05	10/11/05	12/5/06
INORGANICS	ug/L	ug/L	ug/L	ug/L	ug/L
Cadmium	5	-	-	-	-
Iron	300	-	-	***550***	***8210***
Manganese	300	-	-	-	***1020***
Thallium	2	-	-	-	-
SEMIVOLATILES		ug/L	ug/L	ug/L	ug/L
Caprolactam	50	-	-	-	-
VOLATILES		ug/L	ug/L	ug/L	ug/L
Trichloroethene	5	-	-	-	-



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SCALE IN FEET

NOTE
1. ALL VALUES EXCEED THE NYSDEC GROUNDWATER QUALITY STANDARDS.

LEGEND

- MONITORING WELL LOCATION
- J VALUE IS CONSIDERED ESTIMATED

TETRA TECH NUS, INC.

GROUNDWATER EXCEEDANCES
AUGUST 2004 THROUGH DECEMBER 2006
AOC 22
NWIRP
BETHPAGE, NEW YORK

FILE	SCALE
112GN9845GM02-3	AS NOTED
FIGURE NUMBER	REV / DATE
FIGURE 4-4	0 / 08/21/07

5.0 CONCLUSION AND RECOMMENDATIONS

In summary, conclusions of current conditions at AOC 22/Site 4 and recommendations are as follows.

- Operation of the CLB System pilot-scale study resulted in an overall 16.6 percent reduction in petroleum at the site during approximately 1.5 years of operation. Ninety percent reduction in one year of operation had been expected. As a result, full scale implementation of this technology at this site is not recommended.

- The concentration of TPH remaining in soil at the site ranges from 14 mg/kg in relatively shallow soils (20 feet bgs) to 36,000 mg/kg at depths near and below the water table (50 to 70 feet bgs). The vertical extent of residual TPH contamination is mostly contained in the 50 and 60-foot depth intervals.

- The horizontal extent of residual TPH contamination includes soil borings SB-101 to SB-104, which are located immediately adjacent to the former UST area, and potentially SB-105 and SB-106, which are located 25 to 30 feet from the former UST area. This area totals approximately 0.3 acre. Soil borings SB-107 and SB-108 are located at a similar distance, but had minimal or no detections of TPH. The current estimated area of soil contamination is consistent with the findings from the 1999 soil investigation.

- Free product is present in soil at depth intervals of 50 to 60 feet in soil borings SB-101, SB-102, and SB-103 and in monitoring wells MW-01 and MW-02. This free product in not fluid, has the consistency of tar, and is not mobile.

- Soil concentrations exceed the NYSDEC TAGM #4046 criteria. TAGM 4046 provides separate criteria for direct contact human health risks and protection of groundwater. Residual soil contamination at the site, consisting of PAHs, is primarily at a depth of 50 to 70 feet below ground surface. Most of the PAH exceedences identified are associated with a direct contract human health risk scenario. Only chrysene, in 3 of 12 samples, was detected at a concentration exceeding the TAGM 4046 criteria for protection of groundwater. The maximum detected chrysene concentration was 1,200 µg/kg versus a TAGM 4046 criteria of 400 µg/kg. On the average, the chrysene concentration was less than the TAGM 4046 criteria, indicating that wide-spread significant impact to groundwater from the residual PAHs would not be anticipated.

- Groundwater concentrations exceed NYSDEC groundwater standards for TCE and several metals including iron, manganese, and cadmium in site monitoring wells. With the exception of monitoring well MW-06, there was no significant change in groundwater quality at the site during the CLB pilot-scale study. Iron and manganese concentrations in monitoring well MW-06 increased steadily during the study and an overall increased of a factor of 220 and 130, respectively.

REFERENCES

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NYSDOH, 1991. New york State Department of health Laws and regulations Title: section 5 -6.10 Maximum Contaminant Levels. June. http://www.health.state.ny.us/nysdoh/phforum/nycrr10.htm

NYSDEC, 1992. Petroleum-Contaminated Soil Guidance Policy Spill Technology and Remediation Series (STARS) Memo #1. August. **http://www.dec.ny.gov/regulations/30902.html**

NYSDEC, 1994. New York State Department of Environmental Conservation (NYSDEC) TAGM 4046 Table 2-semi-Volatile Organic Contaminants. January. **http://www.dec.ny.gov/regulations/30566.html**

TtNUS, 2003. RCRA Facility Assessment/Focused Feasibility Study for Former Underground Storage Tanks Plant No. 3 Area of Concern 22. Revision 1. January.

APPENDIX A

DESCRIPTION OF CLOSED-LOOP BIOREACTOR

1. **WORK PLAN OBJECTIVES AND DRAWING**
2. **DESCRIPTION OF CLB**

through a well for irrigation, municipal, or domestic use. However, no irrigation, municipal, or domestic use wells are located within 500 feet of AOC 22. Because the fuel oils are heavy molecular weight hydrocarbons and relatively insoluble in water, the COC emanating from the AOC 22 are not likely to migrate a great distance with groundwater, and, as such, do not represent a significant exposure hazard. These conditions could change in the future if the usage of the Site changes, or if domestic or irrigation wells are installed nearby.

1.6. Closed-Loop Bioreactor Pilot Study

Based on the evaluation of remedial alternatives in the AOC 22 Focused Feasability Study (Tetra Tech NUS, Inc., February 2002), a bioremediation technology, closed-loop bioreactor (CLB), was selected for a pilot study at AOC 22. The primary objective of the pilot study is the source removal of petroleum hydrocarbons from the vadose and saturated zones to prevent further leaching of contaminants into groundwater, and the removal of free petroleum product, if it occurs, from the groundwater surface. Dissolved-phase VOCs and SVOCs having concentrations exceeding the remedial action goals will subsequently be removed from the aqueous phase during the remedial process.

The selected pilot study methodology for the AOC 22 unit is CLB process. The CLB process is a combination of technologies, which includes vapor extraction (VE), air sparging (AS), vacuum enhanced product recovery, desorption of hydrocarbons from soil particles, and enhanced bio-degradation. The CLB process creates an in-situ bioreactor in vadose and saturated soils. The process design is a closed-loop system with a continual circulation of air from groundwater sparge points to vadose injection and vacuum extraction wells.

The CLB process uses a system of patented nutrients to accelerate the growth and biodegradation characteristics of existing indigenous bacteria. The process enhances the effectiveness of indigenous bacteria to biodegrade the COCs, **but does not utilize the inoculation of foreign or genetically engineered bacteria to degrade contaminants**. The surfactant, nutrients and supplemental food source are all completely biodegradable. To demonstrate that no breakdown products remain above ambient groundwater conditions, groundwater samples will be analyzed for nitrates/nitrites and surfactants.

At the start of the process, the technology uses a small surface bioreactor to initiate the growth of indigenous bacteria that are capable of destroying petroleum constituents. Within the bioreactor moisture, nutrients, and associated co-metabolites are used to accelerate the growth of the bacteria. Once biogrowth occurs, the vapor-based biomixture is then circulated into the vadose zone through a series of vapor extraction and injection wells, which forms a site-wide closed-loop system. Accordingly, the biomass vapor that is created and injected in the vadose zone is circulated through the subsurface to the appropriate extraction wells, and back to the small surface bioreactor for testing and re-stimulation.

This procedure occurs without any discharge to the atmosphere. Once this process is started, the bioreactor operation continues until an appropriate biomass is established in the vadose zone, which causes the vadose zone itself to act and operate as a larger site-wide bioreactor. This unique situation is maintained during the entire remediation process.

After free product is removed and the vadose zone bioreactor is fully established, groundwater air sparging is initiated. The design of the remedial program includes the installation of dual use air sparging and vapor extraction wells at each sparge point locations. The mechanical sparging action addresses volatile dissolved constituents that are in the groundwater. The air sparging action liberates the volatile petroleum fractions in the groundwater, which then migrate upward into the vadose zone bioreactor, where the constituents are consumed by vapor extraction and biodegradation.

The removal of contaminants from the groundwater is accelerated by bio-stimulation, in a process that is very similar to the biodegradation that occurs in wastewater treatment plants, in a process that further enhances the biodegradation of constituents in the groundwater. Any products that are introduced are also ultimately degraded as bacteria nutrient sources.

The CLB process is maintained and enhanced by an above ground mobile treatment system that includes the surface bioreactor, pump equipment, compressors, and instrumentation (Figure 1-6). The mobile treatment system equipment allows for the adjustment of air circulation rate, moisture control, and nutritional enhancement, which are necessary for a sustained bio-reaction process in the vadose zone.

A critical element of the CLB process is the mobilization of adsorbed chemical constituents. To accomplish this, patented biodegradable surfactants will be injected into the subsurface to enhance the mobilization process. The surfactant substrate is ionic and has the effect of increasing the permeability with respect to hydrocarbons trapped in the soil due to its ionic nature. The surfactant that will be used is completely biodegradable, and is processed from naturally occurring surfactants secreted by bacteria. Pulsing and low-pressure injection is applied so that preferential pathways and fingering of the surfactant through the soil does not occur. The surfactant is injected at a temperature of approximately 35^{o} Celsius (95^{o} Fahrenheit). The high temperature further increases the viscosity of the constituents to approximately that of water and allows the contaminants to become mobile. The mobilized/emulsified product is then transported and drawn into vacuum extraction/recovery wells where it is removed using skimmer pumps. **The removal of the trapped source is the key to the remediation process.** Once the source constituents are eliminated, groundwater cannot be re-contaminated by their presence. Subsequently, engineered biodegradation of dissolved groundwater contaminants can proceed without the problem of recontamination. The result is a linear (vs. asymptotic) contaminant reduction profile that is typical of the CLB process, and is the key element in a rapid cleanup schedule.

Vapor extraction (VE) is an important element of the closed loop process. The extracted vapor train is circulated through the surface bioreactor and is then injected back into the subsurface via groundwater sparge wells and nested vadose zone surfactant injection wells, as applicable. In this manner, the closed loop process does not produce air emissions to the atmosphere; therefore, no effluent destruction equipment or air quality permits will be necessary. Biodegradation is further enhanced by the VE process (via higher aerobic activity), which in turn accelerates both the soil and dissolved groundwater remediation concurrently.

Both No. 4 and No. 6 fuel oil are long-chain (i.e., heavy molecular weight) hydrocarbons. No. 6 fuel oil in particular is a high viscosity fuel oil. Because of its high molecular weight, biodegradation is likely to be slow. Therefore, the CLB process will be enhanced through the use of Fenton's Reagent. Fenton's Reagent is an iron-catalyzed hydrogen peroxide mixture that, when applied to a carbon source, breaks down the carbon compound through oxidation. As the oxidation reaction proceeds, heat

is generated. Through the breaking down of the carbon chain and the creation of heat, the heavy fuel oils will become less viscous, and thus more mobile, in the subsurface.

Locus will implement an air monitoring program during ground intrusive activities, such as well installation, and during the startup of the CLB process, to the extent practicable, with respect to VOCs. The air monitoring program for ground intrusive activities will consist of Locus/ARUSI personnel collecting VOC measurements using a photo-ionization detector or equivalent at downwind location. VOC data will be collected at approximately 15-minute intervals and recorded in the field log. During the startup of the CLB process (the first two days) VOCs will be monitored as previously stated. However, if VOCs are not detected, air monitoring frequency will be reduced gradually according to the following schedule: Hourly day 3 to day 5 and the once daily thereafter.

1.7. Closed-Loop Bioreactor Pilot Study Implementation Schedule

A project schedule has been included in Appendix B. The schedule shows all major tasks as outlined in the scope of work, and activities associated with each tasks. The critical path method (CPM) will be used to schedule and control project related activities using Microsoft Project 2000. The schedule will be updated at monthly intervals. Each invoice submitted to NAVFAC will be accompanied by an updated project schedule that shows the progression of the remedial program.

1.8. Community Relations

Locus Technologies will participate in four (4) Restoration Advisory Board (RAB) meetings with EFANE, with the objective of describing the CLB technology, describing the pilot study approach, and reporting progress.

2. PILOT STUDY DESIGN

2.1. Design Strategy

The overall remedial design was developed by Locus in conjunction with AR Utility Specialists, Inc. (ARUSI). Locus has developed the remedial strategy to address the contaminated soil and groundwater at the AOC 22. ARUSI is responsible for remedial construction design and implementation, and will provide the proprietary biodegradation additives used to enhance the natural biodegradation of contaminants in the subsurface.

2.2. Design Activities

The following is a list of design activities that are required prior to implementation of the remedial program:

- Pre-design meeting/site walk
- Development of this remedial documents which include the Pilot Study Work Plan, Sampling and Analysis Plan, and Health and Safety Plan
- Completion of remedial design drawings, to include remedial well locations, underground piping, and electrical design plans
- Procurement of construction, environmental, and drilling permits where applicable

2.3. Design Deliverables

Prior to implementation of the remedial activities, the following deliverables will be completed:

- Pilot Study Work Plan
- Pilot Study Sampling and Analysis Plan (Appendix C)

- Pilot Study Health and Safety Plan (Appendix D)
- Pilot Study Design Drawings
- Construction and Use permits, if necessary

2.4. Evaluation of Previous Data

Locus reviewed the FA/FFS prepared by Tetra Tech NUS. The FA/FFS included a brief review of the site history, and a detailed discussion of soil and groundwater analytical results from previous investigations conducted in 1997 and 1999. The report identified Applicable or Relevant and Appropriate Requirements (ARARs) in an effort to develop remedial alternatives. Six remedial alternatives were selected for review. Those alternatives are (1) no action; (2) cover and institutional controls; (3) excavation and off-site disposal; (4) bioremediation, institutional controls, and monitoring; (5) in-situ chemical oxidation; (6) thermally enhanced soil vapor extraction. This effort will serve as a pilot test of the remedial alternative Number 4 from the FA/FFS.

The NYSDEC reviewed the FA/FFS and determined that active remediation of the AOC 22 source area soils is necessary to ensure protection of the groundwater beneath the site. The chosen remedial technology (CLB) described in this work plan will fulfill this requirement through the removal of contaminant mass at the source area.

2.5. Design Criteria

The CLB system proposed for this site consists of the remediation well infrastructure, which includes extraction and injection wells connected by lateral piping to the main treatment system; the mobile remedial equipment trailer housing the surface bioreactor and associated equipment; and the electrical power distribution system.

3. PERMITTING REQUIREMENTS

Locus understands that this remedial project is located on a federal facility and that no local permitting is required. However, all well and infrastructure and construction will be in accordance with all applicable regulatory and construction standards. If any permit are required, Locus will obtain them in a timely manner.

4. CONSTRUCTION

4.1. Construction Strategy

Construction of the CLB pilot system will begin with the installation of the remediation wells, the locations of which have been chosen based on previous soil and groundwater analytical results. A licensed drilling contractor will perform all well drilling and installation activities, under the supervision of Locus personnel. Following completion of the well installation phase, a licensed contractor will be retained to install all lateral underground piping, which will connect the remediation wells to the above-ground remedial equipment trailer. Once the lateral piping is in place, a licensed electrician will connect the electrical supply to the remedial system. All infrastructure construction activities will be under the supervision of ARUSI personnel. Local licensed contractors and businesses will be used to the maximum extent practicable to perform infrastructure construction tasks.

4.2. Construction Activities

4.2.1. Health and Safety Plan

Locus has prepared a site-specific Health and Safety Plan (HASP) which is included in Appendix D. The plan will include a description of the hazard assessment including level of safety protection to be used during field operations and exposure monitoring. The plan also addresses overhead and underground utilities and safety during trenching operations, equipment installation, equipment noise levels, heat stress and emergency response procedures. A copy of the HASP will be given to all integrated team partners (ITP) personnel and subcontractors working on the project.

4.2.2. Well Installation

An Locus and/or ARUSI field geologist or engineer will supervise the installation of 34 air sparging and injection/extraction cluster wells. Well locations have been chosen based on the site lithology, occurrence of phase separated hydrocarbons, and the boundaries of the dissolved phase hydrocarbon plume. All 34

wells will be installed on site property. Remediation well locations are included on the Remediation Site Plan (Figure 1-5).

Locus understands that underground utilities exist at AOC 22. The approximate locations of these utilities are as indicated in the electronic figures provided by the client and shown on Figure 1-5. Currently these utilities are shut down, but need to be preserved for future use. To avoid damaging the existing underground utilities, the well locations will be cleared prior to drilling by hand digging with a post-hole digger. The well locations may need to be adjusted during the field activities to avoid possible conflicts.

The remediation wells will be installed using a hollow-stem auger drill rig. Twenty-eight (28) deep-nested wells will be drilled to a depth of approximately 75 feet bgs, and will be constructed of 2-inch- and 4-inch-diameter polyvinylchloride (PVC) well casing and screen. The screened interval for the 2-inch sparge wells will extend from approximately 70 to 75 feet bgs, and will consist of 0.01-inch slotted high-flow screen. The screened interval for the 4-inch-diameter injection/extraction wells will extend from 20 to 65 feet bgs and will consist of 0.02-inch slotted high-flow screen. The proposed well construction diagrams are included on Figure 1-7.

Six shallow vapor extraction wells will be drilled to a depth of approximately 25 feet bgs and will be constructed of 4-inch-diameter PVC well casing and screen. The screened interval will extend from approximately 10 to 25 feet bgs and will consist of 0.02-inch slotted high flow screen. All 34 wellhead completions will be mounted flush to the ground surface within 24-inch-diameter traffic-rated well vaults.

During drilling, soil samples will be collected from selected wells at 10-foot depth intervals. The samples will be collected using a split-spoon sampler (either 18 or 24 inches long) containing 6-inch long brass sleeves. Upon reaching a chosen sampling depth, the sampler will be lowered into the borehole and driven a minimum of 18 inches into undisturbed soil. Upon retrieving the sampler, the brass sleeves will be removed. The lowermost sleeve will be retained for possible laboratory analysis. Soil in the remaining sleeves will be retained for lithologic description. Soil samples that are submitted to an analytical laboratory will be analyzed for TPH using United States Environmental Protection Agency (EPA)

Method 8015, VOCs using EPA Method 8260B and SVOCs using EPA Method 8270C. A detailed description of the sampling methodology is included in the Sampling and Analysis Plan (Appendix C).

4.2.3. Lateral Piping Installation

All injection/extraction wells will be connected to the CLB remedial system using 2-inch- and 4-inch-diameter Schedule 40 PVC piping. Lateral piping will be placed in trenches located greater than 3 feet below grade to avoid freezing conditions. A flow control valve will be installed at each connection of lateral piping and well head. All manifold piping will be routed to a manifold located near the system trailer.

4.2.4. Remedial System Enclosure and Electrical Service

The CLB remedial system and controls will be enclosed on the property within a secured trailer measuring approximately 8 feet by 25 feet. The trailer will be located within the GAC building, with the remaining floor space within the building being utilized as a field office.

ARUSI will supervise the construction of a below-ground electrical distribution line originating from existing electrical switch near the GAC Building. The new supply will be attached to a new electrical panel inside the GAC Building. A licensed electrician will coordinate the installation of the three-phase, 460-volt electrical service in the GAC Building, which will be inspected by the local utility and municipal inspectors, if necessary, prior to system start-up.

4.2.5. Waste Disposal and Transport

Drill cuttings generated during drilling activities will be stored on the property in Department of Transportation (DOT)-approved drums or covered roll-off bins, pending results of soil sample laboratory analyses. After the waste material has been characterized, it will be disposed of in an appropriate manner.

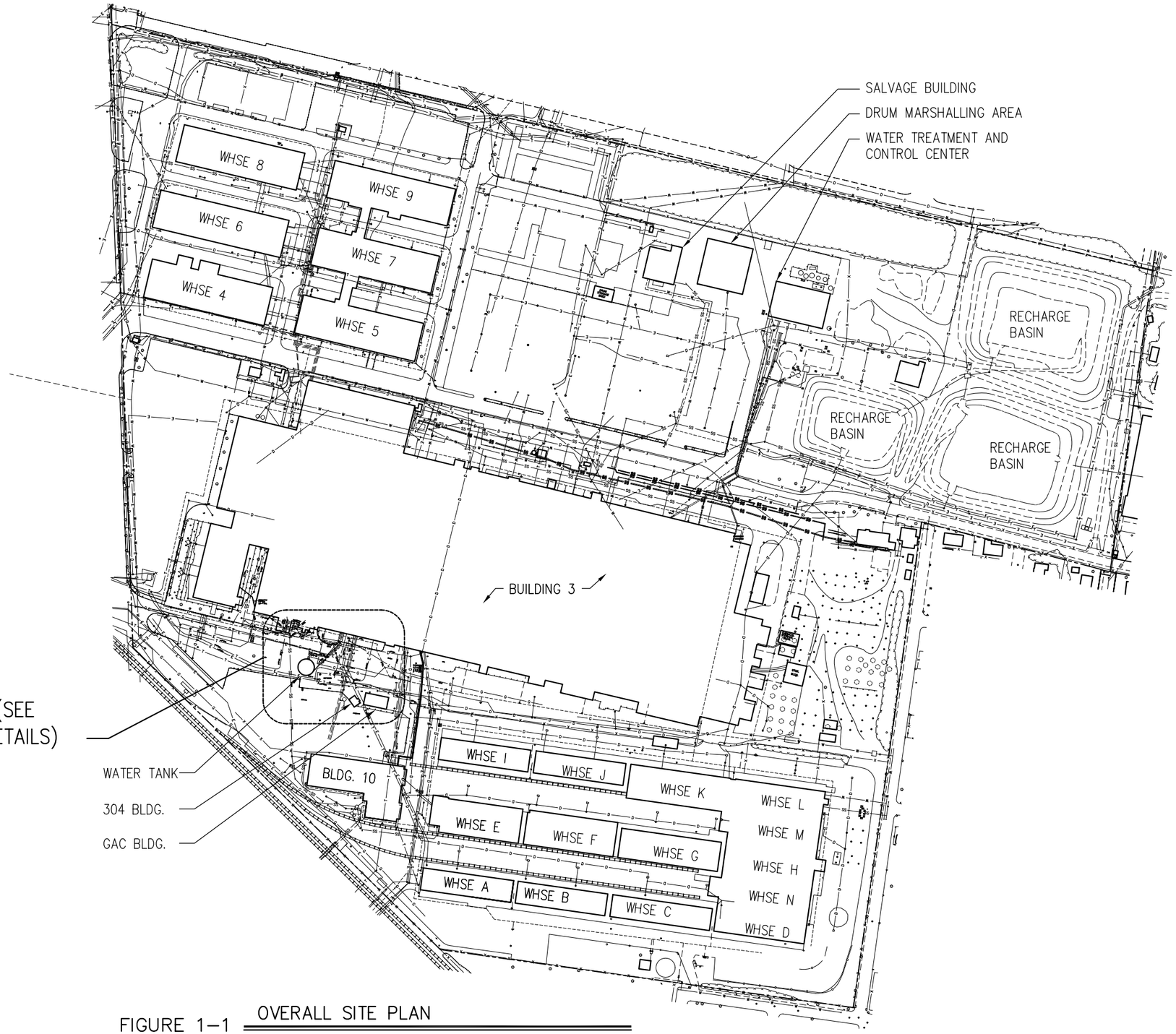

FIGURE 1-1 OVERALL SITE PLAN

SCALE: NONE

NORTH

0 50' 400' 400'

SCALE: 1"=200'-0"

A-11

Jul 08, 2004 - 11:14am - gilbertc - X:\F. Architectual CAD\B. Drawings\Environmental\New York\Bethpage\a-Pre Design\pdf FIGURES\FIGURE 1-1.dwg

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PROJECT DESCRIPTION

CLOSED-LOOP
BIOREMEDIATION
PILOT DEMONSTRATION
PLANT 3, AREA OF
CONCERN 22

999 S. OYSTER BAY RD.
BETHPAGE, NY 11714

REVISIONS

NO.	DATE	DESCRIPTION	BY
A	5/13/04	ISSUED FOR SUBMITAL	JE

PROJECT NO: N62472-04-C-XXX
DRAWN BY: JERRY E.
CHECKED BY: DAN L.
CAD DWG FILE:N62472-04-C-XXX
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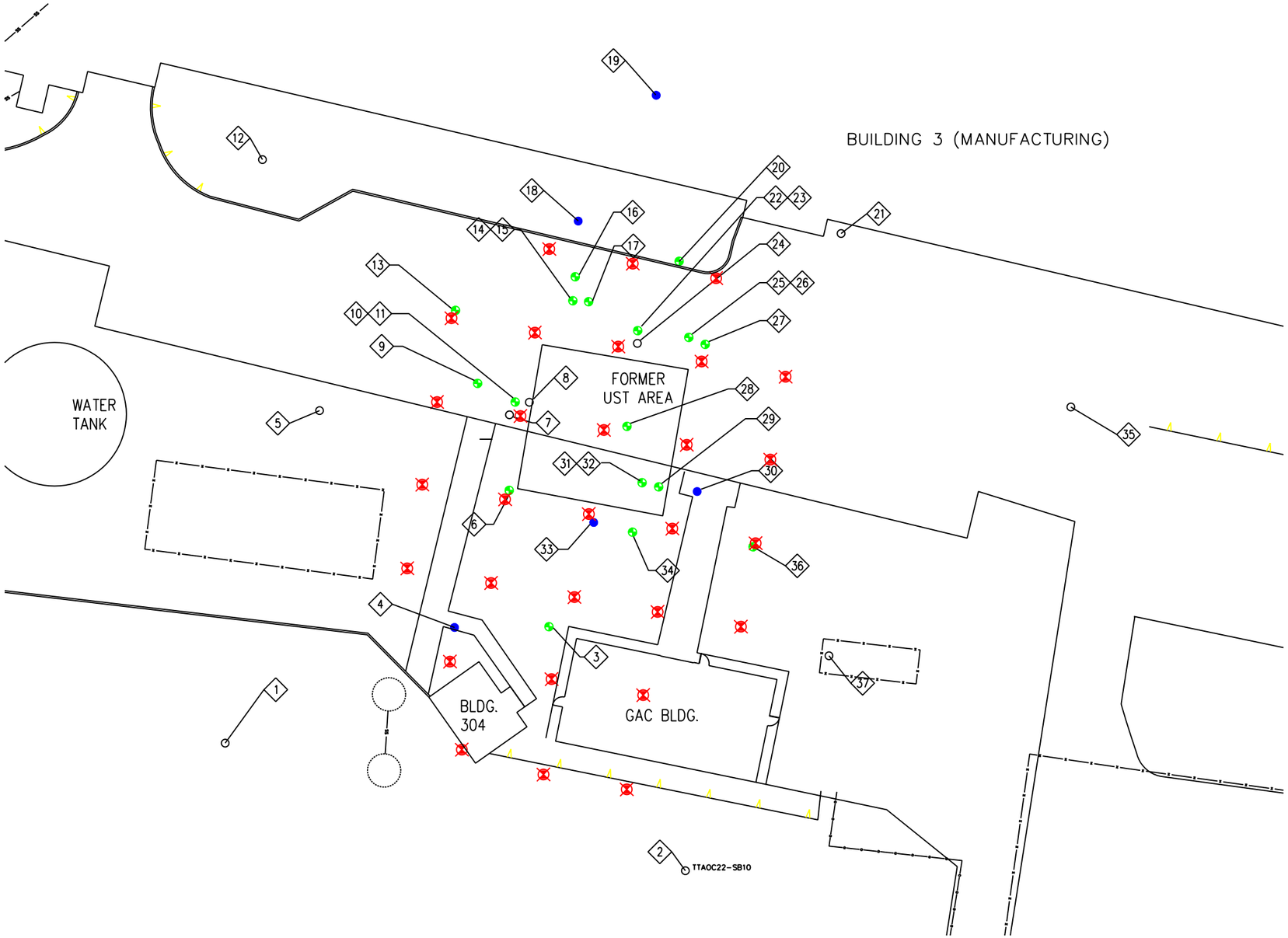
SHEET TITLE
OVERALL SITE PLAN

FIGURE 1-1
SHEET 1 OF 7



LEGEND

- TTNUS SOIL BORING SAMPLE LOCATIONS
- TTNUS SOIL BORING/MONITORING WELL SAMPLE LOCATIONS
- NORTHROP GRUMMAN SOIL BORING SAMPLE LOCATIONS
- PROPOSED PILOT STUDY WELLS

NORTH

0 8' 16' 32'

SCALE: 1/16"=1'-0"

FIGURE 1-2 AREA OF CONCERN (AOC) 22 SITE PLAN & SOIL SAMPLE LOCATIONS

SCALE: 1"=20'-0"

NOTE:
ALL DATA FROM "RCRA FACILITY ASSESSMENT/ FOCUS FEASIBILITY STUDY FOR FORMER UNDERGROUND STORAGE TANKS, PLANT NO. 3 AREA OF CONCERN (AOC) 22" FEBRUARY 2002. TETRA TECH NUS, INC.

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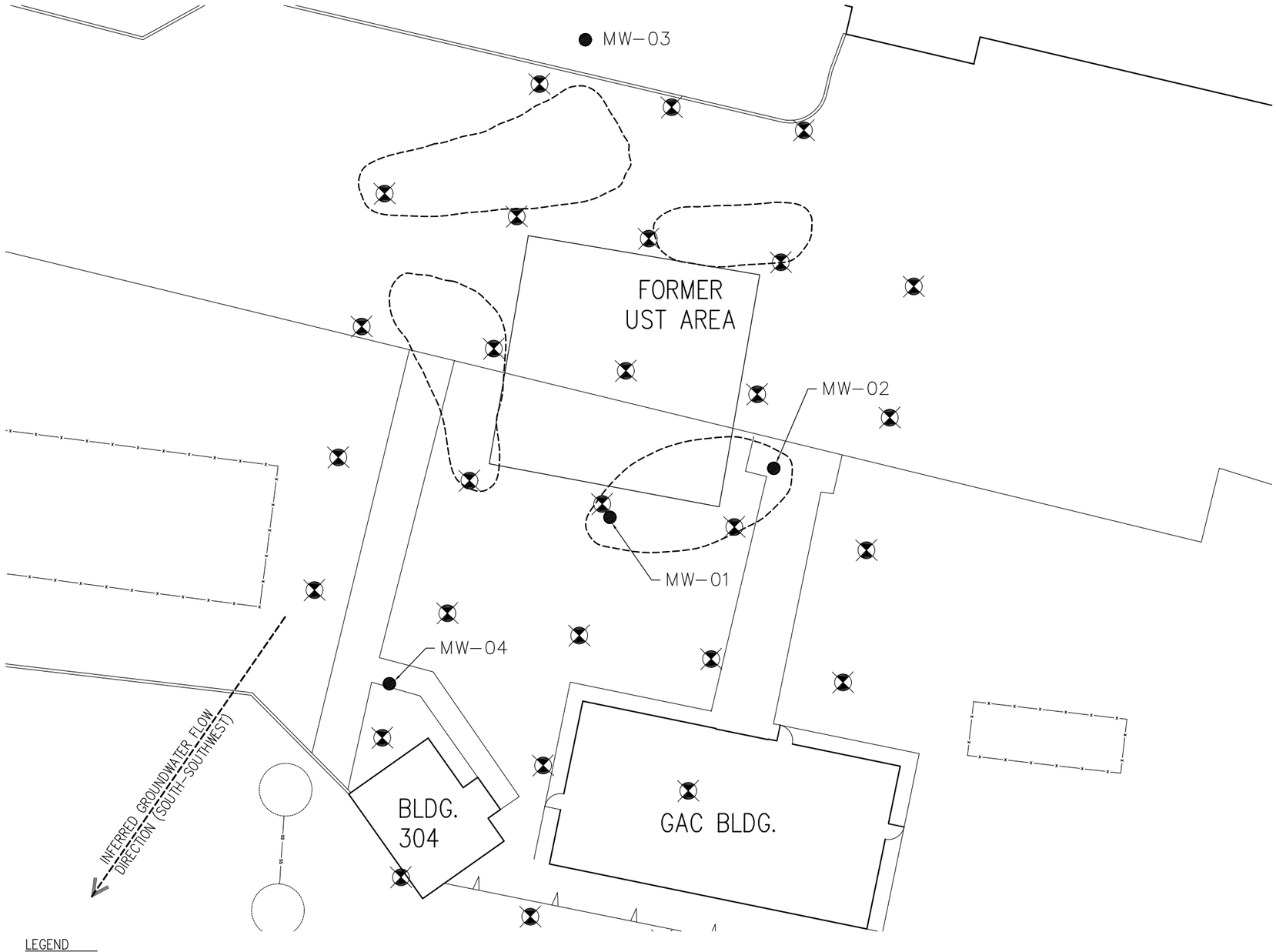
SHEET TITLE
SOIL ANALYTICAL RESULTS

FIGURE 1-2
SHEET 2 OF 7

A-12

Jul 06, 2004 - 11:10am - gilbertc - X:\F. Architectural CAD\B. Drawings\Environmental\New York\Bethpage\a-Pre Design\pdf FIGURES\FIGURE 1-2.dwg



LEGEND

MW-# TTNUS SOIL MONITORING WELL LOCATIONS

PROPOSED PILOT STUDY WELLS

TTNUS ESTIMATED LIMITS OR IMPACTED SOIL

INFERRED GROUNDWATER FLOW DIRECTION (SOUTH-SOUTHWEST)
(FA/FFA, TtNUS INC., FEB. 2002)

NORTH

FIGURE 1-3 MONITORING WELL LOCATIONS AND REMEDIATION

SCALE: NONE

NOTE:
ALL DATA FROM "RCRA FACILITY ASSESSMENT/ FOCUS FEASIBILITY STUDY FOR FORMER UNDERGROUND STORAGE TANKS, PLANT NO. 3 AREA OF CONCERN (AOC) 22" FEBRUARY 2002. TETRA TECH NUS, INC.

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SHEET TITLE
SOIL ANALYTICAL RESULTS

FIGURE 1-3
SHEET 3 OF 7

KEY NOTES:

1
BOREHOLE: SB-11

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
53–55	N/A	ND	X = 0'–0" Y = 0'–0"

2
BOREHOLE: SB-10

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
55–57	N/A	12	X = 135'–10" Y = –37'–8"

3
BOREHOLE: 16

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
0–8 8–26 26–42 42–54 54–67	NA ND L 1.2–1.9 L 1.0–2.2 L 3,810–89,520*	NA ND–17 L ND L NA 540–19,000	X = 95'–7" Y = 34'–4"

4
BOREHOLE: SB-07

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
55–57	N/A	1,300	X = 67'–8" Y = 34'–2"

5
BOREHOLE: SB-09

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
55–57	N/A	ND	X = 27'–10" Y = 98'–2"

6
BOREHOLE: 01BS

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
8–10 10–12 12–14 14–16 16–18 18–20 20–22 22–24 24–26 28–30 30–32 32–34 34–36 36–38 38–40 40–42 45–46.5 50–51.5 55–57 60–62 65–67	1.9 1091.2* 4600* N/A 3800* N/A 960* 3080* N/A 530 2250* N/A N/A N/A N/A N/A 2090* 7140* 28969* 58610* 4770	630 500 2800 49 2300 520 J 1400 J 1300 J 620 J 2900 J 3900 J 1600 J 4100 J 1400 J 2500 J 5500 J 1800 J 3600 J 5900 J 18000 J 2800 J	X = 83'–10" Y = 74'–7"

7
BOREHOLE: SB03

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
55–57	N/A	13000	X = 83'–11" Y = 96'–11"

8
BOREHOLE: SB01B

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
NO DATA AVAILABLE			

9
BOREHOLE: 01BW

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
8–10 10–12 12–14 14–16 16–18 18–20 20–22 22–24 24–26	341.1 N/A 610* 3600* 680* 1130* 1620* 159 N/A	510 N/A 1000 6800 2700 1200 5800 260 27	X = 74'–6" Y = 106'–2"

10
BOREHOLE: 01

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
18–20	N/A	4800	X = 85'–7" Y = 100'–8"

11
BOREHOLE: 01A

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
8–10 10–12 12–14	1620 N/A N/A	N/A N/A N/A	X = 85'–7" Y = 100'–8"

12
BOREHOLE: SB-13

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
	N/A	ND	X = 11'–0" Y = 172'–3"

13
BOREHOLE: 2BW

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
8–10 10–12 12–14 14–16 16–18 18–20 20–22	N/A N/A N/A 2060 830* 310 N/A	4.6 2200 7 870 550 310 N/A	X = 68'–0" Y = 127'–9"

14
BOREHOLE: 02A

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
8–10 10–12	N/A N/A	N/A N/A	X = 102'–7" Y = 130'–7"

15
BOREHOLE: 02

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
14–16	N/A	2500	X = 102'–7" Y = 130'–7"

16
BOREHOLE: 02BN

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
8–10 10–12 12–14 14–16 16–18 18–20 20–22	N/A N/A N/A N/A 451.2* N/A 370*	4.6 N/A 630 130 9.2 430 1400	X = 103'–4" Y = 137'–8"

17
BOREHOLE: 02B

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
8–10 10–12 14–16 16–18 18–20 20–22 22–24 24–26 26–28 28–30 30–32 32–34 34–36 36–38	N/A 870* 4510* 280 87* 400* 530* 2400* 19600* 10060* 480 9890* 4070* 6970*	7.5 490 10000 300 450 220 550 2200 7100 5100 330 6400 2400 3900	X = 107'–3" Y = 130'–3"

18
BOREHOLE: SB-05

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
55–59	7,480*	5,400	X = 104'–2" Y = 154'–1"

19
BOREHOLE: SB-12

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
58–60	N/A	99	X = 127'–3" Y = 191'–3"

20
BOREHOLE: 17

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
0–8 8–26 26–42 42–54 54–67	NA ND–3.1 L ND–2 L ND–1,320* L ND–17,800*	NA ND–11 L ND L ND–980 L 32–6,400	X = 134'–0" Y = 142'–3"

21
BOREHOLE: SB-05

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
55–57	N/A	ND	X = 181'–9" Y = 150'–5"

22
BOREHOLE: 03

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
16–18	N/A	11000	X = 121'–9" Y = 121'–9"

23
BOREHOLE: 03A

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
8–10 10–12 12–14	N/A 5882* 71.1	N/A N/A N/A	X = 121'–9" Y = 121'–9"

24
BOREHOLE: 02

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
57–59	N/A	21000	X = 121'–8" Y = 118'–0"

25
BOREHOLE: 04

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
14–16	N/A	330	X = 136'–10" Y = 119'–9"

26
BOREHOLE: 04A

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
8–10 10–12 12–14	637.2 N/A 253	N/A N/A N/A	X = 136'–10" Y = 119'–9"

27
BOREHOLE: 04B

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
8–10 10–12 12–14	1316* N/A NA	N/A N/A 2900	X = 141'–8" Y = 117'–8"

28
BOREHOLE: 06 AND 06A

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
0–6 6–12 14–16 16–67	NA ND ND NA	NA NA NA NA	X = 118'–7" Y = 93'–6"

29
BOREHOLE: 05B

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
NO DATA AVAILABLE			

30
BOREHOLE: SB04

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
55–57	N/A	12000	X = 139'–4" Y = 74'–3"

31
BOREHOLE: 05

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
14–16	N/A	73	X = 123'–1" Y = 76'–10"

32
BOREHOLE: 06 AND 05A

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
6–8 8–10 10–12	N/A 2.8 2063*	N/A NA NA	X = 123'–1" Y = 76'–10"

33
BOREHOLE: SB01

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
54–56	3000	1900	X = 108'–9" Y = 65'–2"

34
BOREHOLE: 05BS

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
8–10 10–12 12–14 16–18 18–20 20–22 22–24 24–26 26–28 28–30 30–32 32–34 34–36 36–38 38–40 40–42 42–44 44–46	669* N/A 1532* N/A 3600* N/A 1200* 450* N/A N/A N/A N/A N/A N/A N/A 590 630* 752*	86 5.7 18 37 4100 3300 5300 2000 580 1700 720 800 2000 4500 620 1600 770 2300	X = 120'–3" Y = 62'–3"

35
BOREHOLE: SB-14

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
57–59	N/A	2.8	X = 249'–7" Y = 99'–3"

36
BOREHOLE: 15

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
0–8 8–26 26–42 42–54 54–67	NA ND L ND–41 L ND L 4,434–47,344*	NA ND–53 L 4–12 L 22–680 L 1,000–14,000	X = 155'–10" Y = 57'–11"

37
BOREHOLE: SB-08

DEPTH INTERVAL FEET BGS	TOTAL PAHs UG/KG	TPH MG/KG	COORDINATES
55–57	NO	ND	X = 178'–3" Y = 25'–9"

LEGEND:

1. TPH= TOTAL PETROLEUM HYDROCARBONS
2. PAHs = POLYAROMATIC HYDROCARBONS
3. NA = ANALYTE NOT ANALIZED
4. N/A = ANALYTE WAS NOT DETECTED

* = EXCEEDS TECHNICAL AND ADMINISTRATIVE GUIDANCE MEMORANDUM (TAGM) SOIL CLEANUP OBJECTIVE CRITERIA (NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATIVE (NYSDEC) JANUARY 24, 1994 REVISED)

FIGURE 1–4 SOIL ANALYTICAL RESULTS

SCALE: NONE

NOTE:
ALL DATA FROM "RCRA FACILITY ASSESSMENT/ FOCUS FEASIBILITY STUDY FOR FORMER UNDERGROUND STORAGE TANKS, PLANT NO. 3 AREA OF CONCERN (AOC) 22" FEBRUARY 2002. TETRA TECH NUS, INC.

