DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, NORTHEAST
NAVAL FACILITIES ENGINEERING COMMAND
10 INDUSTRIAL HIGHWAY
MAIL STOP, #82
LESTER, PA 19113-2090

IN REPLY REFER TO

5090
Code EV21/JC

01 FEB 2002

Mr. Henry Wilkie
Project Engineer
New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials
625 Broadway
Albany, New York 12233-7252

Dear Mr. Wilkie:

Subj: NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP) BETHPAGE, NY

In response to your letter dated December 20, 2001, I am enclosing correspondence regarding surface soil and air sampling conducted at the Navy's 105-acre parcel.

With regards to Air Monitoring, the following correspondence is included:

- Letter to Steve Scharf dated 16 February 2001 forwarding an Air Monitoring Workplan;
- Draft Report of Results for Plant 3 Air Sampling dated 9 April 2001 which was handed out during a meeting between Navy, NYSDEC, and NYSDOH held on 11 April 2001;
- E-mail from Tetra Tech NUS to Steve Scharf (NYSDEC), Bill Gilday (NYSDOH), and Navy forwarding Soil Gas Results collected by Navy in 1993 and 1997.

The Navy did not receive any correspondence from NYSDEC or NYSDOH with regards to any of the Air Sampling items listed above.

With Regards to Surface Soil Sampling, the following correspondence is included:

- Letter to Steve Scharf dated 16 February 2001 forwarding a Soil Confirmation Sampling Workplan;
- Letter to Gerard Burke dated 21 June 2001 forwarding Surface Soil Sampling Results for IR Sites 2 and 3;
- Letter to Steve Scharf dated 5 October 2001 forwarding a Draft Implementation Plan for Application of a Permeable Soil/Gravel Cover at IR Site 2 prepared by Cape Environmental.
- E-Mail from Gerard Burke (NYSDEC) dated October 16, 2001 forwarding concurrence with Draft Implementation Plan.

Other than the E-Mail from Gerard Burke, the Navy did not receive any correspondence from NYSDEC or NYSDOH with regards to the remaining Soil Sampling items listed above.

Application of the Permeable Soil/Gravel Cover was completed by Cape Environmental in December 2001. The Navy will be forwarding a Close-Out Report documenting the activities that were conducted in the near future. A copy of this report will be sent to your office.

If you have any questions, please give me a call at (610) 595-0567, extension 163.

Sincerely,

JAMES L. COLTER
Remedial Project Manager
By direction of the
Commanding Officer

Enclosures: See Above

Copy to: (w/o enclosures)
NYSDEC (Albany), Steve Scharf
NYSDEC (Stony Brook), Stan Farkas
NYSDOH, Bill Gilday

REPORT OF RESULTS FOR PLANT 3 AIR SAMPLING NWIRP BETHPAGE, NEW YORK

1.0 INTRODUCTION

Tetra Tech NUS, Inc. (TtNUS) was contracted to perform ambient air sampling within and around Plant 3 for the Department of Navy, Northern Division at the Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage, located in Bethpage, New York. The sampling was conducted to determine if residual airborne concentrations of chlorinated solvents historically used and/or stored at the facility are present within ambient air or if potentially unidentified areas of volatile organic compound (VOC) contaminants are adversely impacting the air quality in the investigation areas. This sampling effort and the subsequent laboratory analysis were performed to support the transfer of the NWIRP Bethpage to the County of Nassau, New York. The air sampling was conducted on February 21, 2001.

2.0 SAMPLING PROCEDURE

2.1 Sample location rationale

TtNUS, in combination with representatives of the Navy, State of New York Department of Health, and Nassau County, identified 10 sample locations within Plant 3 and two sample locations in vacant warehouses during a site visit on February 7, 2001. The sample locations where generally selected in areas where chlorinated solvents were historically used or suspected to be present. Additionally, specific sample locations within an area were situated to minimize potential impacts from drafts or air currents resulting from Heating, Ventilation and Air Conditioning (HVAC) vents/outlets and building corridors and entrance ways. Sample locations were also dispersed throughout the building to obtain representative results of actual airborne concentrations of VOCs throughout the general building. Table 2-1 identifies each sample, the building column identifier (or applicable descriptor), and the associated location and the rationale behind why that location was selected for sampling. Additionally, two outside sample locations were selected to provide information regarding background ambient air VOC concentrations. Figures 2-1 and 2-2 identify sample locations within Plant 3, the adjacent warehouses, and outside areas.

