CONTAMINATION ASSESSMENT/ REMEDIAL ACTIVITIES INVESTIGATION SOLVENT NORTH OF BUILDING 3557 (SITE 34) NAVAL AIR STATION PENSACOLA PENSACOLA, FLORIDA

INTERIM DATA REPORT

November 1992

Contract N62467-88-C-0200

Prepared by:

Ecology and Environment, Inc.
316 South Baylen Street, Suite 670
Pensacola, Florida

Prepared for:

Southern Division Naval Facilities
Engineering Command, P.O. Box 10068
Charleston, South Carolina 29411-0068
Linda Martin

REPORT DOCUMENTATION PAGE

Form Approved
OMB No 0704-0188

1a REPORT SECURITY CLASSIFICATION unclassified	1b RESTRICTIVE MARKINGS n/a
2a. SECURITY CLASSIFICATION AUTHORITY n/a	3. DISTRIBUTION/AVAILABILITY OF REPORT "See Distribution Page"
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE n/a	
4. PERFORMING ORGANIZATION REPORT NUMBER(S) E 6 E Report No. UH8018:T0358	5. MONITORING ORGANIZATION REPORT NUMBER(S) n/a
6a. NAME OF PERFORMING ORGANIZATION Ecology 6 Environment, Inc. 6b. OFFICE SYMBOL (If applicable) n/a	7a. NAME OF MONITORING ORGANIZATION Naval Air Station Pensacola
6c. ADDRESS (City, State, and ZIP Code) 316 South Baylen Street, Ste. 670 Pensacola FL 32501	7b. ADDRESS (City, State, and ZIP Code) Pensacola, Florida
8a. NAME OF FUNDING/SPONSORING ORGANIZATION Southern Division Naval Facilities Engineering Command 8b OFFICE SYMBOL (If applicable) n/a	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER N62467-88-C-0200 Amend. No. 12 Mod. No. 9
8c. ADDRESS (City, State, and ZIP Code) 2155 Eagle Drive P. O. Box 10068 Charleston SC 29411	10 SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO / WORK UNIT ACCESSION NO

11. TITLE (Include Security Classification) Contamination Assessment/Remedial Activities Investigation, Solvent North of Building 3557 (Site 34), Interim Data Report, Naval Air Station Pensacola, Pensacola, Florida.

12. PERSONAL AUTHOR(S)

13a. TYPE OF REPORT	13b TIME COVERED	14 DATE OF REPORT (Year, Month, Day)	15 PAGE COUNT
Final	FROM 05/91 TO 11/92	November 1992	81

16 SUPPLEMENTARY NOTATION
n/a

17 COSATI CODES			18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	

19 ABSTRACT (Continue on reverse if necessary and identify by block number)

This Interim Data Report contains the results of Phase I of the Contamination Assessment/Remedial Activities Investigation conducted at the Solvent North of Building 3557 (Site 34), located on the Naval Air Station in Pensacola, Florida. This work was conducted as part of the U. S. Navy's Installation Restoration Program. The objective of the Phase I investigation at Site 34 was to identify principal areas and primary contaminants of concern at the site and to provide recommendations for subsequent phases of investigation. This investigation was the first step in the completion of a RCRA Facility Investigation/Corrective Measures study for the site. Soil and groundwater contamination are present of Site 34. Metals, TRPHs, PAHs, and phenols are the primary contaminants. Further assessment activities are required at or in the vicinity of Site 34.

20 DISTRIBUTION/AVAILABILITY OF ABSTRACT ☐ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS	21 ABSTRACT SECURITY CLASSIFICATION n/a
22a NAME OF RESPONSIBLE INDIVIDUAL Glenn C. Bradley	22b TELEPHONE (Include Area Code) (803) 743 0587 22c OFFICE SYMBOL 182

TABLE OF CONTENTS

[Bold items enclosed in brackets denote changes to last version of document]

Table of Contents (Cont.)

[Bold items enclosed in brackets **denote changes** to last version of document]

Table of Contents (Cont.)

[Bold itw enclosed in brackets denote changes to last version of document]

LIST OF TABLES

[Bold items enclosed in brackets denote changes to last version of document]

LIST OF ILLUSTRATIONS

[Bold items enclosed in brackets denote changes to last version of document]

List of Illustrations (Cont.)