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PROJECT DESCRIPTION

CLOSED–LOOP BIOREMEDIATION PILOT DEMONSTRATION PLANT 3, AREA OF CONCERN 22

999 S. OYSTER BAY RD.
BETHPAGE, NY 11714

REVISIONS

NO.	DATE	DESCRIPTION	BY
A	5/13/04	ISSUED FOR SUBMITAL	JE

PROJECT NO: N62472–04–C–XXX
DRAWN BY: JERRY E
CHECKED BY: DAN L.
CAD DWG FILE:1C04BP0001–A4.0
SIZE "D" IF SHEET IS LESS THAN "22x36" IT IS A REDUCED PRINT. SCALE REQUIRED REDUCED ACCORDINGLY

SHEET TITLE
SOIL ANALYTICAL RESULTS

FIGURE 1–4
SHEET 4 OF 7

A-14

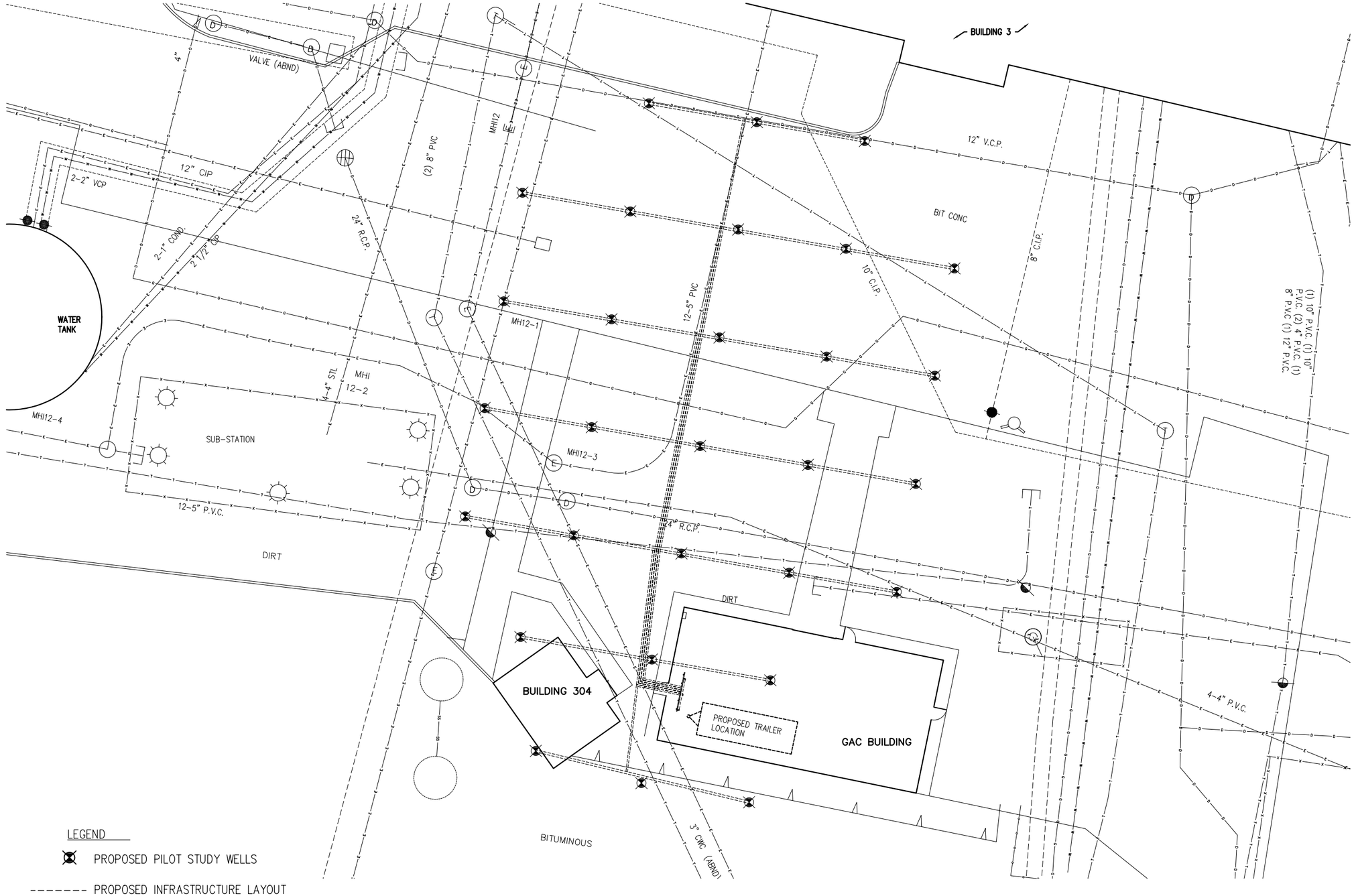

FIGURE 1-5 REMEDIAL SITE PLAN

SCALE: 3/32"=1'-0"

A-15

Jul 08, 2004 - 11:16am - gilbertc - X:\F. Architectual CAD\B. Drawings\Environmental\New York\Bethpage\a-Pre Design\pdf FIGURES\FIGURE 1-5.dwg

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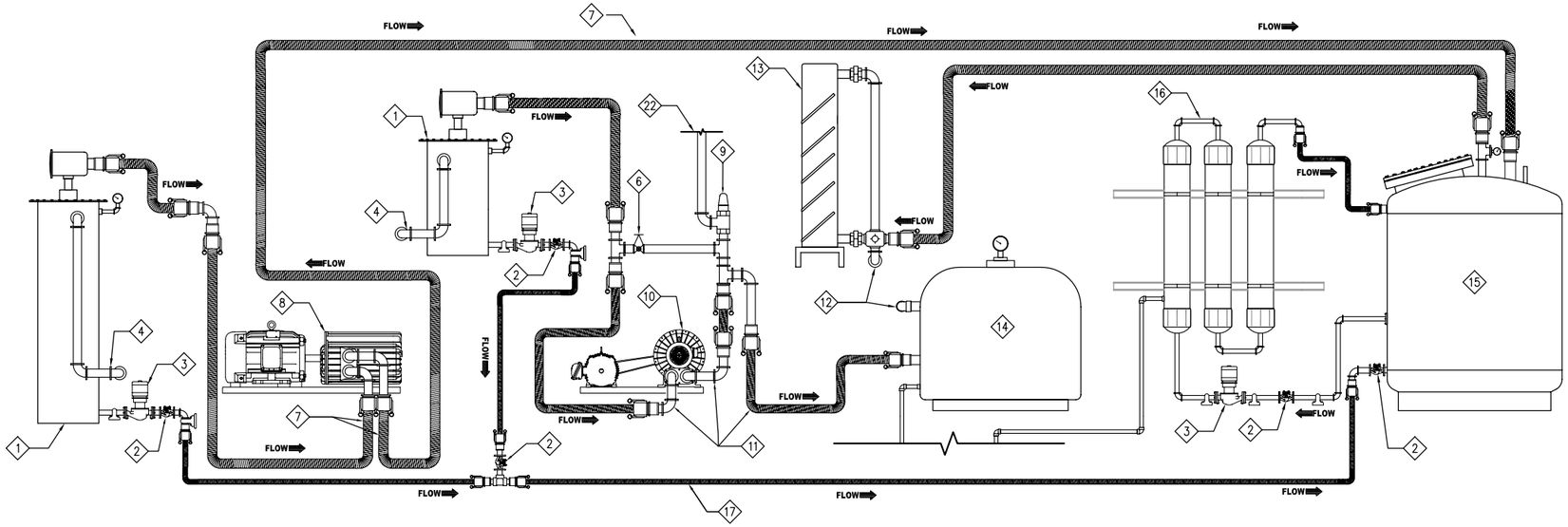
SHEET TITLE

ENLARGED SITE PLAN

FIGURE 1-5

SHEET 5 OF 7



1 DETAIL
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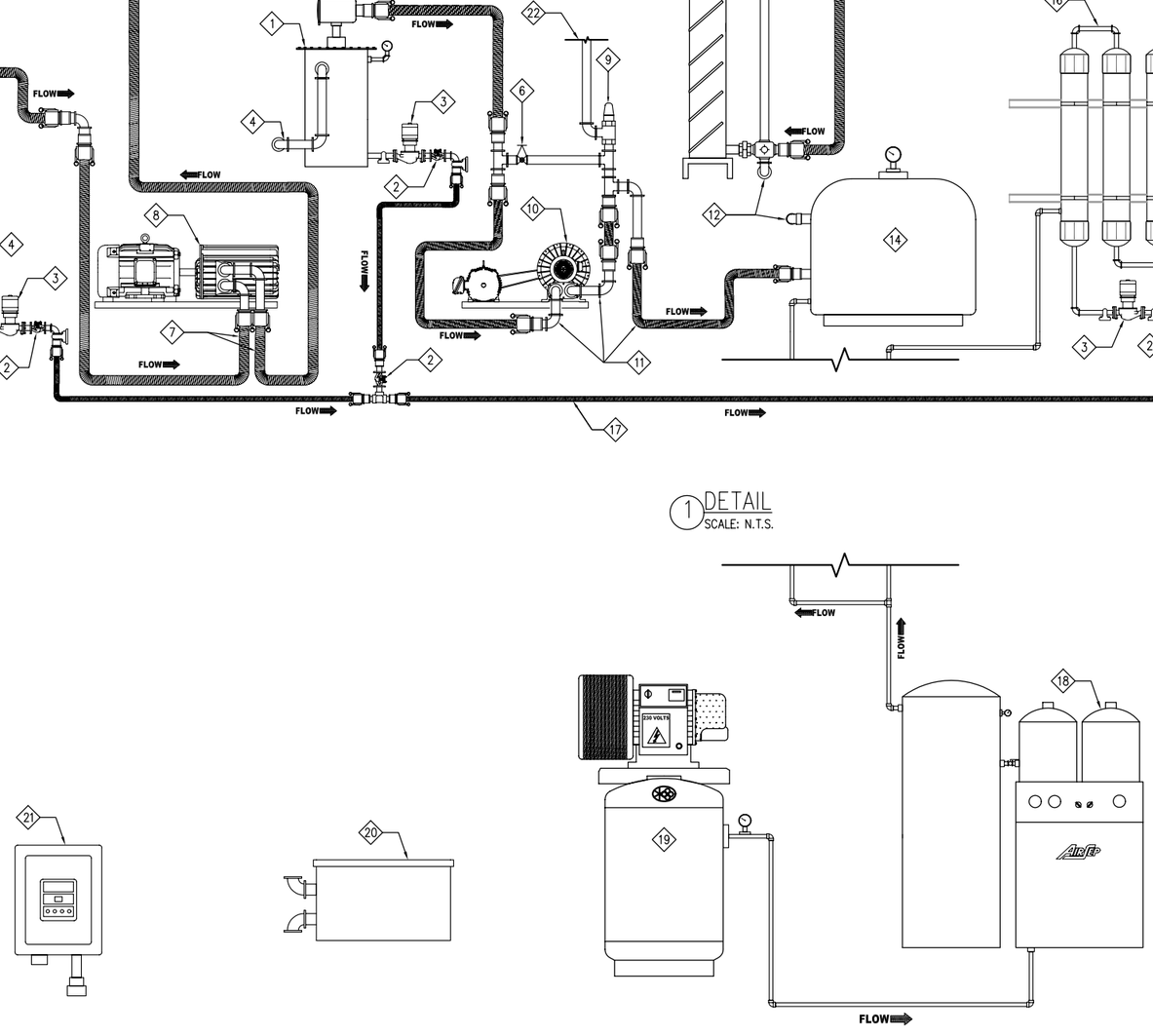
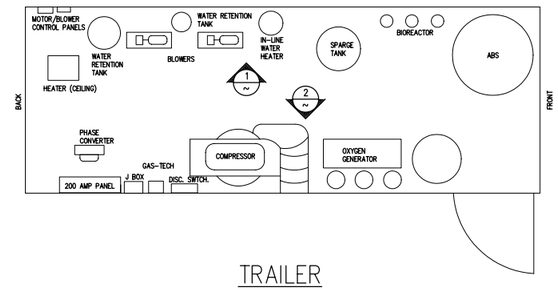


2 DETAIL
SCALE: N.T.S.

KEY NOTES:

1. WATER RETENTION TANK
2. CHECK VALVE
3. RECIRCULATING PUMP
4. FROM EXTRACTION LINE
5. CAM OPERATED COUPLING (QUICK DISCONNECT) TYP.
6. FLOW RECIRCULATION VALVE
7. 3" HOSE LINE
8. 30 HP BLOWER ASSEMBLY (ABS)
9. PRESSURE RELEASE VALVE
10. 15 HP BLOWER ASSEMBLY (SPARGE)
11. 2" HOSE LINES
12. TO INJECTION LINE
13. INLINE HEATER
14. SPARGE TANK
15. ABS TANK
16. BIOREACTOR
17. DRAIN TO ABS TANK HOSE LINE. MATCH TO PUMP SIZE
18. OXYGEN GENERATOR
19. AIR COMPRESSOR
20. PHASE CONVERTER 1ø TO 3ø
21. GAS-TECH MONITORING SYSTEM
22. EXIT THROUGH CEILING



TRAILER

FIGURE 1-6 PROCESS FLOW DIAGRAM
SCALE: N.T.S.

ARUSI
AR UTILITY SPECIALIST INC.
2840 S. 36TH STREET
BUILDING 'E', SUITE '5'
PHOENIX, AZ 85034-7238
TEL: (602) 431-2175
FAX: (602) 431-2163
WWW.ARUSI.NET

CONSULTANTS
LOCUS TECHNOLOGIES
LOCUS TECHNOLOGIES, INC.
668 N. 44TH ST.
PHOENIX, AZ 85008-6547
TEL:(602) 685-1173
FAX:(602) 685-5709
WWW.LOCUSTEC.COM

PROJECT DESCRIPTION
CLOSED-LOOP BIOREMEDIATION PILOT DEMONSTRATION PLANT 3, AREA OF CONCERN 22
999 S. OYSTER BAY RD.
BETHPAGE, NY 11714

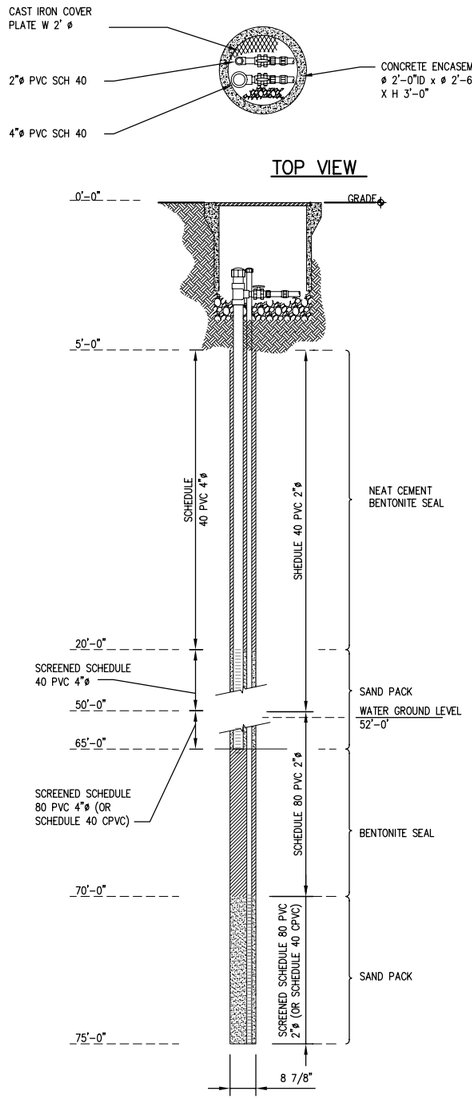
REVISIONS

NO.	DATE	DESCRIPTION	BY
A	5/13/04	ISSUED FOR SUBMITAL	JE

PROJECT NO: N62472-04-C-XXX
DRAWN BY: GILBERT
CHECKED BY:
CAD DWG FILE:DRAWING NUMBER
SIZE "D" IF SHEET IS LESS THAN "22x36" IT IS A REDUCED PRINT. SCALE REQUIRED REDUCED ACCORDINGLY

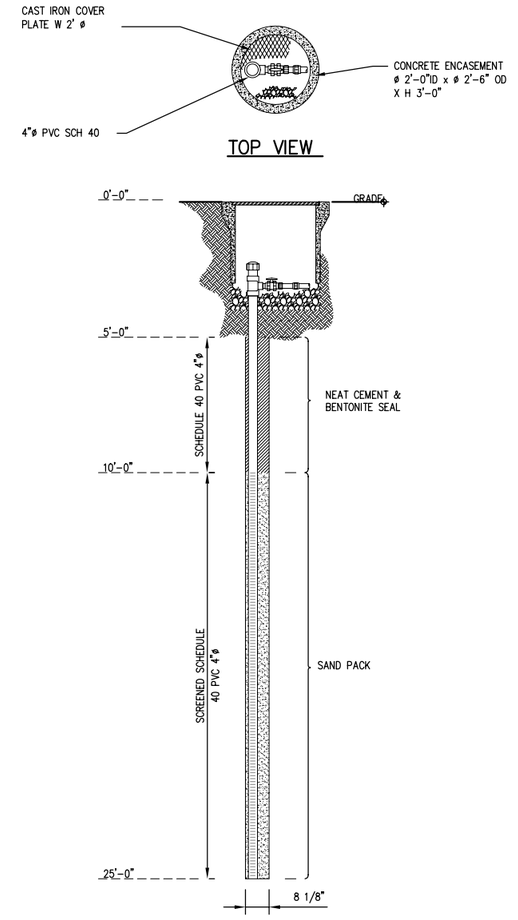
SHEET TITLE
PROCESS FLOW DIAGRAM

FIGURE 1-6
SHEET 6 OF 7



ELEVATION

PILOT STUDY WELL



ELEVATION

SHALLOW PILOT STUDY WELL

FIGURE 1-7 PILOT STUDY WELLS CONSTRUCTION DIAGRAM

SCALE: 3/32"=1'-0"

A-17

Jul 08, 2004 - 10:32am - gilbertc - X:\F. Architectual CAD\B. Drawings\Environmental\New York\Bethpage\a-Pre Design\pdf FIGURES\FIGURE 1-7.dwg

ARUSI
AR UTILITY SPECIALIST INC.
2840 S. 36TH STREET
BUILDING 'E', SUITE '5'
PHOENIX, AZ 85034-7238
TEL: (602) 431-2175
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CONSULTANTS

LOCUS TECHNOLOGIES
LOCUS TECHNOLOGIES, INC.
668 N. 44TH ST.
PHOENIX, AZ 85008-6547
TEL:(602) 685-1173
FAX:(602) 685-5709
WWW.LOCUSTEC.COM

PROJECT DESCRIPTION

CLOSED-LOOP BIOREMEDIATION PILOT DEMONSTRATION PLANT 3, AREA OF CONCERN 22

999 S. OYSTER BAY RD.
BETHPAGE, NY 11714

REVISIONS

NO.	DATE	DESCRIPTION	BY
A	3/26/04	ISSUED FOR SUBMITAL	JE

PROJECT NO: N47408-04-C-7505
DRAWN BY: GILBERT C.
CHECKED BY: DAN L.
CAD DWG FILE:1C04BP0001-A6.0
SIZE "D" IF SHEET IS LESS THAN "22x36" IT IS A REDUCED PRINT. SCALE REQUIRED REDUCED ACCORDINGLY

SHEET TITLE
CONSTRUCTION DETAILS

FIGURE 1-7
SHEET 7 OF 7

APPENDIX B

FIELD FORMS

BORING LOGS
MONITORING WELL SHEETS
MONITORING WELL DEVELOPMENT RECORDS
GROUNDWATER SAMPLE LOG SHEETS
LOW FLOW PURGE DATA SHEETS
SOIL AND SEDIMENT SAMPLE LOG SHEETS
CHAINS OF CUSTODY

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta Drilling
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW06
DATE: 9-7-04
GEOLOGIST: Vince Stuckert
DRILLER: Peter Trembley

Time	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
		1					Blk	Asphalt ≈ 3 inches Gravel ≈ 4 inches			0	0	0	0
		2												
		3						No Returns		Borehole open To ≈ 7.5' BGS	-	-	0	0
		4								due to Vac Truck activities				
1125		5									-	-	0	0
		6												
		7									-	-	0	0
		8												
		9									-	-	0	0
1130		10												
		11					Brn	FGR to CGR Sand with Fine to Medium gravel (rounded)		moist	0	0	0	0
		12												
		13												
		14					Brn	Same as above		moist	0	0	0	0
1136		15												
		16					Brn	Same as above		moist	0	0	0	0
		17												
		18					Brn	Same as above		moist	0	0	0	0
		19												
1144		20												
		21					Brn	Same as above		moist	0	0	0	0
		22												
		23					Brn	Same as above		moist	0	0	0	0
		24												
1149		25					Brn	Same as above		moist	0	0	0	0

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: 4.25" X 5' Hollow Stem Augers
2" X 2' Stainless steel split spoons collected over screen interval only.
140 pound Hammer used at split spoons

Converted to Well: Yes ✓ No ____ Well I.D. #: TTAOC22-MW06

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW06
DATE: 9-7-04
GEOLOGIST: V. Shickora
DRILLER: P. Trenblay

Time	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
		26					Brn	FGR to CGR Sand with fine to medium gravel (rounded) Trace course gravel		moist	0	0	0	0
		27												
		28												
		29					Brn	Same as above		moist	0	0	0	0
1154		30												
		31					Brn	Same as above		moist	0	0	0	0
		32												
		33					Brn	Same as above		moist	0	0	0	0
		34												
1200		35					org Brn	Same as above		moist	0	0	0	0
		36												
		37					Brn	Same as above		moist	0	0	0	0
		38												
		39					Brn	Same as above		moist	0	0	0	0
1244		40												
		41												
		42					Brn	Same as above		moist	0	0	0	0
		43												
		44												
1251		45					Brn	Same as above		moist	0	0	0	0
		46												
		47					Brn	Same as above (more course gravel)		moist	0	0	0	0
		48												
		49												
1256		50					Brn	Same as above		very moist	0	0	0	0

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: (see page 1)

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW06

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta
DRILLING RIG: Failing F-7

BORING No.: TTAOC22 - MW06
DATE: 9-7-04
GEOLOGIST: V. Shickora
DRILLER: P. Trembley

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	51								Add ± 50 gallons water to Augers				
1309	52												
S-1	53	19/30				Brn	MGR to CGR Sand Trace FGR Sand + Silt		very moist to wet	0	0	0	0
1322	54	31/35	16/24							0	0	0	0
S-2	55	41/48				Brn	Same as above		wet (No odors)	0	0	0	0
1335	56	46/47	19/24						Add a 40 gallons water	0	0	0	0
S-3	57	10/11				Tan Brn	FGR to MGR Sand Trace Silt		wet (No odors)	0	0	0	0
1348	58	9/19	18/24							0	0	0	0
S-4	59	10/12								0	0	0	0
1401	60	14/15	15/24			Red Brn	FGR to MGR Sand Trace quarte pebbles and silt		wet (No odors)	0	0	0	0
S-5	61	9/12								0	0	0	0
1419	62	11/13	17/24			Red Brn	Same as above		wet (No odors)	0	0	0	0
				EoB									

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: (see page 1)

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22 - MW06

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta Drilling
DRILLING RIG: Failing F-7W

BORING No.: TTAOC22-MW07
DATE: 9-3-04
GEOLOGIST: Vince Shickora
DRILLER: Peter Tremblay

Time	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
1315		1					Blk	asphalt → ≈3 inches Gravel → ≈3 inches		damp	0	0	0	0
		2												
		3						No returns		Borehole open	-	-	0	0
		4						↓		To 7.5' BGS due to Vac Truck				
1321		5						↓		activities	-	-	0	0
		6						No returns						
		7						↓			-	-	0	0
		8						↓						
		9						↓			-	-	0	0
1327		10					Brn	FGR to CGR Sand with Fine to course gravel (rounded)		moist	0	0	0	0
		11												
		12												
		13					Brn	Same as above		moist	0	0	0	0
		14												
1333		15					Brn	Same as above		moist	0	0	0	0
		16												
		17					Brn	FGR to CGR Sand (Trace Fine gravel) (rounded)		moist	0	0	0	0
		18												
		19					Brn	FGR to CGR Sand with Fine to course gravel		moist	0	0	0	0
1338		20												
		21												
		22					Brn	Same as above		moist	0	0	0	0
		23												
		24					Brn	Same as above		moist	0	0	0	0
1344		25												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: 4.25"x5' Hollow Stem Auger
2"X2' Stainless split spoons collected over screen interval only.
140 pound Hammer used on split spoons

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW07

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW07
DATE: 9-3-04
GEOLOGIST: V. Shickora
DRILLER: P. Tremblay

Time	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
		26					Brn	FGR to CGR Sand with fine to course gravel (rounded)		moist	0	0	0	0
		27												
		28					Dark Brn	Same as above		moist	0	0	0	0
		29												
1352		30					Dark Brn	Same as above		moist	0	0	0	0
		31												
		32												
		33					Dark Brn	Same as above		moist	0	0	0	0
		34												
1406		35					Dark Brn	Same as above		moist	0	0	0	0
		36												
		37					Dark Brn	Same as above		moist	0	0	0	0
		38												
		39												
1413		40					Dark Brn	Same as above		moist	0	0	0	0
		41												
		42					Brn	Same as above		moist	0	0	0	0
		43												
		44												
1424		45					Brn	Same as above		moist	0	0	0	0
		46												
		47					Brn	Same as above		moist	0	0	0	0
		48												
		49												
1434		50					Brn	Same as above		moist	0	0	0	0

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: (See page 1)

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW07

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta
DRILLING RIG: Feiling F-7

BORING No.: TTAOC22-MW07
DATE: 9-3-04
GEOLOGIST: V. Shickora
DRILLER: P. Tremblay

	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
		51			?		Brn	FGR to CGR Sand with fine to course gravel		moist	0	0	0	0
1503		52												
	S-1	53	35/20				Tan	FG-R to MG-R Sand Trace quartz pebbles		very moist	0	0	0	0
1523	↓	54	22/24	16/24						To wet of 54'	0	0	0	0
	Auger	55												
1536	↓	56												
	S-2	57	7/12				Brn	FGR to MGR Sand Trace quartz pebbles		wet (No odors)	0	0	0	0
1548	↓	58	10/12	17/24							0	0	0	0
	Auger	59												
1555	↓	60												
	S-3	61	10/14				Red Brn	FGR to MGR Sand Trace silt and quartz pebbles		wet (No odors)	0	0	0	0
	↓	62	16/18	18/24							0	0	0	0
					EoB									

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: (see page 1)

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW07

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta Drilling
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW08
DATE: 9-2-04
GEOLOGIST: Vince Shickora
DRILLER: Peter Trembley

	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
1433		1					Blk	Asphalt → ≥ 3 inches and Gravel → ≥ 3 inches			0	0	0	0
		2												
		3								Borehole open To ≈ 7.5' BGS				
		4						No returns		From VAC Truck activities	-	-	0	0
1436		5												
		6									-	-	0	0
		7												
		8												
		9					Blk Brn	FGR to CGR Sand with Fine to course gravel		moist	0	0	0	0
1442		10												
		11												
		12					Brn	FGR to CGR Sand with Fine gravel (rounded)		moist	0	0	0	0
		13												
1447		14					Brn	FGR to MGR Sand with Fine to course gravel (rounded)		moist	0	0	0	0
		15												
		16												
		17					Brn	FGR to CGR Sand with Fine to medium gravel (rounded)		moist	0	0	0	0
		18												
		19												
1453		20					Dark Brn	Same as above		moist	0	0	0	0
		21						(some course gravel)						
		22					Brn	Same as above		moist	0	0	0	0
		23												
		24					org Brn	Same as above		moist	0	0	0	0
1500		25												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: 4.25" I.D. X 5' Hollow Stem Augers used
2" X 2' Stainless steel split spoons collected over screen interval only
140 pound Hammer used for Spoons.

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW08

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta Drilling
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW08
DATE: 9-2-04
GEOLOGIST: Vince Shickora
DRILLER: Peter Trembley

	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
		26					Dark Brn	FGR to MGR Sand with fine to coarse gravel (rounded)		moist	0	0	0	0
		27												
		28					Brn	Same as above		moist	0	0	0	0
		29												
1514		30					org Brn	Same as above		moist	0	0	0	0
		31												
		32					org Brn	Same as above		moist	0	0	0	0
		33												
		34												
1522		35					org Brn	Same as above		moist	0	0	0	0
		36												
		37					org Brn	Same as above		moist	0	0	0	0
		38												
		39					org Brn	Same as above		moist	0	0	0	0
1527		40												
		41												
		42					Brn	Same as above		moist	0	0	0	0
		43												
		44					org Brn	Same as above		moist	0	0	0	0
1533		45												
		46												
		47					org Brn	Same as above		moist	0	0	0	0
		48												
		49					org Brn	Same as above		moist	0	0	0	0
1600		50												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: (See page 1)

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC-22-MW08

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta Drilling
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW08
DATE: 9-2-04
GEOLOGIST: Vinie Shickora
DRILLER: Peter Trembley

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	51			7		org Brn	FGR to CGR Sand with Fine to course gravel		moist	0	0	0	0
1608 S	52												
S-1	53	8/20				Red Brn	FGR to MGR Sand Trace quartz pebbles		Very moist to	0	0	0	0
1626 ↓	54	40/27	14/24						wet at 54'	0	0	0	0
Auger	55												
S-2	56												
↓	57	7/11				Gry Brn	Silty FGR to MGR Sand		wet (No odors)	0	0	0	0
1642 ↓	58	20/35	16/24			Brn	FGR to MGR Sand with Trace Silt and CGR Sand		wet	0	0	0	0
Auger	59												
↓	60												
S-3	61	7/9				Red Brn	Same as above		wet (No odors	0	0	0	0
1658 ↓	62	10/9								0	0	0	0
				EOB									

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: (See page 1)

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW08

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW09
DATE: 8-31-04
GEOLOGIST: Vince Shickora
DRILLER: Peter Trembley

Time	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
1428		1			----		Blk	Asphalt a 3 inches		—	-	-	-	-
		2					Blk Brn	Sandy Silt with Gravel		damp	0	0	0	0
		3												
		4												
1433		5						No returns		Open hole to 7.5' BGS due to VAC Truck activities	0	0	0	0
		6												
		7									-	-	0	0
		8												
		9						No returns			-	-	-	-
1437		10												
		11					Blk Brn	FGR to CGR Sand and course gravel		moist	0	0	0	0
		12												
		13					Brn	FGR to CGR Sand and fine gravel		moist	0	0	0	0
		14												
1442		15												
		16					Brn	Same as above		moist	0	0	0	0
		17												
		18					Light Brn	FGR to MGR Sand Trace fine gravel		moist	0	0	0	0
		19												
1446		20					Brn	FGR to CGR Sand with fine to course gravel		moist	0	0	0	0
		21												
		22												
		23					Dark Brn	Same as above		moist	0	0	0	0
		24												
1452		25					Brn	Same as above		moist	0	0	0	0

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: 4.25" ID x 5' Hollow stem Augers
2"x2' Stainless split spoons collected over well screen interval only.
140 pound Hammer used on split spoons

Converted to Well: Yes ✓ No ____ Well I.D. #: TTAOC22-MW09

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta
DRILLING RIG: Failing F-7

BORING No.: TTAOC22 - MW09
DATE: 8-31-04
GEOLOGIST: Vince Shickora
DRILLER: Peter Tremblay

	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
		26					Dark Brn	FGR to CGR Sand with fine to course gravel		moist	0	0	0	0
		27												
		28					Dark Brn	Same as above		moist	0	0	0	0
		29												
1505		30					Dark Brn	Same as above		moist	0	0	0	0
		31												
		32												
		32					Brn	Same as above		moist	0	0	0	0
		34												
1510		35												
		36					Brn	Same as above		moist	0	0	0	0
		37												
		38					Light Brn	FGR to MGR Sand with fine gravel		moist	0	0	0	0
		39												
1516		40					Brn	Same as above		moist	0	0	0	0
		41												
		42					Brn	Same as above		moist	0	0	0	0
		43												
		44												
1521		45					Light Brn	Same as above		moist	0	0	0	0
		46												
		47					Brn	FGR to CGR Sand with fine to course gravel		moist	0	0	0	0
		48												
		49												
1528		50					Brn	Same as above		moist	0	0	0	0

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: (see page 1)

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW09

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW09
DATE: 8-31-04 / 9-1-04
GEOLOGIST: Vince Shickora
DRILLER: Peter Trembley

9/1/04 ↓	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
		51					Brn	Same as above		moist	0	0	0	0
0930		52								Add ≈ 40 gallons potable water				
		53	10/12											
0950	S-1	54	15/14	16/24			Light Brn	FGR to CGR Sand with Trace quartz pebbles		very moist	0	0	0	0
	↓	55	16/12											
1000	S-2	56	17/18	15/24			Brn	Same as above		wet (No odors)	0	0	0	0
	↓	57	13/24							Add ≈ 40 gallons potable water				
1010	S-3	58	18/49	20/24			Brn Grey	Silty FGR Sand Trace MGR Sand		wet	0	0	0	0
	↓	59	9/11											
1022	S-4	60	18/21	17/24			Brn	FGR to CGR Sand with Trace Silt / pebbles		wet (No odors)	0	0	0	0
	S-5	61	8/10											
1033	↓	62	15/24	16/24			Brn	Same as above		wet (No odors)	0	0	0	0
					EOB									

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: (See page 1)

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW09

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta Drilling
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW10
DATE: 9-8-04
GEOLOGIST: Vince Shickora
DRILLER: Peter Tremblay

Time	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
1015		1					Blk Gry	Asphalt @ 3 inchs Concrete @ 5inchs		dry	0	0	0	0
		2						Gravel @ 5 inchs						
		3						No returns		Borehole open due to VAC Truck utility clearance to ± 7.5' BGS	-	-	0	0
		4												
1018		5									-	-	0	0
		6												
		7									-	-	0	0
		8												
		9									-	-	0	0
1025		10												
		11					Brn	FGR to CGR Sand with fine to course gravel (rounded)		moist	0	0	0	0
		12												
		13												
		14					Brn	Same as above		moist	0	0	0	0
1029		15												
		16												
		17					Brn	Same as above		moist	0	0	0	0
		18												
		19												
1034		20					Brn	Same as above		moist	0	0	0	0
		21												
		22												
		23					Brn	Same as above		moist	0	0	0	0
		24												
1039		25					Brn	Same as above		moist	0	0	0	0

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: 4.25' I.D. x 5' Hollow Stem Augurs used.
NO 2"x2' stainless split spoons collected over well screen interval ~~only~~ (MS)
140 pound Hammer used on split spoons

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW10

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW10
DATE: 9-8-04
GEOLOGIST: V. Shickora
DRILLER: P. Trembley

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	26					Brn	FGR to CGR Sand with fine to course gravel (rounded)		moist	0	0	0	0
	27												
	28												
	29					Brn	Same as above		moist	0	0	0	0
1043	30												
	31												
	32					Brn	FGR to CGR Sand with Trace fine to medium gravel (rounded)		moist	0	0	0	0
	33												
	34												
1048	35					Brn	Same as above		moist	0	0	0	0
	36												
	37					Brn	FGR to CGR Sand and fine to medium gravel (rounded)		moist	0	0	0	0
	38												
	39												
1055	40					Brn	Same as above		moist	0	0	0	0
	41												
	42					Brn	Same as above		moist	0	0	0	0
	43												
	44					Brn	Same as above		moist	0	0	0	0
1104	45												
	46												
	47					Brn	Same as above		moist	0	0	0	0
	48												
1117	49												
S-1	50					Brn	Same as above		moist	0	0	0	0

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: (See page 1)

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW10

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW10
DATE: 9-8-04
GEOLOGIST: V. Shickora
DRILLER: P. Trembley

Sample No. and Type or RQD	Depth (Ft) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	51								moist	0	0	0	0
	52					Red Brn	FGR to MGR Sand Trace CGR Sand and fine pebbles.						
	53												
	54					Red Brn	Same as above		moist	0	0	0	0
1310	55												
	56												
	57					Red Brn	Same as above		moist	0	0	0	0
	58												
	59												
1318	60					Red Brn	Same as above		moist	0	0	0	0
				EoB									

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: (See page 1)

Converted to Well: Yes ✓ No ____ Well I.D. #: TTAOC22-MW10

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta-Drilling
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW-11
DATE: 9-9-04
GEOLOGIST: Vince Shickora
DRILLER: Peter Trembley

Time	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
0903		1					Blk	asphalt ≈ 4 inches Gravel ≈ 8 inches		-	0	0	0	0
		2												
		3						No returns		Borehole open to ≈ 7.5' BGS from frac truck activities	-	-	0	0
		4												
0905		5									-	-	0	0
		6												
		7									-	-	0	0
		8												
		9									-	-	0	0
0909		10												
		11					Brn	FGR to CGR Sand with fine to course gravel (rounded)		moist	0	0	0	0
		12												
		13												
		14					Brn	Same as above		moist	0	0	0	0
0914		15												
		16												
		17					Brn	Same as above		moist	0	0	0	0
		18												
		19												
0919		20					Brn	Same as above		moist	0	0	0	0
		21												
		22					org Brn	FGR to CGR Sand with fine to medium gravel (rounded)		moist	0	0	0	0
		23												
		24												
0924		25					org Brn	Same as above		moist	0	0	0	0

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: 4.25" X 5' Hollow Stem Augers used
2" x 2' split spoon sample collected over well screen interval
140 pound Hammer used on split spoons

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW11

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Deltz
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW11
DATE: 9-9-04
GEOLOGIST: V. Shickora
DRILLER: P. Trembley

Time	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
		26					Org Brn	FGR to CGR Sand with fine to course gravel (rounded)		moist	0	0	0	0
		27												
		28												
		29					Brn	Same as above		moist	0	0	0	0
0929		30												
		31												
		32					Brn	Same as above		moist	0	0	0	0
		33												
		34												
1009		35					Brn	Same as above		moist	0	0	0	0
		36												
		37					Brn	Same as above		moist	0	0	0	0
		38												
		39												
1014		40					Brn	Same as above		moist	0	0	0	0
		41												
		42												
		43					Brn	Same as above		moist	0	0	0	0
		44												
1019		45					Brn	Same as above		moist	0	0	0	0
		46												
		47					Brn	FGR to CGR Sand with fine gravel (rounded)		moist	0	0	0	0
		48												
		49												
1024		50					Brn	Same as above		moist	0	0	0	0

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: (See page 1)

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW11

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NWIRP Bethpage
PROJECT NUMBER: N9845
DRILLING COMPANY: Delta
DRILLING RIG: Failing F-7

BORING No.: TTAOC22-MW11
DATE: 9-9-04
GEOLOGIST: V. Shickora
DRILLER: P. Tremblay

Time	Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
		51					Brn	FGR to CGR Sand with fine gravel (rounded)		moist	0	0	0	0
		52			?									
		53								Add a 40 gallons water to Augus to prevent flowing sand				
1028		54												
	S-1	55	10/30				Gry Brn	MGR to CGR Sand with Trace FGR Sand/Silt		Very moist	0	0	0	0
1047		56	29/20	19/24							0	0	0	0
	S-2	57	9/16							Add a 40 gallons water	0	0	0	0
1059		58	16/20	18/24			Brn Gry	Silty FGR Sand Trace MGR Sand		wet (NO odors)	0	0	0	0
	S-3	59	15/20								0	0	0	0
1108		60	21/25	19/24			Gry Brn	FGR Sand with some Silt		wet (NO odors)	0	0	0	0
	S-4	61	9/13				Brn	FGR to MGR Sand			0	0	0	0
1119		62	17/25	17/24				Trace Silt, CGR Sand and fine quartz pebbles		wet (NO odors)	0	0	0	0
	S-5	63	13/22							Add a 40 gallons water	0	0	0	0
1134		64	24/26	20/24			Brn	Same as above		wet (NO odors)	0	0	0	0
					EOB									

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: (See page 2)

Converted to Well: Yes ✓ No _____ Well I.D. #: TTAOC22-MW11

Tetra Tech NUS, Inc.

Page 1 of 1

BORING LOG

PROJECT NAME: Bethpage/AOC22
PROJECT NUMBER: 9845
DRILLING COMPANY: ADT
DRILLING RIG: Hollow Stem Auger

BORING No.: SB-101
DATE: 12/14/06
GEOLOGIST: K. Weir
DRILLER: C. Capobianco

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	5					Brn	Silty Sand (m/f)		moist				
							↳ Trace Rock Frag						
1921 (1345) X		25/35	1.3/2.0			Yel	Sand (f/m)		Smells Clean				
	25						↳ Small Cobbles (<5cm)						
2931 (1355) X		100	0.8/0.8			Brn	Sand (m/c)						
							↳ Trace Rock Frag		Slight Scent				
3941 (1415) X		55/100	0.9/1.9			Brn							
4951 (1425) X	50	45/35	1.1/2.0			Blk			~15% Solid Product				
5961 (1445) X		100	0.7/0.7			Blk			~25% Solid Prod. (Clay or Sponge)				
							↓						
* 6971 (1500) X	70					Red	Sand (m/c)		Slight Scent				
				EOB			↳ Trace Clay (wet)						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): N/A

Remarks: 3¼ x 5' HSA

*SB-101-6971 = Dup 04 (1111)

PID-Foxit 2

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

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BORING LOG

PROJECT NAME: Bethpage/AOC22
PROJECT NUMBER: 98245
DRILLING COMPANY: ADT
DRILLING RIG: Hollow Stem Auger

BORING No.: SB-102
DATE: 12/15/06
GEOLOGIST: K. Weir
DRILLER: C. Capobianco

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	5					Brn	Silt, Sand, Trace Rock Frgs						
						Yel	Sand (m/c)						
							↳ Rock Frags		Slight scent				
1921 (0820) X		50/50	1.1/2.0										
	25												
*2931 (0835) X		49/50	08/2.0						Smells clean				
3941 (0845) X		50/50	1.3/2.0		Loose	Yel/Wht			Smells Clean				
4951 (0900) X	50	50/50	1.1/2.0			Yel			Slight scent				
									saturated				
5961 (0940) X		50/100	1.1/1.8			Brn			Visible Product				
						Blk	silty sand						
*6971 (0955) X	70	25/60	2.0/2.0			Brn/Red	Sand (m/c)		Product on top of spoon				
				EOB			↳ Trace Rock Frag						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): N/A

Remarks: 3/4" 5' Augar
SB102-2931 = Dup 05 (0000)
SB102-6971 = Dup 06 (1111)
PID - Fault 2

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

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BORING LOG

PROJECT NAME: Bethpage/ADC22
PROJECT NUMBER: 9845
DRILLING COMPANY: ADT
DRILLING RIG: Hollow Stem Auger

BORING No.: SB-103
DATE: 12/13/06
GEOLOGIST: K. Weir
DRILLER: C. Cappobianco

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	5					Brn	Silty Sand Trace Rock		Vac cleared				
						Tan	Sand (myc) Trace Rock						
						Blk			Small product				
(921) (1430) X		100	08/0.8			Blk/Brn	Silty Sand (m) Rock Frg		Small at Top				
	25												
2931 (1440) X		50/50	0.6/2.0						MOIST				
3941 (1450) X		30/12	0.5/2.0						Scent of Product				
4951 (1500) X	50	6/3	0.7/2.0			Blk	Sand (m/c)		Strong smell saturated				
							+Trace Rock Frag.		Product @ 58'				
5961 (1520) X		56/45	1.0/2.0						4" on hammer				
(6068) (1550) X		35/29	1.0/2.0	EOB		Tan	Refusal		bottom 2" visually Clean				
	70												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: Sample depths @ 20, 30, 40, 50, 60, 70 — NO PID

Converted to Well: Yes ____ No X Well I.D. #: ____

Tetra Tech NUS, Inc.

Page 1 of 1

BORING LOG

PROJECT NAME: Bethpage / ACCE
PROJECT NUMBER: 98455
DRILLING COMPANY: ADT
DRILLING RIG: Hollow Stem Auger

BORING No.: SB-104
DATE: 12/14/06
GEOLOGIST: K. Weir
DRILLER: C. Crapobianco

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	5					Brn	Silty Sand (F/m) Rock						
						Yel	Sand (m/c)						
							↳ Rock Frag						
1421 (1015) X		35/40	1.5/2.0			Brn			Strong Smell				
	25												
2931 (1025) X		50/60	0.7/2.0						Slight Scent				
* 3941 (1035) X		35/55	1.2/2.0			Yel/Brn			Stained at Top (Slight Smell) 0.2'				
4951 (1045) X	50	100/100	0.9/2.0			Brn			Small Product				
							↓						
5961 (1100) X		35/50	1.7/2.0			Gry	Sand (c)		Strong Scent				
6971 (1115) X		60/100	2.0/2.0			Gry/Brn	Sand (m/c) ↳ bottom 0.2' not stained		Small Product				

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): NA

Remarks: 3¼" x 5' Auger 1401b DP For Split Spoon
less Product Than SB-103 PID → Faulty

Converted to Well: Yes ____ No X Well I.D. #: ____

* SB-104-3941 = Dup 03 (0000)

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Bethpage / AOC 22
PROJECT NUMBER:
DRILLING COMPANY: ADT
DRILLING RIG: Hollow Stem Auger

BORING No.: SB-105
DATE: 12/12/06
GEOLOGIST: K. Weir
DRILLER: C. Capobianco

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	5					Brn	Silty Sand → Cobbles 0.5-2"		Vetek dry	0			
						Yel	Sand (m/c)						
							→ Trace Sub & Rock Frag						
	25												
			0.5'/2.0'			Brn	Silty Sand (F) Trace Rock			0			
	50		1.0'/2.0'			Yel	Sand (m/c) Trace Rock		Moist	0			
5658 (1405) X			1.7'/2.0'			Blk	~~Sand~~ → ~2" of Stain		Saturated	4.5			
						Red	Silty Sand (F/m)		1				

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: 3¼" x 5' Augers → ~2" of Product Found @ 5.6' → 4648, 5153, 5650

Converted to Well: Yes _____ No X Well I.D. #: _____

Tetra Tech NUS, Inc.

Page 1 of 1

BORING LOG

PROJECT NAME: Bethpage / AOC 22
PROJECT NUMBER: 9848
DRILLING COMPANY: ADT
DRILLING RIG: Hollow Stem Auger

BORING No.: SB-106
DATE: 12/13/06
GEOLOGIST: K. Weis
DRILLER: C. Capobianco

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	5					Brn	Silty Sand (F/m) Rock		Vac Tek dry	0		0	
							Sand (m/c)						
							↳ Abundant Rock						
						Yel/Brn							
	25												
5153 (10')			1.7/2.0			Brn/Red	Silty Sand (F/m) Rock Sand (m/c) Rock Frag		moist	0			
X	50		1.2/2.0			Brn	Silty Sand (F/m)		staining in bottom 1.5"				
5658 (10') X	55		2.0/2.0			Brn	Sand (m/c)		Small product ↳ Saturated	7.4		1.0	
				EOB (58')									

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: 4648, 5153, 5658 Water in bottom 1.5" of Second Spoon

Converted to Well: Yes _____ No ✓ Well I.D. #: _____

Tetra Tech NUS, Inc.

Page 1 of 1

BORING LOG

PROJECT NAME: Bethpage / Area 22
PROJECT NUMBER: 9845
DRILLING COMPANY: ADT
DRILLING RIG: Hollow Stem Augers

BORING No.: SB-107
DATE: 12/12/06
GEOLOGIST: K. Geis
DRILLER: ADT Chris C.