TABLE 2-1
AIR SAMPLE LOCATION / RATIONALE
NWIRP BETHPAGE, NEW YORK

Sample Number	Column Location	Location / Rationale
BP-P3-01 BP-P3-01-Dup	C03	Heat Treat Area B - TCE vapor degreasing tank operations were previously performed in this area
BP-P3-02	F6	Paint Booth Rooms / Old Alodine Plating / Paint Booth Area
BP-P3-03	Between DD44 & EE4	Zyglo Area - TCA based dip tank previously located in this area
BP-P3-04	Between LL3 & LL4	Facilities Maintenance Area - Previous TCE use and subsequent TCE soil remediation performed in this location
BP-P3-05	Center of GG18 & GG19 HH18 & HH19	Southcentral Machining Area - General building sample location
BP-P3-06	9 feet North of HH30	ID, Packaging, and Paint Booth Area - General area sample location
BP-P3-07	6 feet North of MM45 & MM46	Sulfuric Acid Anodize Area - Solvent tanks previously located in this area
BP-P3-08 BP-P3-08-Dup	16 feet North of HH45	Flow Coat / Chemical Mill Etch Area - PCE-based solvents used in this area
BP-P3-09	Middle of Shot Peen / Old Chem Mill Area	Shot Peen / Old Chemical Mill Area - Solvents previously used in this area
BP-P3-10	Center of BB31 & BB32 CC31 & CC32	Northeastern / Northcentral Machining Area - General building sample location
BP-P3-11	Center of Warehouse	South Warehouse - Typical warehouse used to store materials related to Plant 3 operations
BP-P3-12	Center of Warehouse	North Warehouse - Reportedly used to store raw chemicals associated with Plant 3 operations
BP-P3-13	Driveway West of Stripping Tower (North of Plant 3)	Outside area North of Plant 3 Ambient air sample location
BP-P3-14	Cement Foundation South of Plant 3 (~ 10 feet South of Roadway)	Outside area South of Plant 3 Ambient air sample location

2.2 Sampling Procedure

Integrated air samples were collected using Summa canisters on February 21, 2001. Summa canisters are small stainless steel vessels that have had their internal surfaces specially passivated using a "summa" process. This process combines an electro-polishing step with chemical deactivation to produce a surface that is chemically inert. The canisters hold a high vacuum (<1mTorr: < 28"Hg) and are fitted with a clean flow controller or "critical orifice" which is used to regulate the rate and duration at which the sample is collected. All summa canisters used as part of this investigation were fitted with 2-hour duration flow controllers. A 2-hour sampling duration was selected based on similar sampling performed by the New York Department of Health. Based on the static conditions observed at the sampling locations, a 2-hour sampling duration was considered to be acceptable to obtain representative samples.

Prior to sampling, each summa canister was checked with a vacuum gauge to verify and measure the initial vacuum of the canister. Vacuum gauge checks were also performed after the sampling to record the final vacuum of the canister and to monitor the filling of the canister when collecting the integrated sample. This data is presented Appendix A

Each canister was positioned at the predetermined sample location and placed on top of a box to elevate the summa canisters off the surface of the floor. This configuration placed the flow controller (point at which air enters the summa canister) at a distance of approximately 26 to 28 inches above the surface of the floor.

Once all the summa canisters were positioned, the sampling was initiated by opening a valve that permits air to flow through the flow controller and into the summa canister. The times at which the valves were opened were recorded in a Site Log Book. Additionally, the summa canister/sample number and associated flow controller identification number were recorded in the Log Book and the laboratory provided Canister Field Data Record sheets. This information is needed to determine flow rates, volume of air collected, and final concentrations, see Appendix A.

During the sample period, summa canisters were periodically checked to verify operation and to record any conditions or operations that may impact or otherwise compromise the results. At the end of the sample period (2-hours), the valves were closed, flow controllers removed, and vacuum gauge checks were performed to record the final

vacuum of the canister. The summa canisters were then collected, packaged, and sent to Severn Trent Laboratories for analysis using EPA Method TO-14A for volatile organic analysis.

2.3 Conditions at the Time of Sampling

Plant 3 and the warehouses that were targeted for sampling are essentially vacant and void of any process equipment, materials, or chemicals associated with previous facility operations. At the time of sampling there were movie set design and construction activities being performed in the northwestern portion of Plant 3 to support the filming of a major motion picture. These activities included carpentry work, hanging tarps, positioning lighting, stringing electrical lines, prop positioning, etc. There was also the occasional operation of liquid petroleum (LP) gas powered industrial trucks (cherry pickers, forklifts, and motorized carts). Although not observed during the sampling effort, set painting activities were also known to be performed in the northern portion of Plant 3.