3400567

[Bold items enclosed in bracket8 denote changes to last version of document]

RECORD OF DOCUMENT CHANGES

Revisions to this document were made based on comments received from the U.S. Environmental Protection Agency, Florida Department of Environmental Regulation, Florida Department of Natural Resources, and National Oceanic and Atmospheric Administration. All revisions are in bold and enclosed in brackets to denote changes to the last version of this document.

EXECUTIVE SUMMARY

As part of the U.S. Navy's Installation Restoration Program, Phase I of the Contamination Assessment/Remedial Activities Investigation was conducted for the Solvent North of Building 3557 (Site 34), located on the Naval Air Station in Pensacola, Florida. This work was performed by Ecology and Environment, Inc., (E & E) under contract to the Southern Division, U.S. Navy, Naval Facilities Engineering Command.

Site *34* is located at the western edge of Chevalier Field and immediately north of Building 3557 (see figures 1-1 and 1-2). The southern portion of the site is covered by the Chevalier Field concrete apron. A tank farm, consisting of seven vertical and one horizontal aboveground storage tanks on a raised concrete foundation, is located on the site approximately 150 feet north of Building *3557.* A drainage ditch crosses the unpaved northern portion of the site, and the asphalt-' paved surface of Chevalier Field forms the north perimeter (see Figure 1-2). A central sump pit is located beneath the northern half of the building. This sump pit is concrete-lined and extends to a depth of 25 feet below land surface. Because of groundwater infiltration, the sump pit is continuously pumped at a rate of 50,000 to 70,000 gallons per day.

During Hay 1984, a leak occurred in a pipeline located between the tank farm and Building 3557. The leak reportedly resulted in the loss of 45,000 gallons of a solvent detergent containing 1.7% chlorinated aromatic hydrocarbon solvent.

The purpose of the Phase I investigation was to identify principal areas and primary contaminants of concern at the site and to provide recommendations for subsequent phases of investigation. The Phase I fieldwork included a site reconnaissance; surface emissions survey and particulate air screening; utilities survey; the collection and analysis

[Bold items enclosed in brackets denote changes to last version of document]

of soil and groundvater samples; and a hydrologic assessment. Soil and groundwater contamination are present on Site *34*. Metals, TRPHs, PAHs, and phenols are the primary contaminants. The detected contamination does not appear to be indicative of the descriptions of the detergent/solvent pipe leak that occurred north of Building *3557* in *1974;* however, additional sources of contamination, likely including the industrial sewer line (Site 36), may be impacting Site *34.*