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	5					Brn	Silty Sand (f/m) w/ Cobbles (0.5-7cm)		Vac Tek dry	0			
						Yel/Brn	Sand (med/coar)						
							w/ Sub Rock Frags 0.5-2cm						
	25								moist				
4244 (0930) X			1/1.5										
5254 (0950)	50		0.5/1.5										
X	65		1.7/2.0			Red/Brn	Silty Sand (f/m)		Saturated				
				EOB									
	70												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: 3¼ 5' Augers Split Spoon Loc. @ 4244, 4749, 5254

Converted to Well: Yes _____ No X Well I.D. #: _____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Bethpage / AOC 22
PROJECT NUMBER: 98415
DRILLING COMPANY: ADT
DRILLING RIG: Hollow Stem Auger

BORING No.: SB-108
DATE: 12/11/06
GEOLOGIST: K. Weir
DRILLER: C. Capobianco

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	5					Brn	Silty Sand (F)			0		0	
							↳ Sub ∓ Rock Frags			↓		↓	
						Yel/Brn	Sand (m/c)						
							↳ Rock Frags						
	25												
4547 (1200) X			1/1.5			Brn	Silty Sand (VF) -> Trace		Rock Frags				
	50		1.7/2.0			Yel/Brn	Sand (m/c)						
							↳ Rock Frags						
5557 (1230) X			1.6/2.0							↓		↓	
				EOB									
	70												

* When rock coring, enter rock brokeness.
** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: split spoon depths -> 4547, 5052, 5557

Drilling Area Background (ppm): 0.0

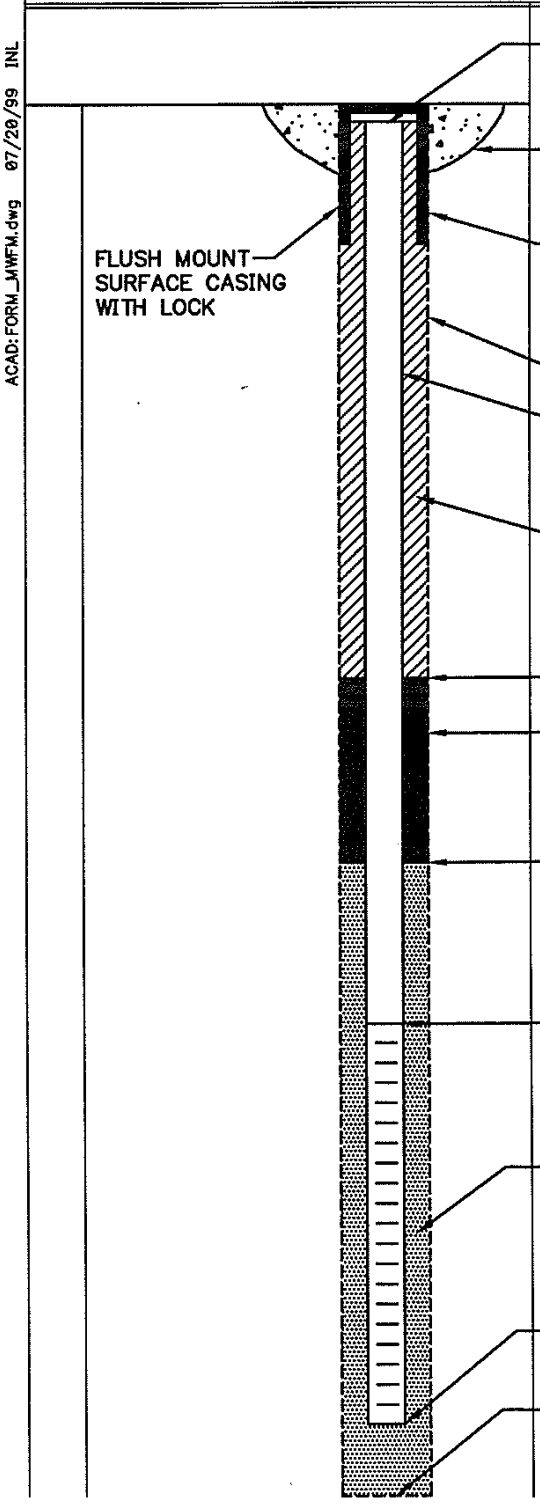
Converted to Well: Yes ______ No X Well I.D. #: ______

WELL NO.: TTAOC22-MW06

Tetra Tech NUS, Inc.

OVERBURDEN
MONITORING WELL SHEET
FLUSH - MOUNT

PROJECT NWIRP Bethpage	LOCATION AOC-22	DRILLER Peter Trembley
PROJECT NO. N9845	BORING TTAOC22-MW06	DRILLING METHOD Hollow Stem Auger
DATE BEGUN 9-7-04	DATE COMPLETED 9-7-04	
FIELD GEOLOGIST Vinie Shickora		DEVELOPMENT METHOD Reci-flow Submersible Pump
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Cement

TYPE OF PROTECTIVE CASING: _____

I.D. OF PROTECTIVE CASING: _____

DIAMETER OF HOLE: 8 inch

TYPE OF RISER PIPE: schedule 40 PVC

RISER PIPE I.D.: 2 inch

TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 144'

TYPE OF SEAL: Bentonite slurry

ELEVATION/DEPTH TOP OF SAND: 148'

ELEVATION/DEPTH TOP OF SCREEN: 152'

TYPE OF SCREEN: schedule 40 PVC

SLOT SIZE x LENGTH: 0.02" X 10'

TYPE OF SAND PACK: #2 Silica Quartz to 49' BGS
#00 Silica Quartz to 48' BGS (VAS)

DIAMETER OF HOLE ~~IN BEDROCK~~: 8 inch

ELEVATION / DEPTH BOTTOM OF SCREEN: 162'

ELEVATION / DEPTH BOTTOM OF SAND: 162'

ELEVATION/DEPTH BOTTOM OF HOLE: 162'

BACKFILL MATERIAL BELOW SAND: NA

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WELL NO.: TTAOC22-MW07

Tetra Tech NUS, Inc.

OVERBURDEN
MONITORING WELL SHEET
FLUSH - MOUNT

PROJECT NWIRP Bethpage	LOCATION AOC-22	DRILLER Peter Tremblay	
PROJECT NO. N9845	BORING TTAOC22-MW07	DRILLING METHOD Hollow stem Auger	
DATE BEGUN 9-3-04	DATE COMPLETED		
FIELD GEOLOGIST Vince Shickora		DEVELOPMENT METHOD	
GROUND ELEVATION	DATUM		

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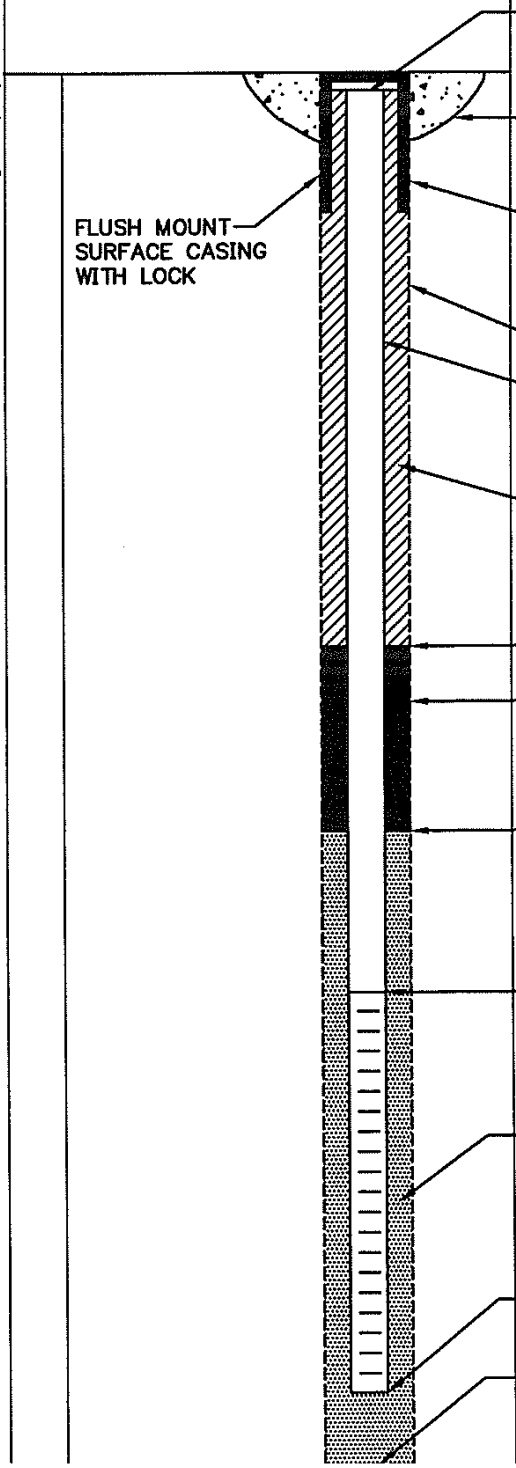


ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Cement

TYPE OF PROTECTIVE CASING: _____

I.D. OF PROTECTIVE CASING: _____

DIAMETER OF HOLE: 8 inch

TYPE OF RISER PIPE: schedule 40 PVC

RISER PIPE I.D.: 2 inch

TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 145'

TYPE OF SEAL: Bentonite slurry

ELEVATION/DEPTH TOP OF SAND: 149'

ELEVATION/DEPTH TOP OF SCREEN: 152'

TYPE OF SCREEN: schedule 40 PVC

SLOT SIZE x LENGTH: 0.02" X 10'

TYPE OF SAND PACK: #2 Silica Quartz to 50'
#00 Silica Quartz to 49'

DIAMETER OF HOLE ~~IN BEDROCK~~ (TMS): 8 inch

ELEVATION / DEPTH BOTTOM OF SCREEN: 162'

ELEVATION / DEPTH BOTTOM OF SAND: 162'

ELEVATION/DEPTH BOTTOM OF HOLE: 162'

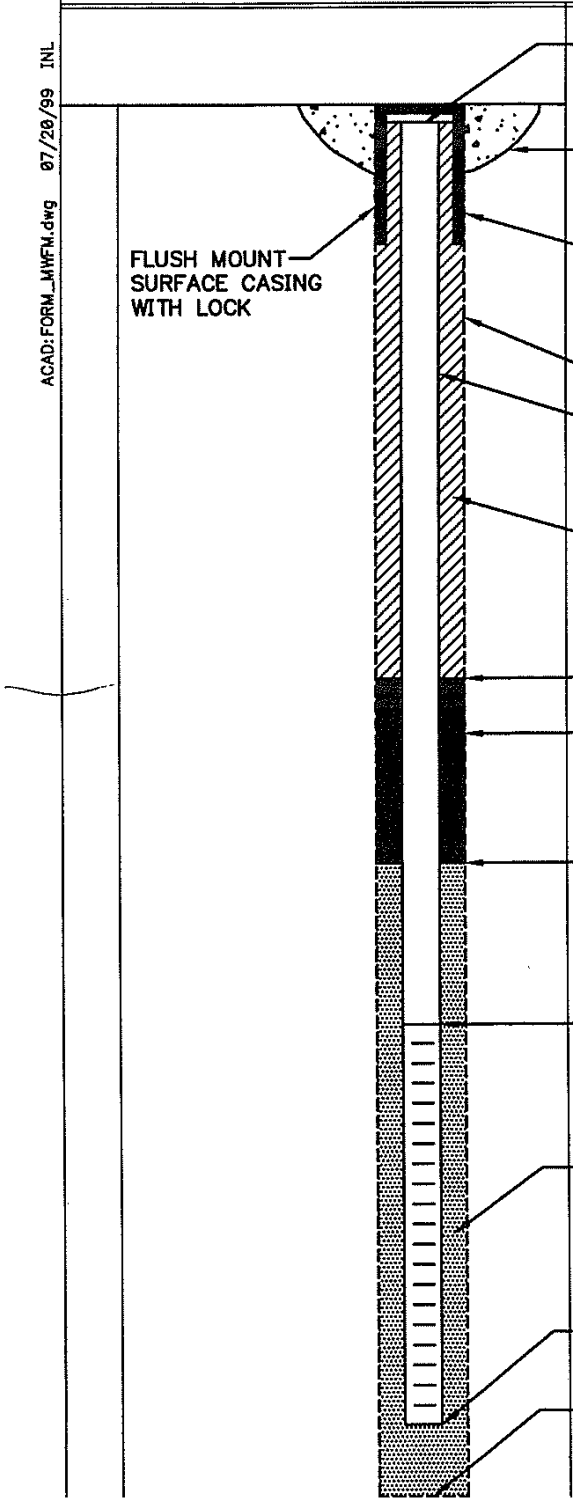
BACKFILL MATERIAL BELOW SAND: _____

WELL NO.: TTAOC22-MW08

Tetra Tech NUS, Inc.

OVERBURDEN
MONITORING WELL SHEET
FLUSH - MOUNT

PROJECT NWIRP Bethpage	LOCATION AOC-22	DRILLER Peter Trembley
PROJECT NO. N9845	BORING TTAOC22-MW08	DRILLING METHOD Hollow Stem Auger
DATE BEGUN 9-2-04	DATE COMPLETED 9-3-04	
FIELD GEOLOGIST Vince Shickora		DEVELOPMENT METHOD Redi-flow Submersible Pump
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Cement

TYPE OF PROTECTIVE CASING: _____

I.D. OF PROTECTIVE CASING: _____

DIAMETER OF HOLE: 8 inch

TYPE OF RISER PIPE: Schedule 40 PVC

RISER PIPE I.D.: 2 inch

TYPE OF BACKFILL/SEAL: Cement/Bentonite grout

ELEVATION/DEPTH TOP OF SEAL: 144'

TYPE OF SEAL: Bentonite Slurry

ELEVATION/DEPTH TOP OF SAND: 149'

ELEVATION/DEPTH TOP OF SCREEN: 152

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE x LENGTH: 0.02" X 10'

TYPE OF SAND PACK: #2 Silica Sand to 50'
#00 Silica Sand to 49'

(TTAS)

DIAMETER OF HOLE ~~IN BEDROCK:~~ 8 inch

ELEVATION / DEPTH BOTTOM OF SCREEN: 162'

ELEVATION / DEPTH BOTTOM OF SAND: 162'

ELEVATION/DEPTH BOTTOM OF HOLE: 162'

BACKFILL MATERIAL BELOW SAND: NA

ACAD:FORM_MWFM.dwg 07/20/99 INL

WELL NO.: TTAOC22-MW09

Tetra Tech NUS, Inc.

OVERBURDEN
MONITORING WELL SHEET
FLUSH - MOUNT

PROJECT NWIRP Bethpage	LOCATION AOC-22	DRILLER Peter Trembley
PROJECT NO. N9845	BORING MW-09	DRILLING METHOD Hollow Stem Auger
DATE BEGUN 9-1-04	DATE COMPLETED 9-2-04	
FIELD GEOLOGIST Vince ShicKorA		DEVELOPMENT METHOD Redi-flow Submersible pump
GROUND ELEVATION	DATUM	

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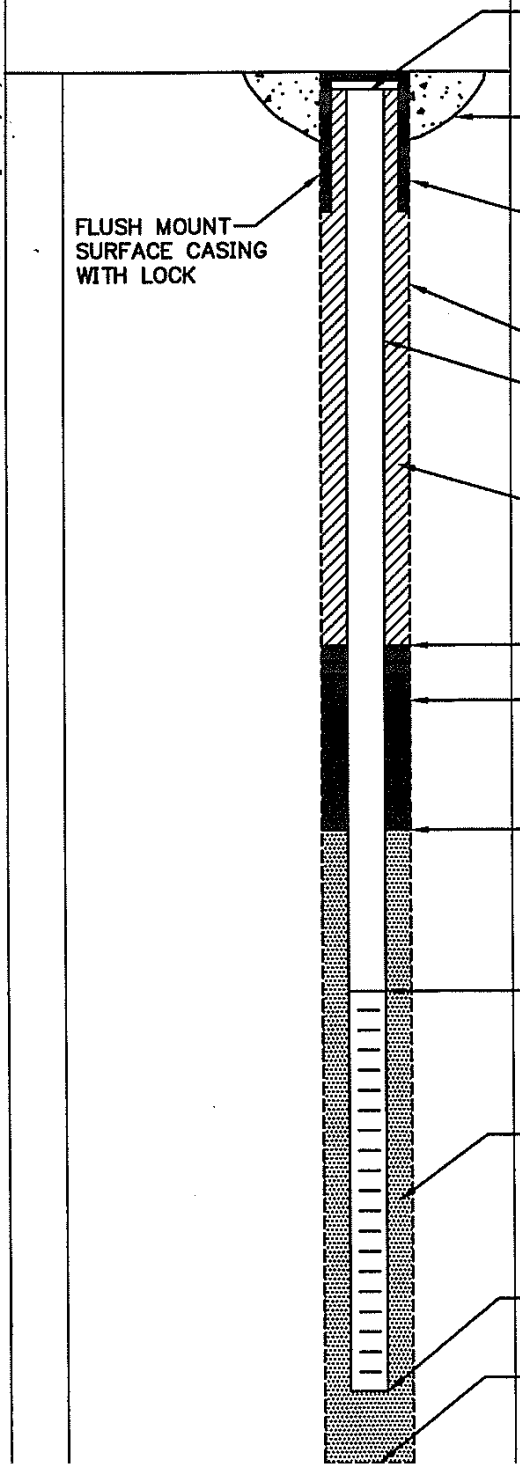

ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Cement

TYPE OF PROTECTIVE CASING: _____

I.D. OF PROTECTIVE CASING: _____

DIAMETER OF HOLE: 8 inch

TYPE OF RISER PIPE: Schedule 40 PVC

RISER PIPE I.D.: 2 inch

TYPE OF BACKFILL/SEAL: Cement/Bentonite grout)

ELEVATION/DEPTH TOP OF SEAL: 144'

TYPE OF SEAL: Bentonite Slurry

ELEVATION/DEPTH TOP OF SAND: 149'

ELEVATION/DEPTH TOP OF SCREEN: 152'

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE x LENGTH: 0.02" X 10'

TYPE OF SAND PACK: #2 Silica Quartz to 50' BGS
#00 Silica Quartz to 49'

VAS

DIAMETER OF HOLE ~~IN BEDROCK~~: 8 inch

ELEVATION / DEPTH BOTTOM OF SCREEN: 162'

ELEVATION / DEPTH BOTTOM OF SAND: 162'

ELEVATION/DEPTH BOTTOM OF HOLE: 162'

BACKFILL MATERIAL BELOW SAND: N/A

WELL NO.: TTAOC22-MW10

OVERBURDEN
MONITORING WELL SHEET
FLUSH - MOUNT

Tetra Tech NUS, Inc.

PROJECT NWIRP Bethpage	LOCATION AOC-22	DRILLER Peter Trembley
PROJECT NO. N9845	BORING TTAOC22-MW10	DRILLING METHOD Hollow Stem Auger
DATE BEGUN 9-8-04	DATE COMPLETED 9-8-04	
FIELD GEOLOGIST Vince Shickora		DEVELOPMENT METHOD
GROUND ELEVATION	DATUM	

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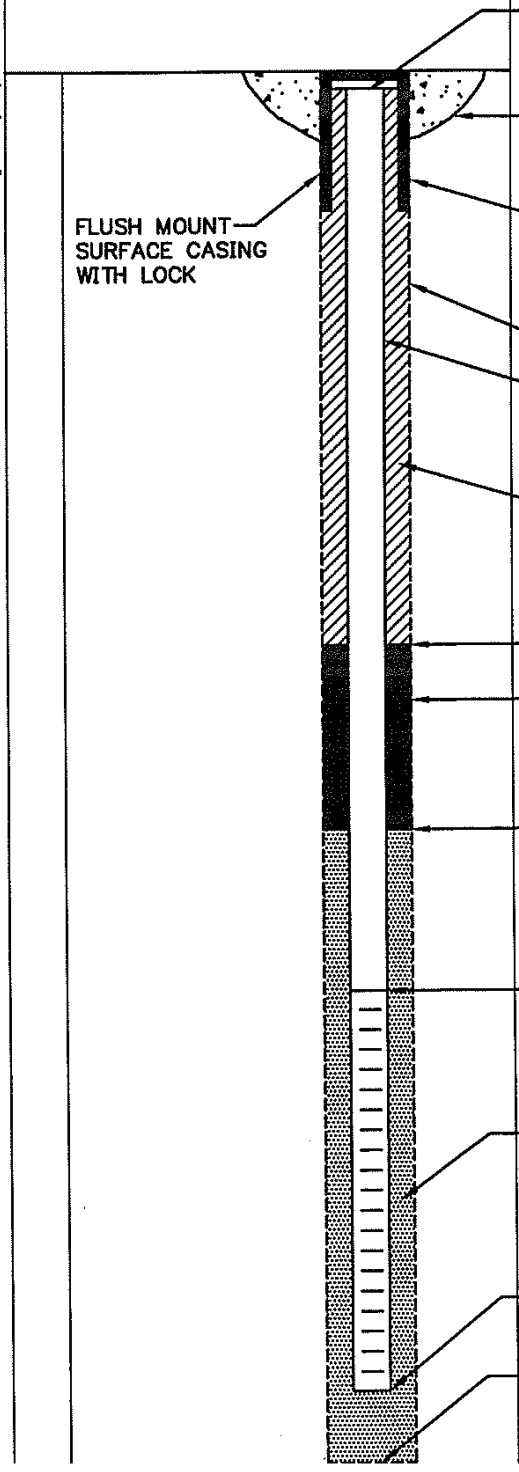

ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Cement

TYPE OF PROTECTIVE CASING: _____

I.D. OF PROTECTIVE CASING: _____

DIAMETER OF HOLE: 8 inch

TYPE OF RISER PIPE: Schedule 40 PVC

RISER PIPE I.D.: 2 inch

TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 142'

TYPE OF SEAL: Bentonite Slurry

ELEVATION/DEPTH TOP OF SAND: 146'

ELEVATION/DEPTH TOP OF SCREEN: 149'

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE x LENGTH: 0.02" X 10'

TYPE OF SAND PACK: #2 Silica Quartz to 47' BGS
#00 Silica Quartz to 46' BGS

DIAMETER OF HOLE ~~IN BEDROCK~~ (VAS): 8 inch

ELEVATION / DEPTH BOTTOM OF SCREEN: 159'

ELEVATION / DEPTH BOTTOM OF SAND: 160

ELEVATION/DEPTH BOTTOM OF HOLE: 160

BACKFILL MATERIAL BELOW SAND: #2 Silica Quartz Sand

WELL NO.: TTAOC22-MW11

Tetra Tech NUS, Inc.

OVERBURDEN
MONITORING WELL SHEET
FLUSH - MOUNT

PROJECT NWIRP Bethpage	LOCATION AOC-22	DRILLER Peter Tremblay
PROJECT NO. N9845	BORING TTAOC22-MW11	DRILLING METHOD Hollow Stem Auger
DATE BEGUN 9-9-04	DATE COMPLETED 9-9-04	
FIELD GEOLOGIST Vince Shickora		DEVELOPMENT METHOD
GROUND ELEVATION	DATUM	

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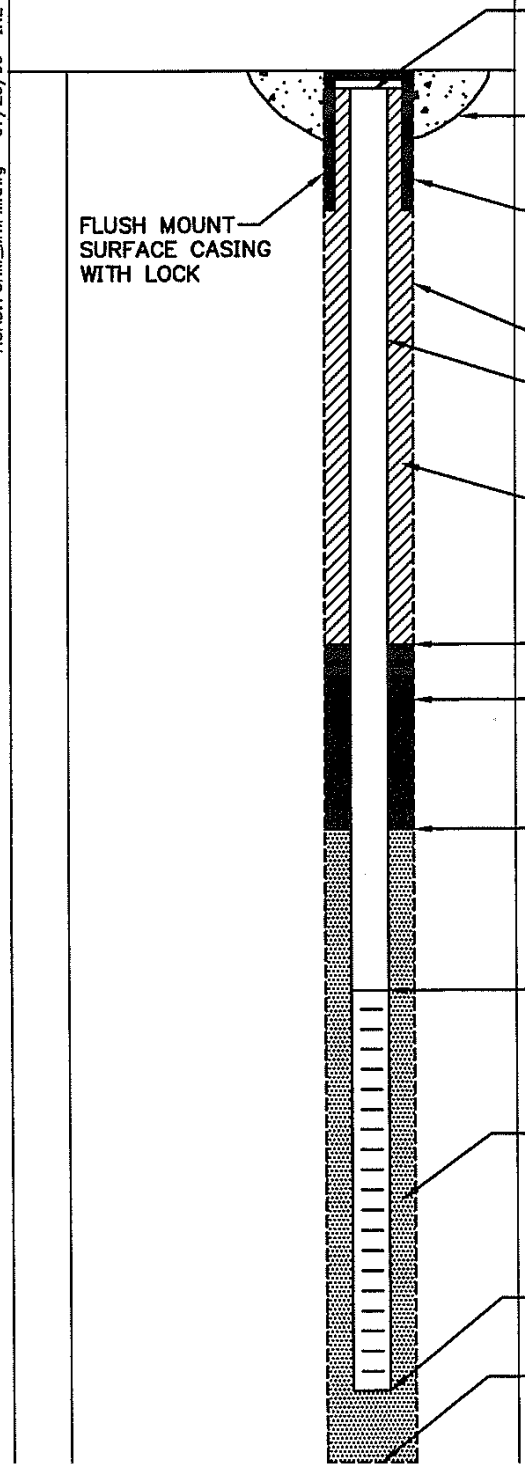

ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Cement

TYPE OF PROTECTIVE CASING: _____

I.D. OF PROTECTIVE CASING: _____

DIAMETER OF HOLE: 8 inch

TYPE OF RISER PIPE: Schedule 40 PVC

RISER PIPE I.D.: 2 inch

TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 146' (VAS)

TYPE OF SEAL: ~~Cement~~ Bentonite Slurry

ELEVATION/DEPTH TOP OF SAND: 150'

ELEVATION/DEPTH TOP OF SCREEN: 153'

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE x LENGTH: 0.02" x 10'

TYPE OF SAND PACK: #2 Silica Quartz to 51' BGS
#00 Silica Quartz to 50' BGS (VAS)

DIAMETER OF HOLE ~~IN BEDROCK~~: 8 inch

ELEVATION / DEPTH BOTTOM OF SCREEN: 163'

ELEVATION / DEPTH BOTTOM OF SAND: 164'

ELEVATION/DEPTH BOTTOM OF HOLE: 164'

BACKFILL MATERIAL BELOW SAND: #2 Silica Quartz Sand

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Site: AOC-22
Well: FTAOC-22 - MW09
Date Installed: 9-7-04
Date Developed: 9-14-04
Dev. Method: Submersible Pump
Pump Type: Redi-flow

Depth to Bottom (ft.): 62'
Static Water Level Before (ft.): 53.5
Static Water Level After (ft.): 53.7
Screen Length (ft.): 10'
Specific Capacity:
Casing ID (in.): 2"

Project Name: NWIRP - BETHPAGE
Project Number: N9845
Site Geologist: MLM
Drilling Co.: DELTA

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units _____)	Turbidity (NTU)	Remarks (odor, color, etc.)
1005	STARTED PUMP		INITIAL	19.59	5.07		—	
1015				19.58	5.38		406	
1020				19.28	5.69		12.0	
1035		55		18.27	5.50		—	surged well
1050				19.11	6.12		66.2	
1055		100		18.27	6.04		314	surged well. STOPPED
1135	STARTED PUMP							Pump to empty drums
1140				18.54	6.20		~~36.8~~ TOTE	
1145				18.20	6.13		5.95	
1150		150		18.13	6.08		3.81	
1155				18.12	6.11		2.49	
1205				18.19	6.12		52.8	surged well
1210				18.24	6.11		4.89	
1215		220		18.36	6.12		2.12	Turned off Pump.

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Site: AOC-22
Well: TTAOC-22 - MW08
Date Installed: 9-3-04
Date Developed: 9-14-04
Dev. Method: Submersible Pump
Pump Type: Redi-flow
Depth to Bottom (ft.): 62'
Static Water Level Before (ft.): 52.75
Static Water Level After (ft.): 52.75
Screen Length (ft.): 10'
Specific Capacity:
Casing ID (in.): 2"
Project Name: NWIRP - BETHPAGE
Project Number: N9845
Site Geologist: MLM
Drilling Co.: DELTA

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units _____)	Turbidity (NTU)	Remarks (odor, color, etc.)
1315	STARTED PUMP							
1322				18.39	6.65		—	
1330				17.35	8.04		343	
1335		55		17.41	7.98		195	
1340				17.27	7.84		171	
1350				17.21	7.65		119	
1355		110		17.22	7.54		104	STOPPED PUMP TO EMPTY DRUMS
1430	STARTED PUMP			18.26	7.28		338	
1440				17.38	7.28		164	
1450		165		17.33	7.19		121	
1455				17.16	7.15		95.9	
1500				17.33	7.08		99.5	
1505		200		17.29	7.04		72	
1510		220		17.33	7.02		63	STOPPED PUMP

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Site: AOC-22
Well: TTAOC-22 MW-07
Date Installed: 9-1-04
Date Developed: 9-15-04
Dev. Method: Submersible Pump
Pump Type: Redi-flow
Depth to Bottom (ft.): 62'
Static Water Level Before (ft.): 52.1
Static Water Level After (ft.): 52.1
Screen Length (ft.): 10'
Specific Capacity:
Casing ID (in.): 2"
Project Name: NWIRP - BETHPAGE
Project Number: N9845
Site Geologist: MLM
Drilling Co.: DELTA

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units ____)	Turbidity (NTU)	Remarks (odor, color, etc.)
0825	STARTED PUMP							
0830				17.31	4.66		474	
0835				16.67	5.43		272	surged well
0845				16.72	5.79		198	
0855				16.67	5.91		18.8	
0900		110		16.67	5.91		9.08	STOPPED PUMP TO EMPTY DRUMS
0940	STARTED PUMP							
0950				17.18	6.13		201	
0955				17.45	5.70		19.4	
1000				16.90	6.01		12.7	
1010				17.82	5.62		7.09	
1015				17.16	5.88		5.32	
1025				17.34	5.87		5.67	
1030		220		17.31	5.83		5.45	SHUT OFF PUMP

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Site: AOC-22
Well: TTAOC-22-MW06
Date Installed: 9-7-04
Date Developed: 9-15-04
Dev. Method: Submersible Pump
Pump Type: Redi-flow

Depth to Bottom (ft.): 62'
Static Water Level Before (ft.): 52.3
Static Water Level After (ft.): 52.3
Screen Length (ft.): 10'
Specific Capacity:
Casing ID (in.): 2"

Project Name: NWIRP- BETHPAGE
Project Number: N9845
Site Geologist: MLM
Drilling Co.: DELTA

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units _____)	Turbidity (NTU)	Remarks (odor, color, etc.)
1130	STARTED PUMP							
1145				25.25	5.40		-	
1150				21.69	5.13		273	
1155				18.21	5.75		73	
1200		55		17.77	6.05		39.3	
1210				18.26	6.13		22.5	
1220				18.10	6.14		16.3	
1225		110		17.93	6.03		12.9	STOPPED PUMP TO EMPTY DRUMS
1305	STARTED PUMP		And surged well					
1320				19.16	5.87		196	
1325				18.09	5.97		32.8	
1335		165		18.19	5.92		10.32	
1345				17.98	5.95		6.64	
1355		220		17.76	5.87		5.78	STOPPED PUMP

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Site: AOC-22
Well: TTAOC-22 - MW-10
Date Installed: 9-8-04
Date Developed: 9-16-04
Dev. Method: Submersible Pump
Pump Type: Redi-flow
Depth to Bottom (ft.): 59'
Static Water Level Before (ft.): 50.32
Static Water Level After (ft.): 50.32
Screen Length (ft.): 10'
Specific Capacity:
Casing ID (in.): 2"
Project Name: NWIRP- BETHPAGE
Project Number: N9845
Site Geologist: MLM
Drilling Co.: DELTA

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units ____)	Turbidity (NTU)	Remarks (odor, color, etc.)
0730	STARTED PUMP							
0740				18.56	5.12		129	
0745				18.36	5.63		39.5	
0750				18.24	5.72		32.7	Surged well
0800				18.33	5.77		127	
0810				18.37	5.81		21.2	
0815		110		19.04	5.21		14.1	STOPPED PUMP TO EMPTY DRUMS
0930	STARTED PUMP							
0935				19.49	5.86		27.3	
0940				18.72	5.85		19.8	
0950				18.88	5.82		13.5	
1000				18.70	5.84		14.2	
1010		220		19.18	5.86		11.3	STOPPED PUMP

Tetra Tech NUS, Inc.

MONITORING WELL DEVELOPMENT RECORD

Site: AOC-22
Well: TTAOC-22 - MW11
Date Installed: 9-9-04
Date Developed: 9-16-04
Dev. Method: Submersible Pump
Pump Type: Redi-flow

Depth to Bottom (ft.): 64'
Static Water Level Before (ft.): 54.35
Static Water Level After (ft.): _____
Screen Length (ft.): 10'
Specific Capacity: _____
Casing ID (in.): 2"

Project Name: NWIRP- BETH PAGE
Project Number: N9845
Site Geologist: MLM
Drilling Co.: DELTA

Time	Estimated Sediment Thickness (Ft.)	Cumulative Water Volume (Gal.)	Water Level Readings (Ft. below TOC)	Temperature (Degrees C)	pH	Specific Conductance (Units _____)	Turbidity (NTU)	Remarks (odor, color, etc.)
1225	STARTED PUMP ; SURGED			SEVERAL	TIMES			
1230				22.30	6.45		-	
1245	SURGED WELL		SEVERAL	MORE	TIMES			(VISIBLE SILT)
1300				22.16	6.23		1052	
1305				22.04	6.04		82.3	
1320				22.50	6.13		17.8	
1330		55		22.15	6.06		4.22	
1345				22.35	6.01		6.72	
1400				21.78	6.00		13.6	
1415				21.55	6.03		5.75	
1430		110		21.48	5.97		5.80	STOPPED PUMP

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage AOC 22 CLB Pilot Test
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: MW03
Sample Location:
Sampled By: DW
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	Other
Date: 9/30/04	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	NA
Time: 1020								
Method: Bladder Pump		6.36	.639	19.79	12	1.91	-137	

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Other
Date: 9/30/04								
Method: Bladder Pump								
Monitor Reading (ppm):	—	SEE	Low Flow Purge	Data	Sheet		—	
Well Casing Diameter & Material Type: 4" PVC								
Total Well Depth (TD): 65.1								
Static Water Level (WL): 55.78								
One Casing Volume(gal/L): 6								
Start Purge (hrs): 0857								
End Purge (hrs): 1015								
Total Purge Time (min): 78								
Total Vol. Purged (gal/L): 3.3								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl	3 x 40 ml vial	✓
TCL SVOCs	Ice	2 x 1L	✓
TAL Metals	HNO3	1 x 1L	✓

OBSERVATIONS / NOTES:

Water had petroleum odor and sheen on surface.

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Donald Whalen

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage AOC 22 CLB Pilot Test
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22-MW04
Sample Location:
Sampled By: DW
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	Other
Date: 9/29/04	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	NA
Time: 1650								
Method: Bladder Pump		5.76	.198	17.61	30	1.40	-46	

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Other
Date: 9/29/04								
Method: Bladder Pump								
Monitor Reading (ppm):	—	SEE LOW FLOW PURGE DATA SHEET					—	
Well Casing Diameter & Material Type: 4" PVC								
Total Well Depth (TD): 66.15								
Static Water Level (WL): 55.65								
One Casing Volume(gal/L): 6.9								
Start Purge (hrs): 1532								
End Purge (hrs): 1645								
Total Purge Time (min): 73								
Total Vol. Purged (gal/L): 3								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl	3 x 40 ml vial	✓
TCL SVOCs	Ice	2 x 1L	✓
TAL Metals	HNO3	1 x 1L	✓

OBSERVATIONS / NOTES:

Water had solvent odor and a slight sheen on the surface.

Circle if Applicable:

MS/MSD

Duplicate ID No.: TTAOC22-DUP02 (1730)

Signature(s): Donald Whalen

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage AOC 22 CLB Pilot Test
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22MW 05
Sample Location:
Sampled By: DW
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	Other
Date: 9/30/04	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	NA
Time: 1300								
Method: Bladder Pump	clear	5.07	.250	18.96	5.2	8.75	234	

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Other
Date: 9/30/04								
Method: Bladder Pump								
Monitor Reading (ppm):	—	SEE LOW FLOW PURGE DATA SHEET						
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 66.50								
Static Water Level (WL): 56.19								
One Casing Volume(gal/L): 6.7								
Start Purge (hrs): 1152								
End Purge (hrs): 1255								
Total Purge Time (min): 63								
Total Vol. Purged (gal/L): 2.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl	3 x 40 ml vial	✓
TCL SVOCs	Ice	2 x 1L	✓
TAL Metals	HNO3	1 x 1L	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Donald Whalen

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage AOC 22 CLB Pilot Test
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22-MW06
Sample Location:
Sampled By: DW
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	Other
Date: 9/29/04	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	NA
Time: 0925								
Method: Bladder Pump	clear	5.60	.131	17.62	1.4	9.50	270	

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Other
Date: 9/29/04								
Method: Bladder pump								
Monitor Reading (ppm):	—	SEE Low Flow PURGE DATA SHEET					—	—
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 62								
Static Water Level (WL): 51.37								
One Casing Volume(gal/L):								
Start Purge (hrs): 0825								
End Purge (hrs): 0920								
Total Purge Time (min): 55								
Total Vol. Purged (gal/L): 2								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl	3 x 40 ml vial	✓
TCL SVOCs	Ice	2 x 1L	✓
TAL Metals	HNO3	1 x 1L	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.: TTAOC22-DUP01 (1030)

Signature(s): David Nichols

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage AOC 22 CLB Pilot Test
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: MW07
Sample Location:
Sampled By: DW
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	Other
Date: 9/28/04	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	NA
Time: 1540								
Method: Bladder Pump	clear	6.24	.241	18.60	6.2	8.49	221	

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Other
Date: 9/28/04								
Method: Bladder Pump								
Monitor Reading (ppm):	—	SEE	LOW	FLOW	PURGE	DATA	SHEET	—
Well Casing Diameter & Material								
Type: 2" PVC								
Total Well Depth (TD): 62.1								
Static Water Level (WL): 51.39								
One Casing Volume(gal/L):								
Start Purge (hrs): 1408								
End Purge (hrs): 1535								
Total Purge Time (min): 87								
Total Vol. Purged (gal/L): 3								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl	3 x 40 ml vial	✓
TCL SVOCs	Ice	2 x 1L	✓
TAL Metals	HNO3	1 x 1L	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): David Webster

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage AOC 22 CLB Pilot Test
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: MW08
Sample Location:
Sampled By: DW
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	Other
Date: 9/28/04	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	NA
Time: 1305								
Method: Bladder Pump		10.37	.220	18.80	23	8.47	62	

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Other
Date: 9/28/04								
Method: Bladder Pump								
Monitor Reading (ppm):	—	SEE	Low	Flow	PURGE	DATA	SHEET	—
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 62								
Static Water Level (WL): 52.13								
One Casing Volume(gal/L): 6.4								
Start Purge (hrs): 1048								
End Purge (hrs): 1300								
Total Purge Time (min): 132								
Total Vol. Purged (gal/L): 5.6								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl	3 x 40 ml vial	✓
TCL SVOCs	Ice	2 x 1L	✓
TAL Metals	HNO3	1 x 1L	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Donald Wheeler

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage AOC 22 CLB Pilot Test
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22-MW09
Sample Location:
Sampled By: DW
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	Other
Date: 9/28/04	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	NA
Time: 0910								
Method: Bladder Pump	clear							

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Other
Date: 9/28/04								
Method: Bladder Pump								
Monitor Reading (ppm):	—	SEE LOW FLOW PURGE DATA SHEET						—
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 62.8								
Static Water Level (WL): 52.77								
One Casing Volume(gal/L): 1.6								
Start Purge (hrs): 0808								
End Purge (hrs): 0905								
Total Purge Time (min): 57								
Total Vol. Purged (gal/L): 7.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl	3 x 40 ml vial	✓
TCL SVOCs	Ice	2 x 1L	✓
TAL Metals	HNO3	1 x 1L	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Donald Schaler

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage AOC 22 CLB Pilot Test
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22-MW10
Sample Location:
Sampled By: DW
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	Other
Date: 9/29/04	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	NA
Time: 1320								
Method: Bladder Pump	clear	5.58	.150	18.46	7.1	8.55	214	

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Other
Date: 9/29/04								
Method: Bladder Pump								
Monitor Reading (ppm):	—	SEE	LOW FLOW PURGE DATA			SHEET	—	—
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 59.1								
Static Water Level (WL): 49.91								
One Casing Volume(gal/L): 6								
Start Purge (hrs): 1145								
End Purge (hrs): 1315								
Total Purge Time (min): 90								
Total Vol. Purged (gal/L): 3								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl	3 x 40 ml vial	✓
TCL SVOCs	Ice	2 x 1L	✓
TAL Metals	HNO3	1 x 1L	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Donald Whalen

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage AOC 22 CLB Pilot Test
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22-MW11
Sample Location:
Sampled By: D. Whalen
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	Other
Date: 9/27/04	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	NA
Time: 1630								
Method: Bladder Pump	clear	6.18	.125	19.34	7	6.50	179	

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Other
Date: 9/27/04								
Method: Bladder Pump								
Monitor Reading (ppm):	—	SEE LOW FLOW PURGE DATA SHEET						—
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 63.8								
Static Water Level (WL): 53.90								
One Casing Volume(gal/L): 11.6								
Start Purge (hrs): 1500								
End Purge (hrs): 1625								
Total Purge Time (min): 85								
Total Vol. Purged (gal/L): 3								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOCs	HCl	3 x 40 ml vial	✓
TCL SVOCs	Ice	2 x 1L	✓
TAL Metals	HNO3	1 x 1L	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Donald Whalen

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Bethpage AOC-22
Project No.: N9845

Sample ID No.: TTAOC22-MW06
Sample Location: AOC-22
Sampled By: Vince Shickora
C.O.C. No.:

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 3-15-05 / Time: 1625	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Method: Submersible pump	clear	5.58	0.200	18.59	6.8	6.04	0.0	242

PURGE DATA:

Date: 3-15-05	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Submersible pump								
Monitor Reading (ppm): 0								
Well Casing Diameter & Material Type: 2 inch PVC			(see low flow purge sheets)					
Total Well Depth (TD):								
Static Water Level (WL): 51.11'								
One Casing Volume(gal/L):								
Start Purge (hrs): 1530								
End Purge (hrs): 1625								
Total Purge Time (min): 55								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 x 40ml vials	(Yes)
SVOCs	None	2 x 1 Liter Ambers	(Yes)
Total Metals	HNO_3	1 x 1 Liter Poly	(Yes)

OBSERVATIONS / NOTES:

Pump set at ± 59' BGS during purge/sampling
No odors or stains observed.

Circle if Applicable:		Signature(s):
MS/MSD: —	Duplicate ID No.: —	

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9845

Sample ID No.: TTAOC22-MW07
Sample Location: AOC-22
Sampled By: Vince Shuksta
C.O.C. No.:

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 3-15-05 / Time: 1450	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Method: Submersible pump	clear	4.81	0.109	15.86	3.1	7.92	0.0	315

PURGE DATA:

Date: 3-15-05	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Submersible pump								
Monitor Reading (ppm): 0								
Well Casing Diameter & Material								
Type: 2 inch PVC								
Total Well Depth (TD): 62.00'								
Static Water Level (WL): 50.91'								
One Casing Volume(gal/L):								
Start Purge (hrs): 1355								
End Purge (hrs): 1450								
Total Purge Time (min): 55								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 X 40 ml vials	(Yes)
SVOCs	No Ice	2 X 1 Liter Amber	(Yes)
Total Metals	HNO_3	1 X 1 Liter Poly	(Yes)

OBSERVATIONS / NOTES:

Pump set at ± 60' BGS during purge / sampling
No odors or stains observed.