Plant 3 contains extensive HVAC systems, several of which were operating at the time of sampling, others have been shutdown given the limited activity and occupancy in the building. None of the ventilation systems were manipulated from their existing operating modes during the course of sampling. Given the size of the building and complexity of the HVAC system, it was not feasible to create a negative pressure within the building.

Outdoor weather conditions at the time of sampling consisted of sunny conditions, temperatures in the mid to upper 30s with strong winds (approximately 25 mph) out of the northwest. An attempt was made to shade the outdoor summa canisters from the sun. Exposure to direct sunlight may result in some flow rate drift if the temperature of the flow controllers is allowed to vary. This will manifest itself as either an inordinately high final vacuum or low final vacuum. Low final vacuums were observed in samples BP-P3-11 and BP-P3-13 but samples results were considered to be reasonably accurate and representative.

3.0 SAMPLE RESULTS

The sample results indicated positive detection of some VOCs above the laboratory's limits of detection (LOD). Specifically, 10 VOCs were detected above the laboratory's LOD. The range and limits of detection for Method TO-14A are highly compound dependent due to large differences in response of the photoionization detector to various target compounds. However, LOD for all target compounds are in the part per billion (ppb) range.

TABLE 3-1

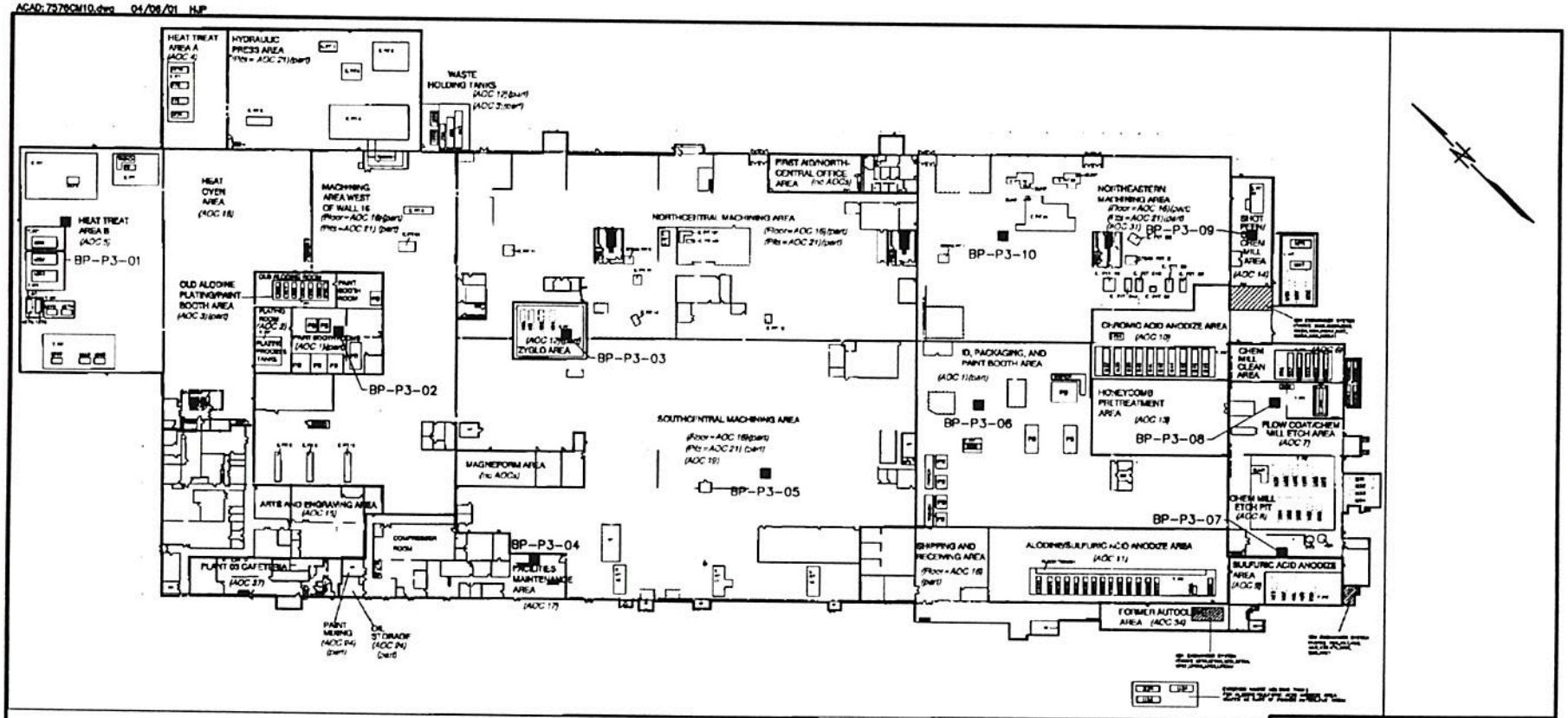
AIR SAMPLING ANALYTICAL RESULTS
PLANT 3
NWIRP BETHPAGE, NEW YORK

PARAMETER	BP-P3-01 (AVG)	BP-P3-02	BP-P3-03	BP-P3-04	BP-P3-05	BP-P3-06	BP-P3-07	BP-P3-08 (AVG)	BP-P3-09	BP-P3-10	BP-P3-11	BP-P3-12	BP-P3-13	BP-P3-14
Volatile Organic Compounds ($\mu g/m^3$)														
1,1,1-TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.8 J	ND	ND
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ND	ND	ND	ND	ND	ND	16.2	ND	ND	ND	ND	ND	ND	ND
ACETONE	13.2	ND	8.1 J	6.9 J	10.7 J	7.1 J	7.4 J	6.4 J	7.4 J	8.3 J	ND	ND	ND	ND
CIS-1,2-DICHLOROETHENE	ND	ND	ND	ND	ND	ND	4 J	ND	ND	ND	ND	ND	ND	ND
METHYLENE CHLORIDE	5 J	13.4	5.9 J	5.9 J	6.2 J	5.5 J	8.3	5 J	6.2 J	5.5 J	4.1 J	3.8 J	3.4 J	3.8 J
TETRACHLOROETHENE	0.49	ND	ND	ND	ND	ND	2.8	0.93	0.98 J	0.68 J	ND	ND	ND	ND
TOLUENE	6.9	4.4 J	3.7 J	3.5 J	4.1 J	3.7 J	3.5 J	3	3.6 J	4.4 J	ND	3.2 J	ND	ND
TRICHLOROETHENE	4.6 J	6.8 J	6.3 J	6.3 J	6.8 J	6.8 J	15.3	6.1 J	12.6	6.8 J	ND	6.3 J	ND	ND
TRICHLOROFLUOROMETHANE	6.9	10.6 J	3.9 J	3.2 J	3.5 J	3.2 J	2.9 J	ND	3.1 J	3.3 J	ND	6.1 J	ND	ND
XYLENES (TOTAL)	2.8	ND	ND	ND	ND	ND	ND	ND	ND	4.8 J	ND	ND	ND	ND

Notes:

Only detected analytes are shown.
J = Estimated value.
ND = Not detected.

ACAD: 7579GM10.dwg 04/06/01 HJP



LEGEND

■ AIR SAMPLING LOCATION

0 110 220

APPROXIMATE SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY HJP DATE 3/19/01

CHECKED BY DATE

COST/SHEET—AREA

SCALE AS NOTED

Tetra Tech NUS, Inc.