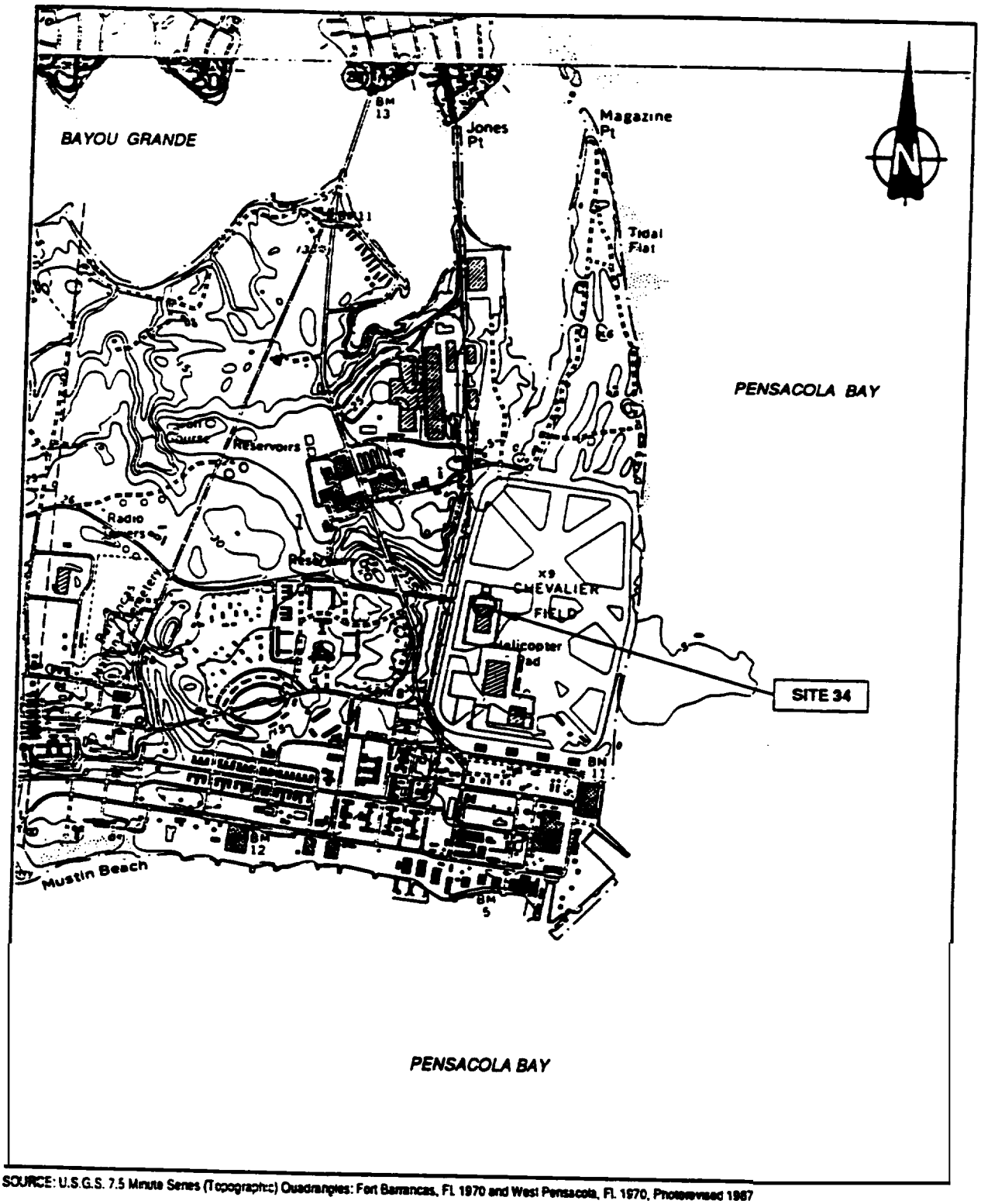
The recommendations for additional work at this site will be incorporated in the revised Group F work plan.

1. INTRODUCTION

This Interim Data Report presents the findings of the Phase I investigation activities performed for Site 34, Solvent North of Building 3557, located at the Naval Air Station (NAS) in Pensacola, Escambia County, Florida. This report has been prepared by Ecology and Environment, Inc., (E & E) for the Southern Division, U.S. Navy, Naval Facilities Engineering Command, under Contract No. N62467-88-C-0200. The information presented in this report is based on information and file documents provided by the Navy and on information gathered during the Phase I fieldwork conducted on the site from April 1991 to July 1991. Because of the proximity of the other four Group F sites (Site 9, Navy Yard Disposal Area; Site 10, Commodore's Pond; Site 23, Chevalier Field Pipe Leak Area; and Site 29, Soil South of Building 3460) and part of Group N Site 36, Industrial Waste Sewer, to Site 34, any information gathered during the corresponding Phase I investigations of these sites that is relevant to understanding Site 34 conditions has been included in this Site 34 interim data report. The Phase I investigation of Site 34 was conducted in accordance with the administrative documents prepared by E & E for this project, which include the June 1990 Project Management Plan, June 1990 Site Management Plan, July 1990 Generic Quality Assurance Project Plan (GQAPP), July 1990 General Health and Safety Plan, and June 1990 Contamination Assessment/Remedial Activities Investigation Work Plan--Group F with appended Site-Specific Health and Safety Plan and Site-Specific Quality Assurance Plan. All references to these documents in this report apply only to the 1990 versions.