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9845

Sample ID No.: TTAOC22-MW05
Sample Location: AOC-22
Sampled By: Vince Shickora
C.O.C. No.:

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 3-15-05	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 1320	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	ORP
Method: Submersible pump	clear	7.38	0.089	18.49	3.7	8.67	0.0	141

PURGE DATA:

Date: 3-15-05	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Submersible pump								
Monitor Reading (ppm): 0								
Well Casing Diameter & Material Type: 2inch PVC								
Total Well Depth (TD):			(See low flow purge sheets)					
Static Water Level (WL): 51.67								
One Casing Volume(gal/L):								
Start Purge (hrs): 1220								
End Purge (hrs): 1320								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 x 40 ml vials	6
SVOCs	None	2 x 1 Liter Ambers	4
Total Metals	HNO_3	1 x 1 Liter Poly	2

OBSERVATIONS / NOTES:

Pump set in well at ± 59' BGS
No odors or stains observed during purge/sampling

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	
—	TTAOC22-DUP01	

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9845

Sample ID No.: TTAOC22-MW09
Sample Location: AOC-22
Sampled By: Vince Shickosky
C.O.C. No.:

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 3-15-05	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 1125	(Visual)	(S.U.)	(mS/cm)	(^{0}C)	(NTU)	(mg/l)	(%)	ORP
Method: Submersible pump	clear	6.17	0.120	18.93	6.8	8.55	0.0	183

PURGE DATA:

Date: 3-15-05	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Submersible pump								
Monitor Reading (ppm): 0								
Well Casing Diameter & Material								
Type: 2inch PVC			(See low flow purge sheets)					
Total Well Depth (TD): 62.80'								
Static Water Level (WL): 52.22								
One Casing Volume(gal/L):								
Start Purge (hrs): 1025								
End Purge (hrs): 1125								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 x 40 ML Vials	(yes)
SVOCs	None	2 x 1 Liter Amber	(yes)
Total Metals	HNO3	1 x 1 Liter Poly	(yes)

OBSERVATIONS / NOTES:

Redi-Flow pump set at ≈ 60' BGS in well during purge/sampling
No odors or stains observed during purge

Circle if Applicable:

MS/MSD (Yes)

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9545

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22-MW10
Sample Location: AOC-22
Sampled By: Vince Shickora
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 3-16-05	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 0905	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	ORP
Method: Submersible pump	clear	5.98	0.152	18.91	6.6	9.50	0.0	216

PURGE DATA:

Date: 3-16-05	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Submersible pump								
Monitor Reading (ppm): 0								
Well Casing Diameter & Material Type: 2 inch PVC								
Total Well Depth (TD): 59.02'			(see low flow purge sheets)					
Static Water Level (WL): 49.39'								
One Casing Volume(gal/L):								
Start Purge (hrs): 0800								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 x 40 ml Vials	(Yes)
SVOCs	None	2 x 1 Liter Amber	(Yes)
Total Metals	HNO_3	1 x 1 Liter Poly	(Yes)

OBSERVATIONS / NOTES:

- Pump set at ± 57 'BGS during purge/sampling
No odors or stains observed

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
—	—	

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: Bethpage AOC-22
Project No.: N9845

Sample ID No.: TTAOC22-MW11
Sample Location: AOC22
Sampled By: Vince Shickora
C.O.C. No.:

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 3-16-05 / Time: 1040 / Method: Submersible pump	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
	clear							

PURGE DATA:

Date: 3-16-05	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Submersible pump								
Monitor Reading (ppm): 0								
Well Casing Diameter & Material Type: 2 inch PVC								
Total Well Depth (TD): 63.77			(See Low Flow log sheets)					
Static Water Level (WL): 53.30								
One Casing Volume(gal/L):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 x 40 Ml vials	(Yes)
SVOCs	None	2x 1 Liter Amber	(Yes)
Total metals	HNO3	1 x 1 Liter Poly	(Yes)

OBSERVATIONS / NOTES:

Pump set at ± 60' BGS during purge/sampling
No odors or stains observed

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: NWIRP - BETHPAGE
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22- MW06
Sample Location: AOC-22
Sampled By: MLM
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 10-11-05	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 1300	(Visual)	(S.U.)	(mS/cm)	(^{0}C)	(NTU)	(mg/l)	(%)	ORP
Method: BLADDER PUMP		5.49	.175	18.7	26	5.57		204

PURGE DATA:

Date: 10-11-05	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: BLADDER PUMP								
Monitor Reading (ppm):								
Well Casing Diameter & Material								
Type: 2 INCH PVC		(SEE	LOW	FLOW	PURGE	SHEETS)		
Total Well Depth (TD): 62								
Static Water Level (WL): 52.2								
One Casing Volume(gal/L):								
Start Purge (hrs): 1130								
End Purge (hrs): 1250								
Total Purge Time (min): 70								
Total Vol. Purged (gal/L): ≈4.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCS	HCL	3 X 40 ml VIALS	✓
SVOCS	NONE	2 X 1 LITER AMBER	✓
TOTAL METALS	HNO_3	1 X 1 LITER POLY	✓

OBSERVATIONS / NOTES:

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	Mark L. Mengel

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP - BETHPAGE
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22- MW07
Sample Location: AOC-22
Sampled By: MLM
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 10-12-05 / Time: 1215 / Method: BLADDER PUMP	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
		5.04	.185	17.9	9	6.04	—	322

PURGE DATA:

Date: 10-12-05 / Method: BLADDER PUMP	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Monitor Reading (ppm):								
Well Casing Diameter & Material								
Type: 2 INCH PVC		(SEE	LOW	FLOW	PURGE	SHEETS)		
Total Well Depth (TD): 62								
Static Water Level (WL): 51.70								
One Casing Volume(gal/L):								
Start Purge (hrs): 1100								
End Purge (hrs): 1210								
Total Purge Time (min): 70								
Total Vol. Purged (gal/L): ≈4.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCS	HCL	3 X 40 ml VIALS	✓
SVOCS	NONE	2 X 1 LITER AMBER	✓
TOTAL METALS	HNO_3	1 X 1 LITER POLY	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Mark L. Mengel

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP - BETHPAGE
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22- MW08
Sample Location: AOC-22
Sampled By: MLM
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 10-11-05	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 1550	(Visual)	(S.U.)	(mS/cm)	(^{0}C)	(NTU)	(mg/l)	(%)	ORP
Method: BLADDER PUMP		6.84	.202	17.6	9.1	8.57		180

PURGE DATA:

Date: 10-11-05	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: BLADDER PUMP								
Monitor Reading (ppm):								
Well Casing Diameter & Material								
Type: 2 INCH PVC		(SEE	LOW	FLOW	PURGE	SHEETS)		
Total Well Depth (TD): 62'								
Static Water Level (WL): 52.4								
One Casing Volume(gal/L):								
Start Purge (hrs): 1430								
End Purge (hrs): 1540								
Total Purge Time (min): 70								
Total Vol. Purged (gal/L): ≈ 4.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCS	HCL	3 X 40 ml VIALS	✓
SVOCS	NONE	2 X 1 LITER AMBER	✓
TOTAL METALS	HNO_3	1 X 1 LITER POLY	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

Mark L. Mengel

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP - BETHPAGE
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22- MW09
Sample Location: AOC-22
Sampled By: MLM
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 10-11-05	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 0930	(Visual)	(S.U.)	(mS/cm)	(^{0}C)	(NTU)	(mg/l)	(%)	ORP
Method: BLADDER PUMP		5.95	.096	18.3	9.0	8.17	-	193

PURGE DATA:

Date: 10-11-05	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: BLADDER PUMP								
Monitor Reading (ppm):								
Well Casing Diameter & Material								
Type: 2 INCH PVC		(SEE	LOW	FLOW	PURGE	SHEETS)		
Total Well Depth (TD): 62'								
Static Water Level (WL): 53.3								
One Casing Volume(gal/L):								
Start Purge (hrs): 0815								
End Purge (hrs): 0925								
Total Purge Time (min): 70								
Total Vol. Purged (gal/L): ~4.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCS	HCL	3 X 40 ml VIALS	✓
SVOCS	NONE	2 X 1 LITER AMBER	✓
TOTAL METALS	HNO3	1 X 1 LITER POLY	✓

OBSERVATIONS / NOTES:

D10 MS/MSD

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Mark L. Mengel

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: NWIRP - BETHPAGE
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22- MW10
Sample Location: AOC-22
Sampled By: MLM
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 10-12-05	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 1010	(Visual)	(S.U.)	(mS/cm)	(^{0}C)	(NTU)	(mg/l)	(%)	ORP
Method: BLADDER PUMP		5.95	.144	18.7	23	7.97	—	217

PURGE DATA:

Date: 10-12-05	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: BLADDER PUMP								
Monitor Reading (ppm):								
Well Casing Diameter & Material								
Type: 2 INCH PVC		(SEE	LOW	FLOW	PURGE	SHEETS)		
Total Well Depth (TD): 59'								
Static Water Level (WL): 50.40								
One Casing Volume(gal/L):								
Start Purge (hrs): 0830								
End Purge (hrs): 1000								
Total Purge Time (min): 90								
Total Vol. Purged (gal/L): 5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCS	HCL	3 X 40 ml VIALS	✓
SVOCS	NONE	2 X 1 LITER AMBER	✓
TOTAL METALS	HNO_3	1 X 1 LITER POLY	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Mark L. Mongol

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NWIRP - BETHPAGE
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: TTAOC22- MW11
Sample Location: AOC-22
Sampled By: MLM
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 10-10-05 / Time: 1715 / Method: BLADDER PUMP	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
	CLEAR	5.67	.182	19.3	5.8	7.08	—	225

PURGE DATA:

Date: 10-10-05 / Method: BLADDER PUMP	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Monitor Reading (ppm):								
Well Casing Diameter & Material								
Type: 2 INCH PVC		(SEE	LOW	FLOW	PURGE	SHEETS)		
Total Well Depth (TD): 63.77								
Static Water Level (WL): 54.50								
One Casing Volume(gal/L):								
Start Purge (hrs): 1605								
End Purge (hrs): 1710								
Total Purge Time (min): 65								
Total Vol. Purged (gal/L): 4.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCS	HCL	3 X 40 ml VIALS	✓
SVOCS	NONE	2 X 1 LITER AMBER	✓
TOTAL METALS	HNO_3	1 X 1 LITER POLY	✓

OBSERVATIONS / NOTES:

DUPLICATE SAMPLE COLLECTED

Circle if Applicable:

MS/MSD

Duplicate ID No.: TTAOC22 - DUP01

Signature(s):

Mark L. Mengel

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Bethpage 1 AOC 22
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.:
Sample Location: MW-01
Sampled By: K. Weir
C.O.C. No.:
Type of Sample:
[] Low Concentration
[X] High Concentration

SAMPLING DATA:

Date: / Time: N/A / Method:	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other

PURGE DATA:

Date: 12-7-06	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Low Flow								
Monitor Reading (ppm):								
Well Casing Diameter & Material Type: 4"								
Total Well Depth (TD): ?								
Static Water Level (WL): ~51'								
One Casing Volume(gal/L):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected

OBSERVATIONS / NOTES:

Abundant Free Product.
↳ Similar to Roofing Tar

-> Attempted w/ Temp. 2" Casing ~5' below "WL", w/ no Success.

- unable to Sample

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: Bethpage / AOC 72
Project No.: 9845

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.:
Sample Location: MW-02
Sampled By: C. Weir
C.O.C. No.:
Type of Sample:
[] Low Concentration
[X] High Concentration

SAMPLING DATA:

Date: / Time: / Method:	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
N/A								

PURGE DATA:

Date: 12-7-06	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Low Flow								
Monitor Reading (ppm):								
Well Casing Diameter & Material Type: 4"								
Total Well Depth (TD): ?								
Static Water Level (WL): ~51.6'								
One Casing Volume(gal/L):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected

OBSERVATIONS / NOTES:

Abundant Free Product
↳ Similar to Roofing Tar.

→ Attempted w/ Temporary 2" PVC Casing ~10' below WL
↳ Not effective

Abonden w/out Sampling

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Bethpage / AOC22
Project No.: 9845.2210

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: MW-03-1206
Sample Location: MW-03
Sampled By: K. Weir
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-6-06	Color	pH	S.C.	Temp.	Turbidity	DO	Orp	Other
Time: 1600	(Visual)	(S.U.)	(mS/cm)	(^{0}C)	(NTU)	(mg/l)	(mV)	
Method: grundfos	clear	5.55	0.325	21.5	6.67	3.28	7	

PURGE DATA:

Date: 12-6-06	Volume	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~	Other
Method: grundfos								
Monitor Reading (ppm): ~~B.~~								
Well Casing Diameter & Material								
Type: 4" PVC								
Total Well Depth (TD): 65.2								
Static Water Level (WL): 57.61								
One Casing Volume (gal/L): 8.8								
Start Purge (hrs): 1510								
End Purge (hrs): 1555								
Total Purge Time (min): 45								
Total Vol. Purged (gal/L): 26								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	40 Ml Vial	2
SVOCs	Ice Only	1 L Amber	2
TAL Metals	HCl	1 L Poly	1

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	DUP-02 (0000)

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Bethpage / AOC22
Project No.: 9845.2210

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: MW-04-12006
Sample Location: MW-04
Sampled By: K. Weir
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-7-06	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Orp (mV)	Other
Time: 0925								
Method: grundfos	Clear	5.66	0.097	23.1	4.04	2.67	79	

PURGE DATA:

Date: 12-7-06	Volume	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~	Other
Method: grundfos								
Monitor Reading (ppm):								
Well Casing Diameter & Material Type: 4" PVC								
Total Well Depth (TD): 66.3								
Static Water Level (WL): 51.76								
One Casing Volume (gal/L): 9.45								
Start Purge (hrs): 0840								
End Purge (hrs): 0920								
Total Purge Time (min): 40								
Total Vol. Purged (gal/L): 3.15								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	40 Ml Vial	2
SVOCs	Ice Only	1 L Amber	2
TAL Metals	HCl	1 L Poly	1

OBSERVATIONS / NOTES:

Field Blank:
FB-01-12006 (0900)
Rinsate Blank:
RB-01-12006 (1000)

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Bethpage / AOC22
Project No.: 9845.2210

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: MW-05-1206
Sample Location: MW-05
Sampled By: K. Weir
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-6-06	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Orp (mV)	Other
Time: 1410								
Method: grundfos	Clear	5.24	0.192	18.2	9.3	7.14	220	

PURGE DATA:

Date: 12-6-06	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: grundfos								
Monitor Reading (ppm):								
Well Casing Diameter & Material Type: 4" PVC								
Total Well Depth (TD): 66.6								
Static Water Level (WL): 52.02								
One Casing Volume (gal/L): 9.47								
Start Purge (hrs): 1305								
End Purge (hrs): 1405								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): 4.74								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	40 Ml Vial	2
SVOCs	Ice Only	1 L Amber	2
TAL Metals	HCl	1 L Poly	1

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Bethpage / AOC22
Project No.: 9845.2210

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: MW-06-1206
Sample Location: MW-06
Sampled By: K. Weir
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-5-06	Color	pH	S.C.	Temp.	Turbidity	DO	Orp	Other
Time: 1145	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(mV)	
Method: grundfos	Clear	5.29	0.424	18.9	9.3	4.32	141	

PURGE DATA:

Date: 12-5-06	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: grundfos								
Monitor Reading (ppm):								
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 62.0								
Static Water Level (WL): 47.46								
One Casing Volume(gal/L): 2.32								
Start Purge (hrs): 1050								
End Purge (hrs): 1140								
Total Purge Time (min): 50								
Total Vol. Purged (gal/L): 4								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	40 Ml Vial	2
SVOCs	Ice Only	1 L Amber	2
TAL Metals	HCl	1 L Poly	1

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Bethpage / AOC22
Project No.: 9845.2210

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: MW-07-1206
Sample Location: MW-07
Sampled By: K. Weir
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-5-06	Color	pH	S.C.	Temp.	Turbidity	DO	Orp	Other
Time: 1000	(Visual)	(S.U.)	(mS/cm)	(^{0}C)	(NTU)	(mg/l)	(mV)	
Method: Grundfos	Clear	4.79	0.206	18.8	10.2	7.52	279	

PURGE DATA:

Date: 12-5-06	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Grundfos								
Monitor Reading (ppm):								
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 62.0								
Static Water Level (WL): 47.27								
One Casing Volume(gal/L): 2.36								
Start Purge (hrs): 0830								
End Purge (hrs): 0955								
Total Purge Time (min): 85								
Total Vol. Purged (gal): 6.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	40 Ml Vial	2
SVOCs	Ice Only	1 L Amber	2
TAL Metals	HCl	1 L Poly	1

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Bethpage / AOC22
Project No.: 9845.2210

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: MW-08-1206
Sample Location: MW-08
Sampled By: K. Weir
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-4-06	Color	pH	S.C.	Temp.	Turbidity	DO	Orp	Other
Time: 1550	(Visual)	(S.U.)	(mS/cm)	(^{0}C)	(NTU)	(mg/l)	(mV)	
Method: grundfos	Clear	6.56	0.121	18.3	21.1	8.48	143	

PURGE DATA:

Date: 12-4-06	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: grundfos								
Monitor Reading (ppm):								
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 62.0								
Static Water Level (WL): 47.99								
One Casing Volume (gal/L): 2.24								
Start Purge (hrs): 1430								
End Purge (hrs): 1545								
Total Purge Time (min): 45								
Total Vol. Purged (gal/L): 4								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	40 Ml Vial	2
SVOCs	Ice Only	1 L Amber	2
TAL Metals	HCl	1 L Poly	1

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Bethpage / AOC22
Project No.: 9845.2210

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: MW-09-1206
Sample Location: MW-09
Sampled By: K. Weir
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-5-06	Color	pH	S.C.	Temp.	Turbidity	DO	Orp	Other
Time: 1355	(Visual)	(S.U.)	(mS/cm)	(^{0}C)	(NTU)	(mg/l)	(mV)	
Method: grundfos	Clear	5.76	0.165	20.0	9.45	8.90	179	

PURGE DATA:

Date: 12-5-06	Volume	pH	S.C.	Temp.	Turbidity	DO	~~Salinity~~	Other
Method: grundfos								
Monitor Reading (ppm):								
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 62.8								
Static Water Level (WL): 48.59								
One Casing Volume (gal/L): 2.27								
Start Purge (hrs): 1305								
End Purge (hrs): 1350								
Total Purge Time (min): 45								
Total Vol. Purged (gal/L): 4								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	40 Ml Vial	2
SVOCs	Ice Only	1 L Amber	2
TAL Metals	HCl	1 L Poly	1

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Bethpage / AOC22
Project No.: 9845.2210

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: MW-10-12006
Sample Location: MW-10
Sampled By: K. Weir
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-5-06 / Time: 1610 / Method: grundfos	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Orp (mV)	Other
	Clear	5.77	0.173	18.2	7.46	8.94	210	

PURGE DATA:

Date: 12-5-06	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: grundfos								
Monitor Reading (ppm):								
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 59.2								
Static Water Level (WL): 45.82								
One Casing Volume (gal/L): 2.14								
Start Purge (hrs): 1500								
End Purge (hrs): 1605								
Total Purge Time (min): 65								
Total Vol. Purged (gal/L): 5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	40 Ml Vial	2
SVOCs	Ice Only	1 L Amber	2
TAL Metals	HCl	1 L Poly	1

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
	DUP-01 (0000)

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: Bethpage / AOC22
Project No.: 9845.2210

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: MW-11-12006
Sample Location: MW-11
Sampled By: K. Weir
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-6-06	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^{0}C)	Turbidity (NTU)	DO (mg/l)	Orp (mV)	Other
Time: 0930								
Method: grundfos	Clear	5.78	0.294	20.1	8.79	7.57	197	

PURGE DATA:

Date: 12-6-06	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: grundfos								
Monitor Reading (ppm):								
Well Casing Diameter & Material Type: 2" PVC								
Total Well Depth (TD): 63.9								
Static Water Level (WL): 49.65								
One Casing Volume(gal/L): 2.28								
Start Purge (hrs): 0845								
End Purge (hrs): 0925								
Total Purge Time (min): 40								
Total Vol. Purged (gal/L): 3.5								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	40 Ml Vial	3 (2)
SVOCs	Ice Only	1 L Amber	3 (2)
TAL Metals	HCl	1 L Poly	3 (1)

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
X	

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NWIRP Bethpage AOC 22 **Project No.:** 9845
Location: **Personnel:** D. Whalen
Weather Conditions: P. cloudy 80° **Measuring Device:** Heron Dipper T
Tidally Influenced: Yes ___ No ___ **Remarks:**

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
MW 1	9/27/04			unknown	~~NA~~	unknown		
MW 2	"			unknown	~~NA~~	unknown		
MW 3	"	1315		65.1	55.95	—		
MW 4	"			66.2	56.04	—		
MW 5	"			66.5	56.36	—		
MW 6	"			62.0	51.66	—		
MW 7	"	1300		62.1	51.40	—		
MW 8	"			62.1	52.13	—		
MW 9	"	1250		62.8	52.79	—		
MW 10	"			59.1	50.03	—		
MW 11	√	1245		63.8	53.90	—		

* All measurements to the nearest 0.01 foot

Page ___ of ___

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP Bethpage AOC 22 CLB Pilot Test
PROJECT NUMBER: 9845
WELL ID.: TTAOC22 - MW03
DATE: 9/30/04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
0857	55.78	160							START PURGING
0900	55.78	160	6.08	.697	29	7.36	19.83	-95	
0905	55.78	160	6.31	.698	18	4.50	19.78	-129	clear, water has
0910	55.79	160	6.34	.699	19	2.49	19.65	-131	petroleum odor
0915	55.79	160	6.33	.692	19	2.31	19.63	-136	
0920	55.79	160	6.33	.686	20	2.10	19.52	-137	
0925	55.79	160	6.31	.679	14	1.80	19.68	-138	
0930	55.79	160	6.31	.674	14	1.92	19.70	-138	
0935	55.79	160	6.30	.667	14	2.01	19.70	-139	
0940	55.79	160	6.29	.661	13	2.15	19.72	-138	
0945	55.79	160	6.30	.657	13	2.03	19.77	-138	
0950	55.79	160	6.30	.652	13	1.98	19.78	-138	
0955	55.79	160	6.32	.648	12	1.86	19.79	-137	
1000	55.79	160	6.34	.645	12	1.88	19.75	-137	
1005	55.79	160	6.35	.643	12	1.89	19.78	-137	
1010	55.79	160	6.36	.641	11	1.90	19.79	-137	
1015	55.79	160	6.36	.639	12	1.91	19.79	-137	
1020	55.79	160	6.37						collect sample

SIGNATURE(S): David Whelan

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP Bethpage AOC 22 CLB Pilot Test
PROJECT NUMBER: 9845
WELL ID.: TTAOC22-MW04
DATE: 9/29/04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1532	55.65	125							Start Purging
1535	55.66	125	6.04	.196	70	8.98	19.97	-5	
1540	55.66	125	5.62	.193	70	3.68	18.91	-2	light, rust-colored particles in water
1545	55.66	125	5.58	.192	60	2.09	18.23	-13	
1550	55.66	150	5.58	.192	60	1.65	18.01	-18	water has slight solvent odor
1555	55.66	150	5.58	.192	40	1.67	17.85	-23	
1600	55.66	150	5.59	.193	40	1.67	17.78	-25	
1605	55.66	150	5.63	.194	40	1.51	17.73	-31	
1610	55.66	150	5.63	.194	40	1.57	17.76	-30	
1615	55.66	150	5.65	.194	35	1.56	17.72	-34	
1620	55.66	150	5.67	.194	35	1.55	17.68	-36	
1625	55.66	150	5.68	.196	32	1.45	17.68	-39	
1630	55.66	150	5.71	.197	31	1.46	17.64	-41	
1635	55.66	150	5.72	.198	32	1.44	17.62	-43	
1640	55.66	150	5.74	.198	32	1.43	17.62	-45	
1645	55.66	150	5.76	.198	30	1.40	17.61	-46	
1650									collect sample

SIGNATURE(S): Donald W Faber

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP Bethpage AOC 22 CLB Pilot Test
PROJECT NUMBER: 9845
WELL ID.: MW 05
DATE: 9/30/04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1152	56.19	150							Start Purging
1155	56.19	150	6.01	.253	25	9.92	19.65	157	clear
1200	56.19	150	5.19	.253	21	8.61	19.17	184	
1205	56.19	150	5.06	.252	18	8.60	19.08	192	
1210	56.19	150	4.98	.249	14	8.51	18.99	204	
1215	56.19	150	4.99	.251	12	8.40	18.99	215	
1220	56.19	150	5.00	.250	12	8.33	18.97	218	
1225	56.19	150	5.01	.250	10	8.26	18.97	223	
1230	56.19	150	5.02	.249	7.7	8.24	18.96	225	
1235	56.19	150	5.03	.249	6.8	8.22	18.96	227	
1240	56.19	150	5.04	.249	6.0	8.21	18.96	229	
1245	56.19	150	5.05	.250	5.4	8.23	18.95	231	
1250	56.19	150	5.06	.250	4.8	8.24	18.95	232	
1255	56.19	150	5.07	.250	5.2	8.25	18.96	234	
1300									Collect Sample

SIGNATURE(S): Donald Whalen

PAGE 2 **OF** 2

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP Bethpage AOC 22 CLB Pilot Test
PROJECT NUMBER: 9845
WELL ID.: MW06
DATE: 9/29/04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
0825	51.37								Start Purge
0830	51.34	150	5.90	.138	15	11.90	18.06	350	clear
0835	51.34	150	5.81	.134	14	10.41	17.90	332	
0840	51.34	150	5.70	.132	12	9.84	17.72	311	
0845	51.34	150	5.67	.132	8.1	9.71	17.72	298	
0850	51.34	150	5.64	.134	3.8	9.65	17.69	291	
0855	51.34	150	5.64	.135	4.1	9.65	17.66	284	
0900	51.34	150	5.64	.135	5.9	9.55	17.64	279	
0905	51.34	150	5.62	.133	4.2	9.51	17.65	278	
0910	51.34	150	5.61	.134	3.1	9.45	17.65	275	
0915	51.34	150	5.60	.133	2.2	9.47	17.63	272	
0920	51.34	150	5.60	.131	1.4	9.50	17.62	270	
0925									Collect Sample

SIGNATURE(S): Dan Whaler

PAGE 2 OF 2

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP Bethpage AOC 22 CLB Pilot Test **WELL ID.:** MW 07
PROJECT NUMBER: 9845 **DATE:** 9/28/04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1408	51.39	150							START
1410	51.39	150	9.13	.245	60	10.30	20.72	103	
1415	51.41	150	9.10	.241	45	8.47	19.91	98	slightly cloudy
1420	51.41	150	8.86	.235	31	7.92	19.36	107	
1425	51.41	150	8.57	.232	26	7.81	19.07	123	
1430	51.41	150	8.34	.231	22	7.91	18.92	137	
1435	51.41	150	8.12	.232	20	8.05	18.77	153	
1440	51.41	150	7.90	.233	17	8.18	18.71	167	
1445	51.41	150	7.80	.234	14	8.24	18.70	174	
1450	51.41	150	7.59	.236	11	8.33	18.72	184	
1455	51.41	150	7.32	.239	11	8.49	18.75	196	
1500	51.41	150	7.10	.239	10	8.49	18.72	203	
1505	51.41	150	6.96	.238	10	8.48	18.57	204	
1510	51.41	150	6.82	.238	9.9	8.46	18.65	205	
1515	51.41	150	6.70	.238	8.9	8.44	18.73	205	
1520	51.41	150	6.48	.240	7.5	8.49	18.61	211	
1525	51.41	150	6.31	.240	7.1	8.53	18.60	216	
1530	51.41	150	6.23	.241	6.6	8.56	18.56	220	
1535	51.41	150	6.24	.241	6.2	8.49	18.60	221	
1540									collect sample

SIGNATURE(S): Donald Whalen PAGE 2 OF 2

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP Bethpage AOC 22 CLB Pilot Test
PROJECT NUMBER: 9845
WELL ID.: MW08
DATE: 9/28/04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1048	52.13	170							
1050	52.14	170	10.34	.419		10.5	19.17	53	lt. Brown
1055	52.15	170	10.71	.432	300	8.77	18.65	47	
1100	52.15	170	10.68	.391	270	8.72	18.65	49	
1105	52.15	170	10.65	.352	230	8.68	18.64	51	
1110	52.15	170	10.62	.335	200	8.70	18.56	57	
1115	52.15	170	10.59	.319	170	8.60	18.54	59	
1120	52.15	170	10.54	.307	140	8.62	18.44	60	
1125	52.15	170	10.52	.295	120	8.57	18.55	61	
1130	52.15	170	10.42	.290	110	8.47	20.84	61	
1135	52.15	170	10.21	.215	80	8.49	20.82	63	
1140	52.15	170	10.04	.140	40	8.51	20.82	65	
1145	52.15	170	9.99	.102	13	8.55	20.82	68	
1150	52.15	170	10.01	.113	12	8.50	20.41	70	
1155	52.15	170	10.02	.124	13	8.46	19.90	72	
1200	52.15	170	10.08	.140	12	8.49	19.62	70	
1205	52.15	170	10.17	.155	12	8.38	19.62	69	
1210	52.15	170	10.20	.160	13	8.30	19.61	68	
1215	52.15	170	10.25	.174	13	8.31	19.39	66	
1220	52.15	170	10.28	.184	15	8.30	19.30	65	
1225	52.15	170	10.31	.191	17	8.25	19.23	65	
1230	52.15	170	10.32	.202	19	8.36	19.18	63	
1235	52.15	170	10.35	.207	20	8.39	19.10	62	
1240	52.15	170	10.36	.214	23	8.43	18.99	63	
1245	52.15	170	10.37	.217	22	8.46	18.92	62	
1250	52.15	170	10.35	.219	22	8.47	18.87	62	
1255	52.15	170	10.37	.221	21	8.49	18.75	61	
1300	52.15	170	10.37	.220	23	8.47	18.80	62	
1305									Collect sample

SIGNATURE(S): Daniel Mulcahy

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP Bethpage AOC 22 CLB Pilot Test
PROJECT NUMBER: 9845
WELL ID.: MW09
DATE: 9/28/04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
0808	52.77								start
0810		150	5.31	.256	240	9.91	19.13	260	
0815	52.79	150	5.64	.229	210	8.88	18.35	254	
0820	52.79	150	5.69	.235	180	9.16	18.34	256	
0825	52.79	150	5.69	.253	70	8.91	18.20	251	
0830	52.79	150	5.69	.249	41	8.87	18.10	247	
0835	52.79	150	5.68	.248	20	8.79	18.09	246	
0840	52.79	150	5.72	.246	14	8.75	18.05	242	
0845	52.79	150	5.72	.246	10	8.69	18.06	242	
0850	52.79	150	5.75	.246	5.4	8.66	18.11	239	
0855	52.79	150	5.75	.247	3.3	8.64	18.13	236	
0900	52.79	150	5.76	.247	2.8	8.65	18.13	233	
0905	52.79	150	5.78	.245	3.2	8.67	18.15	232	
0910									collect sample

SIGNATURE(S): David White

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP Bethpage AOC 22 CLB Pilot Test
PROJECT NUMBER: 9845
WELL ID.: MW10
DATE: 9/29/04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1145	49.91	170							Start Purge
1150	49.92	170	5.76	.165	200	9.87	18.45	227	
1155	49.92	170	5.65	.155	170	9.13	18.36	225	
1200	49.92	170	5.61	.151	150	8.99	18.34	225	
1205	49.92	170	5.59	.149	120	8.90	18.34	225	
1210	49.92	170	5.60	.150	90	8.82	18.34	224	
1215	49.92	170	5.60	.149	75	8.80	18.36	223	
1220	49.92	170	5.60	.149	60	8.76	18.38	223	
1225	49.92	170	5.58	.149	55	8.72	18.38	223	
1230	49.92	170	5.57	.149	39	8.70	18.39	222	
1235	49.92	170	5.60	.149	30	8.72	18.42	223	
1240	49.92	170	5.60	.145	26	8.63	18.43	220	
1245	49.92	170	5.59	.147	22	8.62	18.43	220	
1250	49.92	170	5.58	.149	18	8.58	18.45	219	
1255	49.92	170	5.58	.149	15	8.58	18.46	217	
1300	49.92	170	5.59	.150	12	8.61	18.45	217	
1305	49.92	170	5.59	.149	10	8.59	18.53	215	
1310	49.92	170	5.59	.149	8.8	8.56	18.48	215	
1315	49.92	170	5.58	.150	7.1	8.55	18.46	214	
1320									Collect sample

SIGNATURE(S): David W Kolan

Tetra Tech NUS, Inc.

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP Bethpage AOC 22 CLB Pilot Test
PROJECT NUMBER: 9845
WELL ID.: MW-11
DATE: 9/27/04

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celsius)	ORP (mV)	Comments
1500	53.90	175							Start Purge
1505	54.04	175	5.65	.145	85	8.76	20.39	168	175 ml/min
1510	54.07	175	5.57	.143	65	6.34	19.84	176	cloudy
1515	54.09	175	5.54	.150	61	5.89	19.64	180	"
1520	54.07	150	5.53	.147	55	5.55	19.79	183	"
1525	54.07	150	5.55	.142	40	5.82	19.74	184	
1530	54.06	150	5.57	.138	23	6.01	19.66	185	
1535	54.07	150	5.60	.133	19	6.14	19.58	185	
1540	54.06	150	5.65	.131	16	6.28	19.52	186	clear
1545	54.06	150	5.81	.129	14	6.34	19.53	184	"
1550	54.07	150	6.07	.127	12	6.35	19.41	183	"
1555	54.07	150	6.08	.126	12	6.40	19.42	182	"
1600	54.07	150	6.09	.126	11	6.38	19.40	182	"
1605	54.07	150	6.12	.126	10	6.41	19.40	179	"
1610	54.07	150	6.15	.125	9	6.43	19.41	179	"
1615	54.07	150	6.16	.125	9	6.47	19.35	179	"
1620	54.07	150	6.18	.124	8	6.49	19.34	178	"
1625	54.07	150	6.18	.125	7	6.50	19.34	179	"
1630									collect sample

SIGNATURE(S): David Weber

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bethpage AOC-22
PROJECT NUMBER: N9845
WELL ID.: TTAOC22-MW06
DATE: 3-15-05

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1525	51.11'	–	–	–	–	–	–	–	–	Initial
1530	51.13'	420	6.60	0.220	717	7.95	17.24	223	0.0	cloudy (Brown)
1535	51.13'	420	5.95	0.210	560	6.75	18.00	238	0.0	"
1540	51.13'	415	5.72	0.205	211	6.28	18.69	233	0.0	"
1545	51.12'	420	5.63	0.203	103	6.21	18.84	235	0.0	slight Tint (Brown)
1550	51.13'	420	5.57	0.201	47	6.19	18.79	240	0.0	very slight Tint (Tan)
1555	51.12'	415	5.52	0.201	21.3	6.14	18.74	244	0.0	clear
1600	51.12'	420	5.54	0.201	13.0	6.09	18.69	242	0.0	clear
1605	51.13'	420	5.56	0.201	10.7	6.07	18.64	241	0.0	clear
1610	51.13'	420	5.56	0.201	8.1	6.06	18.61	242	0.0	clear
1615	51.12'	415	5.57	0.200	7.9	6.06	18.60	242	0.0	clear
1620	51.12'	420	5.57	0.200	7.5	6.05	18.60	242	0.0	clear
1625	51.13'	420	5.58	0.200	6.8	6.04	18.59	242	0.0	clear - collect sample

SIGNATURE(S): [signature]

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bethpage AOC-22 WELL ID.: TTAOC22-MW07
PROJECT NUMBER: 09845 DATE: 3-15-05

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1350	50.91'	-	-	-	-	-	-	-	-	Initial
1355	50.93'	415	6.07	0.095	511	7.90	18.08	251	0.0	Cloudy (Brown)
1400	50.93'	415	5.90	0.105	320	7.75	18.45	276	0.0	"
1405	50.93'	420	5.17	0.107	175	7.86	18.55	303	0.0	"
1410	50.93'	420	4.83	0.106	60.4	7.84	18.77	312	0.0	very slight Tint (Tan)
1415	50.93'	415	4.74	0.107	39.9	7.89	18.99	318	0.0	clear
1420	50.93'	420	4.77	0.108	21.1	7.87	18.97	318	0.0	clear
1425	50.93'	420	4.76	0.107	15.0	7.90	18.93	319	0.0	clear
1430	50.92'	415	4.78	0.108	9.4	7.89	18.91	318	0.0	clear
1435	50.92'	415	4.79	0.108	6.6	7.90	18.89	317	0.0	clear
1440	50.92'	420	4.80	0.108	4.0	7.91	18.88	317	0.0	clear
1445	50.92'	420	4.81	0.109	3.2	7.92	18.87	316	0.0	clear
1450	50.92'	415	4.81	0.109	3.1	7.92	18.86	315	0.0	clear - collect Sample

SIGNATURE(S): _____ PAGE___OF___

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bethpage AOC-22
PROJECT NUMBER: N9845
WELL ID.: TTAOC22-MW08
DATE: 3-15-05

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1215	51.67'	—	—	—	—	—	—	—	—	Initial
1220	51.68'	420	9.43	0.104	606	8.08	17.03	109	0.0	cloudy (Brown)
1225	51.68'	420	9.71	0.108	198	8.42	15.29	97	0.0	slight Tint (Brown)
1230	51.69'	420	9.50	0.103	130	8.29	19.40	86	0.0	very slight Tint (Tan)
1235	51.69'	425	9.06	0.096	103	8.31	19.28	95	0.0	"
1240	51.69'	425	8.69	0.095	72	8.46	19.07	104	0.0	clear
1245	51.69'	425	8.07	0.094	40.2	8.57	18.89	118	0.0	clear
1250	51.69'	425	7.93	0.093	27.4	8.60	18.70	130	0.0	clear
1255	51.69'	425	7.77	0.092	20.4	8.63	18.59	137	0.0	clear
1300	51.69'	425	7.59	0.090	16.5	8.65	18.61	141	0.0	clear
1305	51.69'	425	7.47	0.090	11.6	8.66	18.55	140	0.0	clear
1310	51.69'	425	7.40	0.089	8.9	8.65	18.50	141	0.0	clear
1315	51.69'	425	7.39	0.089	5.8	8.66	18.49	140	0.0	clear
1320	51.69'	425	7.38	0.089	3.7	8.67	18.49	141	0.0	clear - collect Sample

SIGNATURE(S): [signature]

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bethpage AOC-22 WELL ID.: TTAOC22-MW09
PROJECT NUMBER: N9845 DATE: 3-15-05

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1015	52.22	–	–	–	–	–	–	–	–	Initial
1025	52.24	400	6.94	0.120	599	8.44	16.61	145	0.0	cloudy (Brown)
1030	52.24	400	6.76	0.121	550	7.93	19.53	120	0.0	"
1035	52.24	415	6.50	0.122	476	8.18	19.91	121	0.0	"
1040	52.24	415	6.38	0.122	440	8.36	19.54	147	0.0	"
1045	52.24	415	6.31	0.121	129	8.49	19.11	161	0.0	slight Tint (Brown)
1050	52.24	415	6.29	0.121	61.3	8.53	18.99	171	0.0	very slight Tint (Tan)
1055	52.24	415	6.24	0.121	40.1	8.55	19.13	169	0.0	clear
1100	52.24	415	6.19	0.120	30.7	8.59	18.96	174	0.0	clear
1105	52.24	415	6.18	0.121	21.0	8.57	18.91	178	0.0	clear
1110	52.24	415	6.18	0.120	13.7	8.54	18.94	179	0.0	clear
1115	52.24	415	6.17	0.120	8.5	8.55	18.93	181	0.0	clear
1120	52.24	415	6.17	0.120	7.4	8.53	18.94	182	0.0	clear
1125	52.24	415	6.17	0.120	6.8	8.55	18.93	183	0.0	clear - collect Sample

SIGNATURE(S): _____ PAGE___OF___

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bethpage - AOC-22
PROJECT NUMBER: N9845

WELL ID.: TTAOC22-MW10
DATE: 3-16-05

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0755	49.39'	-	-	-	-	-	-	-	-	Initial
0900	49.40'	425	5.48	0.137	785	9.57	16.52	260	0.0	cloudy (Brown)
0805	49.40'	420	5.97	0.156	549	10.18	18.58	242	0.0	"
0810	49.40'	420	6.02	0.156	402	9.29	18.81	233	0.0	"
0815	49.40'	420	6.02	0.157	260	9.40	18.91	223	0.0	cloudy (Brown)
0820	49.40'	415	6.01	0.156	208	9.45	19.00	219	0.0	slightly Cloudy (Brown)
0825	49.40'	415	6.01	0.154	128	9.47	18.96	216	0.0	slight Tint (Tan)
0830	49.40'	415	6.01	0.153	88.4	9.43	18.98	215	0.0	"
0835	49.40'	415	6.00	0.152	53.7	9.46	18.95	216	0.0	very slight Tint (Tan)
0840	49.40'	415	5.99	0.153	31.1	9.48	18.91	216	0.0	clear
0845	49.40'	415	5.99	0.152	19.4	9.49	18.89	216	0.0	clear
0850	49.40'	415	5.98	0.151	11.6	9.50	18.88	216	0.0	clear
0855	49.40'	415	5.98	0.152	9.0	9.51	18.89	217	0.0	clear
0900	49.40'	415	5.98	0.152	7.3	9.49	18.90	216	0.0	clear
0905	49.40'	415	5.98	0.152	6.6	9.50	18.91	216	0.0	clear - collect Sample

SIGNATURE(S): _____

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bethpage AOC22 — WELL ID.: TTAOC22-MW11
PROJECT NUMBER: N9845 — DATE: 3-16-05

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0940	53.30'	—	—	—	—	—	—	—	—	Initial
0945	53.31'	420	6.10	0.243	699	7.76	17.72	205	0.0	cloudy (Brown)
0950	53.31'	415	6.16	0.228	647	7.28	18.25	196	0.0	"
0955	53.31'	415	6.20	0.216	387	7.61	19.44	195	0.0	"
1000	53.31'	410	6.22	0.206	126	7.94	19.81	184	0.0	Slight Tint (Brown)
1005	53.31'	410	6.22	0.205	41.7	8.17	19.95	185	0.0	clear
1010	53.31'	410	6.23	0.202	20.4	8.26	19.91	186	0.0	clear
1015	53.31'	410	6.23	0.199	14.6	8.30	19.87	187	0.0	clear
1020	53.31'	410	6.22	0.197	11.5	8.35	19.82	188	0.0	clear
1025	53.31'	415	6.22	0.196	10.1	8.38	19.81	188	0.0	clear
1030	53.31'	415	6.23	0.196	9.3	8.39	19.85	188	0.0	clear
1035	53.31'	410	6.22	0.196	6.4	8.40	19.88	189	0.0	clear
1040	53.31'	410	6.23	0.196	4.9	8.38	19.90	189	0.0	clear - collect Sample

SIGNATURE(S): _____

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP - BETHPAGE (AOC - 22)
PROJECT NUMBER: 9845
WELL ID.: TTAOC22- MW06
DATE: 10-11-05

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1130	52.20		5.79	.177	—	8.04	19.0	204		BROWN, CLOUDY
1140			5.77	.175	—	8.49	18.9	209		BROWN, CLOUDY
1150			5.70	.168	650	7.57	18.7	220		
1200			5.66	.169	340	7.25	18.6	225		
1210			5.63	.169	180	6.55	18.6	232		
1220			5.57	.170	110	6.31	18.6	238		
1230			5.53	.171	60	6.03	18.6	242		
1240			5.51	.173	38	5.49	18.6	244		
1250			5.49	.175	26	5.57	18.7	248		

SIGNATURE(S): Mark L. Mengel

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP - BETHPAGE (AOC - 22)
PROJECT NUMBER: 9845
WELL ID.: TTAOC22- MW07
DATE: 10/12-05

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1100	51.70		5.95	.171	500	8.35	18.4	231		
1110			5.45	.184	270	7.19	18.1	248		
1120			5.36	.184	130	6.80	18.0	282		
1130			5.30	.182	65	6.61	18.0	292		
1140			5.21	.182	33	6.74	17.9	303		
1150			5.13	.183	19	6.46	17.9	311		
1200			5.04	.185	12	6.31	17.9	319		
1210			5.04	.185	9	6.04	17.9	322		

SIGNATURE(S): Mark L. Mengel

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP - BETHPAGE (AOC - 22)
PROJECT NUMBER: 9845
WELL ID.: TTAOC22- MW08
DATE: 10-11-05

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1430	52.4		6.08	.193	—	9.15	18.2	198		BROWN, CLOUDY
1440			6.70	.188	750	8.46	17.7	175		
1450			6.80	.211	100	8.62	17.7	181		
1500			6.79	.207	25	8.60	17.7	181		
1510			6.81	.203	13	8.59	17.7	180		
1520			6.83	.203	10	8.59	17.7	178		
1530			6.84	.204	8.8	8.54	17.7	178		
1540			6.84	.202	9.1	8.57	17.6	180		

SIGNATURE(S): Mark L. Mengel

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP - BETHPAGE (AOC - 22)
PROJECT NUMBER: 9845
WELL ID.: TTAOC22- MW09
DATE: 10-11-05

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0815	53.3		6.05	.118	—	8.94	17.5	184		BROWN, CLOUDY
0825			6.06	.109	500	8.99	18.1	186		
0835			6.06	.099	180	8.84	18.2	187		
0845			6.05	.098	50	8.52	18.3	186		
0855			5.95	.098	22	8.54	18.3	191		
0905			5.97	.096	18	8.60	18.4	189		
0915			5.95	.096	25	8.18	18.3	194		
0925			5.95	.096	9	8.17	18.3	193		

SIGNATURE(S): Mark L. Mengel

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP - BETHPAGE (AOC - 22)
PROJECT NUMBER: 9845
WELL ID.: TTAOC22- MW10
DATE: 10-12-05

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0830	50.40		6.34	.138	—	10.35	18.70	199		Cloudy, brown
0840			5.89	.137	—	8.90	18.6	213		
0850			5.87	.139	900	8.47	18.7	218		
0900			5.86	.138	450	8.67	18.7	219		
0910			5.88	.140	220	8.51	18.8	221		
0920			5.90	.142	130	8.22	18.9	221		
0930			5.94	.140	85	8.55	18.8	219		
0940			5.96	.141	50	8.30	18.8	216		
0950			6.00	.143	34	8.16	18.7	214		
1000			5.95	.144	23	7.97	18.7	217		