INTERIOR AIR SAMPLING LOCATIONS
PLANT 3 – BUILDING 03-01
NYARP BETHPAGE, NEW YORK

CONTRACT NO. 7576

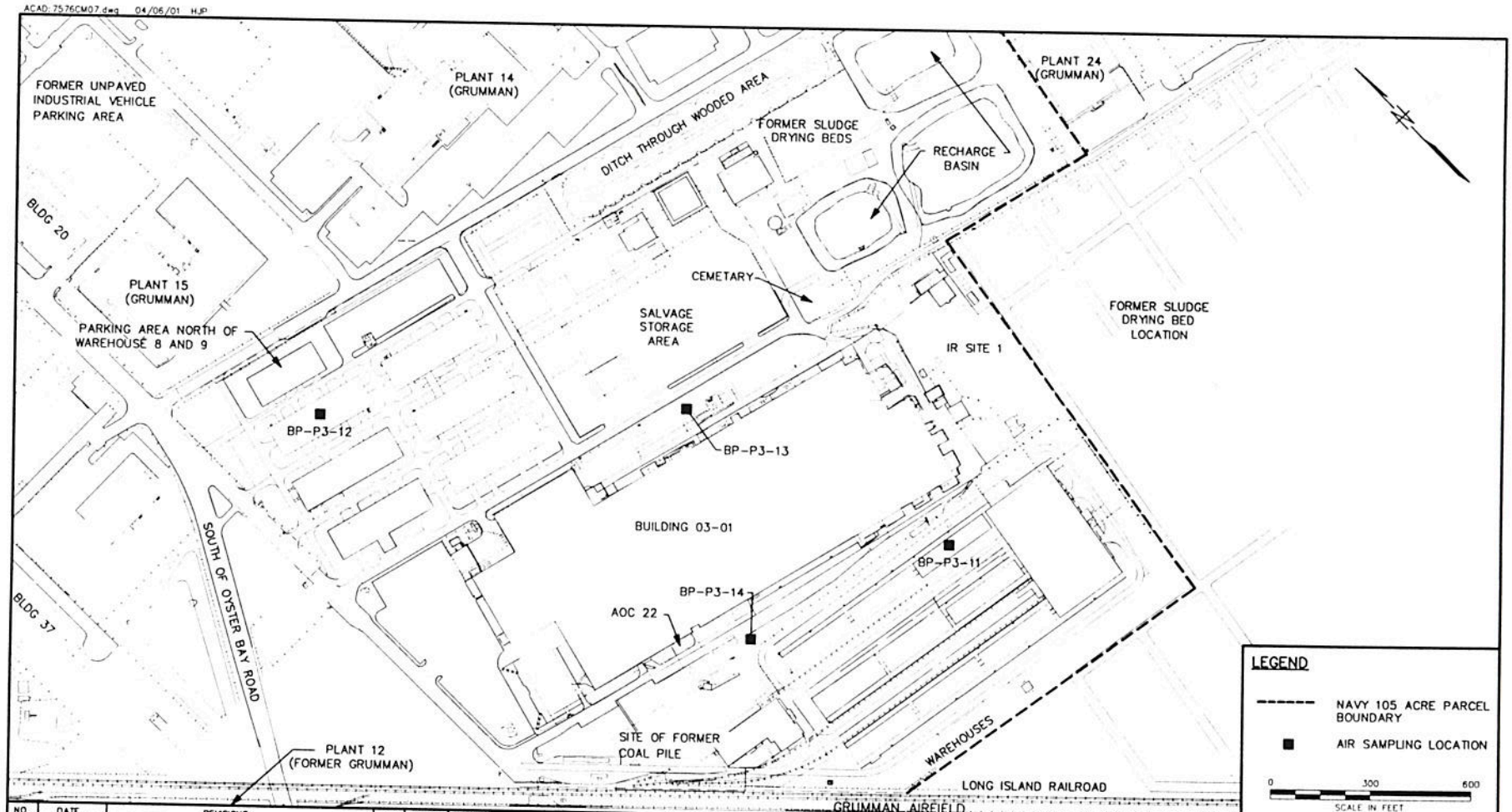
OWNER NO.

APPROVED BY DATE

APPROVED BY DATE

DRAWING NO. FIGURE 2-1

REV. 0


ACAD: 7576CM07.dwg 04/06/01 HJP
FORMER UNPAVED INDUSTRIAL VEHICLE PARKING AREA
PLANT 14 (GRUMMAN)
DITCH THROUGH WOODED AREA
FORMER SLUDGE DRYING BEDS
RECHARGE BASIN
PLANT 24 (GRUMMAN)
BLDG 20
PLANT 15 (GRUMMAN)
CEMETARY
SALVAGE STORAGE AREA
FORMER SLUDGE DRYING BED LOCATION
PARKING AREA NORTH OF WAREHOUSE 8 AND 9
IR SITE 1
BP-P3-12
BP-P3-13
BUILDING 03-01
BP-P3-11
BP-P3-14
AOC 22
SOUTH OF OYSTER BAY ROAD
BLDG 37
SITE OF FORMER COAL PILE
PLANT 12 (FORMER GRUMMAN)
WAREHOUSES
LONG ISLAND RAILROAD
GRUMMAN AIRFIELD
LEGEND
NAVY 105 ACRE PARCEL BOUNDARY
AIR SAMPLING LOCATION
0 300 600
SCALE IN FEET
NO. DATE REVISIONS BY CHKD APPD REFERENCES
DRAWN BY HJP DATE 3/19/01
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED
Tetra Tech NUS, Inc.
OUTDOOR AIR SAMPLING LOCATIONS
PLANT 3
NWIRP BETHPAGE, NEW YORK
CONTRACT NO. 7576
OWNER NO. ----
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 2-2
REV. 0
FORM CADD NO. TtNUS_BH.DGN - REV. 0 - 1/20/98