Site 34 is located at the western edge of Chevalier Field and immediately north of Building 3557 (see figures 1-1, 1-2, and 1-3). The southern portion of the site is covered by the Chevalier Field concrete apron. A tank farm, consisting of seven vertical and one horizontal

[Bold items enclosed in brackets denote changes to last version of document]



SOURCE: U.S.G.S. 7.5 Minute Series (Topographic) Quadrangles: Fort Barrancas, FL 1970 and West Pensacola, FL 1970, Photorevised 1987

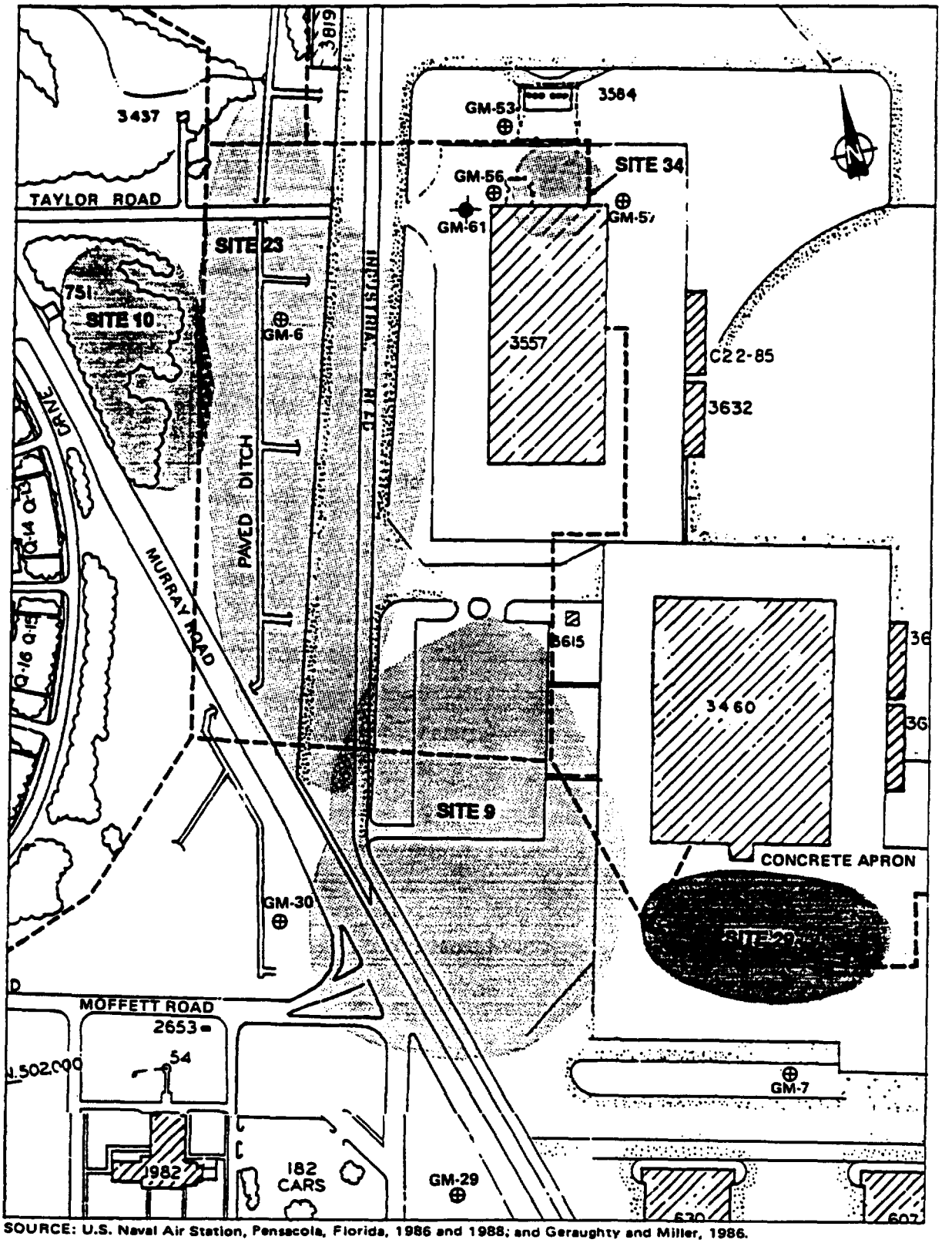
SCALE

0 .5 1 MILE

0 1000 2000 3000 4000 5000 FEET

figure 1-1
LOCATION MAP — NAS PENSACOLA SITE 34

3400570



SOURCE: U.S. Naval Air Station, Pensacola, Florida, 1986 and 1988; and Geraughty and Miller, 1986.