SIGNATURE(S): Mark L. Mongel

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NWIRP - BETHPAGE (AOC - 22)
PROJECT NUMBER: 9845
WELL ID.: TTAOC22- MW11
DATE: 10-10-05

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1605	54.50	200ml	5.44	.190	100	7.42	19.5	212	-	
1610			5.48	.190	55	7.37	19.5	212	-	
1620			5.58	.193	33	7.34	19.4	213	-	
1630			5.61	.187	15	7.19	19.3	216	-	
1640			5.63	.184	11	7.10	19.3	221	-	
1650			5.65	.184	8.5	6.23	19.3	223	-	
1700			5.66	.183	6.2	7.06	19.3	224	-	
1710			5.67	.182	5.8	7.08	19.3	225	-	

SIGNATURE(S): Mark L. Mengel

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bethpage / AOC 22 WELL ID.: MW-03
PROJECT NUMBER: _____ DATE: 12/6/06

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1510		300								Start purge
1515	52.6	300	5.13	0.315	1173	4.41	20.1	125	—	Red/Brn
1520	52.6	300	5.30	0.309	47.1	3.96	20.7	83	—	
1525	52.6	300	6.41	0.312	18.4	3.70	21.0	54	—	Sheen / Fuel smell
1530	52.6	300	5.55	0.322	13.6	3.55	21.2	29	—	
1535	52.6	300	5.59	0.325	8.77	3.44	21.2	18	—	
1540	52.6	300	5.57	0.326	14.82	3.37	21.4	14	—	
1545	52.6	300	5.60	0.327	9.35	3.32	21.5	8	—	
1550	52.6	300	5.56	0.325	11.25	3.30	21.5	8	—	
1555	52.6	300	5.55	0.325	6.67	3.28	21.5	7	—	
1600	—	—	—	Sample	—	—	—	—	—	Dup-02

SIGNATURE(S): _____

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bethpage / AOC 22 WELL ID.: MW-04
PROJECT NUMBER: DATE: 12/7/06

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0840		300								Clear
0845	52.0	300	5.81	0.096	22.7	3.77	22.2	140	—	
0850	52.0	300	5.82	0095	15.6	3.37	22.9	103	—	
0855	52.0	300	5.76	0.096	12.7	3.19	23.2	93	—	
0900	52.0	300	5.72	0.096	13.2	3.06	23.2	90	—	
0905	52.0	300	5.70	0.096	11.4	2.96	23.2	84	—	
0910	52.0	300	5.68	0.096	7.06	2.89	23.2	82	—	
0915	52.0	300	5.67	0.096	4.22	2.80	23.3	81	—	
0920	52.0	300	5.66	0.097	4.04	2.62	23.1	79	—	
0925				Sample						

SIGNATURE(S):

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bathpage / AOC 22 WELL ID.: MW-05
PROJECT NUMBER: DATE: 12/6/06

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1305		300								
1310	52.9	300	5.34	0.210	>1200	8.67	18.1	216	—	
1315	52.9	300	5.32	0.206	>1200	7.38	18.3	214	—	
1320	52.9	300	5.33	0.200	>1200	7.12	18.1	215	—	
1325	52.9	300	5.31	0.195	>1200	7.05	18.2	217	—	
1330	52.9	300	5.29	0.194	>1200	7.06	18.3	218	—	
1335	52.9	300	5.29	0.194	1176	7.00	18.3	220	—	
1340	52.9	300	5.27	0.193	579	7.03	18.4	223	—	
1345	52.9	300	5.26	0.192	46.4	7.11	18.6	224	—	
1350	52.9	300	5.25	0.192	33.8	7.23	18.7	224	—	
1355	52.9	300	5.25	0.191	25.6	7.16	18.1	223	—	
1400	52.9	300	5.25	0.191	14.6	7.18	17.9	221	—	
1405	52.9	300	5.24	0.192	9.3	7.14	18.2	220	—	

SIGNATURE(S):

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bath Page/AOC ZZ
PROJECT NUMBER: 9845.9210
WELL ID.: MW-06
DATE: 10/5/06

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1050	47.53	300			>1200					Red/Brown
1055	47.84	300	5.33	0.409	>1200	11.64	18.6	250	—	
1100	48.05	300	5.27	0.422	>1200	6.34	19.3	201	—	
1105	48.16	300	5.33	0.424	1034	5.40	18.1	164	—	
1110	48.21	300	5.31	0.421	634	5.15	16.7	157	—	
1115	48.21	300	5.32	0.414	215	4.86	18.2	153	—	
1120	48.21	300	5.32	0.403	66.5	4.47	19.1	149	—	Clearing
1125	48.21	300	5.31	0.428	38.9	4.12	21.0	143	—	
1130	48.21	300	5.30	0.426	27.4	4.78	20.4	142	—	
1135	48.21	300	5.31	0.426	14.6	4.30	19.8	141	—	
1140	48.21	300	5.29	0.424	9.3	4.32	18.9	141	—	
	c									
1145				Sample						

SIGNATURE(S): [signature]

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bath Page / ACCZ
PROJECT NUMBER: 9845.2210

WELL ID.: MW-7
DATE: 12-5-06

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0825		300								Lt. Tan
0835	47.73	300	4.84	0.192	>1200	8.1	13.3	274	—	
0840	48.62	300	4.86	0.191	>1200	8.36	12.5	273	—	
0845	48.89	300	4.90	0.187	>1200	8.52	11.6	270	—	
0850	48.89	300	4.90	0.191	>1200	8.65	10.7	258	—	
0855	48.89	300	4.92	0.189	>1200	7.76	12.1	253	—	
0900	48.89	300	5.02	0.175	>1200	6.81	13.3	229	—	
0905	48.89	300	4.98	0.185	1140	7.83	13.4	240	—	
0910	48.89	300	4.78	0.197	>1200	7.87	18.3	274	—	
0915	48.89	300	4.65	0.201	>1200	7.94	18.6	285	—	
0920	48.89	300	4.70	0.205	432	7.82	18.8	286	—	
0925	48.89	300	4.73	0.205	187.4	7.68	18.7	286	—	
0930	48.89	300	4.77	0.206	73.7	7.53	18.9	288	—	
0935	48.89	300	4.79	0.204	42.6	7.49	18.8	283	—	Clearing
0940	48.89	300	4.80	0.205	32.1	7.46	18.8	281	—	
0945	48.89	300	4.80	0.206	22.6	7.48	18.8	280	—	
0950	48.89	300	4.79	0.205	15.3	7.50	18.8	278	—	
0955	48.89	300	4.79	0.206	10.2	7.52	18.8	279	—	
1000				Sample						

SIGNATURE(S):

PAGE__OF__

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bethpage / DOCZZ
PROJECT NUMBER: 9845.2210
WELL ID.: MW-08
DATE: 12-4-06

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1430	47.99	300			>1200				—	
1435	48.13	300	6.46	0.135	>1200	10.97	14.7	203	—	
1440	48.20	300	6.50	0.130	>1200	10.16	14.9	195	—	
1445	48.20	300	6.53	0.129	>1200	9.81	15.1	190	—	
1450	48.20	300	6.57	0.123	>1200	9.15	16.4	182	—	
1455	48.20	300	6.59	0.121	>1200	8.81	17.5	181	—	
1500	48.20	300	6.50	0.117	>1200	8.64	19.2	176	—	
1505	48.20	300	6.51	0.118	>1200	8.79	18.7	174	—	
150	48.20	300	6.48	0.117	1157	8.83	18.3	171	—	
1515	48.20	300	6.51	0.118	83.3	8.84	18.0	160	—	
1520	48.20	300	6.52	0.119	48.2	8.73	18.2	157	—	
1525	48.20	300	6.53	0.119	39.3	8.71	18.4	151	—	
1530	48.20	300	6.54	0.120	37.1	8.57	18.7	149	—	
1535	48.20	300	6.55	0.120	34.9	8.41	19.0	146	—	
1540	48.20	300	6.55	0.121	24.3	8.44	18.7	145	—	
1545	48.20	300	6.56	0.121	21.1	8.48	18.3	143	—	
1500				Sample						

SIGNATURE(S): [signature]

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: RethPage / AOC 22
PROJECT NUMBER:

WELL ID.: MW-09
DATE: 12-5-06

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1305		300	5.76	0.162	>1200	12.42	15.6	134	—	Light Brn
1310	48.74	300	5.75	0.162	>1200	10.01	17.8	139	—	↓
1315	49.01	300	5.75	0.164	>1200	9.44	18.6	149	—	
1320	49.12	300	5.76	0.165	862	9.29	18.8	158	—	
1325	49.12	300	5.78	0.166	248	9.19	18.7	159	—	
1330	49.12	300	5.76	0.165	54.3	9.16	18.4	166	—	Clearing
1335	49.12	300	5.77	0.165	36.7	9.04	18.9	168	—	
1340	49.12	300	5.77	0.164	23.4	8.88	19.3	173	—	
1345	49.12	300	5.77	0.165	12.3	8.95	19.8	176	—	
1350	49.12	300	5.76	0.165	9.45	8.90	20.0	179	—	
1355					Sample					

SIGNATURE(S): [signature]

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LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Bethpage/AOC 22 WELL ID.: MW-10 / Dup-01
PROJECT NUMBER: DATE: 12/5/06

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
1500		300								Brn/Red
1505	45.97	300	5.74	0.150	>1200	12.18	16.1	196	—	
1510	46.07	300	5.77	0.161	>1200	9.40	18.1	191	—	
1515	46.18	300	5.79	0.165	>1200	9.05	17.6	192	—	
1520	46.33	300	5.76	0.162	>1200	8.94	18.7	195	—	Clearing
1525	46.47	300	5.71	0.159	>1200	8.87	19.1	199	—	
1530	46.42	300	5.82	0.169	>1200	9.30	16.4	201	—	
1535	46.42	300	5.76	0.169	>1200	8.91	18.3	204	—	
1540	46.42	300	5.72	0.168	>1200	8.50	20.1	199	—	
1545	46.42	300	5.75	0.170	1120	8.72	19.6	204	—	
1550	46.42	300	5.78	0.173	734	8.96	18.4	208	—	
1555	46.42	300	5.76	0.172	33.5	8.96	18.4	210	—	Clear
1600	46.42	300	5.77	0.173	13.8	8.94	18.3	209	—	
1605	46.42	300	5.77	0.173	7.46	8.94	18.7	210	—	
1610						Sample				

SIGNATURE(S): V. Turk V—

PAGE___OF___

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: Beth Page / AOC 22 WELL ID.: MW-11
PROJECT NUMBER: _____ DATE: 12/6/06

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	ORP mV	Salinity % or ppt	Comments
0845	49.83	300			>1200					
0850	50.2	300	5.48	0.283	1145	8.00	16.1	240	—	Cloudy
0855	50.2	300	5.63	0.281	1200	7.48	19.0	212	—	↓
0900	50.2	300	5.72	0.288	678	7.43	20.1	196	—	
0905	50.2	300	5.75	0.291	30.2	7.57	19.5	201	—	Clearing
0910	50.2	300	5.77	0.290	18.7	7.63	19.3	203	—	
0915	50.2	300	5.79	0.294	13.1	7.60	19.8	202	—	
0920	50.2	300	5.75	0.292	10.16	7.51	20.1	201	—	
0925	50.2	300	5.78	0.294	8.79	7.57	20.1	197	—	
0930	—			Sample	—					MS/MSD

SIGNATURE(S): _____ PAGE___OF___

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: Bethpage AOC-22
Project No.: 09845

Sample ID No.: BP-SB-01-5961-01
Sample Location: AOC-22
Sampled By: PAS
C.O.C. No.:

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
8-23-04	0855	59' to 61'	Dark Brown to Black	Medium grain Sand with Trace
Method:				Silt. Heavy oil staining and
Hand Trowel				fuel oil-like odor.
Monitor Readings				
(Range in ppm):				
0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOCs	1 X 4 ounce Jar	1	-
TPH/DRO	1 X 4ounce Jar	1	-

OBSERVATIONS / NOTES:

Sample Material collected by ARUSI Inc. on 8-19-04 at 0255 hours. using Hollow Stem Augor / Split Spoons / Brass Rings. Sample split with ARUSI by compositing in stainless steel bowl prior to being placed in sample Jars.

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9845

Sample ID No.: BP-SB-02-4951-01
Sample Location: AOC-22
Sampled By: VAS
C.O.C. No.:

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date: / Time: / Method: / Monitor Reading (ppm):	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
8-23-04	0850	49' to 51'	Dark Brown	Fine to medium grain sand with some gravel. Some minor oil stains and fuel-oil like odor.
Method: Hand Trowel				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOCs	1 X 4 ounce Jar	1	-
TPH/DRO	1 X 4 ounce Jar	1	-

OBSERVATIONS / NOTES:

Sample material collected by ARUSI Inc. on 8-19-04 at 1905 hours using Hollow Stem Auger / Split Spoons / Brass Rings.
Sample Split with ARUSI by compositing in stainless steel bowl prior to placing in Sample Jars

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: Bethpage AOC-22
Project No.: N9845

Sample ID No.: BP-SB-03-5961-01
Sample Location: AOC-22
Sampled By: VAS
C.O.C. No.:

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date: / Time: / Method: / Monitor Reading (ppm):	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
8-23-04	0845	59' to 61'	Dark Brown	Fine grain Sand with Trace silt. (fuel oil-like odor
Method: Hand Trowel				
Monitor Readings (Range in ppm): 0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOCs	1 X 4 ounce Jar	1	-
TPH/DRO	1 X 4 ounce Jar	1	-

OBSERVATIONS / NOTES:

Sample material collected by ARUSI Inc. on 8-20-04 at 0115 hours. Collected by Hollow Stem Augur / Split Spoons / Brass Rings. (Sample Split with ARUSI) Sample material composited in Stainless Steel bowl prior to being placed in Sample containers

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Bathpage AOC-22
Project No.: N9845

Sample ID No.: BP-SB-04-4951-01
Sample Location: AOC-22
Sampled By: VAS
C.O.C. No.:

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date: / Time: / Method: / Monitor Reading (ppm):	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
8-23-04	0840	49' to 51'	Dark Brown	Fine to Medium grain Sand with some gravel. (Fuel oil-like odor)
Method: Hand Trowel 0840 VAS				
Monitor Readings (Range in ppm): 0				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOCs	1 X 4 ounce Jar	1	-
TPH / DRO	1 X 4 ounce Jar	1	-

OBSERVATIONS / NOTES:

Sample material Collected by ARUSI Inc on 8-19-04 at 2242 hours using Hollow Stem Auger / Split Spoons / Brass Rings. Sample Split with ARUSI by compositing in stainless steel bowl prior to being placed in sample jars.

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

VAS

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9845

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: BP-SB-01-45-47-02
Sample Location: AOC-22 SB-01
Sampled By: CM
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date:	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
12/17/04	1020	45-47'	Dark Brown to Black	Medium grained sand with some gravel + trace silt
Method: SS Trowel				
6.6 Probe				
Monitor Readings				
(Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOC	4 oz Clear Glass Widemouth	/	
TPH/DRO	4 oz Clear Glass Widemouth	/	

OBSERVATIONS / NOTES:

A fuel odor was noted during sample splitting.

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9845

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: BP-SB-02-4042-02
Sample Location: AOC-22 SB-02
Sampled By: CM
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date: / Time: / Method: / Monitor Reading (ppm):	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
12/16/04	0845	40-42'	Dark Brown	Fine to medium grained sand with some Gravel
Method: SS Trowel / Geo Probe				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOC	4 oz Clear Glass Widemouth	1	
TPH/DRO	4 oz Clear Glass Widemouth	1	

OBSERVATIONS / NOTES:

A fuel odor was noted during sample splitting 12/16/04

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9845

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: BP-SB-03-4042-02
Sample Location: AOC-22-SB-03
Sampled By: CM
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date: / Time: / Method: / Monitor Reading (ppm):	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
12/15/04	1310	40-42'	Dark Brown	Fine to medium grained sand with trace silt & Gravel
Method: SS Trowel & Geoprobe				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOC	4 oz Clear Glass Widemouth	✓	
TPH/DRO	4 oz Clear Glass Widemouth	✓	

OBSERVATIONS / NOTES:

A fuel odor was noted during sample Splitting on 12/16/04

MAP:

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9845

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: BP-SB-04-5051-02
Sample Location: AOC-22 SB-04
Sampled By: CM
C.O.C. No.:

Type of Sample:
[X] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date:	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
12/15/04	1000	50-51'	Dark Brown	Fine to medium Grained Sand with Some Gravel
Method: SS Trowel				
Geoprobe				
Monitor Readings				
(Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOC	4 oz Clear Glass Widemouth	✓	
TPH/DRO	4 oz Clear Glass Widemouth	✓	

OBSERVATIONS / NOTES:

Fuel odor noted during sample splitting on 12/16/04

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9845

Sample ID No.: BP-SB-01-5961-03
Sample Location: AOC-22
Sampled By: Vinic Shikkora
C.O.C. No.: ___

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other: ___
[] QA Sample Type: ___

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3-9-05	1709	59' to 61' BLS	Black-Brown	Fine to Coarse Sand with visible oil staining and odor (wet)
Method: Hand Trowel				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOCs	1 X 4 ounce Jar	1	-
TPH	1 X 4 ounce Jar	1	-

OBSERVATIONS / NOTES:

Sample Material collected by Hollow Stem Auger / Split Spoon.
- Sample Split with ARosi by compositing - Mixing soil in stainless steel bowl prior to sample collection.

MAP:

(see logbook # CTO-002)

Circle if Applicable:

MS/MSD	Duplicate ID No.:
-	-

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9845

Sample ID No.: BP-SB-02-5961-03
Sample Location: AOC-22
Sampled By: Vince Shickosk
C.O.C. No.: ___

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other: ___
[] QA Sample Type: ___

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3-9-05	1347	59' to 61' BGS	Black-Brown	Fine to Coarse Sand with oil staining and odor (wet)
Method: Hand Trowel				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOCs	1 X 4 ounce jar	1	-
TPH	1 X 4 ounce jar	1	-

OBSERVATIONS / NOTES:

Sample material collected by Hollow stem Auger / split spoons.
-Sample split with Attn. by compositing Mixing soil in stainless steel bowl prior to sample collection

MAP:

(See logbook # CTO-002)

Circle if Applicable:

MS/MSD	Duplicate ID No.:
-	-

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9845

Sample ID No.: BP-SB-03-5961-03
Sample Location: AOC-22
Sampled By: Vince Shickora
C.O.C. No.: ___

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other: ___
[] QA Sample Type: ___

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date:	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3-9-05	10.38	59' to 61' bgs	Black-Brown	Fine to course Sand with some silt
Method:				
Hand Trowel				(Visible oil stains - slight odor)
Monitor Readings				(wet)
(Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOCs	1 x 4 ounce Jar	1	-
TPH	1 x 4 ounce Jar	1	-

OBSERVATIONS / NOTES:

- Sample material collected by Hollow Stem Auger / split spoons.
- Sample Split with Ansi by compositing and mixing soil in stainless steel bowl prior to sample collection.

MAP:

(see logbook # CTO-002)

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: Bethpage AOC-22
Project No.: N9845

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Sample ID No.: BP-SB-04-4951-03
Sample Location: AOC-22
Sampled By: Vince Shickora
C.O.C. No.:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date: / Time: / Method: / Monitor Reading (ppm):	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
3-8-05	1110	49' to 51' BGS	Blackish-Brown	Fine to Coarse Sand w/ fine to Med pebbles Minor oil staining obvious (damp to moist)
Method: Hand Trowel				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
SVOCs	1 X 4ounce Jar	1	-
TPH	1 X 4ounce Jar	1	

OBSERVATIONS / NOTES:

- Sample material collected by Hollow Stem Auger / Split spooning
- Sample Split with Aros by compositing and mixing soil in stainless steel bowl prior to sample collection

MAP:

(see log book # CTO-002)

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage
Project No.: N9845/CTO-002

Sample ID No.: BP-SB-01-5961-04
Sample Location: AOC 22
Sampled By: N. Redic
C.O.C. No.: 228665 (STL)

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date: 5-18-05 / Time: 1045 / Method: Split-Spoon / Monitor Reading (ppm):	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
	59'-61'	Black, dark brown	M. Sand w/some f-m-c. gravel mixture + silt, wet.

COMPOSITE SAMPLE DATA:

Date: / Method: / Monitor Readings (Range in ppm):	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
8015 DRO	4oz JAR	1	
OLM04.2 SVOC	4oz JAR	1	

OBSERVATIONS / NOTES:

Sample is split with Brunswick Labs
Sample BP-SB-01-60,
Sample has odor on product

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage
Project No.: N9845/CTO-002

Sample ID No.: BP-SB-02-4951-04
Sample Location: AOC 22
Sampled By: D. Perlic
C.O.C. No.: 228665 (STL)

- [ ] Surface Soil
- [X] Subsurface Soil
- [ ] Sediment
- [ ] Other:
- [ ] QA Sample Type:

Type of Sample:
- [ ] Low Concentration
- [ ] High Concentration

GRAB SAMPLE DATA:

Date: 5-17-05	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 1510	49'-51'	Dark brown, brown green	M.c Sand with S. gravel, TR silt
Method: Split-spoon			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
8015 DRO	4 oz jar	1	
OLM04.2 SVOC	4 oz jar	1	

OBSERVATIONS / NOTES:

Sample is split with AMSO/COCUS
Sample BP-SB-02-50. Organic odor

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage
Project No.: N9845/CTO-002

Sample ID No.: BP-SB-03-5961-04
Sample Location: AOC 22
Sampled By: N. Dedic
C.O.C. No.: 228665 (STL)

[] Surface Soil
[X] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

Date: 5-17-05	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 1040	59'-61'	Dark brown	M. Sand fr. c sand + gravel + silt bottom 0.5' 3" clay + black fines + gray sand w black fines
Method: Split-spoon			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
8015 DRO	4oz jar	1	
OLM04.2 SVOC	4oz jar	1	

OBSERVATIONS / NOTES:

Sample is split with Arcadis/Locus
Sample BP-SB-03-60. Odor on product

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NWIRP Bethpage
Project No.: N9845/CTO-002

Sample ID No.: BP-SB-04-4951-04
Sample Location: AOC 22
Sampled By: N. Dedic
C.O.C. No.: 228665 (STL)

- [ ] Surface Soil
- [x] Subsurface Soil
- [ ] Sediment
- [ ] Other:
- [ ] QA Sample Type:

Type of Sample:
- [ ] Low Concentration
- [ ] High Concentration

GRAB SAMPLE DATA:

Date: 5-17-05	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 1215	49'-51'	DARK BROWN	~~DARK BROWN~~ MOC SAND WITH S-M GRAVEL + TR. SILT,
Method: Split-Spoon			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date:	Time	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
8015 DRO	4 oz jar	1	
OLM04.2 SVOC	4 oz jar	1	

OBSERVATIONS / NOTES:

Sample is split with AMEC/Locus
Sample BP-SB-04-50, Organic analysis.

MAP:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Chain of Custody Record

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Tetra Tech NUS	Project Manager: Dave Brayack	Date: 8-23-04	Chain of Custody Number: 175555
Address	Telephone Number (Area Code)/Fax Number: (412) 921-8375	Lab Number	Page 1 of 1
City: Pittsburgh / State: PA / Zip Code	Site Contact: Vince Shickora	Lab Contact	
Project Name and Location (State): NWIRP Bethpage	Carrier/Waybill Number: FED EX # 8389 5045 3341		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: SVOCs		TPH/DRO		Special Instructions/ Conditions of Receipt
BP-SB-04-4951-01	8-23-04	0840				X	X						1		1		Fuel oil like odor possible medium Conc.
BP-SB-03-5961-01	8-23-04	0845				X	X						1		1		Fuel odor and stains possible Med-High Conc.
BP-SB-02-4951-01	8-23-04	0850				X	X						1		1		Fuel odor possible Medium Conc.
BP-SB-01-5961-01	8-23-04	0855				X	X						1		1		Fuel Odor and stains possible Med-High Conc.

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	8-23-04	1300	1. Received By		
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report, CANARY - Stays with the Sample, PINK - Field Copy

Chain of Custody Record

SEVERN TRENT STL

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Tetra Tech NUS	Dave Brayack	9/28/04	189538
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
	412-921-8375		
City / State / Zip Code	**Site Contact**	**Lab Contact**	
	D. Whalen	V. Bouhot	
Project Name and Location (State)	**Carrier/Waybill Number**		
NUIRP Bethpage CTO002 Bethpage, NY	FedEx 8389 5045 2632		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/NaOH	Analysis: VOC	TAL Metals	SVOC + TAL Metals	Special Instructions/ Conditions of Receipt
TTAOC22-MW11	9/27/04	1630		X			X		X	X			3	2	1	
TTAOC22-RB01	9/27/04	1700		X			X		X	X			3	2	1	Rinsate Blank
TTAOC22-TB01	9/27/04	1430		X						X			2			Trip Blank
TTAOC22-MW09	9/28/04	0910		X			X		X	X			3	2	1	
TTAOC22-MW08	9/28/04	1305		X			X		X	X			3	2	1	
TTAOC22-MW07	9/28/04	1540		X			X		X	X			3	2	1	
TTAOC22-FB01	9/28/04	1630		X			X		X	X			3	2	1	Field Blank

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: David Whalen	9/28/04	1830	1. Received By		
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Chain of Custody Record

SEVERN TRENT STL

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Tetra Tech NUS	Project Manager: Dave Brayack	Date: 9/30/04	Chain of Custody Number: 189542
Address	Telephone Number (Area Code)/Fax Number: 412-921-8375	Lab Number	Page 1 of 1
City / State / Zip Code	Site Contact: D. Whalen	Lab Contact: V. Bortot	
Project Name and Location (State): NWIRP Bethpage CTO 002 Bethpage, NY	Carrier/Waybill Number: Fed Ex 8389 5045 2643		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: 40ml vial VOC	1L Amb SVOC	500ml Poly Total Metals	Special Instructions/ Conditions of Receipt
TTAOC22-MW06	9/29/04	0925		X			X		X	X			3	2	1	Dup 01
TTAOC22-DUP01	9/29/04	1030		X			X		X	X			3	2	1	
TTAOC22-TB02	9/29/04	0830		X						X			2			Trip Blank
TTAOC22-RB02	9/29/04	1100		X			X		X	X			3	2	1	Rinsate Blank
TTAOC22-MW10	9/29/04	1320		X			X		X	X			9	6	3	Do MS/MSD
TTAOC22-MW04	9/29/04	1650		X			X		X	X			3	2	1	Dup 02
TTAOC22-DUP02	9/29/04	1730		X			X		X	X			3	2	1	
TTAOC22-MW03	9/30/04	1020		X			X		X	X			3	2	1	
TTAOC22-MW05	9/30/04	1300		X			X		X	X			3	2	1	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Daniel Whalen	9/30/04	1830	1. Received By		
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Chain of Custody Record

SEVERN TRENT STL

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Tetra Tech NUS	Dave Brayack	12/17/04	186079
Address Foster Plaza 7, 661 Anderson Drive	**Telephone Number (Area Code)/Fax Number** (412) 921-8375	**Lab Number**	Page 1 of 1
City Pittsburgh	**State** PA	**Zip Code** 15220
Site Contact Chuck Meyer	**Lab Contact**
Project Name and Location (State) NWIRP Bethpage	**Carrier/Waybill Number** FedEx 8455 3266 4346
Contract/Purchase Order/Quote No.	

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: 40z Glass Jar SVOC	40z Glass Jar TPH-DRO	Special Instructions/ Conditions of Receipt
BP-SB-04-5051-02	12/15/04	1000				X	X						1	1	Fuel like odor possible Med conc
BP-SB-03-4042-02	12/15/04	1310				X	X						1	1	Fuel like odor possible Med conc
BP-SB-02-4042-02	12/16/04	0845				X	X						1	1	Fuel like odor possible Med conc
BP-SB-01-4547-02	12/17/04	0840				X	X						1	1	Fuel odor Med-High conc

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Chuck Meyer	12/17/04	1700	1. Received By		
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report. CANARY - Stays with the Sample. PINK - Field Copy

STL Pittsburgh

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Tetra Tech NUS	Dave Brayack	3-9-05	186488
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	Page 1 of 1
	(412) 921-8375		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Pittsburg / PA	Vince Shickora		
Project Name and Location (State)	**Carrier/Waybill Number**		
NWIRP Bethpage	FED Ex #838950454061		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: SVOCs	TPH	Special Instructions/ Conditions of Receipt
BP-SB-04-4951-03	3-8-05	1110				X	X						1	1	Slight fuel oil odor possible medium Co: Ori odor and TPH
BP-SB-03-5961-03	3-9-05	1038				X	X						1	1	Oil odor and stain. possible medium Con
BP-SB-02-5961-03	3-9-05	1347				X	X						1	1	Oil stains and odo possible medium Co:
BP-SB-01-5961-03	3-9-05	1709				X	X						1	1	Oil stains and odor possible medium Co:

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	3-10-05	1600	1. Received By		
2. Relinquished By			2. Received By	3/11/05	1005
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

(1 - 51)

STL Pittsburgh

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: TetraTech NUS	Project Manager: Dave Brayack	Date: 3-16-05	Chain of Custody Number: 186698
Address	Telephone Number (Area Code)/Fax Number: (412) 921-8375 / (412) 921-4040	Lab Number	Page 1 of 1
City: Pittsburgh / State: PA / Zip Code	Site Contact: Vince Shickora	Lab Contact	
Project Name and Location (State): NWIRP Bethpage AOC-22	Carrier/Waybill Number: FED EX 8455 3266 1759		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/NaOH	Analysis: VOCs	SVOCs	Total Metals	Special Instructions / Conditions of Receipt
TB-031505	3-15-05	0800		X						X			3			Lab prepared Trip Bl
FB-031505	3-15-05	0900		X			X		X	X			3	2	1	
RB-031505	3-15-05	0935		X			X		X	X			3	2	1	
TTAOC22-MW09	3-15-05	1125		X			X		X	X			9	6	3	Do MS/MSD
TTAOC22-MW08	3-15-05	1320		X			X		X	X			3	2	1	
TTAOC22-MW07	3-15-05	1450		X			X		X	X			3	2	1	
TTAOC22-DUP01	3-15-05	0000		X			X		X	X			3	2	1	
TTAOC22-MW06	3-15-05	1625		X			X		X	X			3	2	1	
TTAOC22-MW10	3-16-05	0905		X			X		X	X			3	2	1	
TTAOC22-MW11	3-16-05	1040		X			X		X	X			3	2	1	

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown

Sample Disposal: [ ] Return To Client [ ] Disposal By Lab [ ] Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: [ ] 24 Hours [ ] 48 Hours [ ] 7 Days [ ] 14 Days [ ] 21 Days [ ] Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	3-16-05	1700	1. Received By		
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By	3/17/05	0933

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Tetra Tech NUS, Inc.	Project Manager: Dave Beayack	Date: 5-18-05	Chain of Custody Number: 228665
Address	Telephone Number (Area Code)/Fax Number: 412 921-8375	Lab Number: 412 963-7058	Page 1 of 1
City / State / Zip Code	Site Contact: 610 909-1893	Lab Contact	Analysis (Attach list if more space is needed)
Project Name and Location (State): NWIRP Bethpage, NY	Carrier/Waybill Number: FedEx # 8455 3266 4276		
Contract/Purchase Order/Quote No.: CTO-002			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	8015 DRO 4-oz jar	8260 4-oz jar	
BP-SB-03-5961-04	5-17-05	1040				X	2					2	1	1	
BP-SB-04-4951-04	5-17-05	1215				X	2					2	1	1	
BP-SB-02-4951-04	5-17-05	1510				X	2					2	1	1	
BP-SB-01-5961-04	5-18-05	1045				X	2					2	1	1	

Special Instructions/ Conditions of Receipt

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other_____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Neb Beayack	5-18-05	1230	1. Received By:		
2. Relinquished By			2. Received By	05-19-05	0915
3. Relinquished By			3. Received By		
Comments					

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

(1 - 50)

C5J130306

Chain of Custody Record

SEVERN TRENT **STL**

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
TETRA TECH NUS	DAVE BRAYACK	10-12-05	227930
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page ____ of ____**
661 ANDERSON DRIVE	412 921-8375		
City / **State** / **Zip Code**	**Site Contact** / **Lab Contact**		
PITTSBURGH / PA / 15220	MARK MENGEL		
Project Name and Location (State)	**Carrier/Waybill Number**		
NWIRP - BETHPAGE AOC 22	FED EX # 831948771208		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: VOCs	SVOCs	TOT. METALS	Special Instructions/ Conditions of Receipt
TTAOC22 - MW11	10-10-05	1715		X			X		X	X			X	X	X	
TTAOC22 - DUP01	10-10-05	0000		X			X		X	X			X	X	X	
TTAOC22 - MW09	10-11-05	0930		X			X		X	X			X	X	X	DO MS/MSD
TTAOC22 - MW06	10-11-05	1300		X			X		X	X			X	X	X	
TTAOC22 - MW08	10-11-05	1550		X			X		X	X			X	X	X	
TTAOC22 - MW10	10-12-05	1010		X			X		X	X			X	X	X	
TTAOC22 - MW07	10-12-05	1215		X			X		X	X			X	X	X	
TTAOC22 - RB101105	10-11-05	1720		X			X		X	X			X	X	X	
TTAOC22 - FB101105	10-11-05	1730		X			X		X	X			X	X	X	
TRIP BLANK																LAB PREPARED

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other ____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Mark L. Mengel	10-12-05	1600	1. Received By: J. Pal	10-13-05	0910
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

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email: mitkem@mitkem.com

CHAIN-OF-CUSTODY RECORD

REPORT TO		INVOICE TO		
COMPANY Tetra Tech NUS	PHONE 757-461-3884	COMPANY	PHONE	LAB PROJECT #: E1912
NAME Dave Brayack	FAX	NAME	FAX	
ADDRESS Twin Oaks I, Suite 309 5700 Lake Wright Dr.		ADDRESS		TURNAROUND TIME:
CITY/ST/ZIP Norfolk, VA 23502		CITY/ST/ZIP		

CLIENT PROJECT NAME:	CLIENT PROJECT #:	CLIENT P.O.#:
Bethpage / AOC 22	112GN9845.2210	

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	REQUESTED ANALYSES: VOCs	SVOCs	Tal Metals											COMMENTS
MW-08-1206	12/4/06 1550			X			01	5	2	2	1										✓	
MW-07-1206	12/5/06 1000			X			02	5	2	2	1											
MW-06-1206	12/5/06 1145			X			03	5	2	2	1										✓	
MW-09-1206	12/5/06 1355			X			04	5	2	2	1											
MW-10-1206	12/5/06 1610			X			05	5	2	2	1											
MW-11-1206	12/6/06 0930			X			06	15	6	6	3										✓	MS MSD
MW-05-1206	12/6/06 1410			X			07	5	2	2	1											
MW-03-1206	12/6/06 1600			X			08	5	2	2	1											
MW-04-1206	12/7/06 0925			X			09	5	2	2	1											
Dup-01-1206	12/5/06 0000			X		✓	10	5	2	2	1											
Dup-02-1206	12/6/06 0000			X			11	5	2	2	1											
TB-01-1206	12/4/06 1500			X			12	2	2													Lab Prepared

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME
		12/8/06 1600	Xiangdong Ding	12/09/06 9:25
		/		/
		/		/

ADDITIONAL REMARKS:

COOLER TEMP: 1°C

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CHAIN-OF-CUSTODY RECORD

REPORT TO		INVOICE TO		
COMPANY Tetra-tech NUS	PHONE 757-46[illegible]	COMPANY	PHONE	LAB PROJECT #:
NAME Dave Brayack	FAX	NAME	FAX	
ADDRESS Twin Oaks I suite 309 5700 Lake Wright Dr		ADDRESS		TURNAROUND TIME:
CITY/ST/ZIP Norfolk, VA 23502		CITY/ST/ZIP		

CLIENT PROJECT NAME:	CLIENT PROJECT #:	CLIENT P.O.#:
Bethpage/AOC 22	1126N9846.2210	

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	VOAs	SVOA	TAL Metals	COMMENTS
FB-01-1206	12/7/06 0900			X			13	5	2	2	1	Field Blank
RB-01-1206	12/7/06 1000			X			14	5	2	2	1	Rinsate Blank
	/											
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TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME	ADDITIONAL REMARKS:	COOLER TEMP:
	[signature]	12/8/06 1600	Xiangling Ding	12/09/06 9:35		1 °C
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CHAIN-OF-CUSTODY RECORD

REPORT TO			INVOICE TO		
COMPANY Tetratech NUS	PHONE 757-461-3824		COMPANY	PHONE	LAB PROJECT #: E1955
NAME Dave Brayack	FAX		NAME	FAX	
ADDRESS Twin Oaks 1, Suite 309 5700 Lake Wright Dr			ADDRESS		TURNAROUND TIME:
CITY/ST/ZIP Norfolk, VA 23502			CITY/ST/ZIP		

CLIENT PROJECT NAME:	CLIENT PROJECT #:	CLIENT P.O.#:
Bethpage/AOC 22	9845.2210	

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	TPH	TPH & SVOC	COMMENTS
TTAOC22-SB108-4842	12/11/06/ 1200			X	X		01	1	1		
TTAOC22-SB108-5557	12/11/06/ 1230				X		02	1	1		
TTAOC22-SB107-4244	12/12/06/ 0930				X		03	1	1		
TTAOC22-SB107-5254	12/12/06/ 0950				X		04	1	1		
TTAOC22-SB105-5658	12/12/06/ 1405				X		05	1	1		
TTAOC22-SB106-5153	12/13/06/ 1030				X		06	1	1		
TTAOC22-SB106-5658	12/13/06/ 1040				X		07	1	1		
TTAOC22-SB103-1921	12/13/06/ 1430				X		08	1		1	
TTAOC22-SB103-2931	12/13/06/ 1440				X		09	1	1		
TTAOC22-SB103-3941	12/13/06/ 1450				X		10	1	1		
TTAOC22-SB103-4951	12/13/06/ 1500				X		11	1		1	
TTAOC22-SB103-5961	12/13/06/ 1520				X		12	1	1		

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME	ADDITIONAL REMARKS:	COOLER TEMP:
	[signature]	12/15/06/ 1900	Xiaofeng Ding	12/16/06 9:50		2°C
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		/		/		

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CHAIN-OF-CUSTODY RECORD

REPORT TO			INVOICE TO		
COMPANY Tetra tech NUS	PHONE (757) 461-3824		COMPANY	PHONE	LAB PROJECT #:
NAME Dave Brayack	FAX		NAME	FAX	
ADDRESS Twin Oaks I, Suite 309 5700 Lake Wright Dr			ADDRESS		TURNAROUND TIME:
CITY/ST/ZIP Norfolk VA 23502			CITY/ST/ZIP		

CLIENT PROJECT NAME:	CLIENT PROJECT #:	CLIENT P.O.#:
Bathtage / AOC 22	9845.2210	

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	REQUESTED ANALYSES: TPH	REQUESTED ANALYSES: TPH & SVOC	COMMENTS
TTAOC22-SB103-6668	12/13/06/1550				X		13	1		1	
TTAOC22-SB104-1921	12/14/06/1015				X		14	1		1	
TTAOC22-SB104-2931	12/14/06/1025				X		15	1	1		
TTAOC22-SB104-3541	12/14/06/1035				X		16	1	1		
TTAOC22-SB104-4951	12/14/06/1045				X		17	1		1	
TTAOC22-SB104-5961	12/14/06/1100				X		18	1	1		
TTAOC22-SB104-6871	12/14/06/1115				X		19	1		1	
TTAOC22-SB-101-1921	12/14/06/1345				X		20	1		1	
TTAOC22-SB101-2931	12/14/06/1355				X		21	1	1		
TTAOC22-SB101-3941	12/14/06/1415				X		22	1	1		
TTAOC22-SB101-4951	12/14/06/1425				X		23	1		1	
TTAOC22-SB101-5961	12/14/06/1445				X		24	1	1		

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME	ADDITIONAL REMARKS:	COOLER TEMP:
		12/15/06 1900		12/16 10 6 9:30		7°C
		/		/		
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0015

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CHAIN-OF-CUSTODY RECORD

REPORT TO		INVOICE TO		
COMPANY Tetratech NUS	PHONE (757)461-3824	COMPANY	PHONE	LAB PROJECT #:
NAME Dave Brayack	FAX	NAME	FAX	
ADDRESS Twin Oaks I, Suite 309 5700 Lake Wright Dr		ADDRESS		TURNAROUND TIME:
CITY/ST/ZIP Norfolk VA 23502		CITY/ST/ZIP		

CLIENT PROJECT NAME:	CLIENT PROJECT #:	CLIENT P.O.#:
Bethpage/AOC22	9845.2210	

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	TPH	TPH & SVOC	COMMENTS
TTAOC22-SB102-6771	12/14/06/1500				X		25	1		1	
TTAOC22-SB102-1921	12/15/06/0820				X		26	1		1	
TTAOC22-SB102-2931	12/15/06/0835				X		27	1	1		
TTAOC22-SB102-3941	12/15/06/0845				X		28	1	1		
TTAOC22-SB102-4951	12/15/06/0900				X		29	1		1	
TTAOC22-SB102-5961	12/15/06/0940				X		30	1	1		
TTAOC22-SB102-6971	12/15/06/0950				X		31	1		1	
TTAOC22-Dup03	12/14/06/0000				X		32	1	1		
TTAOC22-Dup04	12/14/06/1111				X		33	1		1	
TTAOC22-Dup05	12/15/06/0000				X		34	1	1		
TTAOC22-Dup06	12/15/06/1111				X		35	1		1	
~~TTAOC22-TB02~~	~~12/14/06/1100~~			X				2		2	~~Lab Prepared~~ (OK'd)

TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME	ADDITIONAL REMARKS:	COOLER TEMP:
	[signature]	12/15/06 1900	[signature]	12/16/06 9:50		2°C
		/		/		
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0016

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CHAIN-OF-CUSTODY RECORD

REPORT TO		INVOICE TO		
COMPANY Tetratech NUS	PHONE (757)461-3874	COMPANY	PHONE	LAB PROJECT #:
NAME Dave Brayack	FAX	NAME	FAX	
ADDRESS Twin Oaks I Suite 309 5700 Lake Wright Dr		ADDRESS		TURNAROUND TIME:
CITY/ST/ZIP Norfolk VA 23507		CITY/ST/ZIP		

CLIENT PROJECT NAME:	CLIENT PROJECT #:	CLIENT P.O.#:
Bethpage/AOC22	9845.2210	

REQUESTED ANALYSES

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	VOCs	TAL Metals	Cyanide	Sulfide	Ammonia	SVOCs	Fluride, TSS, TDS, TOC						COMMENTS
TTAOC22-Polytank	12/15/06 1200			X				9	2	1	1	1	1	1	2						Cyanide, Sulfide & Ammonia
	/																				↔ Need preserved
	/																				prior to analysis
TTAOC22-TB-02	12/15/06 1100			X				2	2												Lab Prepared
	/																				
	/																				
	/																				
	/																				
	/																				
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TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME	ADDITIONAL REMARKS:	COOLER TEMP:
	[signature]	12/15/06 / 1905		/		
		/		/		
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TETRA TECH NUS, INC.