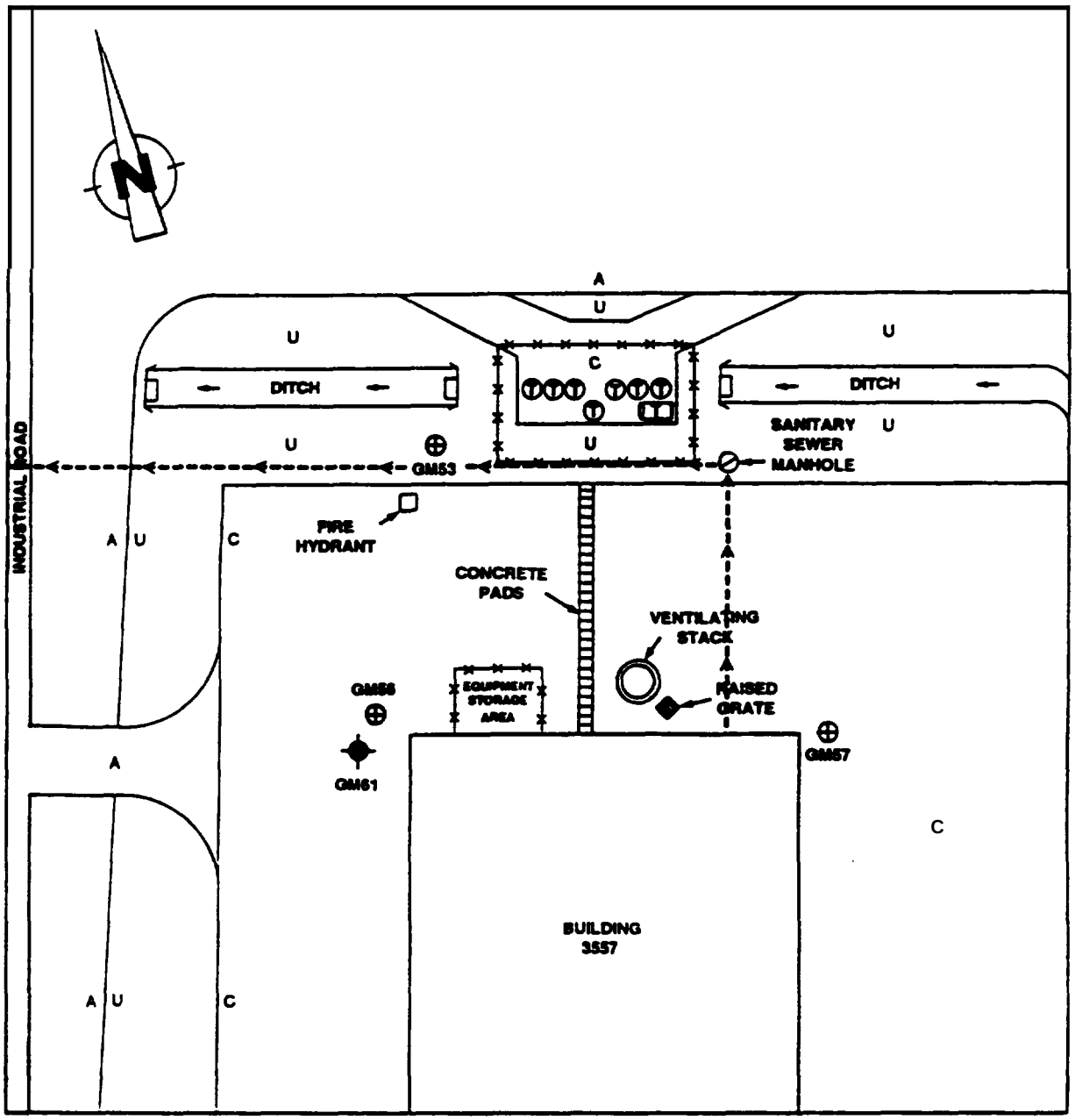
SCALE

0 200 400 600 800 FEET

KEY:

- Existing Permanent Shallow Monitoring Well
- Existing Permanent Deep Monitoring Well
- Industrial Waste Sewer Line
- Building

Figure 1-2 SITE VICINITY MAP — NAS PENSACOLA SITES 9, 10, 23, 29, 34, AND 36



SOURCE: U.S. Naval Air Station Pensacola, Pensacola, Florida, 1990; Ecology and Environment 1991

SCALE

0 100 200 FEET

KEY:

U	Unpaved Area	BLDG. 3557	Building
A	Asphalt-Paved Area	⊕	Existing Permanent Shallow Monitoring Well
C	Concrete-Paved Area	✦	Existing Permanent Deep Monitoring Well
⋯⋯	Fence	GM53	Permanent Monitoring Well Number
T	Storage Tank	⋯◁⋯	Industrial Waste Sewer Line and Flow Direction (Site 36)

Figure 1-3 SITE MAP — NAS PENSACOLA SITE 34

3300571

aboveground storage tanks on a raised concrete foundation, is located on the site approximately 150 feet north of Building 3557. A drainage ditch crosses the unpaved northern portion of the site, and the asphalt-paved surface of Chevalier Field forms the northern perimeter (see Figure 1-2). A central sump pit is located beneath the northern half of the building. This sump pit is concrete-lined and extends to a depth of 25 feet below land surface (BLS). Because of groundwater infiltration, the sump pit is continuously pumped at a rate of 50,000 to 70,000 gallons per day.

During May 1984, a leak occurred in a pipeline located between the tank farm and Building 3557, The leak reportedly resulted in the loss of 45,000 gallons of a solvent detergent containing 1.7% chlorinated aromatic hydrocarbon solvent, A complete site description and history are presented in the Group F investigation work plan.

The purpose of the Phase I investigation was to identify principal areas and primary contaminants of concern at the site and to provide recommendations for subsequent phases of investigation. The Phase I fieldwork included a site reconnaissance, surface emissions survey and particulate air screening, utilities survey, and the collection and analysis of soil and groundwater samples. In addition, a hydrologic assessment, which included the determination of groundwater elevations, flow direction, and hydraulic gradient, was performed at the site. The recommendations for additional work at this site will be incorporated in the revised Group F work plan.

2. INVESTIGATION METHODOLOGY

2.1 AERIAL PHOTOGRAPH AND EXISTING DATA ANALYSIS

Prior to the initiation of fieldwork, E & E personnel examined all available aerial photographs of NAS Pensacola for past and present conditions, features, and developments that might have had direct relevance to the fieldwork methodology. The aerial photograph analysis task involved assembling and stereoscopically analyzing historical photographic imagery and topographic maps available for the site area. Photographs were scaled to allow analysis of past and present surface conditions, drainage, and land use. The aerial photographs used in the analysis are listed in Table 2-1. The photographs were analyzed to obtain information regarding the evolution of site features that might have affected hydrologic conditions and to aid in the performance of such tasks as field reconnaissance and monitoring well placement.

2.2 SITE RECONNAISSANCE

A field reconnaissance survey was conducted on and around the site. Available aerial photographs and maps were used as guides in locating surface features. Visual inspections were made of surface conditions and surface drainage patterns. These observations of surface conditions on the site were used to update the site map. During the reconnaissance survey, the field team identified areas that presented the most suitable conditions for the establishment of survey grid baselines. The use of a grid system as part of the Phase I field investigation is discussed in the following sections.

The reconnaissance survey team utilized radiation and air monitoring equipment during walkovers of site areas, in accordance with Section 6.1.1 of the GQAPP. Areas with readings above background were located, flagged, and identified on a site map for future reference.