CHAIN OF CUSTODY | NUMBER 0730 | PAGE 1 OF 1

PROJECT NO: 4845	FACILITY: Bettendorf	PROJECT MANAGER D. Brayack	PHONE NUMBER
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER
		CARRIER/WAYBILL NUMBER	

LABORATORY NAME AND CONTACT:

ADDRESS

CITY, STATE

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G)

PRESERVATIVE USED

TYPE OF ANALYSIS

DATE YEAR 2006	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	VOC	VOC	[illegible]	PCBs	TAL Metals	[illegible]	[illegible]	BTU & Flashpoint	COMMENTS
12/14	1330	TTAOC-TR-121906				W		2	2								[illegible]
~~12/14~~	~~1340~~	~~TTAOC-Drum1-Solid~~				~~S~~		~~3~~	~~2~~	~~1~~		~~✓~~	~~1~~	~~✓~~	~~✓~~	~~✓~~	
12/14	1340	TTAOC-Drum1-Solid				S		3	✓	✓	✓	✓	✓	✓		✓	
12/14	1350	TTAOC-Drum2-Liquid				W		8	2	1	✓	✓	1	✓	✓	✓	
12/14	1420	TTAOC-Drum4-Liquid				W		8	2	1	✓	✓	1	✓	✓	✓	
12/14	1440	TTAOC-Drum5-Solid				S		3	✓	✓	✓	✓	✓	✓		✓	

1. RELINQUISHED BY [signature]	DATE 12/14/06	TIME 1952	1. RECEIVED BY [signature]	DATE 12/14/06	TIME 19:52
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

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4/02R
FORM NO. TtNUS-001

APPENDIX C
ANALYTICAL DATA

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPCLB022SB101																			
Sample Date:	**12/14/2006**		**12/17/2004**		**12/14/2006**		**8/23/2004**		**3/9/2005**		**5/18/2005**		**12/14/2006**		**12/14/2006**	
Duplicate:															**DUP**	
Top Depth (feet):	**19**		**45**		**49**		**59**		**59**		**59**		**69**		**69**	
Bottom Depth (feet):	**21**		**47**		**51**		**61**		**61**		**61**		**71**		**71**	
SEMIVOLATILES	**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**	
1,1-Biphenyl	NA		NA		NA		NA		NA		28000	U	NA		NA	
1,2,4-Trichlorobenzene	NA		3500	U	NA		69000	UJ	7000	U	NA		NA		NA	
1,2-Dichlorobenzene	NA		3500	U	NA		69000	UJ	7000	U	NA		NA		NA	
1,3-Dichlorobenzene	NA		3500	U	NA		69000	UJ	7000	U	NA		NA		NA	
1,4-Dichlorobenzene	NA		3500	U	NA		69000	UJ	7000	U	NA		NA		NA	
2,2'-Oxybis(1-chloropropane)	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
2,4,5-Trichlorophenol	NA		3500	U	NA		69000	UJ	7000	U	70000	U	NA		NA	
2,4,6-Trichlorophenol	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
2,4-Dichlorophenol	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
2,4-Dimethylphenol	NA		220	J	NA		69000	UJ	7000	U	28000	U	NA		NA	
2,4-Dinitrophenol	NA		17000	U	NA		340000	UJ	34000	U	70000	U	NA		NA	
2,4-Dinitrotoluene	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
2,6-Dinitrotoluene	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
2-Chloronaphthalene	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
2-Chlorophenol	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
2-Methylnaphthalene	47	U	3500	U	480	U	38000	J	33000		20000	J	55	U	55	U
2-Methylphenol	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
2-Nitroaniline	NA		17000	U	NA		340000	UJ	34000	U	70000	U	NA		NA	
2-Nitrophenol	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
3,3'-Dichlorobenzidine	NA		17000	U	NA		340000	UJ	34000	U	28000	U	NA		NA	
3-Nitroaniline	NA		17000	U	NA		340000	UJ	34000	U	70000	U	NA		NA	
4,6-Dinitro-2-methylphenol	NA		17000	U	NA		340000	UJ	34000	U	70000	U	NA		NA	
4-Bromophenyl Phenyl Ether	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
4-Chloro-3-methylphenol	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
4-Chloroaniline	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
4-Chlorophenyl Phenyl Ether	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
4-Methylphenol	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
4-Nitroaniline	NA		17000	U	NA		340000	UJ	34000	U	70000	U	NA		NA	
4-Nitrophenol	NA		17000	U	NA		340000	UJ	34000	U	70000	U	NA		NA	
Acenaphthene	36	U	3500	U	380	U	2100	J	1300	J	28000	U	42	U	43	U
Acenaphthylene	36	U	3500	U	380	U	69000	UJ	7000	U	28000	U	42	U	43	U
Acetophenone	NA		NA		NA		NA		NA		28000	U	NA		NA	
Anthracene	58	U	3500	U	600	U	69000	UJ	1800	J	28000	U	68	U	68	U
Atrazine	NA		NA		NA		NA		NA		28000	U	NA		NA	
Benz(a)anthracene	63	U	3500	U	650	UJ	2500	J	1900	J	3000	J	73	U	73	U
Benzaldehyde	NA		NA		NA		NA		NA		28000	U	NA		NA	
Benzo(a)pyrene	50	U	3500	U	1500	J	69000	UJ	600	J	28000	U	58	U	58	U
Benzo(b)fluoranthene	67	U	260	J	690	UJ	69000	UJ	3300	J	28000	U	78	U	78	U
Benzo(g,h,i)perylene	86	U	3500	U	1400	J	69000	UJ	7000	U	28000	U	100	U	100	U
Benzo(k)fluoranthene	47	U	3500	U	480	UJ	69000	UJ	7000	U	28000	U	55	U	55	U
Bis(2-chloroethoxy)methane	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Bis(2-chloroethyl)ether	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Bis(2-ethylhexyl)phthalate	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Butylbenzylphthalate	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Caprolactam	NA		NA		NA		NA		NA		28000	U	NA		NA	
Carbazole	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Chrysene	61	U	620	J	630	UJ	3700	J	4100	J	5200	J	71	U	72	U
Di-n-butylphthalate	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Di-n-octylphthalate	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Dibenz(a,h)anthracene	70	U	3500	U	720	UJ	69000	UJ	7000	U	28000	U	81	U	81	U

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPCLB022SB101																			
Sample Date:	**12/14/2006**		**12/17/2004**		**12/14/2006**		**8/23/2004**		**3/9/2005**		**5/18/2005**		**12/14/2006**		**12/14/2006**	
Duplicate:															**DUP**	
Top Depth (feet):	**19**		**45**		**49**		**59**		**59**		**59**		**69**		**69**	
Bottom Depth (feet):	**21**		**47**		**51**		**61**		**61**		**61**		**71**		**71**	
Dibenzofuran	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Diethylphthalate	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Dimethylphthalate	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Fluoranthene	49	U	3500	U	510	U	69000	UJ	1500	J	28000	U	57	U	57	U
Fluorene	38	U	3500	U	390	U	2300	J	8400		28000	U	44	U	44	U
Hexachlorobenzene	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Hexachlorobutadiene	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Hexachlorocyclopentadiene	NA		17000	U	NA		340000	UJ	34000	U	28000	U	NA		NA	
Hexachloroethane	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Indeno(1,2,3-cd)pyrene	72	U	3500	U	740	UJ	69000	UJ	7000	U	28000	U	84	U	84	U
Isophorone	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
N-Nitroso-di-n-propylamine	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
N-Nitrosodiphenylamine	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Naphthalene	44	U	3500	U	450	U	6700	J	4000	J	28000	U	51	U	51	U
Nitrobenzene	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Pentachlorophenol	NA		17000	U	NA		340000	UJ	34000	U	70000	U	NA		NA	
Phenanthrene	46	U	3500	U	470	U	15000	J	11000		12000	J	53	U	53	U
Phenol	NA		3500	U	NA		69000	UJ	7000	U	28000	U	NA		NA	
Pyrene	51	U	1400	J	12000	J	9400	J	13000	J	8900	J	59	U	60	U

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPCLB022SB102																	
Sample Date:	**12/15/2006**		**12/16/2004**		**8/23/2004**		**5/17/2005**		**12/15/2006**		**3/9/2005**		**12/15/2006**		**12/15/2006**	
Duplicate:															**DUP**	
Top Depth (feet):	**19**		**40**		**49**		**49**		**49**		**59**		**69**		**69**	
Bottom Depth (feet):	**21**		**42**		**51**		**51**		**51**		**61**		**71**		**71**	
SEMIVOLATILES	**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**	
1,1-Biphenyl	NA		NA		NA		2800	U	NA		NA		NA		NA	
1,2,4-Trichlorobenzene	NA		3500	U	6900	UJ	NA		NA		18000	U	NA		NA	
1,2-Dichlorobenzene	NA		3500	U	6900	UJ	NA		NA		18000	U	NA		NA	
1,3-Dichlorobenzene	NA		3500	U	6900	UJ	NA		NA		18000	U	NA		NA	
1,4-Dichlorobenzene	NA		3500	U	6900	UJ	NA		NA		18000	U	NA		NA	
2,2'-Oxybis(1-chloropropane)	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
2,4,5-Trichlorophenol	NA		3500	U	6900	UJ	7200	U	NA		18000	U	NA		NA	
2,4,6-Trichlorophenol	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
2,4-Dichlorophenol	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
2,4-Dimethylphenol	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
2,4-Dinitrophenol	NA		17000	U	34000	UJ	7200	U	NA		86000	U	NA		NA	
2,4-Dinitrotoluene	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
2,6-Dinitrotoluene	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
2-Chloronaphthalene	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
2-Chlorophenol	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
2-Methylnaphthalene	46	U	3500	U	950	J	2800	U	620	U	49000		52	U	54	U
2-Methylphenol	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
2-Nitroaniline	NA		17000	U	34000	UJ	7200	U	NA		86000	U	NA		NA	
2-Nitrophenol	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
3,3'-Dichlorobenzidine	NA		17000	U	34000	UJ	2800	U	NA		86000	U	NA		NA	
3-Nitroaniline	NA		17000	U	34000	UJ	7200	U	NA		86000	U	NA		NA	
4,6-Dinitro-2-methylphenol	NA		17000	U	34000	UJ	7200	U	NA		86000	U	NA		NA	
4-Bromophenyl Phenyl Ether	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
4-Chloro-3-methylphenol	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
4-Chloroaniline	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
4-Chlorophenyl Phenyl Ether	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
4-Methylphenol	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
4-Nitroaniline	NA		17000	U	34000	UJ	7200	U	NA		86000	U	NA		NA	
4-Nitrophenol	NA		17000	U	34000	UJ	7200	U	NA		86000	U	NA		NA	
Acenaphthene	36	U	3500	U	850	J	2800	U	480	U	4200	J	40	U	42	U
Acenaphthylene	36	U	3500	U	6900	UJ	2800	U	480	U	18000	U	40	U	42	U
Acetophenone	NA		NA		NA		2800	U	NA		NA		NA		NA	
Anthracene	58	U	3500	U	890	J	2800	U	770	U	4800	J	65	U	67	U
Atrazine	NA		NA		NA		2800	U	NA		NA		NA		NA	
Benz(a)anthracene	62	U	3500	U	710	J	2800	U	830	U	3100	J	69	U	72	U
Benzaldehyde	NA		NA		NA		2800	U	NA		NA		NA		NA	
Benzo(a)pyrene	50	U	3500	U	6900	UJ	2800	U	660	UJ	1900	J	55	U	58	U
Benzo(b)fluoranthene	66	U	3500	U	6900	UJ	2800	U	880	UJ	18000	U	74	U	77	U
Benzo(g,h,i)perylene	86	U	320	J	6900	UJ	330	J	1100	UJ	1100	J	96	U	100	U
Benzo(k)fluoranthene	46	U	3500	U	6900	UJ	2800	U	620	UJ	18000	U	52	U	54	U
Bis(2-chloroethoxy)methane	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Bis(2-chloroethyl)ether	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Bis(2-ethylhexyl)phthalate	NA		240	J	6900	UJ	2800	U	NA		18000	U	NA		NA	
Butylbenzylphthalate	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Caprolactam	NA		NA		NA		2800	U	NA		NA		NA		NA	
Carbazole	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Chrysene	61	U	3500	U	1300	J	2800	U	1000	J	7300	J	68	U	71	U
Di-n-butylphthalate	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Di-n-octylphthalate	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Dibenz(a,h)anthracene	69	U	3500	U	6900	UJ	2800	U	920	UJ	18000	U	77	U	81	U

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPCLB022SB102																	
Sample Date:	**12/15/2006**		**12/16/2004**		**8/23/2004**		**5/17/2005**		**12/15/2006**		**3/9/2005**		**12/15/2006**		**12/15/2006**	
Duplicate:															**DUP**	
Top Depth (feet):	**19**		**40**		**49**		**49**		**49**		**59**		**69**		**69**	
Bottom Depth (feet):	**21**		**42**		**51**		**51**		**51**		**61**		**71**		**71**	
Dibenzofuran	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Diethylphthalate	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Dimethylphthalate	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Fluoranthene	48	U	3500	U	6900	UJ	2800	U	650	U	2600	J	54	U	57	U
Fluorene	37	U	3500	U	1100	J	2800	U	500	U	22000		42	U	43	U
Hexachlorobenzene	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Hexachlorobutadiene	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Hexachlorocyclopentadiene	NA		17000	U	34000	UJ	2800	U	NA		86000	U	NA		NA	
Hexachloroethane	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Indeno(1,2,3-cd)pyrene	71	U	3500	U	6900	UJ	2800	U	950	UJ	18000	U	80	U	83	U
Isophorone	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
N-Nitroso-di-n-propylamine	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
N-Nitrosodiphenylamine	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Naphthalene	43	U	3500	U	6900	UJ	2800	U	580	U	9400	J	49	U	51	U
Nitrobenzene	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Pentachlorophenol	NA		17000	U	34000	UJ	7200	U	NA		86000	U	NA		NA	
Phenanthrene	45	U	3500	U	4700	J	2800	U	610	U	23000		51	U	53	U
Phenol	NA		3500	U	6900	UJ	2800	U	NA		18000	U	NA		NA	
Pyrene	51	U	170	J	2900	J	340	J	3900	J	33000		57	U	59	U

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPCLB022SB103															
Sample Date:	**12/13/2006**		**12/15/2004**		**12/13/2006**		**8/23/2004**		**3/9/2005**		**5/17/2005**		**12/13/2006**	
Duplicate:														
Top Depth (feet):	**19**		**40**		**49**		**59**		**59**		**59**		**66**	
Bottom Depth (feet):	**21**		**42**		**51**		**61**		**61**		**61**		**68**	
SEMIVOLATILES	**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**	
1,1-Biphenyl	NA		NA		NA		NA		NA		59000	U	NA	
1,2,4-Trichlorobenzene	NA		4100	U	NA		72000	UJ	18000	UJ	NA		NA	
1,2-Dichlorobenzene	NA		4100	U	NA		72000	UJ	18000	UJ	NA		NA	
1,3-Dichlorobenzene	NA		4100	U	NA		72000	UJ	18000	UJ	NA		NA	
1,4-Dichlorobenzene	NA		4100	U	NA		72000	UJ	18000	UJ	NA		NA	
2,2'-Oxybis(1-chloropropane)	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
2,4,5-Trichlorophenol	NA		4100	U	NA		72000	UJ	18000	UJ	150000	U	NA	
2,4,6-Trichlorophenol	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
2,4-Dichlorophenol	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
2,4-Dimethylphenol	NA		300	J	NA		72000	UJ	18000	UJ	59000	U	NA	
2,4-Dinitrophenol	NA		20000	U	NA		350000	UJ	90000	UJ	150000	U	NA	
2,4-Dinitrotoluene	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
2,6-Dinitrotoluene	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
2-Chloronaphthalene	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
2-Chlorophenol	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
2-Methylnaphthalene	460	U	4100	U	500	U	51000	J	68000	J	73000		1000	
2-Methylphenol	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
2-Nitroaniline	NA		20000	U	NA		350000	UJ	90000	UJ	150000	U	NA	
2-Nitrophenol	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
3,3'-Dichlorobenzidine	NA		20000	U	NA		350000	UJ	90000	U	59000	U	NA	
3-Nitroaniline	NA		20000	U	NA		350000	UJ	90000	UJ	150000	U	NA	
4,6-Dinitro-2-methylphenol	NA		20000	U	NA		350000	UJ	90000	U	150000	U	NA	
4-Bromophenyl Phenyl Ether	NA		4100	U	NA		72000	UJ	18000	U	59000	U	NA	
4-Chloro-3-methylphenol	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
4-Chloroaniline	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
4-Chlorophenyl Phenyl Ether	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
4-Methylphenol	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
4-Nitroaniline	NA		20000	U	NA		350000	UJ	90000	UJ	150000	U	NA	
4-Nitrophenol	NA		20000	U	NA		350000	UJ	90000	UJ	150000	U	NA	
Acenaphthene	360	U	4100	U	390	U	4400	J	6300	J	6400	J	170	J
Acenaphthylene	360	U	4100	U	390	U	72000	UJ	18000	UJ	59000	U	41	U
Acetophenone	NA		NA		NA		NA		NA		59000	U	NA	
Anthracene	570	UJ	4100	U	630	U	4600	J	7500	J	8400	J	280	J
Atrazine	NA		NA		NA		NA		NA		59000	U	NA	
Benz(a)anthracene	610	U	540	J	670	U	3500	J	4200	J	59000	U	230	J
Benzaldehyde	NA		NA		NA		NA		NA		59000	U	NA	
Benzo(a)pyrene	490	U	520	J	560	J	72000	UJ	2700	J	59000	U	130	J
Benzo(b)fluoranthene	650	U	350	J	710	UJ	72000	UJ	18000	U	59000	U	74	UJ
Benzo(g,h,i)perylene	850	UR	410	J	930	UJ	72000	UJ	18000	U	59000	U	96	UJ
Benzo(k)fluoranthene	460	U	4100	U	500	UJ	72000	UJ	18000	U	59000	U	52	UJ
Bis(2-chloroethoxy)methane	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
Bis(2-chloroethyl)ether	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
Bis(2-ethylhexyl)phthalate	NA		4100	U	NA		72000	UJ	18000	U	59000	U	NA	
Butylbenzylphthalate	NA		4100	U	NA		72000	UJ	18000	U	59000	U	NA	
Caprolactam	NA		NA		NA		NA		NA		59000	U	NA	
Carbazole	NA		4100	U	NA		72000	UJ	18000	U	59000	U	NA	
Chrysene	600	U	1100	J	660	U	4000	J	8600	J	8600	J	430	J
Di-n-butylphthalate	NA		4100	U	NA		72000	UJ	18000	U	59000	U	NA	
Di-n-octylphthalate	NA		4100	U	NA		72000	UJ	18000	U	59000	U	NA	
Dibenz(a,h)anthracene	680	UR	4100	U	750	UJ	72000	UJ	18000	U	59000	U	78	UJ

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPCLB022SB103													
Sample Date:	**12/13/2006**		**12/15/2004**		**12/13/2006**		**8/23/2004**		**3/9/2005**		**5/17/2005**		**12/13/2006**	
Duplicate:														
Top Depth (feet):	**19**		**40**		**49**		**59**		**59**		**59**		**66**	
Bottom Depth (feet):	**21**		**42**		**51**		**61**		**61**		**61**		**68**	
Dibenzofuran	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
Diethylphthalate	NA		4100	U	NA		72000	UJ	3600	U	59000	U	NA	
Dimethylphthalate	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
Fluoranthene	480	UJ	200	J	520	U	72000	UJ	3400	J	59000	U	54	U
Fluorene	370	U	4100	U	400	U	4800	J	25000	J	9500	J	350	J
Hexachlorobenzene	NA		4100	U	NA		72000	UJ	18000	U	59000	U	NA	
Hexachlorobutadiene	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
Hexachlorocyclopentadiene	NA		20000	U	NA		350000	UJ	90000	UJ	59000	U	NA	
Hexachloroethane	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
Indeno(1,2,3-cd)pyrene	700	UR	4100	U	770	UJ	72000	UJ	18000	U	59000	U	80	UJ
Isophorone	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
N-Nitroso-di-n-propylamine	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
N-Nitrosodiphenylamine	NA		4100	U	NA		72000	UJ	18000	U	59000	U	NA	
Naphthalene	430	U	4100	U	470	U	11000	J	13000	J	15000	J	87	J
Nitrobenzene	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
Pentachlorophenol	NA		20000	U	NA		350000	UJ	90000	U	150000	U	NA	
Phenanthrene	450	U	4100	U	490	U	22000	J	33000		39000	J	1300	
Phenol	NA		4100	U	NA		72000	UJ	18000	UJ	59000	U	NA	
Pyrene	500	U	3800	J	2800	J	18000	J	36000		28000	J	1400	J

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPCLB022SB104													
Sample Date:	**12/14/2006**		**8/23/2004**		**12/15/2004**		**3/8/2005**		**5/17/2005**		**12/14/2006**		**12/14/2006**	
Duplicate:														
Top Depth (feet):	**19**		**49**		**50**		**49**		**49**		**49**		**69**	
Bottom Depth (feet):	**21**		**51**		**51**		**51**		**51**		**51**		**71**	
SEMIVOLATILES	**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**		**ug/kg**	
1,1-Biphenyl	NA		NA		NA		NA		2700	U	NA		NA	
1,2,4-Trichlorobenzene	NA		3400	UJ	3500	U	3500	U	NA		NA		NA	
1,2-Dichlorobenzene	NA		3400	UJ	3500	U	3500	U	NA		NA		NA	
1,3-Dichlorobenzene	NA		3400	UJ	3500	U	3500	U	NA		NA		NA	
1,4-Dichlorobenzene	NA		3400	UJ	3500	U	3500	U	NA		NA		NA	
2,2'-Oxybis(1-chloropropane)	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
2,4,5-Trichlorophenol	NA		3400	UJ	3500	U	3500	U	6800	U	NA		NA	
2,4,6-Trichlorophenol	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
2,4-Dichlorophenol	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
2,4-Dimethylphenol	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
2,4-Dinitrophenol	NA		17000	UJ	17000	U	17000	U	6800	U	NA		NA	
2,4-Dinitrotoluene	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
2,6-Dinitrotoluene	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
2-Chloronaphthalene	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
2-Chlorophenol	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
2-Methylnaphthalene	480	U	180	J	250	J	120	J	2700	U	480	U	500	U
2-Methylphenol	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
2-Nitroaniline	NA		17000	UJ	17000	U	17000	U	6800	U	NA		NA	
2-Nitrophenol	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
3,3'-Dichlorobenzidine	NA		17000	UJ	17000	U	17000	U	2700	U	NA		NA	
3-Nitroaniline	NA		17000	UJ	17000	U	17000	U	6800	U	NA		NA	
4,6-Dinitro-2-methylphenol	NA		17000	UJ	17000	U	17000	U	6800	U	NA		NA	
4-Bromophenyl Phenyl Ether	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
4-Chloro-3-methylphenol	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
4-Chloroaniline	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
4-Chlorophenyl Phenyl Ether	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
4-Methylphenol	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
4-Nitroaniline	NA		17000	UJ	17000	U	17000	U	6800	U	NA		NA	
4-Nitrophenol	NA		17000	UJ	17000	U	17000	U	6800	U	NA		NA	
Acenaphthene	380	U	330	J	720	J	3500	U	2700	U	370	U	390	U
Acenaphthylene	380	U	3400	UJ	3500	U	3500	U	2700	U	370	U	390	U
Acetophenone	NA		NA		NA		NA		2700	U	NA		NA	
Anthracene	600	U	380	J	420	J	3500	U	2700	U	590	U	630	U
Atrazine	NA		NA		NA		NA		2700	U	NA		NA	
Benz(a)anthracene	650	U	380	J	550	J	1400	J	380	J	640	U	720	J
Benzaldehyde	NA		NA		NA		NA		2700	U	NA		NA	
Benzo(a)pyrene	520	U	3400	UJ	310	J	1000	J	300	J	510	U	540	UJ
Benzo(b)fluoranthene	690	U	3400	UJ	190	J	2400	J	2700	U	680	U	710	UJ
Benzo(g,h,i)perylene	890	U	3400	UJ	310	J	290	J	2700	U	880	U	930	UJ
Benzo(k)fluoranthene	480	U	3400	UJ	3500	U	150	J	2700	U	480	U	500	UJ
Bis(2-chloroethoxy)methane	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Bis(2-chloroethyl)ether	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Bis(2-ethylhexyl)phthalate	NA		3400	UJ	3500	U	320	J	2700	U	NA		NA	
Butylbenzylphthalate	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Caprolactam	NA		NA		NA		NA		2700	U	NA		NA	
Carbazole	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Chrysene	630	U	520	J	980	J	2600	J	440	J	630	U	1200	J
Di-n-butylphthalate	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Di-n-octylphthalate	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Dibenz(a,h)anthracene	720	U	3400	UJ	3500	U	3500	U	2700	U	710	U	750	UJ

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPCLB022SB104															
Sample Date:	**12/14/2006**		**8/23/2004**		**12/15/2004**		**3/8/2005**		**5/17/2005**		**12/14/2006**		**12/14/2006**	
Duplicate:														
Top Depth (feet):	**19**		**49**		**50**		**49**		**49**		**49**		**69**	
Bottom Depth (feet):	**21**		**51**		**51**		**51**		**51**		**51**		**71**	
Dibenzofuran	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Diethylphthalate	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Dimethylphthalate	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Fluoranthene	510	U	210	J	450	J	1600	J	2700	U	500	U	520	U
Fluorene	390	U	380	J	820	J	3400	J	2700	U	380	U	400	U
Hexachlorobenzene	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Hexachlorobutadiene	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Hexachlorocyclopentadiene	NA		17000	UR	17000	U	17000	U	2700	U	NA		NA	
Hexachloroethane	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Indeno(1,2,3-cd)pyrene	740	U	3400	UJ	3500	U	200	J	2700	U	730	U	770	UJ
Isophorone	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
N-Nitroso-di-n-propylamine	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
N-Nitrosodiphenylamine	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Naphthalene	450	U	3400	UJ	3500	U	3500	U	2700	U	450	U	470	U
Nitrobenzene	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Pentachlorophenol	NA		17000	UJ	17000	U	17000	U	6800	U	NA		NA	
Phenanthrene	470	U	1000	J	2300	J	300	J	2700	U	470	U	550	J
Phenol	NA		3400	UJ	3500	U	3500	U	2700	U	NA		NA	
Pyrene	530	U	1300	J	2300	J	6600		1700	J	520	U	3900	

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPCLB022SB101																							
Sample Date:	**12/14/2006**		**12/14/2006**		**12/14/2006**		**12/17/2004**		**12/14/2006**		**8/23/2004**		**3/9/2005**		**5/18/2005**		**12/14/2006**		**12/14/2006**		**12/14/2006**	
Duplicate:																					**DUP**	
Top Depth (feet):	**19**		**29**		**39**		**45**		**49**		**59**		**59**		**59**		**59**		**69**		**69**	
Bottom Depth (feet):	**21**		**31**		**41**		**47**		**51**		**61**		**61**		**61**		**61**		**71**		**71**	
PETROLEUM HYDROCARBONS	**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**	
Diesel Range Organics (TPH-DRO)	NA		NA		NA		5700		NA		6900		NA		33000		NA		NA		NA	
Extractable Petroleum Hydrocarbons	12	U	14000		5800		NA		36000		NA		NA		NA		25000		48	J	27	J
Total Petroleum Hydrocarbons	NA		NA		NA		NA		NA		NA		18000		NA		NA		NA		NA	

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPCLB022SB102											
Sample Date:	**12/15/2006**	**12/15/2006**	**12/15/2006**	**12/15/2006**	**12/16/2004**	**8/23/2004**	**5/17/2005**	**12/15/2006**	**3/9/2005**	**12/15/2006**	**12/15/2006**	**12/15/2006**
Duplicate:			**DUP**									**DUP**
Top Depth (feet):	**19**	**29**	**29**	**39**	**40**	**49**	**49**	**49**	**59**	**59**	**69**	**69**
Bottom Depth (feet):	**21**	**31**	**31**	**41**	**42**	**51**	**51**	**51**	**61**	**61**	**71**	**71**
PETROLEUM HYDROCARBONS	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Diesel Range Organics (TPH-DRO)	NA	NA	NA	NA	750	5600	2100	NA	NA	NA	NA	NA
Extractable Petroleum Hydrocarbons	14	62	61	99	NA	NA	NA	5300	NA	16000	140	110
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	50000	NA	NA	NA

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPCLB022SB103									
Sample Date:	**12/13/2006**	**12/13/2006**	**12/13/2006**	**12/15/2004**	**12/13/2006**	**8/23/2004**	**3/9/2005**	**5/17/2005**	**12/13/2006**	**12/13/2006**
Duplicate:										
Top Depth (feet):	**19**	**29**	**39**	**40**	**49**	**59**	**59**	**59**	**59**	**66**
Bottom Depth (feet):	**21**	**31**	**41**	**42**	**51**	**61**	**61**	**61**	**61**	**68**
PETROLEUM HYDROCARBONS	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Diesel Range Organics (TPH-DRO)	NA	NA	NA	5300	NA	10000	NA	24000	NA	NA
Extractable Petroleum Hydrocarbons	2100	2400	6100	NA	6100	NA	NA	NA	23000	2600
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	21000	NA	NA	NA

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPCLB022SB104																			
Sample Date:	**12/14/2006**		**12/14/2006**		**12/14/2006**		**12/14/2006**		**8/23/2004**		**3/8/2005**		**5/17/2005**		**12/14/2006**		**12/15/2004**		**12/14/2006**		**12/14/2006**	
Duplicate:							**DUP**															
Top Depth (feet):	**19**		**29**		**39**		**39**		**49**		**49**		**49**		**49**		**50**		**59**		**69**	
Bottom Depth (feet):	**21**		**31**		**41**		**41**		**51**		**51**		**51**		**51**		**51**		**61**		**71**	
PETROLEUM HYDROCARBONS	**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**	
Diesel Range Organics (TPH-DRO)	NA		NA		NA		NA		1800		NA		3100		NA		2800		NA		NA	
Extractable Petroleum Hydrocarbons	1500		630		580	J	290	J	NA		NA		NA		1600		NA		750		5100	
Total Petroleum Hydrocarbons	NA		NA		NA		NA		NA		4900		NA		NA		NA		NA		NA	

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22SB105	BPTTAOC22SB106		BPTTAOC22SB107		BPTTAOC22SB108	
Sample Date:	12/12/06	12/13/06	12/13/06	12/12/06	12/12/06	12/11/06	12/11/06
Duplicate:							
Top Depth (feet):	56	51	56	42	52	45	55
Bottom Depth (feet):	58	53	58	44	54	47	57
PETROLEUM HYDROCARBONS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Diesel Range Organics (TPH-DRO)	NA	NA	NA	NA	NA	NA	NA
Extractable Petroleum Hydrocarbons	3400	1700	3600			95	
Total Petroleum Hydrocarbons	NA	NA	NA	NA	NA	NA	NA

SUBSURFACE SOIL ANALYTICAL DATA
AOC 22
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Data Qualifiers:
J -- Value is considered estimated due to exceedance of technical quality control criteria or because result is less than the Contract Required Quantitation Limit (CRQL).
U -- Value is a non-detected result as reported by the laboratory.
UJ -- Non-detected result is considered estimated due to exceedance of technical quality control criteria.
UR -- Non-detected result is considered unusable due to exceedance of technical quality control criteria.
NA -- No result is available/applicable for this parameter in this sample.

Database source file: D:\BETHPAGE\DATA SUMMARY\AOC22RES.DBF data retrieved on: 06/19/07

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW01		BPTTAOC22MW02		BPTTAOC22MW03											
Sample ID:	TTNUS22MW01		TTNUS22MW02		TTNUS22MW03		TTNUS22MW03-D		TTAOC22-MW03-01		TTAOC22-MW03		TTAOC22-MW03-D	
Sample Date:	8/12/1999		8/13/1999		8/12/1999		8/12/1999		9/30/2004		12/6/2006		12/6/2006	
Duplicate:							TTNUS22MW03						BPTTAOC22MW03	
INORGANICS									ug/L		ug/L		ug/L	
Aluminum	NA		NA		NA		NA		32.3		29.5		38.5	
Antimony	NA		NA		NA		NA		1.9	U	2.1	U	2.1	U
Arsenic	NA		NA		NA		NA		32.7		20.6		25	
Barium	NA		NA		NA		NA		37.5		27.8	J	34.7	J
Beryllium	NA		NA		NA		NA		0.42		0.1	U	0.1	U
Cadmium	NA		NA		NA		NA		1.4		0.2	UJ	0.2	UJ
Calcium	NA		NA		NA		NA		27200		11600	J	14800	J
Chromium	NA		NA		NA		NA		0.56	U	1.4	J	1.8	J
Cobalt	NA		NA		NA		NA		2.5		9.3		11.8	
Copper	NA		NA		NA		NA		1.2		2.1		2.3	
Iron	NA		NA		NA		NA		65000		14000		17700	
Lead	NA		NA		NA		NA		1.4	U	1.6	U	1.6	U
Magnesium	NA		NA		NA		NA		4300		2390	J	3000	J
Manganese	NA		NA		NA		NA		1130		1120		1420	
Mercury	NA		NA		NA		NA		0.027	UJ	0.02	UJ	0.02	UJ
Nickel	NA		NA		NA		NA		1.6	U	3.6		4.9	
Potassium	NA		NA		NA		NA		2330		2120		2660	
Selenium	NA		NA		NA		NA		2.5	U	9.2	U	9.5	J
Silver	NA		NA		NA		NA		0.42	U	0.76		1.2	
Sodium	NA		NA		NA		NA		24900		23600		29800	
Thallium	NA		NA		NA		NA		3.4	U	3.4	U	3.4	U
Vanadium	NA		NA		NA		NA		2.2		0.6	U	0.6	U
Zinc	NA		NA		NA		NA		4.8		15		16.3	J
SEMIVOLATILES	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
1,1-Biphenyl	NA		NA		NA		NA		10	U	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	NA		NA		NA	
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	NA		NA		NA	
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	NA		NA		NA	
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	NA		NA		NA	
2,2'-Oxybis(1-chloropropane)	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	10	U	10	U	10	U	10	U	26	U	25	U	25	U
2,4,6-Trichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U	10	U	10	U	10	UJ	10	UJ
2,4-Dinitrophenol	50	U	50	U	50	U	50	U	26	UJ	25	U	25	U
2,4-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chloronaphthalene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylnaphthalene	41		34		1.9	J	2	J	10	U	10	U	10	U
2-Methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	50	U	50	U	50	U	50	U	26	U	25	U	25	U
2-Nitrophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3&4-Methylphenol	20	U	20	U	20	U	20	U	NA		NA		NA	
3,3'-Dichlorobenzidine	50	U	50	U	50	U	50	U	10	U	10	U	10	U
3-Nitroaniline	50	U	50	U	50	U	50	U	26	U	25	U	25	U
4,6-Dinitro-2-methylphenol	50	U	50	U	50	U	50	U	26	U	25	U	25	U
4-Bromophenyl Phenyl Ether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloroaniline	10	U	10	U	10	U	10	U	10	U	10	UJ	10	UJ

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW01		BPTTAOC22MW02		BPTTAOC22MW03											
Sample ID:	TTNUS22MW01		TTNUS22MW02		TTNUS22MW03		TTNUS22MW03-D		TTAOC22-MW03-01		TTAOC22-MW03		TTAOC22-MW03-D	
Sample Date:	8/12/1999		8/13/1999		8/12/1999		8/12/1999		9/30/2004		12/6/2006		12/6/2006	
Duplicate:							TTNUS22MW03						BPTTAOC22MW03	
4-Chlorophenyl Phenyl Ether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Methylphenol	NA		NA		NA		NA		10	U	10	U	10	U
4-Nitroaniline	50	U	50	U	50	U	50	U	26	U	25	UJ	25	UJ
4-Nitrophenol	50	U	50	U	50	U	50	U	26	U	25	U	25	U
Acenaphthene	1.5	J	1.5	J	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acetophenone	NA		NA		NA		NA		10	U	10	U	10	U
Aniline	10	U	10	U	10	U	10	U	NA		NA		NA	
Anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Atrazine	NA		NA		NA		NA		10	U	10	U	10	U
Benz(a)anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzaldehyde	NA		NA		NA		NA		10	U	10	UJ	10	UJ
Benzo(a)pyrene	10	U	10	U	10	U	10	U	10	U	10	UJ	10	UJ
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	UJ	10	UJ
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	U	10	U	10	UJ	10	UJ
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	UJ	10	UJ
Benzoic Acid	50	U	50	U	50	U	50	U	NA		NA		NA	
Bis(2-chloroethoxy)methane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bis(2-chloroethyl)ether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bis(2-ethylhexyl)phthalate	3.5	J	7.7	J	13		16		10	U	1	J	10	U
Butylbenzylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Caprolactam	NA		NA		NA		NA		10	U	10	U	10	U
Carbazole	4.2	J	2.6	J	10	U	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-butylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-octylphthalate	10	U	10	U	10	U	10	U	10	U	10	UJ	10	UJ
Dibenz(a,h)anthracene	10	U	10	U	10	U	10	U	10	U	10	UJ	10	UJ
Dibenzofuran	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Diethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Dimethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluorene	2.1	J	2	J	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobutadiene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	50	U	50	U	50	U	50	U	10	U	10	U	10	U
Hexachloroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U	10	U	10	UJ	10	UJ
Isophorone	10	U	10	U	10	U	10	U	10	U	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
N-Nitrosodiphenylamine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Naphthalene	20		20		10	U	10	U	10	U	10	U	10	U
Nitrobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	50	U	50	U	50	U	50	U	26	UJ	25	U	25	U
Phenanthrene	3.6	J	3.1	J	10	U	10	U	10	U	10	U	10	U
Phenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
VOLATILES	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
1,1,1-Trichloroethane	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
1,1,2-Trichloroethane	5	U	5	U	5	U	5	U	10	U	0.5	UJ	0.5	UJ
1,1,2-Trichlorotrifluoroethane	NA		NA		NA		NA		10	U	0.5	UJ	0.5	UJ

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW01		BPTTAOC22MW02		BPTTAOC22MW03											
Sample ID:	TTNUS22MW01		TTNUS22MW02		TTNUS22MW03		TTNUS22MW03-D		TTAOC22-MW03-01		TTAOC22-MW03		TTAOC22-MW03-D	
Sample Date:	8/12/1999		8/13/1999		8/12/1999		8/12/1999		9/30/2004		12/6/2006		12/6/2006	
Duplicate:							TTNUS22MW03						BPTTAOC22MW03	
1,1-Dichloroethane	4.1	J	3.1	J	2.1	J	2.1	J	10	U	0.5	U	0.5	U
1,1-Dichloroethene	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	NA		NA		NA		NA		NA		0.5	U	0.5	U
1,2,3-Trichloropropane	5	U	5	U	5	U	5	U	NA		NA		NA	
1,2,4-Trichlorobenzene	NA		NA		NA		NA		10	U	0.5	U	0.5	U
1,2-Dibromo-3-chloropropane	NA		NA		NA		NA		10	U	0.5	U	0.5	U
1,2-Dibromoethane	NA		NA		NA		NA		10	U	0.5	U	0.5	U
1,2-Dichlorobenzene	NA		NA		NA		NA		10	U	0.5	U	0.5	U
1,2-Dichloroethane	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
1,2-Dichloroethene (cis)	7.9		48		11		12		10	U	0.4	J	0.38	J
1,2-Dichloroethene (Total)	7.9		47		11		11		NA		NA		NA	
1,2-Dichloroethene (trans)	2.5	U	2.5	U	2.5	U	2.5	U	10	U	0.5	UJ	0.5	UJ
1,2-Dichloropropane	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
1,3-Dichlorobenzene	NA		NA		NA		NA		10	U	0.5	U	0.5	U
1,4-Dichlorobenzene	NA		NA		NA		NA		10	U	0.5	U	0.5	U
2-Butanone	20	U	3.4	J	20	U	20	U	10	U	5	U	5	U
2-Hexanone	20	U	20	U	20	U	20	U	10	U	5	U	5	U
4-Methyl-2-pentanone	20	U	20	U	20	U	20	U	10	U	5	U	5	U
Acetone	20	U	20	U	20	U	20	U	10	UJ	5	U	5	U
Benzene	17		12		5	U	5	U	10	U	0.5	U	0.5	U
Bromochloromethane	NA		NA		NA		NA		NA		0.5	U	0.5	U
Bromodichloromethane	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
Bromoform	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
Bromomethane	10	U	10	U	10	U	10	U	10	U	0.5	U	0.5	U
Carbon Disulfide	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
Carbon Tetrachloride	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
Chlorobenzene	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
Chloroethane	10	U	4.4	J	10	U	10	U	10	U	0.5	U	0.5	U
Chloroform	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
Chloromethane	10	U	10	U	10	U	10	U	10	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U	10	U	0.5	UJ	0.5	UJ
Cyclohexane	NA		NA		NA		NA		10	U	0.5	U	0.5	U
Dibromochloromethane	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
Dichlorodifluoromethane	NA		NA		NA		NA		10	UJ	0.5	U	0.5	U
Ethylbenzene	18		11		5	U	5	U	10	U	0.5	U	0.5	U
Isopropylbenzene	NA		NA		NA		NA		10	U	0.5	U	0.5	U
Methyl Acetate	NA		NA		NA		NA		10	UJ	0.5	UJ	0.5	UJ
Methyl Cyclohexane	NA		NA		NA		NA		10	U	0.34	J	0.5	UJ
Methyl Tert-butyl Ether	NA		NA		NA		NA		10	U	0.6		0.61	
Methylene Chloride	5	U	5	U	5	U	5	U	10	UJ	0.5	U	0.5	U
Styrene	5	U	5	U	5	U	5	U	10	U	0.5	U	0.5	U
Tetrachloroethene	2.7	J	1.5	J	6		5.8		10	U	0.5	U	0.5	U
Toluene	1.4	J	1.1	J	5	U	5	U	10	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	5	U	10	U	0.5	UJ	0.5	UJ
Trichloroethene	25		67		95		95		1.8	J	5.8		5.9	
Trichlorofluoromethane	5	U	8.2		5	U	5	U	10	U	0.5	U	0.5	U
Vinyl Chloride	2.9	J	27		10	U	10	U	10	U	0.5	UJ	0.5	UJ
Xylene (Total)	7.6		4.7	J	5	U	5	U	10	U	0.5	U	0.5	U

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW04								BPTTAOC22MW05					
Sample ID:	**TTNUS22MW04**		**TTAOC22-MW04-01**		**TTAOC22-MW04-01-D**		**TTAOC22-MW04**		**TTNUS22MW05**		**TTAOC22-MW05-01**		**TTAOC22-MW05**	
Sample Date:	**8/12/1999**		**9/29/2004**		**9/29/2004**		**12/7/2006**		**8/12/1999**		**9/30/2004**		**12/6/2006**	
Duplicate:					**TTAOC22-MW04-01**									
INORGANICS			**ug/L**		**ug/L**		**ug/L**				**ug/L**		**ug/L**	
Aluminum	NA		61.2		114		141		NA		31.8		251	
Antimony	NA		1.9	U	1.9	U	2.1	U	NA		1.9	U	2.1	U
Arsenic	NA		9.3		8.1		3	U	NA		2.1	U	3	U
Barium	NA		25.8		25.9		22.1	J	NA		61.7		66.4	J
Beryllium	NA		0.76		1.3		0.1	U	NA		0.82		0.1	U
Cadmium	NA		0.53		0.72		0.2	UJ	NA		0.35	U	0.2	UJ
Calcium	NA		11900		11600		9730	J	NA		6570		6880	J
Chromium	NA		0.56	U	0.56	U	2.6	J	NA		79.8		40.1	J
Cobalt	NA		2		2		2.1		NA		0.43	U	0.3	U
Copper	NA		0.84	U	0.84	U	3.6		NA		0.84	U	4	
Iron	NA		21600		22100		1390		NA		46.4		993	
Lead	NA		1.4	U	1.4	U	1.6	U	NA		1.4	U	1.8	
Magnesium	NA		1790		1750		1900	J	NA		1980		2700	J
Manganese	NA		92.4		94.4		1020		NA		11.8		51.2	
Mercury	NA		0.027	UJ	0.027	UJ	0.02	UJ	NA		0.027	UJ	0.02	UJ
Nickel	NA		1.6	U	1.6	U	0.73		NA		1.6	U	4.9	
Potassium	NA		958		932		1160		NA		2070		2160	
Selenium	NA		2.5	U	2.5	U	9.2	U	NA		2.5	U	9.2	U
Silver	NA		0.42	U	0.68		0.6	U	NA		0.47		0.6	U
Sodium	NA		2100		1970		2100		NA		23900		21200	
Thallium	NA		3.4	U	3.4	U	3.4	U	NA		3.4	U	3.4	U
Vanadium	NA		1.2		1.2		0.6	U	NA		0.65		2.2	
Zinc	NA		4.6		4.8		18.8	J	NA		0.71		19.5	J
SEMIVOLATILES	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
1,1-Biphenyl	NA		10	U	10	U	10	U	NA		10	U	10	U
1,2,4-Trichlorobenzene	10	U	NA		NA		NA		10	U	NA		NA	
1,2-Dichlorobenzene	10	U	NA		NA		NA		10	U	NA		NA	
1,3-Dichlorobenzene	10	U	NA		NA		NA		10	U	NA		NA	
1,4-Dichlorobenzene	10	U	NA		NA		NA		10	U	NA		NA	
2,2'-Oxybis(1-chloropropane)	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	10	U	26	U	25	U	25	U	10	U	25	U	25	U
2,4,6-Trichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U	10	UJ	10	U	10	U	10	UJ
2,4-Dinitrophenol	50	U	26	UJ	25	UJ	25	U	50	U	25	UJ	25	U
2,4-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chloronaphthalene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylnaphthalene	2.4	J	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	50	U	26	U	25	U	25	U	50	U	25	U	25	U
2-Nitrophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3&4-Methylphenol	20	U	NA		NA		NA		20	U	NA		NA	
3,3'-Dichlorobenzidine	50	U	10	U	10	U	10	U	50	U	10	U	10	U
3-Nitroaniline	50	U	26	U	25	U	25	U	50	U	25	U	25	U
4,6-Dinitro-2-methylphenol	50	U	26	U	25	U	25	U	50	U	25	U	25	U
4-Bromophenyl Phenyl Ether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloroaniline	10	U	10	U	10	U	10	UJ	10	U	10	U	10	UJ