[Bold items enclosed in brackets denote changes to last version of document]

Table 2-1

PHOTOGRAPHS AND MAPS USED a THE AERIAL PHOTOGRAPH ANALYSIS
NAS PENSACOLA SITE 34

Source	Photograph/Map Number	Date	Scale
NAS Pensacola Public Works Department	1216833	2/5/90	1:2,400
	1276835	2/5/90	1:2,400
	1276836	5/22/86	1:2,400
	1276912	9/29/86	1:2,400
Florida Department of Transportation	OD-3886-12-03	10/26/89	1:24,000
	PD-3618-12-03	11/21/86	1:24,000
	PD-3109-12-03	9/22/83	1: 24,000
	PD-2684-11-04	3/9/81	1:24,000
	PD-1888-11-04	4/28/16	1:24,000
	PD-1331-11-03	5/4/13	1: 24,000
	PD-868-4-09	4/6/70	1:24,000
	PD-616-8-05	3/25/68	1:24,000
	PD-285-7-01	10/8/64	1:12,000
	PNS-7054-3-2	10/12/61	1:24,000
U.S. Department of Agriculture	CPF-4H-17	1/22/51	1:24,000
	CPF-1V-78	1/3/58	1:24,000
West Florida Regional Planning Council	PD-3618-12-05	11/21/86	1:4,800

14[NASP]UH8018:T0358/583/23

Source: Ecology and Environment, Inc., 1992.

3400573

[Bold items enclosed in brackets denote changes to last version of document]

All findings of the physical reconnaissance were mapped in detail and recorded in the field logbook.

2.3 OVA SURFACE EMISSIONS SURVEY AND PARTICULATE AIR SCREENING

Following the establishment of the survey grid network (discussed in Section 2.4), a surface emissions survey was conducted using an organic vapor analyzer (OVA). The survey was conducted in accordance with Section 6.1.1 of the GQAPP. Measurements were made at each established grid point, and readings were recorded in the field logbook. In addition, preliminary air screening was conducted with a particulate monitor to determine if the site represents a source of particulates in the air. The air screening was conducted in accordance with Section 6.1.1 of the GOAPP.

2.4 SURVEY GRID

The survey effort required the initial establishment of a grid system over the study area. To construct the grid, baselines were established along Building 3557. The area was then gridded with spacings based on 100-foot centers. Baseline transects were established using a transit survey instrument and flagged or marked at SO-foot intervals; however, measurements recorded during the surveys were taken at 25-foot intervals. The grid system was completed relative to an arbitrarily established origin point using a Brunton compass and tape measure. Grid points were flagged and numbered as follows:

Grid X, N n_1 + yy, E (or W) n_2 + zz,

vhere:

X = Grid letter;

n_1 = Distance in 100-foot increments north (N) from the origin point;

n_2 = Distance in 100-foot increments east (E) or west (W) from the origin point;

yy = Additional distance in feet north from the nearest previously located 100-foot increment from the grid origin; and

zz = Additional distance in feet east or west from the nearest previously located 100-foot increment from the grid origin.

[Bold items enclosed in brackets denote changes to last version of document)

In the case of grid points located at even 100-foot increments from the origin, yy and zz = 00 (e.g., the northeast corner of the grid on Site 34 is N3+00, E3+75). Figure 2-1 shows the location of the survey grid and origin point established on Site 34.