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW04								BPTTAOC22MW05					
Sample ID:	**TTNUS22MW04**		**TTAOC22-MW04-01**		**TTAOC22-MW04-01-D**		**TTAOC22-MW04**		**TTNUS22MW05**		**TTAOC22-MW05-01**		**TTAOC22-MW05**	
Sample Date:	**8/12/1999**		**9/29/2004**		**9/29/2004**		**12/7/2006**		**8/12/1999**		**9/30/2004**		**12/6/2006**	
Duplicate:					**TTAOC22-MW04-01**									
4-Chlorophenyl Phenyl Ether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Methylphenol	NA		10	U	10	U	10	U	NA		10	U	10	U
4-Nitroaniline	50	U	26	U	25	U	25	UJ	50	U	25	U	25	UJ
4-Nitrophenol	50	U	26	U	25	U	25	U	50	U	25	U	25	U
Acenaphthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acetophenone	NA		10	U	10	U	10	U	NA		10	U	10	U
Aniline	10	U	NA		NA		NA		10	U	NA		NA	
Anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Atrazine	NA		10	U	10	U	10	U	NA		10	U	10	U
Benz(a)anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzaldehyde	NA		10	U	10	U	10	UJ	NA		10	U	10	UJ
Benzo(a)pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzoic Acid	50	U	NA		NA		NA		50	U	NA		NA	
Bis(2-chloroethoxy)methane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bis(2-chloroethyl)ether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bis(2-ethylhexyl)phthalate	7	J	10	U	10	U	10	U	43		10	U	10	U
Butylbenzylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Caprolactam	NA		10	U	10	U	10	U	NA		110		10	U
Carbazole	1.8	J	1.1	J	1.2	J	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-butylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-octylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Dibenzofuran	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Diethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Dimethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobutadiene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	50	U	10	U	10	U	10	U	50	U	10	U	10	U
Hexachloroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Isophorone	10	U	10	U	10	U	10	U	10	U	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
N-Nitrosodiphenylamine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Naphthalene	2.5	J	10	U	10	U	10	U	10	U	10	U	10	U
Nitrobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	50	U	26	UJ	25	UJ	25	U	50	U	25	UJ	25	U
Phenanthrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Phenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
VOLATILES	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
1,1,1-Trichloroethane	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
1,1,2,2-Tetrachloroethane	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
1,1,2-Trichloroethane	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	UJ
1,1,2-Trichlorotrifluoroethane	NA		10	U	10	U	0.5	UJ	NA		10	U	0.5	UJ

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW04								BPTTAOC22MW05					
Sample ID:	TTNUS22MW04		TTAOC22-MW04-01		TTAOC22-MW04-01-D		TTAOC22-MW04		TTNUS22MW05		TTAOC22-MW05-01		TTAOC22-MW05	
Sample Date:	8/12/1999		9/29/2004		9/29/2004		12/7/2006		8/12/1999		9/30/2004		12/6/2006	
Duplicate:					TTAOC22-MW04-01									
1,1-Dichloroethane	2	J	10	U	10	U	0.5	UJ	2.6	J	10	U	0.5	U
1,1-Dichloroethene	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
1,2,3-Trichlorobenzene	NA		NA		NA		0.5	U	NA		NA		0.5	U
1,2,3-Trichloropropane	5	U	NA		NA		NA		5	U	NA		NA	
1,2,4-Trichlorobenzene	NA		10	U	10	U	0.5	U	NA		10	U	0.5	U
1,2-Dibromo-3-chloropropane	NA		10	U	10	U	0.5	U	NA		10	U	0.5	U
1,2-Dibromoethane	NA		10	U	10	U	0.5	U	NA		10	U	0.5	UJ
1,2-Dichlorobenzene	NA		10	U	10	U	0.5	U	NA		10	U	0.5	U
1,2-Dichloroethane	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
1,2-Dichloroethene (cis)	2.9		10	U	10	U	0.5	U	25		10	U	0.5	U
1,2-Dichloroethene (Total)	2.9	J	NA		NA		NA		25		NA		NA	
1,2-Dichloroethene (trans)	2.5	U	10	U	10	U	0.5	U	2.5	U	10	U	0.5	U
1,2-Dichloropropane	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
1,3-Dichlorobenzene	NA		10	U	10	U	0.5	U	NA		10	U	0.5	U
1,4-Dichlorobenzene	NA		10	U	10	U	0.5	U	NA		10	U	0.5	U
2-Butanone	20	U	10	U	10	U	5	U	20	U	10	U	5	U
2-Hexanone	20	U	10	U	10	U	5	U	20	U	10	U	5	U
4-Methyl-2-pentanone	20	U	10	U	10	U	5	U	20	U	10	U	5	U
Acetone	20	U	10	UJ	10	UJ	5	U	20	U	10	UJ	5	U
Benzene	4.1	J	10	U	10	U	0.5	UJ	5	U	10	U	0.5	U
Bromochloromethane	NA		NA		NA		0.5	UJ	NA		NA		0.5	U
Bromodichloromethane	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
Bromoform	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	UJ
Bromomethane	10	U	10	U	10	U	0.5	U	10	U	10	U	0.5	U
Carbon Disulfide	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
Carbon Tetrachloride	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
Chlorobenzene	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
Chloroethane	10	U	10	U	10	U	0.5	U	10	U	10	U	0.5	U
Chloroform	5	U	10	U	10	U	0.5	UJ	5	U	10	U	0.5	U
Chloromethane	10	U	10	U	10	U	0.5	U	10	U	10	U	0.5	U
cis-1,3-Dichloropropene	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	UJ
Cyclohexane	NA		10	U	10	U	0.5	U	NA		10	U	0.5	U
Dibromochloromethane	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	UJ
Dichlorodifluoromethane	NA		10	UJ	10	UJ	0.5	U	NA		10	UJ	0.5	U
Ethylbenzene	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
Isopropylbenzene	NA		10	U	10	U	0.5	U	NA		10	U	0.5	U
Methyl Acetate	NA		10	UJ	10	UJ	0.5	UJ	NA		10	UJ	0.5	UJ
Methyl Cyclohexane	NA		10	U	10	U	0.5	UJ	NA		10	U	0.5	UJ
Methyl Tert-butyl Ether	NA		10	U	10	U	0.5	U	NA		10	U	0.58	
Methylene Chloride	5	U	10	UJ	10	UJ	0.5	U	5	U	10	UJ	0.5	U
Styrene	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
Tetrachloroethene	2	J	10	U	10	U	0.5	U	12		10	U	0.68	
Toluene	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
trans-1,3-Dichloropropene	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	UJ
Trichloroethene	17		10	U	10	U	0.5	U	86		2.8	J	7.4	
Trichlorofluoromethane	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U
Vinyl Chloride	10	U	10	U	10	U	0.5	UJ	10	U	10	U	0.5	UJ
Xylene (Total)	5	U	10	U	10	U	0.5	U	5	U	10	U	0.5	U

Location:	BPTTAOC22MW06											
Sample ID:	**TTAOC22-MW06-01**		**TTAOC22-MW06-01-D**		**TTAOC22-MW06**		**TTAOC22-MW06**		**TTAOC22-MW06**	
Sample Date:	**9/29/2004**		**9/29/2004**		**3/15/2005**		**10/11/2005**		**12/5/2006**	
Duplicate:			**TTAOC22-MW06-01**							
INORGANICS	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
Aluminum	42.9		30.4		76.2		188		1260	
Antimony	1.9	U	1.9	U	2.6	U	1.9	U	2.1	U
Arsenic	2.1	U	2.1	U	1.9		1.6		8.4	
Barium	32.8		32.6		86.1		95		175	J
Beryllium	1.2		0.4		1.5		0.34		1.1	
Cadmium	0.35	U	0.35	U	0.34	U	0.42	U	1.8	J
Calcium	10000		9390		20300		23400		42700	J
Chromium	0.56	U	0.56	U	1.9		0.48		8.5	J
Cobalt	0.43	U	0.43	U	0.73		4.5		15.7	
Copper	0.84	U	0.84	U	0.63	U	1	U	8.1	
Iron	47.3		26		171		550		8210	
Lead	1.4	U	1.4	U	1.6	U	1.6	U	1.7	
Magnesium	2390		2220		4820		5240		8140	J
Manganese	8		7.9		23.3		163		1020	
Mercury	0.027	UJ	0.027	UJ	0.061	U	0.06		0.02	UJ
Nickel	1.6	U	1.6	U	7.2		16.2		31.9	
Potassium	1990		1920		4890		4260		9500	
Selenium	2.7		2.5	U	2.1	U	2.6		14.3	J
Silver	0.68		0.46		0.64		0.25	U	0.6	U
Sodium	2400		2220		7370		9200		17300	
Thallium	3.4	U	3.4	U	2.6	U	2.9	U	3.4	U
Vanadium	0.38	U	0.38	U	0.53	U	0.53	U	4.5	
Zinc	5.3		3.2		22.9		67.2		95.9	J
SEMIVOLATILES	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
1,1-Biphenyl	9.9	U	10	U	9.5	U	9.6	U	10	U
1,2,4-Trichlorobenzene	NA		NA		NA		NA		NA	
1,2-Dichlorobenzene	NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	NA		NA		NA		NA		NA	
2,2'-Oxybis(1-chloropropane)	9.9	U	10	U	9.5	U	9.6	U	10	U
2,4,5-Trichlorophenol	25	U	25	U	24	U	24	U	25	U
2,4,6-Trichlorophenol	9.9	U	10	U	9.5	U	9.6	U	10	U
2,4-Dichlorophenol	9.9	U	10	U	9.5	U	9.6	U	10	U
2,4-Dimethylphenol	9.9	U	10	U	9.5	U	9.6	U	10	UJ
2,4-Dinitrophenol	25	UJ	25	UJ	24	U	24	U	25	U
2,4-Dinitrotoluene	9.9	U	10	U	9.5	U	9.6	U	10	U
2,6-Dinitrotoluene	9.9	U	10	U	9.5	U	9.6	U	10	U
2-Chloronaphthalene	9.9	U	10	U	9.5	U	9.6	U	10	U
2-Chlorophenol	9.9	U	10	U	9.5	U	9.6	U	10	U
2-Methylnaphthalene	9.9	U	10	U	9.5	U	9.6	U	10	U
2-Methylphenol	9.9	U	10	U	9.5	U	9.6	U	10	U
2-Nitroaniline	25	U	25	U	24	U	24	U	25	U
2-Nitrophenol	9.9	U	10	U	9.5	U	9.6	U	10	U
3&4-Methylphenol	NA		NA		NA		NA		NA	
3,3'-Dichlorobenzidine	9.9	U	10	U	9.5	U	9.6	U	10	U
3-Nitroaniline	25	U	25	U	24	U	24	U	25	U
4,6-Dinitro-2-methylphenol	25	U	25	U	24	U	24	U	25	U
4-Bromophenyl Phenyl Ether	9.9	U	10	U	9.5	U	9.6	U	10	U
4-Chloro-3-methylphenol	9.9	U	10	U	9.5	U	9.6	U	10	U
4-Chloroaniline	9.9	U	10	U	9.5	U	9.6	U	10	UJ

Location:	BPTTAOC22MW06									
Sample ID:	**TTAOC22-MW06-01**		**TTAOC22-MW06-01-D**		**TTAOC22-MW06**		**TTAOC22-MW06**		**TTAOC22-MW06**	
Sample Date:	**9/29/2004**		**9/29/2004**		**3/15/2005**		**10/11/2005**		**12/5/2006**	
Duplicate:			**TTAOC22-MW06-01**							
4-Chlorophenyl Phenyl Ether	9.9	U	10	U	9.5	U	9.6	U	10	U
4-Methylphenol	9.9	U	10	U	9.5	U	9.6	U	10	U
4-Nitroaniline	25	U	25	U	24	U	24	U	25	UJ
4-Nitrophenol	25	U	25	U	24	U	24	U	25	U
Acenaphthene	9.9	U	10	U	9.5	U	9.6	U	10	U
Acenaphthylene	9.9	U	10	U	9.5	U	9.6	U	10	U
Acetophenone	9.9	U	10	U	9.5	U	9.6	U	10	U
Aniline	NA		NA		NA		NA		NA	
Anthracene	9.9	U	10	U	9.5	U	9.6	U	10	U
Atrazine	9.9	U	10	U	9.5	U	9.6	U	10	U
Benz(a)anthracene	9.9	U	10	U	9.5	U	9.6	U	10	U
Benzaldehyde	9.9	U	10	U	9.5	U	9.6	U	10	UJ
Benzo(a)pyrene	9.9	U	10	U	9.5	U	9.6	U	10	UJ
Benzo(b)fluoranthene	9.9	U	10	U	9.5	U	9.6	U	10	UJ
Benzo(g,h,i)perylene	9.9	U	10	U	9.5	U	9.6	U	10	UJ
Benzo(k)fluoranthene	9.9	U	10	U	9.5	U	9.6	U	10	UJ
Benzoic Acid	NA		NA		NA		NA		NA	
Bis(2-chloroethoxy)methane	9.9	U	10	U	9.5	U	9.6	U	10	U
Bis(2-chloroethyl)ether	9.9	U	10	U	9.5	U	9.6	U	10	U
Bis(2-ethylhexyl)phthalate	9.9	U	10	U	9.5	U	9.6	U	2	J
Butylbenzylphthalate	9.9	U	10	U	9.5	U	9.6	U	10	U
Caprolactam	9.9	U	10	U	9.5	U	9.6	U	10	U
Carbazole	9.9	U	10	U	9.5	U	9.6	U	10	U
Chrysene	9.9	U	10	U	9.5	U	9.6	U	10	U
Di-n-butylphthalate	9.9	U	10	U	9.5	U	9.6	U	10	U
Di-n-octylphthalate	9.9	U	10	U	9.5	U	9.6	U	10	UJ
Dibenz(a,h)anthracene	9.9	U	10	U	9.5	U	9.6	U	10	UJ
Dibenzofuran	9.9	U	10	U	9.5	U	9.6	U	10	U
Diethylphthalate	9.9	U	10	U	9.5	U	9.6	U	10	U
Dimethylphthalate	9.9	U	10	U	9.5	U	9.6	U	10	U
Fluoranthene	9.9	U	10	U	9.5	U	9.6	U	10	U
Fluorene	9.9	U	10	U	9.5	U	9.6	U	10	U
Hexachlorobenzene	9.9	U	10	U	9.5	U	9.6	U	10	U
Hexachlorobutadiene	9.9	U	10	U	9.5	U	9.6	U	10	U
Hexachlorocyclopentadiene	9.9	U	10	U	9.5	U	9.6	U	10	U
Hexachloroethane	9.9	U	10	U	9.5	U	9.6	U	10	U
Indeno(1,2,3-cd)pyrene	9.9	U	10	U	9.5	U	9.6	U	10	UJ
Isophorone	9.9	U	10	U	9.5	U	9.6	U	10	U
N-Nitroso-di-n-propylamine	9.9	U	10	U	9.5	U	9.6	U	10	U
N-Nitrosodiphenylamine	9.9	U	10	U	9.5	U	9.6	U	10	U
Naphthalene	9.9	U	10	U	9.5	U	9.6	U	10	U
Nitrobenzene	9.9	U	10	U	9.5	U	9.6	U	10	U
Pentachlorophenol	25	UJ	25	UJ	24	U	24	U	25	U
Phenanthrene	9.9	U	10	U	9.5	U	9.6	U	10	U
Phenol	9.9	U	10	U	9.5	U	9.6	U	10	U
Pyrene	9.9	U	10	U	9.5	U	9.6	U	10	U
VOLATILES	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	0.5	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	0.5	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	0.5	U
1,1,2-Trichlorotrifluoroethane	10	U	10	U	10	U	10	U	0.5	UJ

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW06									
Sample ID:	**TTAOC22-MW06-01**		**TTAOC22-MW06-01-D**		**TTAOC22-MW06**		**TTAOC22-MW06**		**TTAOC22-MW06**	
Sample Date:	**9/29/2004**		**9/29/2004**		**3/15/2005**		**10/11/2005**		**12/5/2006**	
Duplicate:			**TTAOC22-MW06-01**							
1,1-Dichloroethane	10	U	10	U	10	U	10	U	0.5	UJ
1,1-Dichloroethene	10	U	10	U	10	U	10	U	0.5	U
1,2,3-Trichlorobenzene	NA		NA		NA		NA		0.5	U
1,2,3-Trichloropropane	NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	0.5	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	10	U	0.5	U
1,2-Dibromoethane	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichloroethane	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichloroethene (cis)	10	U	10	U	10	U	10	U	0.5	UJ
1,2-Dichloroethene (Total)	NA		NA		NA		NA		NA	
1,2-Dichloroethene (trans)	10	U	10	U	10	U	10	U	0.5	UJ
1,2-Dichloropropane	10	U	10	U	10	U	10	U	0.5	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	0.5	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	0.5	U
2-Butanone	10	U	10	U	10	U	10	U	5	UJ
2-Hexanone	10	U	10	U	10	U	10	U	5	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	5	U
Acetone	10	UJ	10	UJ	10	U	10	U	5	UJ
Benzene	10	U	10	U	10	U	10	U	0.5	U
Bromochloromethane	NA		NA		NA		NA		0.5	UJ
Bromodichloromethane	10	U	10	U	10	U	10	U	0.5	U
Bromoform	10	U	10	U	10	U	10	U	0.5	U
Bromomethane	10	U	10	U	10	U	10	U	0.5	U
Carbon Disulfide	10	U	10	U	10	U	10	U	0.5	U
Carbon Tetrachloride	10	U	10	U	10	U	10	U	0.5	U
Chlorobenzene	10	U	10	U	10	U	10	U	0.5	U
Chloroethane	10	U	10	U	10	U	10	U	0.5	U
Chloroform	10	U	10	U	10	U	10	U	0.5	UJ
Chloromethane	10	U	10	U	10	U	10	U	0.5	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	0.5	U
Cyclohexane	10	U	10	U	10	U	10	U	0.5	U
Dibromochloromethane	10	U	10	U	10	U	10	U	0.5	U
Dichlorodifluoromethane	10	UJ	10	UJ	10	U	10	U	0.5	U
Ethylbenzene	10	U	10	U	10	U	10	U	0.5	U
Isopropylbenzene	10	U	10	U	10	U	10	U	0.5	U
Methyl Acetate	10	UJ	10	UJ	10	U	10	U	0.5	UJ
Methyl Cyclohexane	10	U	10	U	10	U	10	U	0.5	UJ
Methyl Tert-butyl Ether	10	U	10	U	10	U	10	U	0.5	U
Methylene Chloride	10	UJ	10	UJ	10	U	10	U	0.5	U
Styrene	10	U	10	U	10	U	10	U	0.5	U
Tetrachloroethene	10	U	10	U	10	U	10	U	0.64	
Toluene	10	U	10	U	10	U	10	U	0.5	U
trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	0.5	U
Trichloroethene	10	U	10	U	10	U	10	U	0.83	
Trichlorofluoromethane	10	U	10	U	10	U	10	U	0.5	U
Vinyl Chloride	10	U	10	U	10	U	10	U	0.5	UJ
Xylene (Total)	10	U	10	U	10	U	10	U	0.5	U

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW07							
Sample ID:	**TTAOC22-MW07-01**		**TTAOC22-MW07**		**TTAOC22-MW07**		**TTAOC22-MW07**	
Sample Date:	**9/28/2004**		**3/15/2005**		**10/12/2005**		**12/5/2006**	
Duplicate:								
INORGANICS	**ug/L**		**ug/L**		**ug/L**		**ug/L**	
Aluminum	1910		1900		2660		2180	
Antimony	1.9	U	2.6	U	1.9	U	2.1	U
Arsenic	2.1	U	2.3		2.6		3.1	
Barium	71.1		46.6		90.5		40.9	J
Beryllium	2.7		2.8		2.1		0.94	
Cadmium	1.7		1		1.2		0.56	J
Calcium	18200		9480		24100		18000	J
Chromium	0.57		3.1		1.6		12	J
Cobalt	3.3		3.1		2		3.5	
Copper	3.4		2.2		4.9		10.1	
Iron	35.8		59.3		144		371	
Lead	1.4	U	1.6	U	1.6	U	2	
Magnesium	3750		2330		5470		4650	J
Manganese	571		336		689		443	
Mercury	0.027	UJ	0.061	U	0.046		0.02	UJ
Nickel	39.6		19		26.1		18.3	
Potassium	3180		947		1820		2180	
Selenium	2.5	U	2.1	U	1.5	U	9.2	U
Silver	0.42	U	0.45		0.25	U	0.6	U
Sodium	3330		2110		5010		6410	
Thallium	3.4	U	3		2.9	U	3.4	U
Vanadium	0.78		0.53	U	0.53	U	0.68	
Zinc	155		95.4		123		67.2	J
SEMIVOLATILES	**ug/L**		**ug/L**		**ug/L**		**ug/L**	
1,1-Biphenyl	10	U	9.4	U	9.9	U	10	U
1,2,4-Trichlorobenzene	NA		NA		NA		NA	
1,2-Dichlorobenzene	NA		NA		NA		NA	
1,3-Dichlorobenzene	NA		NA		NA		NA	
1,4-Dichlorobenzene	NA		NA		NA		NA	
2,2'-Oxybis(1-chloropropane)	10	U	9.4	U	9.9	U	10	U
2,4,5-Trichlorophenol	25	U	24	U	25	U	25	U
2,4,6-Trichlorophenol	10	U	9.4	U	9.9	U	10	U
2,4-Dichlorophenol	10	U	9.4	U	9.9	U	10	U
2,4-Dimethylphenol	10	U	9.4	U	9.9	U	10	UJ
2,4-Dinitrophenol	25	U	24	U	25	U	25	U
2,4-Dinitrotoluene	10	U	9.4	U	9.9	U	10	U
2,6-Dinitrotoluene	10	U	9.4	U	9.9	U	10	U
2-Chloronaphthalene	10	U	9.4	U	9.9	U	10	U
2-Chlorophenol	10	U	9.4	U	9.9	U	10	U
2-Methylnaphthalene	10	U	9.4	U	9.9	U	10	U
2-Methylphenol	10	U	9.4	U	9.9	U	10	U
2-Nitroaniline	25	U	24	U	25	U	25	U
2-Nitrophenol	10	U	9.4	U	9.9	U	10	U
3&4-Methylphenol	NA		NA		NA		NA	
3,3'-Dichlorobenzidine	10	U	9.4	U	9.9	U	10	U
3-Nitroaniline	25	U	24	U	25	U	25	U
4,6-Dinitro-2-methylphenol	25	U	24	U	25	U	25	U
4-Bromophenyl Phenyl Ether	10	U	9.4	U	9.9	U	10	U
4-Chloro-3-methylphenol	10	U	9.4	U	9.9	U	10	U
4-Chloroaniline	10	U	9.4	U	9.9	U	10	UJ

Location:	BPTTAOC22MW07							
Sample ID:	TTAOC22-MW07-01		TTAOC22-MW07		TTAOC22-MW07		TTAOC22-MW07	
Sample Date:	9/28/2004		3/15/2005		10/12/2005		12/5/2006	
Duplicate:								
4-Chlorophenyl Phenyl Ether	10	U	9.4	U	9.9	U	10	U
4-Methylphenol	10	U	9.4	U	9.9	U	10	U
4-Nitroaniline	25	U	24	U	25	U	25	UJ
4-Nitrophenol	25	U	24	U	25	U	25	U
Acenaphthene	10	U	9.4	U	9.9	U	10	U
Acenaphthylene	10	U	9.4	U	9.9	U	10	U
Acetophenone	10	U	9.4	U	9.9	U	10	U
Aniline	NA		NA		NA		NA	
Anthracene	10	U	9.4	U	9.9	U	10	U
Atrazine	10	U	9.4	U	9.9	U	10	U
Benz(a)anthracene	10	U	9.4	U	9.9	U	10	U
Benzaldehyde	10	U	9.4	U	9.9	U	10	UJ
Benzo(a)pyrene	10	U	9.4	U	9.9	U	10	U
Benzo(b)fluoranthene	10	U	9.4	U	9.9	U	10	U
Benzo(g,h,i)perylene	10	U	9.4	U	9.9	U	10	U
Benzo(k)fluoranthene	10	U	9.4	U	9.9	U	10	U
Benzoic Acid	NA		NA		NA		NA	
Bis(2-chloroethoxy)methane	10	U	9.4	U	9.9	U	10	U
Bis(2-chloroethyl)ether	10	U	9.4	U	9.9	U	10	U
Bis(2-ethylhexyl)phthalate	10	U	9.4	U	9.9	U	10	U
Butylbenzylphthalate	10	U	9.4	U	9.9	U	10	U
Caprolactam	2.5	J	9.4	U	9.9	U	10	U
Carbazole	10	U	9.4	U	9.9	U	10	U
Chrysene	10	U	9.4	U	9.9	U	10	U
Di-n-butylphthalate	10	U	9.4	U	9.9	U	10	U
Di-n-octylphthalate	10	U	9.4	U	9.9	U	10	U
Dibenz(a,h)anthracene	10	U	9.4	U	9.9	U	10	U
Dibenzofuran	10	U	9.4	U	9.9	U	10	U
Diethylphthalate	10	U	9.4	U	9.9	U	10	U
Dimethylphthalate	10	U	9.4	U	9.9	U	10	U
Fluoranthene	10	U	9.4	U	9.9	U	10	U
Fluorene	10	U	9.4	U	9.9	U	10	U
Hexachlorobenzene	10	U	9.4	U	9.9	U	10	U
Hexachlorobutadiene	10	U	9.4	U	9.9	U	10	U
Hexachlorocyclopentadiene	10	U	9.4	U	9.9	U	10	U
Hexachloroethane	10	U	9.4	U	9.9	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	9.4	U	9.9	U	10	U
Isophorone	10	U	9.4	U	9.9	U	10	U
N-Nitroso-di-n-propylamine	10	U	9.4	U	9.9	U	10	U
N-Nitrosodiphenylamine	10	U	9.4	U	9.9	U	10	U
Naphthalene	10	U	9.4	U	9.9	U	10	U
Nitrobenzene	10	U	9.4	U	9.9	U	10	U
Pentachlorophenol	25	U	24	U	25	U	25	U
Phenanthrene	10	U	9.4	U	9.9	U	10	U
Phenol	10	U	9.4	U	9.9	U	10	U
Pyrene	10	U	9.4	U	9.9	U	10	U
VOLATILES	ug/L		ug/L		ug/L		ug/L	
1,1,1-Trichloroethane	10	U	10	U	10	U	0.5	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	0.5	U
1,1,2-Trichloroethane	10	U	10	U	10	U	0.5	U
1,1,2-Trichlorotrifluoroethane	10	U	10	U	10	U	0.5	UJ

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW07							
Sample ID:	TTAOC22-MW07-01		TTAOC22-MW07		TTAOC22-MW07		TTAOC22-MW07	
Sample Date:	9/28/2004		3/15/2005		10/12/2005		12/5/2006	
Duplicate:								
1,1-Dichloroethane	10	U	10	U	10	U	0.5	U
1,1-Dichloroethene	10	U	10	U	10	U	0.5	U
1,2,3-Trichlorobenzene	NA		NA		NA		0.5	U
1,2,3-Trichloropropane	NA		NA		NA		NA	
1,2,4-Trichlorobenzene	10	U	10	U	10	U	0.5	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	0.5	U
1,2-Dibromoethane	10	U	10	U	10	U	0.5	U
1,2-Dichlorobenzene	10	U	10	U	10	U	0.5	U
1,2-Dichloroethane	10	U	10	U	10	U	0.5	U
1,2-Dichloroethene (cis)	10	U	10	U	10	U	0.5	U
1,2-Dichloroethene (Total)	NA		NA		NA		NA	
1,2-Dichloroethene (trans)	10	U	10	U	10	U	0.5	U
1,2-Dichloropropane	10	U	10	U	10	U	0.5	U
1,3-Dichlorobenzene	10	U	10	U	10	U	0.5	U
1,4-Dichlorobenzene	10	U	10	U	10	U	0.5	U
2-Butanone	10	U	10	U	10	U	5	U
2-Hexanone	10	U	10	U	10	U	5	U
4-Methyl-2-pentanone	10	U	10	U	10	U	5	U
Acetone	10	UJ	10	U	10	U	5	U
Benzene	10	U	10	U	10	U	0.5	U
Bromochloromethane	NA		NA		NA		0.5	U
Bromodichloromethane	10	U	10	U	10	U	0.5	U
Bromoform	10	U	10	U	10	U	0.5	U
Bromomethane	10	U	10	U	10	U	0.5	U
Carbon Disulfide	10	U	10	U	10	U	0.5	U
Carbon Tetrachloride	10	U	10	U	10	U	0.5	U
Chlorobenzene	10	U	10	U	10	U	0.5	U
Chloroethane	10	U	10	U	10	U	0.5	U
Chloroform	10	U	10	U	10	U	0.5	U
Chloromethane	10	U	10	U	10	U	0.5	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	0.5	U
Cyclohexane	10	U	10	U	10	U	0.5	U
Dibromochloromethane	10	U	10	U	10	U	0.5	U
Dichlorodifluoromethane	10	UJ	10	U	10	U	0.5	U
Ethylbenzene	10	U	10	U	10	U	0.5	U
Isopropylbenzene	10	U	10	U	10	U	0.5	U
Methyl Acetate	10	UJ	10	U	10	U	0.5	UJ
Methyl Cyclohexane	10	U	10	U	10	U	0.5	UJ
Methyl Tert-butyl Ether	10	U	10	U	10	U	0.5	U
Methylene Chloride	10	UJ	10	U	10	U	0.5	U
Styrene	10	U	10	U	10	U	0.5	U
Tetrachloroethene	10	U	10	U	10	U	0.5	U
Toluene	10	U	10	U	10	U	0.5	U
trans-1,3-Dichloropropene	10	U	10	U	10	U	0.5	U
Trichloroethene	10	U	10	U	10	U	0.5	U
Trichlorofluoromethane	10	U	10	U	10	U	0.5	U
Vinyl Chloride	10	U	10	U	10	U	0.5	UJ
Xylene (Total)	10	U	10	U	10	U	0.5	U

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW08									
Sample ID:	**TTAOC22-MW08-01**		**TTAOC22-MW08**		**TTAOC22-MW08-D**		**TTAOC22-MW08**		**TTAOC22-MW08**	
Sample Date:	**9/28/2004**		**3/15/2005**		**3/15/2005**		**10/11/2005**		**12/4/2006**	
Duplicate:					**TTAOC22-MW08**					
INORGANICS	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
Aluminum	413		113		99.9		55.5		380	
Antimony	1.9	U	2.6	U	2.6	U	1.9	U	2.1	U
Arsenic	2.1	U	2.1		1.8	U	1.4		3	U
Barium	10		8		7.3		10.7		14.1	J
Beryllium	0.38		1.4		1.6		0.25	U	0.1	U
Cadmium	0.35	U	0.34	U	0.34	U	0.42	U	0.2	UJ
Calcium	11400		11500		10800		32300		11800	J
Chromium	1.9		1.6		1.5		0.76		7.6	J
Cobalt	0.43	U	0.52		0.42	U	0.58		0.3	U
Copper	0.84	U	0.63	U	0.63	U	1	U	3.4	
Iron	149		77.4		71.3		97.9		1280	
Lead	1.4	U	1.6	U	1.6	U	1.6	U	1.6	U
Magnesium	819		2800		2680		10200		3540	J
Manganese	2.2		2.3		2.2		2.2		11.1	
Mercury	0.027	UJ	0.061	U	0.061	U	0.056		0.02	UJ
Nickel	1.6	U	1		2.8		0.4	U	3.3	
Potassium	16200		1090		1060		1280		1990	
Selenium	2.5	U	2.1	U	2.1	U	3.1		9.2	U
Silver	0.46		0.51		0.71		0.25	U	0.6	U
Sodium	6110		1050		1020		3450		1100	
Thallium	3.4	U	2.6	U	2.9		6		3.4	U
Vanadium	1.6		0.53	U	0.53	U	0.53	U	2	
Zinc	7.8		4.9	U	4.9	U	8.5		13.1	
SEMIVOLATILES	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
1,1-Biphenyl	9.9	U	9.4	U	9.5	U	10	U	10	U
1,2,4-Trichlorobenzene	NA		NA		NA		NA		NA	
1,2-Dichlorobenzene	NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	NA		NA		NA		NA		NA	
2,2'-Oxybis(1-chloropropane)	9.9	U	9.4	U	9.5	U	10	U	10	U
2,4,5-Trichlorophenol	25	U	24	U	24	U	25	U	25	U
2,4,6-Trichlorophenol	9.9	U	9.4	U	9.5	U	10	U	10	U
2,4-Dichlorophenol	9.9	U	9.4	U	9.5	U	10	U	10	U
2,4-Dimethylphenol	9.9	U	9.4	U	9.5	U	10	U	10	UJ
2,4-Dinitrophenol	25	U	24	U	24	U	25	U	25	U
2,4-Dinitrotoluene	9.9	U	9.4	U	9.5	U	10	U	10	U
2,6-Dinitrotoluene	9.9	U	9.4	U	9.5	U	10	U	10	U
2-Chloronaphthalene	9.9	U	9.4	U	9.5	U	10	U	10	U
2-Chlorophenol	9.9	U	9.4	U	9.5	U	10	U	10	U
2-Methylnaphthalene	9.9	U	9.4	U	9.5	U	10	U	10	U
2-Methylphenol	9.9	U	9.4	U	9.5	U	10	U	10	U
2-Nitroaniline	25	U	24	U	24	U	25	U	25	U
2-Nitrophenol	9.9	U	9.4	U	9.5	U	10	U	10	U
3&4-Methylphenol	NA		NA		NA		NA		NA	
3,3'-Dichlorobenzidine	9.9	U	9.4	U	9.5	U	10	U	10	U
3-Nitroaniline	25	U	24	U	24	U	25	U	25	U
4,6-Dinitro-2-methylphenol	25	U	24	U	24	U	25	U	25	U
4-Bromophenyl Phenyl Ether	9.9	U	9.4	U	9.5	U	10	U	10	U
4-Chloro-3-methylphenol	9.9	U	9.4	U	9.5	U	10	U	10	U
4-Chloroaniline	9.9	U	9.4	U	9.5	U	10	U	10	UJ

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW08											
Sample ID:	**TTAOC22-MW08-01**		**TTAOC22-MW08**		**TTAOC22-MW08-D**		**TTAOC22-MW08**		**TTAOC22-MW08**	
Sample Date:	**9/28/2004**		**3/15/2005**		**3/15/2005**		**10/11/2005**		**12/4/2006**	
Duplicate:					**TTAOC22-MW08**					
4-Chlorophenyl Phenyl Ether	9.9	U	9.4	U	9.5	U	10	U	10	U
4-Methylphenol	9.9	U	9.4	U	9.5	U	10	U	10	U
4-Nitroaniline	25	U	24	U	24	U	25	U	25	UJ
4-Nitrophenol	25	U	24	U	24	U	25	U	25	U
Acenaphthene	9.9	U	9.4	U	9.5	U	10	U	10	U
Acenaphthylene	9.9	U	9.4	U	9.5	U	10	U	10	U
Acetophenone	9.9	U	9.4	U	9.5	U	10	U	10	U
Aniline	NA		NA		NA		NA		NA	
Anthracene	9.9	U	9.4	U	9.5	U	10	U	10	U
Atrazine	9.9	U	9.4	U	9.5	U	10	U	10	U
Benz(a)anthracene	9.9	U	9.4	U	9.5	U	10	U	10	U
Benzaldehyde	9.9	U	9.4	U	9.5	U	10	U	10	UJ
Benzo(a)pyrene	9.9	U	9.4	U	9.5	U	10	U	10	U
Benzo(b)fluoranthene	9.9	U	9.4	U	9.5	U	10	U	10	U
Benzo(g,h,i)perylene	9.9	U	9.4	U	9.5	U	10	U	10	U
Benzo(k)fluoranthene	9.9	U	9.4	U	9.5	U	10	U	10	U
Benzoic Acid	NA		NA		NA		NA		NA	
Bis(2-chloroethoxy)methane	9.9	U	9.4	U	9.5	U	10	U	10	U
Bis(2-chloroethyl)ether	9.9	U	9.4	U	9.5	U	10	U	10	U
Bis(2-ethylhexyl)phthalate	9.9	U	9.4	U	9.5	U	2.8	J	10	U
Butylbenzylphthalate	9.9	U	9.4	U	9.5	U	10	U	10	U
Caprolactam	2.1	J	9.4	U	9.5	U	10	U	10	U
Carbazole	9.9	U	9.4	U	9.5	U	10	U	10	U
Chrysene	9.9	U	9.4	U	9.5	U	10	U	10	U
Di-n-butylphthalate	9.9	U	9.4	U	9.5	U	10	U	10	U
Di-n-octylphthalate	9.9	U	9.4	U	9.5	U	10	U	10	U
Dibenz(a,h)anthracene	9.9	U	9.4	U	9.5	U	10	U	10	U
Dibenzofuran	9.9	U	9.4	U	9.5	U	10	U	10	U
Diethylphthalate	2.5	J	9.4	U	9.5	U	10	U	10	U
Dimethylphthalate	9.9	U	9.4	U	9.5	U	10	U	10	U
Fluoranthene	9.9	U	9.4	U	9.5	U	10	U	10	U
Fluorene	9.9	U	9.4	U	9.5	U	10	U	10	U
Hexachlorobenzene	9.9	U	9.4	U	9.5	U	10	U	10	U
Hexachlorobutadiene	9.9	U	9.4	U	9.5	U	10	U	10	U
Hexachlorocyclopentadiene	9.9	U	9.4	U	9.5	U	10	U	10	U
Hexachloroethane	9.9	U	9.4	U	9.5	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	9.9	U	9.4	U	9.5	U	10	U	10	U
Isophorone	9.9	U	9.4	U	9.5	U	10	U	10	U
N-Nitroso-di-n-propylamine	9.9	U	9.4	U	9.5	U	10	U	10	U
N-Nitrosodiphenylamine	9.9	U	9.4	U	9.5	U	10	U	10	U
Naphthalene	9.9	U	9.4	U	9.5	U	10	U	10	U
Nitrobenzene	9.9	U	9.4	U	9.5	U	10	U	10	U
Pentachlorophenol	25	U	24	U	24	U	25	U	25	U
Phenanthrene	9.9	U	9.4	U	9.5	U	10	U	10	U
Phenol	9.9	U	9.4	U	9.5	U	10	U	10	U
Pyrene	9.9	U	9.4	U	9.5	U	10	U	10	U
VOLATILES	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	0.5	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	0.5	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	0.5	U
1,1,2-Trichlorotrifluoroethane	10	U	10	U	10	U	10	U	0.5	U

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW08									
Sample ID:	TTAOC22-MW08-01		TTAOC22-MW08		TTAOC22-MW08-D		TTAOC22-MW08		TTAOC22-MW08	
Sample Date:	9/28/2004		3/15/2005		3/15/2005		10/11/2005		12/4/2006	
Duplicate:					TTAOC22-MW08					
1,1-Dichloroethane	10	U	10	U	10	U	10	U	0.5	U
1,1-Dichloroethene	10	U	10	U	10	U	10	U	0.5	UJ
1,2,3-Trichlorobenzene	NA		NA		NA		NA		0.5	U
1,2,3-Trichloropropane	NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	0.5	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	10	U	0.5	U
1,2-Dibromoethane	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichloroethane	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichloroethene (cis)	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichloroethene (Total)	NA		NA		NA		NA		NA	
1,2-Dichloroethene (trans)	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	0.5	UJ
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	0.5	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	0.5	U
2-Butanone	10	U	10	U	10	U	10	U	5	U
2-Hexanone	10	U	10	U	10	U	10	U	5	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	5	U
Acetone	10	U	10	U	10	U	10	U	5	U
Benzene	10	U	10	U	10	U	10	U	0.5	U
Bromochloromethane	NA		NA		NA		NA		0.5	U
Bromodichloromethane	10	U	10	U	10	U	10	U	0.5	UJ
Bromoform	10	U	10	U	10	U	10	U	0.5	U
Bromomethane	10	U	10	U	10	U	10	U	0.5	U
Carbon Disulfide	10	U	10	U	10	U	10	U	0.5	UJ
Carbon Tetrachloride	10	U	10	U	10	U	10	U	0.5	U
Chlorobenzene	10	U	10	U	10	U	10	U	0.5	U
Chloroethane	10	U	10	U	10	U	10	U	0.5	U
Chloroform	10	U	10	U	10	U	10	U	0.5	U
Chloromethane	10	U	10	U	10	U	10	U	0.5	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	0.5	U
Cyclohexane	10	U	10	U	10	U	10	U	0.5	UJ
Dibromochloromethane	10	U	10	U	10	U	10	U	0.5	U
Dichlorodifluoromethane	10	UJ	10	U	10	U	10	U	0.5	U
Ethylbenzene	10	U	10	U	10	U	10	U	0.5	U
Isopropylbenzene	10	U	10	U	10	U	10	U	0.5	U
Methyl Acetate	10	UJ	10	U	10	U	10	U	0.5	UR
Methyl Cyclohexane	10	U	10	U	10	U	10	U	0.5	UJ
Methyl Tert-butyl Ether	10	U	10	U	10	U	10	U	0.5	U
Methylene Chloride	10	UJ	10	U	10	U	10	U	0.5	U
Styrene	10	U	10	U	10	U	10	U	0.5	U
Tetrachloroethene	10	U	10	U	10	U	10	U	0.5	U
Toluene	10	U	10	U	10	U	10	U	0.5	U
trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	0.5	U
Trichloroethene	10	U	10	U	10	U	10	U	0.5	U
Trichlorofluoromethane	10	U	10	U	10	U	10	U	0.5	U
Vinyl Chloride	10	U	10	U	10	U	10	U	0.5	UJ
Xylene (Total)	10	U	10	U	10	U	10	U	0.5	U

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW09							
Sample ID:	TTAOC22-MW09-01		TTAOC22-MW09		TTAOC22-MW09		TTAOC22-MW09	
Sample Date:	9/28/2004		3/15/2005		10/11/2005		12/5/2006	
Duplicate:								
INORGANICS	ug/L		ug/L		ug/L		ug/L	
Aluminum	28.4		45.6		61.8		550	
Antimony	1.9	U	2.6	U	1.9	U	2.1	U
Arsenic	2.1	U	2.8		1.2	U	3	U
Barium	41.8		26.1		29.2		40.6	J
Beryllium	0.35		1.1		0.26		0.15	
Cadmium	66.2		28		22.1		22.8	J
Calcium	15800		9600		10200		12000	J
Chromium	8.6		14		12.9		13.3	J
Cobalt	0.93		0.96		0.64		0.3	U
Copper	0.96		0.63	U	1.1		5.6	
Iron	37.9		99		56.6		537	
Lead	1.4	U	1.6	U	1.6	U	1.6	U
Magnesium	3680		2070		2110		2660	J
Manganese	154		9		2.6		27	
Mercury	0.027	UJ	0.061	U	0.054		0.02	UJ
Nickel	5.4		9.6		1.1		7.1	
Potassium	2290		2000		1610		1990	
Selenium	2.5	U	3.4		1.5	U	9.2	U
Silver	0.42	U	0.43	U	0.35		0.6	U
Sodium	11300		9030		9410		9160	
Thallium	3.4	U	5.5		2.9	U	3.4	U
Vanadium	0.38	U	0.53	U	0.53	U	1.8	
Zinc	64.8		25.8		21.2		43.4	J
SEMIVOLATILES	ug/L		ug/L		ug/L		ug/L	
1,1-Biphenyl	10	U	9.5	U	9.7	U	10	U
1,2,4-Trichlorobenzene	NA		NA		NA		NA	
1,2-Dichlorobenzene	NA		NA		NA		NA	
1,3-Dichlorobenzene	NA		NA		NA		NA	
1,4-Dichlorobenzene	NA		NA		NA		NA	
2,2'-Oxybis(1-chloropropane)	10	U	9.5	U	9.7	U	10	U
2,4,5-Trichlorophenol	26	U	24	U	24	U	25	U
2,4,6-Trichlorophenol	10	U	9.5	U	9.7	U	10	U
2,4-Dichlorophenol	10	U	9.5	U	9.7	U	10	U
2,4-Dimethylphenol	10	U	9.5	U	9.7	U	10	UJ
2,4-Dinitrophenol	26	U	24	U	24	U	25	U
2,4-Dinitrotoluene	10	U	9.5	U	9.7	U	10	U
2,6-Dinitrotoluene	10	U	9.5	U	9.7	U	10	U
2-Chloronaphthalene	10	U	9.5	U	9.7	U	10	U
2-Chlorophenol	10	U	9.5	U	9.7	U	10	U
2-Methylnaphthalene	10	U	9.5	U	9.7	U	10	U
2-Methylphenol	10	U	9.5	U	9.7	U	10	U
2-Nitroaniline	26	U	24	U	24	U	25	U
2-Nitrophenol	10	U	9.5	U	9.7	U	10	U
3&4-Methylphenol	NA		NA		NA		NA	
3,3'-Dichlorobenzidine	10	U	9.5	U	9.7	U	10	U
3-Nitroaniline	26	U	24	U	24	U	25	U
4,6-Dinitro-2-methylphenol	26	U	24	U	24	U	25	U
4-Bromophenyl Phenyl Ether	10	U	9.5	U	9.7	U	10	U
4-Chloro-3-methylphenol	10	U	9.5	U	9.7	U	10	U
4-Chloroaniline	10	U	9.5	U	9.7	U	10	UJ

Location:	BPTTAOC22MW09							
Sample ID:	TTAOC22-MW09-01		TTAOC22-MW09		TTAOC22-MW09		TTAOC22-MW09	
Sample Date:	9/28/2004		3/15/2005		10/11/2005		12/5/2006	
Duplicate:								
4-Chlorophenyl Phenyl Ether	10	U	9.5	U	9.7	U	10	U
4-Methylphenol	10	U	9.5	U	9.7	U	10	U
4-Nitroaniline	26	U	24	U	24	U	25	UJ
4-Nitrophenol	26	U	24	U	24	U	25	U
Acenaphthene	10	U	9.5	U	9.7	U	10	U
Acenaphthylene	10	U	9.5	U	9.7	U	10	U
Acetophenone	10	U	9.5	U	9.7	U	10	U
Aniline	NA		NA		NA		NA	
Anthracene	10	U	9.5	U	9.7	U	10	U
Atrazine	10	U	9.5	U	9.7	U	10	U
Benz(a)anthracene	10	U	9.5	U	9.7	U	10	U
Benzaldehyde	10	U	9.5	U	9.7	U	10	UJ
Benzo(a)pyrene	10	U	9.5	U	9.7	U	10	U
Benzo(b)fluoranthene	10	U	9.5	U	9.7	U	10	U
Benzo(g,h,i)perylene	10	U	9.5	U	9.7	U	10	U
Benzo(k)fluoranthene	10	U	9.5	U	9.7	U	10	U
Benzoic Acid	NA		NA		NA		NA	
Bis(2-chloroethoxy)methane	10	U	9.5	U	9.7	U	10	U
Bis(2-chloroethyl)ether	10	U	9.5	U	9.7	U	10	U
Bis(2-ethylhexyl)phthalate	10	U	9.5	U	9.7	U	10	U
Butylbenzylphthalate	10	U	9.5	U	9.7	U	10	U
Caprolactam	10	U	9.5	U	9.7	U	10	U
Carbazole	10	U	9.5	U	9.7	U	10	U
Chrysene	10	U	9.5	U	9.7	U	10	U
Di-n-butylphthalate	10	U	9.5	U	9.7	U	10	U
Di-n-octylphthalate	10	U	9.5	U	9.7	U	10	U
Dibenz(a,h)anthracene	10	U	9.5	U	9.7	U	10	U
Dibenzofuran	10	U	9.5	U	9.7	U	10	U
Diethylphthalate	10	U	9.5	U	9.7	U	10	U
Dimethylphthalate	10	U	9.5	U	9.7	U	10	U
Fluoranthene	10	U	9.5	U	9.7	U	10	U
Fluorene	10	U	9.5	U	9.7	U	10	U
Hexachlorobenzene	10	U	9.5	U	9.7	U	10	U
Hexachlorobutadiene	10	U	9.5	U	9.7	U	10	U
Hexachlorocyclopentadiene	10	U	9.5	U	9.7	U	10	U
Hexachloroethane	10	U	9.5	U	9.7	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	9.5	U	9.7	U	10	U
Isophorone	10	U	9.5	U	9.7	U	10	U
N-Nitroso-di-n-propylamine	10	U	9.5	U	9.7	U	10	U
N-Nitrosodiphenylamine	10	U	9.5	U	9.7	U	10	U
Naphthalene	10	U	9.5	U	9.7	U	10	U
Nitrobenzene	10	U	9.5	U	9.7	U	10	U
Pentachlorophenol	26	U	24	U	24	U	25	U
Phenanthrene	10	U	9.5	U	9.7	U	10	U
Phenol	10	U	9.5	U	9.7	U	10	U
Pyrene	10	U	9.5	U	9.7	U	10	U
VOLATILES	ug/L		ug/L		ug/L		ug/L	
1,1,1-Trichloroethane	10	U	10	U	10	U	0.5	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	0.5	U
1,1,2-Trichloroethane	10	U	10	U	10	U	0.5	U
1,1,2-Trichlorotrifluoroethane	10	U	10	U	10	U	0.5	UJ

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW09							
Sample ID:	TTAOC22-MW09-01		TTAOC22-MW09		TTAOC22-MW09		TTAOC22-MW09	
Sample Date:	9/28/2004		3/15/2005		10/11/2005		12/5/2006	
Duplicate:								
1,1-Dichloroethane	10	U	10	U	10	U	0.5	U
1,1-Dichloroethene	10	U	10	U	10	U	0.5	U
1,2,3-Trichlorobenzene	NA		NA		NA		0.5	U
1,2,3-Trichloropropane	NA		NA		NA		NA	
1,2,4-Trichlorobenzene	10	U	10	U	10	U	0.5	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	0.5	U
1,2-Dibromoethane	10	U	10	U	10	U	0.5	U
1,2-Dichlorobenzene	10	U	10	U	10	U	0.5	U
1,2-Dichloroethane	10	U	10	U	10	U	0.5	U
1,2-Dichloroethene (cis)	10	U	10	U	10	U	0.5	U
1,2-Dichloroethene (Total)	NA		NA		NA		NA	
1,2-Dichloroethene (trans)	10	U	10	U	10	U	0.5	U
1,2-Dichloropropane	10	U	10	U	10	U	0.5	U
1,3-Dichlorobenzene	10	U	10	U	10	U	0.5	U
1,4-Dichlorobenzene	10	U	10	U	10	U	0.5	U
2-Butanone	10	U	10	U	10	U	5	U
2-Hexanone	10	U	10	U	10	U	5	U
4-Methyl-2-pentanone	10	U	10	U	10	U	5	U
Acetone	10	U	10	U	10	U	5	U
Benzene	10	U	10	U	10	U	0.5	U
Bromochloromethane	NA		NA		NA		0.5	U
Bromodichloromethane	10	U	10	U	10	U	0.5	U
Bromoform	10	U	10	U	10	U	0.5	U
Bromomethane	10	U	10	U	10	U	0.5	U
Carbon Disulfide	10	U	10	U	10	U	0.5	U
Carbon Tetrachloride	10	U	10	U	10	U	0.5	U
Chlorobenzene	10	U	10	U	10	U	0.5	U
Chloroethane	10	U	10	U	10	U	0.5	U
Chloroform	10	U	10	U	10	U	0.5	U
Chloromethane	10	U	10	U	10	U	0.5	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	0.5	U
Cyclohexane	10	U	10	U	10	U	0.5	U
Dibromochloromethane	10	U	10	U	10	U	0.5	U
Dichlorodifluoromethane	10	UJ	10	U	10	U	0.5	U
Ethylbenzene	10	U	10	U	10	U	0.5	U
Isopropylbenzene	10	U	10	U	10	U	0.5	U
Methyl Acetate	10	UJ	10	U	10	U	0.5	UJ
Methyl Cyclohexane	10	U	10	U	10	U	0.5	UJ
Methyl Tert-butyl Ether	10	U	10	U	10	U	0.5	U
Methylene Chloride	10	UJ	10	U	10	U	0.5	U
Styrene	10	U	10	U	10	U	0.5	U
Tetrachloroethene	10	U	10	U	10	U	0.5	U
Toluene	10	U	10	U	10	U	0.5	U
trans-1,3-Dichloropropene	10	U	10	U	10	U	0.5	U
Trichloroethene	7.7	J	5	J	10	U	0.79	
Trichlorofluoromethane	10	U	10	U	10	U	0.5	U
Vinyl Chloride	10	U	10	U	10	U	0.5	UJ
Xylene (Total)	10	U	10	U	10	U	0.5	U

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW10									
Sample ID:	**TTAOC22-MW10-01**		**TTAOC22-MW10**		**TTAOC22-MW10**		**TTAOC22-MW10**		**TTAOC22-MW10-D**	
Sample Date:	**9/29/2004**		**3/16/2005**		**10/12/2005**		**12/5/2006**		**12/5/2006**	
Duplicate:									**BPTTAOC22MW10**	
INORGANICS	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
Aluminum	29.2		180		231		49.9		46.5	
Antimony	1.9	U	2.6	U	1.9	U	2.1	U	2.1	U
Arsenic	2.1	U	3.9		2.2		3	U	3	U
Barium	38.1		45.1		61.2		60.7	J	64.9	J
Beryllium	0.7		1.5		0.25	U	0.1	U	0.1	U
Cadmium	0.35	U	0.34	U	0.42	U	0.2	UJ	0.2	UJ
Calcium	6700		9060		13200		9860	J	10800	J
Chromium	6.3		9.2		8.1		8	J	10.2	J
Cobalt	0.43	U	0.62		0.42	U	0.3	U	0.3	U
Copper	0.84	U	0.63	U	1	U	1.7		1.8	
Iron	46.7		558		779		176		141	
Lead	1.4	U	1.6	U	1.6	U	1.6	U	1.6	U
Magnesium	1940		2540		4380		3110	J	3310	J
Manganese	13.4		15.1		4.2		3.8		7	
Mercury	0.027	UJ	0.061	U	0.041		0.02	UJ	0.02	UJ
Nickel	1.6	U	1.7		0.43		0.4	U	0.4	U
Potassium	991		1530		1720		1700		1860	
Selenium	2.5	U	2.1	U	1.8		9.2	U	9.2	U
Silver	0.43		0.47		0.25	U	0.6	U	0.6	U
Sodium	11800		11800		15100		15900		17300	
Thallium	3.4	U	3		2.9	U	3.4	U	3.4	U
Vanadium	0.38	U	0.66		0.53	U	0.6	U	0.6	U
Zinc	0.81		4.9	U	3.7		7.9		7.8	
SEMIVOLATILES	**ug/L**		**ug/L**		**ug/L**		**ug/L**		**ug/L**	
1,1-Biphenyl	10	U	9.5	U	9.9	U	10	U	10	U
1,2,4-Trichlorobenzene	NA		NA		NA		NA		NA	
1,2-Dichlorobenzene	NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	NA		NA		NA		NA		NA	
2,2'-Oxybis(1-chloropropane)	10	U	9.5	U	9.9	U	10	U	10	U
2,4,5-Trichlorophenol	26	U	24	U	25	U	25	U	25	U
2,4,6-Trichlorophenol	10	U	9.5	U	9.9	U	10	U	10	U
2,4-Dichlorophenol	10	U	9.5	U	9.9	U	10	U	10	U
2,4-Dimethylphenol	10	U	9.5	U	9.9	U	10	UJ	10	UJ
2,4-Dinitrophenol	26	UJ	24	U	25	U	25	U	25	U
2,4-Dinitrotoluene	10	U	9.5	U	9.9	U	10	U	10	U
2,6-Dinitrotoluene	10	U	9.5	U	9.9	U	10	U	10	U
2-Chloronaphthalene	10	U	9.5	U	9.9	U	10	U	10	U
2-Chlorophenol	10	U	9.5	U	9.9	U	10	U	10	U
2-Methylnaphthalene	10	U	9.5	U	9.9	U	10	U	10	U
2-Methylphenol	10	U	9.5	U	9.9	U	10	U	10	U
2-Nitroaniline	26	U	24	U	25	U	25	U	25	U
2-Nitrophenol	10	U	9.5	U	9.9	U	10	U	10	U
3&4-Methylphenol	NA		NA		NA		NA		NA	
3,3'-Dichlorobenzidine	10	U	9.5	U	9.9	U	10	U	10	U
3-Nitroaniline	26	U	24	U	25	U	25	U	25	U
4,6-Dinitro-2-methylphenol	26	U	24	U	25	U	25	U	25	U
4-Bromophenyl Phenyl Ether	10	U	9.5	U	9.9	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	9.5	U	9.9	U	10	U	10	U
4-Chloroaniline	10	U	9.5	U	9.9	U	10	UJ	10	UJ

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW10									
Sample ID:	TTAOC22-MW10-01		TTAOC22-MW10		TTAOC22-MW10		TTAOC22-MW10		TTAOC22-MW10-D	
Sample Date:	9/29/2004		3/16/2005		10/12/2005		12/5/2006		12/5/2006	
Duplicate:									BPTTAOC22MW10	
4-Chlorophenyl Phenyl Ether	10	U	9.5	U	9.9	U	10	U	10	U
4-Methylphenol	10	U	9.5	U	9.9	U	10	U	10	U
4-Nitroaniline	26	U	24	U	25	U	25	UJ	25	UJ
4-Nitrophenol	26	U	24	U	25	U	25	U	25	U
Acenaphthene	10	U	9.5	U	9.9	U	10	U	10	U
Acenaphthylene	10	U	9.5	U	9.9	U	10	U	10	U
Acetophenone	10	U	9.5	U	9.9	U	10	U	10	U
Aniline	NA		NA		NA		NA		NA	
Anthracene	10	U	9.5	U	9.9	U	10	U	10	U
Atrazine	10	U	9.5	U	9.9	U	10	U	10	U
Benz(a)anthracene	10	U	9.5	U	9.9	U	10	U	10	U
Benzaldehyde	10	U	9.5	U	9.9	U	10	UJ	10	UJ
Benzo(a)pyrene	10	U	9.5	U	9.9	U	10	U	10	U
Benzo(b)fluoranthene	10	U	9.5	U	9.9	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	9.5	U	9.9	U	10	U	10	U
Benzo(k)fluoranthene	10	U	9.5	U	9.9	U	10	U	10	U
Benzoic Acid	NA		NA		NA		NA		NA	
Bis(2-chloroethoxy)methane	10	U	9.5	U	9.9	U	10	U	10	U
Bis(2-chloroethyl)ether	10	U	9.5	U	9.9	U	10	U	10	U
Bis(2-ethylhexyl)phthalate	10	U	9.5	U	2	J	10	U	10	U
Butylbenzylphthalate	10	U	9.5	U	9.9	U	10	U	10	U
Caprolactam	10	U	9.5	U	9.9	U	10	U	10	U
Carbazole	10	U	9.5	U	9.9	U	10	U	10	U
Chrysene	10	U	9.5	U	9.9	U	10	U	10	U
Di-n-butylphthalate	10	U	9.5	U	9.9	U	10	U	10	U
Di-n-octylphthalate	10	U	9.5	U	9.9	U	10	U	10	U
Dibenz(a,h)anthracene	10	U	9.5	U	9.9	U	10	U	10	U
Dibenzofuran	10	U	9.5	U	9.9	U	10	U	10	U
Diethylphthalate	10	U	9.5	U	9.9	U	10	U	10	U
Dimethylphthalate	10	U	9.5	U	9.9	U	10	U	10	U
Fluoranthene	10	U	9.5	U	9.9	U	10	U	10	U
Fluorene	10	U	9.5	U	9.9	U	10	U	10	U
Hexachlorobenzene	10	U	9.5	U	9.9	U	10	U	10	U
Hexachlorobutadiene	10	U	9.5	U	9.9	U	10	U	10	U
Hexachlorocyclopentadiene	10	U	9.5	U	9.9	U	10	U	10	U
Hexachloroethane	10	U	9.5	U	9.9	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	9.5	U	9.9	U	10	U	10	U
Isophorone	10	U	9.5	U	9.9	U	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	9.5	U	9.9	U	10	U	10	U
N-Nitrosodiphenylamine	10	U	9.5	U	9.9	U	10	U	10	U
Naphthalene	10	U	9.5	U	9.9	U	10	U	10	U
Nitrobenzene	10	U	9.5	U	9.9	U	10	U	10	U
Pentachlorophenol	26	UJ	24	U	25	U	25	U	25	U
Phenanthrene	10	U	9.5	U	9.9	U	10	U	10	U
Phenol	10	U	9.5	U	9.9	U	10	U	10	U
Pyrene	10	U	9.5	U	9.9	U	10	U	10	U
VOLATILES	ug/L		ug/L		ug/L		ug/L		ug/L	
1,1,1-Trichloroethane	10	U	10	U	10	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	0.5	U	0.5	U
1,1,2-Trichloroethane	10	U	10	U	10	U	0.5	UJ	0.5	UJ
1,1,2-Trichlorotrifluoroethane	10	U	10	U	10	U	0.5	UJ	0.5	UJ

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW10									
Sample ID:	TTAOC22-MW10-01		TTAOC22-MW10		TTAOC22-MW10		TTAOC22-MW10		TTAOC22-MW10-D	
Sample Date:	9/29/2004		3/16/2005		10/12/2005		12/5/2006		12/5/2006	
Duplicate:									BPTTAOC22MW10	
1,1-Dichloroethane	10	U	10	U	10	U	0.5	U	0.5	U
1,1-Dichloroethene	10	U	10	U	10	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	NA		NA		NA		0.5	U	0.5	U
1,2,3-Trichloropropane	NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	10	U	10	U	10	U	0.5	U	0.5	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	0.5	U	0.5	U
1,2-Dibromoethane	10	U	10	U	10	U	0.5	U	0.5	U
1,2-Dichlorobenzene	10	U	10	U	10	U	0.5	U	0.5	U
1,2-Dichloroethane	10	U	10	U	10	U	0.5	U	0.5	U
1,2-Dichloroethene (cis)	10	U	10	U	10	U	1.4		1.3	
1,2-Dichloroethene (Total)	NA		NA		NA		NA		NA	
1,2-Dichloroethene (trans)	10	U	10	U	10	U	0.5	U	0.5	U
1,2-Dichloropropane	10	U	10	U	10	U	0.5	U	0.5	U
1,3-Dichlorobenzene	10	U	10	U	10	U	0.5	U	0.5	U
1,4-Dichlorobenzene	10	U	10	U	10	U	0.5	U	0.5	U
2-Butanone	10	U	10	U	10	U	5	U	5	U
2-Hexanone	10	U	10	U	10	U	5	U	5	U
4-Methyl-2-pentanone	10	U	10	U	10	U	5	U	5	U
Acetone	10	UJ	10	U	10	U	5	U	5	U
Benzene	10	U	10	U	10	U	0.5	U	0.5	U
Bromochloromethane	NA		NA		NA		0.5	U	0.5	U
Bromodichloromethane	10	U	10	U	10	U	0.5	U	0.5	U
Bromoform	10	U	10	U	10	U	0.5	U	0.5	U
Bromomethane	10	U	10	U	10	U	0.5	U	0.5	U
Carbon Disulfide	10	U	10	U	10	U	0.5	U	0.5	U
Carbon Tetrachloride	10	U	10	U	10	U	0.5	U	0.5	U
Chlorobenzene	10	U	10	U	10	U	0.5	U	0.5	U
Chloroethane	10	U	10	U	10	U	0.5	U	0.5	U
Chloroform	10	U	10	U	10	U	0.5	U	0.5	U
Chloromethane	10	U	10	U	10	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	0.5	UJ	0.5	UJ
Cyclohexane	10	U	10	U	10	U	0.5	U	0.5	U
Dibromochloromethane	10	U	10	U	10	U	0.5	U	0.5	U
Dichlorodifluoromethane	10	UJ	10	U	10	U	0.5	U	0.5	U
Ethylbenzene	10	U	10	U	10	U	0.5	U	0.5	U
Isopropylbenzene	10	U	10	U	10	U	0.5	U	0.5	U
Methyl Acetate	10	UJ	10	U	10	U	0.5	UJ	0.5	UJ
Methyl Cyclohexane	10	U	10	U	10	U	0.5	UJ	0.5	UJ
Methyl Tert-butyl Ether	10	U	10	U	1.3	J	0.54		0.52	
Methylene Chloride	10	UJ	10	U	10	U	0.5	U	0.5	U
Styrene	10	U	10	U	10	U	0.5	U	0.5	U
Tetrachloroethene	10	U	10	U	10	U	1.2		1	
Toluene	10	U	10	U	10	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	10	U	10	U	10	U	0.5	UJ	0.5	UJ
Trichloroethene	4.1	J	4.5	J	8.6	J	17		17	
Trichlorofluoromethane	10	U	10	U	10	U	0.5	U	0.5	U
Vinyl Chloride	10	U	10	U	10	U	0.5	UJ	0.5	UJ
Xylene (Total)	10	U	10	U	10	U	0.5	U	0.5	U

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW11									
Sample ID:	TTAOC22-MW11-01		TTAOC22-MW11		TTAOC22-MW11		TTAOC22-MW11-D		TTAOC22-MW11	
Sample Date:	9/27/2004		3/16/2005		10/10/2005		10/10/2005		12/6/2006	
Duplicate:							TTAOC22-MW11			
INORGANICS	ug/L		ug/L		ug/L		ug/L		ug/L	
Aluminum	31.3		72.4		24.4		32.3		55.8	
Antimony	1.9	U	2.6	U	1.9	U	1.9	U	2.1	U
Arsenic	2.1	U	1.8	U	1.2	U	1.2	U	3	U
Barium	39.1		47.1		58.2		62.5		66.8	J
Beryllium	0.32		1.5		0.25	U	0.25	U	0.1	U
Cadmium	19		21.4		19.2		19.4		25.3	J
Calcium	11000		12200		12600		12700		13300	J
Chromium	1.3		12.7		15.7		15.6		10.9	J
Cobalt	0.43	U	0.74		0.42	U	0.42	U	0.3	U
Copper	0.84	U	0.63	U	1	U	1	U	2	
Iron	32.8		67.5		19.7	U	77.4		31.4	
Lead	1.4	U	1.6	U	1.6	U	1.6	U	1.6	U
Magnesium	1970		3280		4110		4130		4410	J
Manganese	27.5		8.8		2		2.4		1.5	
Mercury	0.027	UJ	0.061	U	0.032		0.04		0.02	UJ
Nickel	1.6	U	3		1.3		1		1.6	
Potassium	1260		1870		3890		3820		3070	
Selenium	2.5	U	2.1	U	1.5	U	1.5	U	9.2	U
Silver	0.42	U	0.59		0.25	U	0.25	U	0.6	U
Sodium	4880		15400		22500		22500		31600	
Thallium	3.4	U	2.6	U	2.9	U	2.9	U	3.4	U
Vanadium	0.38	U	0.53	U	0.53	U	0.53	U	0.6	U
Zinc	6.5		12.2		18.4		20.5		36.1	J
SEMIVOLATILES	ug/L		ug/L		ug/L		ug/L		ug/L	
1,1-Biphenyl	10	U	9.4	U	10	U	9.6	U	10	U
1,2,4-Trichlorobenzene	NA		NA		NA		NA		NA	
1,2-Dichlorobenzene	NA		NA		NA		NA		NA	
1,3-Dichlorobenzene	NA		NA		NA		NA		NA	
1,4-Dichlorobenzene	NA		NA		NA		NA		NA	
2,2'-Oxybis(1-chloropropane)	10	U	9.4	U	10	U	9.6	U	10	U
2,4,5-Trichlorophenol	25	U	24	U	26	U	24	U	25	U
2,4,6-Trichlorophenol	10	U	9.4	U	10	U	9.6	U	10	U
2,4-Dichlorophenol	10	U	9.4	U	10	U	9.6	U	10	U
2,4-Dimethylphenol	10	U	9.4	U	10	U	9.6	U	10	UJ
2,4-Dinitrophenol	25	U	24	U	26	U	24	U	25	U
2,4-Dinitrotoluene	10	U	9.4	U	10	U	9.6	U	10	U
2,6-Dinitrotoluene	10	U	9.4	U	10	U	9.6	U	10	U
2-Chloronaphthalene	10	U	9.4	U	10	U	9.6	U	10	U
2-Chlorophenol	10	U	9.4	U	10	U	9.6	U	10	U
2-Methylnaphthalene	10	U	9.4	U	10	U	9.6	U	10	U
2-Methylphenol	10	U	9.4	U	10	U	9.6	U	10	U
2-Nitroaniline	25	U	24	U	26	U	24	U	25	U
2-Nitrophenol	10	U	9.4	U	10	U	9.6	U	10	U
3&4-Methylphenol	NA		NA		NA		NA		NA	
3,3'-Dichlorobenzidine	10	U	9.4	U	10	U	9.6	U	10	U
3-Nitroaniline	25	U	24	U	26	U	24	U	25	U
4,6-Dinitro-2-methylphenol	25	U	24	U	26	U	24	U	25	U
4-Bromophenyl Phenyl Ether	10	U	9.4	U	10	U	9.6	U	10	U
4-Chloro-3-methylphenol	10	U	9.4	U	10	U	9.6	U	10	U
4-Chloroaniline	10	U	9.4	U	10	U	9.6	U	10	UJ

Location:	BPTTAOC22MW11									
Sample ID:	TTAOC22-MW11-01		TTAOC22-MW11		TTAOC22-MW11		TTAOC22-MW11-D		TTAOC22-MW11	
Sample Date:	9/27/2004		3/16/2005		10/10/2005		10/10/2005		12/6/2006	
Duplicate:							TTAOC22-MW11			
4-Chlorophenyl Phenyl Ether	10	U	9.4	U	10	U	9.6	U	10	U
4-Methylphenol	10	U	9.4	U	10	U	9.6	U	10	U
4-Nitroaniline	25	U	24	U	26	U	24	U	25	UJ
4-Nitrophenol	25	U	24	U	26	U	24	U	25	U
Acenaphthene	10	U	9.4	U	10	U	9.6	U	10	U
Acenaphthylene	10	U	9.4	U	10	U	9.6	U	10	U
Acetophenone	10	U	9.4	U	10	U	9.6	U	10	U
Aniline	NA		NA		NA		NA		NA	
Anthracene	10	U	9.4	U	10	U	9.6	U	10	U
Atrazine	10	U	9.4	U	10	U	9.6	U	10	U
Benz(a)anthracene	10	U	9.4	U	10	U	9.6	U	10	U
Benzaldehyde	10	U	9.4	U	10	U	9.6	U	10	UJ
Benzo(a)pyrene	10	U	9.4	U	10	U	9.6	U	10	U
Benzo(b)fluoranthene	10	U	9.4	U	10	U	9.6	U	10	U
Benzo(g,h,i)perylene	10	U	9.4	U	10	U	9.6	U	10	U
Benzo(k)fluoranthene	10	U	9.4	U	10	U	9.6	U	10	U
Benzoic Acid	NA		NA		NA		NA		NA	
Bis(2-chloroethoxy)methane	10	U	9.4	U	10	U	9.6	U	10	U
Bis(2-chloroethyl)ether	10	U	9.4	U	10	U	9.6	U	10	U
Bis(2-ethylhexyl)phthalate	10	U	9.4	U	10	U	1.2	J	10	U
Butylbenzylphthalate	10	U	9.4	U	10	U	9.6	U	10	U
Caprolactam	10	U	9.4	U	10	U	9.6	U	10	U
Carbazole	10	U	9.4	U	10	U	9.6	U	10	U
Chrysene	10	U	9.4	U	10	U	9.6	U	10	U
Di-n-butylphthalate	10	U	9.4	U	10	U	9.6	U	10	U
Di-n-octylphthalate	10	U	9.4	U	10	U	9.6	U	10	U
Dibenz(a,h)anthracene	10	U	9.4	U	10	U	9.6	U	10	U
Dibenzofuran	10	U	9.4	U	10	U	9.6	U	10	U
Diethylphthalate	10	U	9.4	U	10	U	9.6	U	10	U
Dimethylphthalate	10	U	9.4	U	10	U	9.6	U	10	U
Fluoranthene	10	U	9.4	U	10	U	9.6	U	10	U
Fluorene	10	U	9.4	U	10	U	9.6	U	10	U
Hexachlorobenzene	10	U	9.4	U	10	U	9.6	U	10	U
Hexachlorobutadiene	10	U	9.4	U	10	U	9.6	U	10	U
Hexachlorocyclopentadiene	10	U	9.4	U	10	U	9.6	U	10	U
Hexachloroethane	10	U	9.4	U	10	U	9.6	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	9.4	U	10	U	9.6	U	10	U
Isophorone	10	U	9.4	U	10	U	9.6	U	10	U
N-Nitroso-di-n-propylamine	10	U	9.4	U	10	U	9.6	U	10	U
N-Nitrosodiphenylamine	10	U	9.4	U	10	U	9.6	U	10	U
Naphthalene	10	U	9.4	U	10	U	9.6	U	10	U
Nitrobenzene	10	U	9.4	U	10	U	9.6	U	10	U
Pentachlorophenol	25	U	24	U	26	U	24	U	25	U
Phenanthrene	10	U	9.4	U	10	U	9.6	U	10	U
Phenol	10	U	9.4	U	10	U	9.6	U	10	U
Pyrene	10	U	9.4	U	10	U	9.6	U	10	U
VOLATILES	ug/L		ug/L		ug/L		ug/L		ug/L	
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	0.5	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	0.5	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	0.5	UJ
1,1,2-Trichlorotrifluoroethane	10	U	10	U	10	U	10	U	0.5	UJ

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Location:	BPTTAOC22MW11											
Sample ID:	**TTAOC22-MW11-01**		**TTAOC22-MW11**		**TTAOC22-MW11**		**TTAOC22-MW11-D**		**TTAOC22-MW11**	
Sample Date:	**9/27/2004**		**3/16/2005**		**10/10/2005**		**10/10/2005**		**12/6/2006**	
Duplicate:							**TTAOC22-MW11**			
1,1-Dichloroethane	10	U	10	U	10	U	10	U	0.5	U
1,1-Dichloroethene	10	U	10	U	10	U	10	U	0.5	U
1,2,3-Trichlorobenzene	NA		NA		NA		NA		0.5	U
1,2,3-Trichloropropane	NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	0.5	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	10	U	0.5	U
1,2-Dibromoethane	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichloroethane	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichloroethene (cis)	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichloroethene (Total)	NA		NA		NA		NA		NA	
1,2-Dichloroethene (trans)	10	U	10	U	10	U	10	U	0.5	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	0.5	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	0.5	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	0.5	U
2-Butanone	10	U	10	U	10	U	10	U	5	U
2-Hexanone	10	U	10	U	10	U	10	U	5	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	5	U
Acetone	10	U	10	U	10	U	10	U	5	U
Benzene	10	U	10	U	10	U	10	U	0.5	U
Bromochloromethane	NA		NA		NA		NA		0.5	U
Bromodichloromethane	10	U	10	U	10	U	10	U	0.5	U
Bromoform	10	U	10	U	10	U	10	U	0.5	U
Bromomethane	10	U	10	U	10	U	10	U	0.5	U
Carbon Disulfide	10	U	10	U	10	U	10	U	0.5	U
Carbon Tetrachloride	10	U	10	U	10	U	10	U	0.5	U
Chlorobenzene	10	U	10	U	10	U	10	U	0.5	U
Chloroethane	10	U	10	U	10	U	10	U	0.5	U
Chloroform	10	U	10	U	10	U	10	U	0.5	U
Chloromethane	10	U	10	U	10	U	10	U	0.5	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	0.5	UJ
Cyclohexane	10	U	10	U	10	U	10	U	0.5	U
Dibromochloromethane	10	U	10	U	10	U	10	U	0.5	U
Dichlorodifluoromethane	10	UJ	10	U	10	U	10	U	0.5	U
Ethylbenzene	10	U	10	U	10	U	10	U	0.5	U
Isopropylbenzene	10	U	10	U	10	U	10	U	0.5	U
Methyl Acetate	10	UJ	10	U	10	U	10	U	0.5	UJ
Methyl Cyclohexane	10	U	10	U	10	U	10	U	0.5	UJ
Methyl Tert-butyl Ether	10	U	10	U	10	U	10	U	0.5	U
Methylene Chloride	10	UJ	10	U	10	U	10	U	0.5	U
Styrene	10	U	10	U	10	U	10	U	0.5	U
Tetrachloroethene	10	U	10	U	10	U	10	U	0.5	U
Toluene	10	U	10	U	10	U	10	U	0.5	U
trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	0.5	UJ
Trichloroethene	2.1	J	3.3	J	1.3	J	1.4	J	1.9	
Trichlorofluoromethane	10	U	10	U	10	U	10	U	0.5	U
Vinyl Chloride	10	U	10	U	10	U	10	U	0.5	UJ
Xylene (Total)	10	U	10	U	10	U	10	U	0.5	U

GROUNDWATER ANALYTICAL DATA
AOC 22 MONITORING WELLS
NWIRP BETHPAGE, BETHPAGE, NEW YORK

Data Qualifiers:
J -- Value is considered estimated due to exceedance of technical quality control criteria or because result is less than the Contract Required Quantitation Limit (CRQL).
U -- Value is a non-detected result as reported by the laboratory.
UJ -- Non-detected result is considered estimated due to exceedance of technical quality control criteria.
UR -- Non-detected result is considered unusable due to exceedance of technical quality control criteria.
NA -- No result is available/applicable for this parameter in this sample.

Database source file: D:\BETHPAGE\DATA SUMMARY\AOC22RES.DBF data retrieved on: 06/19/07

APPENDIX D

DATA VALIDATION REPORTS

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: D. BRAYACK **DATE:** NOVEMBER 18, 2004

FROM: D. SCHLOER **CC:** DV FILE

SUBJECT: **ORGANIC DATA VALIDATION –SVOC/PET**
CTO 002, NWIRP BETHPAGE
SDG: C4H240231

SAMPLES: 4/Solid/ SVOC/PET

BP-SB-01-5961-01 BP-SB-02-4951-01 BP-SB-03-5961-01
BP-SB-04-4951-01

Overview

The sample set for CTO 002; NWIRP Bethpage; SDG C4H240231 (4) soil environmental samples. As listed above, the samples were analyzed for Target Compound List (TCL) Semivolatile Organic Compounds (SVOCs) and Petroleum Range Organics (PET) as diesel. No field duplicates were included in this SDG.

The samples were collected by Tetra Tech NUS on August 23rd, 2004 and analyzed by Severn Trent Laboratories, Inc. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using EPA Test Methods for Evaluating Solid Waste Physical and Chemical Methods (SW-846) Methods 8270C and modified 8015B analytical and reporting protocol.

The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
• Holding times
* • GC/MS Tuning
* • Initial and continuing calibration
• Blank results
• Surrogate spike recoveries
* • Internal standard recoveries
* • Blank Spike/Blank Spike Duplicate Results
• Matrix Spike/Matrix Spike Duplicate Results
• Detection Limits
• Compound Quantitation
* • Compound Identification

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix D. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B. The Region II data validation worksheets are presented in Appendix C.

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **D. BRAYACK** **DATE:** **JANUARY 14, 2005**

FROM: **EDWARD SEDLMYER** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- VOC/SVOC**
CTO 002 NWIRP BETHPAGE
SDG C4I290179

SAMPLES: 7/Aqueous

TTAOC22-FB01	TTAOC22-MW07	TTAOC22-MW08
TTAOC22-MW09	TTAOC22-MW11	TTAOC22-RB01
TTAOC22-TB0104		

OVERVIEW

The sample set for NWIRP Bethpage, SDG C4I290179 consists of one (1) trip blank, one (1) rinse blank, one (1) field blank, and four (4) environmental aqueous samples. All samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOC) and TCL semivolatile organic compounds (SVOC). The trip blank was analyzed for VOCs only.

The samples were collected by Tetra Tech NUS on September 27 and 28, 2004 and analyzed by Severn Trent Laboratories (Pittsburgh). All analyses were conducted in accordance with EPA Contract Lab Program (CLP) OLM04.2 analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

*	• Data completeness
*	• Holding times
*	• GCMS System Tuning and Performance
	• Initial/continuing calibrations
	• Laboratory method and field blank results
*	• Surrogate Spike Recoveries
*	• Internal Standard Recoveries
	• Blank Spike/Blank Spike Duplicate Results
*	• Matrix Spike/Matrix Spike Duplicate Results
*	• Compound Identification
*	• Compound Quantitation
*	• Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Qualified analytical results are presented in Appendix A, results as reported by the laboratory are presented in Appendix B, Region II data validation forms are presented in Appendix C, and documentation supporting these findings is presented in Appendix D.

Volatile

An initial calibration percent relative standard deviation (%RSD) exceeded the 30% quality control limit for

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: D. BRAYACK **DATE:** JANUARY 14, 2005

FROM: ERIN M. FAUST **COPIES:** DV FILE

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS**
CTO 002 NWIRP BETHPAGE, NY
SAMPLE DELIVERY GROUPS (SDGs) – C4I290179 & C4J010149

SAMPLES: 14/Aqueous/

TTAOC22-DUP01	TTAOC22-DUP02	TTAOC22-MW03
TTAOC22-MW04	TTAOC22-MW05	TTAOC22-MW06
TTAOC22-MW10	TTAOC22-RB02	TTAOC22-FB01
TTAOC22-MW07	TTAOC22-MW08	TTAOC22-MW09
TTAOC22-MW11	TTAOC22-RB01	

Overview

The sample set for CTO 002, NWIRP Bethpage, SDGs C4I290179 & C4J010149, consists of eleven (11) aqueous environmental samples, one (1) aqueous field blank, TTAOC22-FB01, and two (2) aqueous rinsate blanks, TTAOC22-RB01 and TTAOC22-RB02. Two (2) field duplicate pairs (TTAOC22-DUP01 / TTAOC22-MW06 and TTAOC22-DUP02 / TTAOC22-MW04) are included within this SDG.

All samples were analyzed for target analyte list (TAL) metals. The samples were collected by Tetra Tech NUS on September 27 through 30, 2004 and analyzed by Severn Trent Laboratories (STL) Pittsburgh under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses were conducted using CLP method ILM04.0.

All metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
  • Calibration Data
* • Laboratory Blank Analyses
* • ICP Interference Check Sample Results
* • Laboratory Control Sample Results
* • Matrix Spike Results
* • Laboratory Duplicate Results
* • Field Duplicate Results
* • ICP Serial Dilution Results

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: D. BRAYACK **DATE:** FEBRUARY 7, 2005

FROM: D. SCHLOER **CC:** DV FILE

SUBJECT: ORGANIC DATA VALIDATION – SVOC/PET/MISC
CTO 002, NWIRP BETHPAGE
SDG: C4L180175

SAMPLES: 4/Solid/SVOC/TPH/MISC

BP-SB-01-4547-02 BP-SB-02-4042-02 BP-SB-03-4042-02
BP-SB-04-5051-02

Overview

The sample set for CTO 002; NWIRP Bethpage; SDG C4L180175 consists of four (4) soil environmental samples. As detailed above, the samples were analyzed for Target Compound List (TCL) Semivolatile Volatile Organic Compounds (SVOCs), Petroleum Hydrocarbons (PET) in the diesel range and Miscellaneous parameters (MISC). No field duplicate pairs were included in this SDG.

The samples were collected by Tetra Tech NUS on December 15th, 16th, and 17th, 2004 and analyzed by Severn Trent Laboratories, Inc. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using U.S. EPA Test Methods for Evaluating Solid Waste Physical and Chemical Methods (SW-846) Method 8270C, 8015B, and MCAWW 160.3 analytical and reporting protocol.

The data contained in this SDG were validated with regard to the following parameters:

* • Holding times
* • Data completeness
* • Initial and continuing calibration
* • Blank results
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix D. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B. The Region II data validation forms are presented in Appendix C.

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**D. BRAYACK**	**DATE:**	**JULY 8, 2005**
FROM:	**ETHAN G. LEE**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS**
NWIRP BETHPAGE, CTO 002
SAMPLE DELIVERY GROUP (SDG) – C5C170222

SAMPLES: 9/AQUEOUS/

FB-031505	RB-031505	TTAOC22-DUP01
TTAOC22-MW06	TTAOC22-MW07	TTAOC22-MW08
TTAOC22-MW09	TTAOC22-MW10	TTAOC22-MW11

Overview

The sample set for NWIRP Bethpage, CTO 002, SDG C5C170222, consists of seven (7) aqueous environmental samples, one (1) field blank, and one (1) rinse blank. One (1) field duplicate pair TTAOC22-DUP01 / TTAOC22-MW08) is included in this SDG.

These samples were analyzed for target analyte list (TAL) metals. The samples were collected by Tetra Tech NUS on March 15-16, 2005 and analyzed by Severn Trent Laboratories-Pittsburgh. Metals analyses were conducted using CLP method ILM 04.0.

Metals analyses except mercury were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Manual Cold Vapor Atomic Absorption (CVAA) methodology.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
* • Laboratory Blank Analyses
* • Field Duplicate Precision
* • Detection Limits

* - All quality control criteria were met for this parameter.

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: D. BRAYACK **DATE:** AUGUST 12, 2005

FROM: BERNARD F SPADA III **COPIES:** DV FILE

SUBJECT: **ORGANIC DATA VALIDATION- SVOC/DRO**
CTO 002, NWIRP BETHPAGE
SDG C5E190380

SAMPLES: 4/Soil

BP-SB-01-5951-04 BP-SB-02-4951-04 BP-SB-03-5961-04
BP-SB-04-4951-04

OVERVIEW

The sample set for CTO 002 NWIRP Bethpage, SDG C5E190380 consists of four (4) environmental soil samples. All samples were analyzed for semivolatile organic compounds (SVOC) and diesel range organics (DRO).

The samples were collected by Tetra Tech NUS on May 17 and 18, 2005 and analyzed by Severn Trent Laboratories. All analyses were conducted in accordance with SW-846 Methods 8270C and 8015 Modified analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
* • Initial/continuing calibrations
• Laboratory method and field blank results
• Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix D. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are reported in Appendix B. Regional worksheets are contained in Appendix C.

SVOC

According to the laboratory, the samples could not be extracted to the final volume of 0.5mL due to the sample matrix. In addition, the samples were analyzed at dilutions due to the matrix. This accounts for the elevated reporting limits for all non-detected compounds.

Positive results below the detection limit were qualified as estimated (J) due to uncertainty near the detection limit.

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**D. BRAYACK**	**DATE:**	**DECEMBER 19, 2005**
FROM:	**ERIN M. FAUST**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS**
CTO 002 NWIRP BETHPAGE, NY
SAMPLE DELIVERY GROUP (SDG) – C5J130306

SAMPLES: 9/Aqueous/

TTAOC22-DUP01	TTAOC22-FB101105	TTAOC22-MW06
TTAOC22-MW07	TTAOC22-MW08	TTAOC22-MW09
TTAOC22-MW10	TTAOC22-MW11	TTAOC22-RB101105

Overview

The sample set for CTO 002, NWIRP Bethpage, SDG C5J130306, consists of nine (9) aqueous environmental samples. One (1) field duplicate pair (TTAOC22-DUP01 / TTAOC22-MW11) is included within this SDG.

All samples were analyzed for target analyte list (TAL) metals. The samples were collected by Tetra Tech NUS on October 10, 11 and 12, 2005 and analyzed by Severn Trent Laboratories (STL) Pittsburgh under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses were conducted using CLP method ILM04.0.

Metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

The data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Data
* • Laboratory Blank Analyses
* • Laboratory Control Sample Results
* • Matrix Spike Results
* • Field Duplicate Results
* • Sample Quanitation
* • Detection Limits

* - All quality control criteria were met for this parameter.

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**D. BRAYACK**	**DATE:**	**FEBRUARY 10, 2006**
FROM:	**BERNARD F SPADA III**	**COPIES:**	**DV FILE**
SUBJECT:	**ORGANIC DATA VALIDATION- VOC/SVOC** **CTO 002, NWIRP BETHPAGE** **SDG C5J130306**		
SAMPLES:	10/Aqueous		

TRIP BLANK	TTAOC22-DUP01	TTAOC22-FB101105
TTAOC22-MW06	TTAOC22-MW07	TTAOC22-MW08
TTAOC22-MW09	TTAOC22-MW10	TTAOC22-MW11
TTAOC22-RB101105		

OVERVIEW

The sample set for CTO 002 NWIRP Bethpage, SDG C5J130306 consists of six (6) environmental aqueous samples, one (1) field blank, one (1) rinse blank, one (1) trip blank, and one (1) field duplicate. All samples except the trip blank were analyzed for volatile organic compounds (VOC) and semivolatile organic compounds (SVOC). The trip blank was analyzed for VOC only. The field duplicate pair included in this SDG is TTAOC22-DUP01 and TTAOC22-MW11.

The samples were collected by Tetra Tech NUS on October 10-12, 2005 and analyzed by Severn Trent Laboratories. All analyses were conducted in accordance with CLP Method OLM04.2 analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
• Initial/continuing calibrations
• Laboratory method and field blank results
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix D. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are reported in Appendix B. Regional worksheets are contained in Appendix C.

VOC

The continuing calibration performed on October 23 at 9:57 exceeded the 25% difference quality control criterion for acetone, 2-butanone, 2-hexanone, methyl cyclohexane, and 1,2,4-trichlorobenzene. Positive results for the aforementioned compounds were qualified as estimated (J) in all samples. No action was taken for non-detected results.

Methylene chloride was detected in the trip blank. No action was taken on this basis because all results for methylene chloride were non-detected in the remaining samples.