2.5 UTILITIES SURVEY

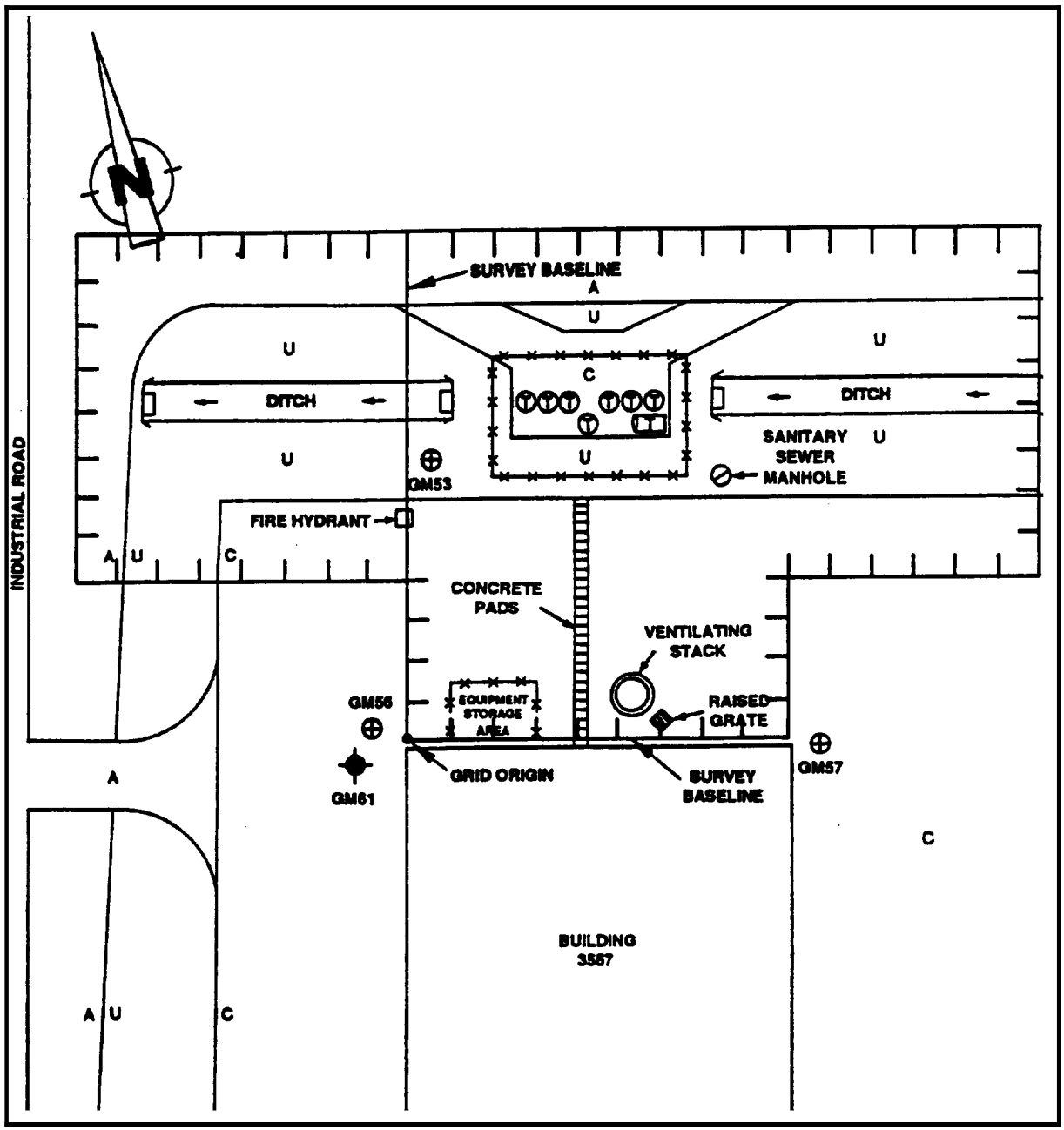
Prior to conducting any augering, boring, or drilling, E 6 E located all underground cables, pipes, utilities, and other subsurface ftatures that could potentially be damaged, create a safety hazard, or othervise hinder fieldwork. The appropriate authorities (e.g., NAS Pensacola Public Works and Southern Bell) were contacted to identify the location of all underground utilities in the site area. In addition, E & E examined available maps and documents and conducted a metal detector survey around proposed boring locations to determine the potential presence of any other potentially hazardous subsurface features on site. The locations of all underground utilities and other obstructing features were marked vith surveyor flags, fluorescent paint, or by other methods, as appropriate.

2.6 DATA ANALYSIS

Information obtained from the results of the above-described physical surveys vas given primary consideration in the development of placement strategies for the Phase I soil borings and temporary monitoring wells. Prior to establishing the Phase I soil boring or temporary monitoring well locations, the results of the aerial photograph analysis, site reconnaissance, surface emissions survey and particulate air screening, and utilities survey vere evaluated to identify potential areas of surface or subsurface contamination, leachate seeps, and boundaries of filled areas. The proposed Phase I soil boring and terporary monitoring well locations, shovn on Figure 14-2 of the work plan, vere then revised, as appropriate upon approval by Southern Division.

2.7 SOIL BORINGS AND TEMPORARY MONITORING WELL INSTALLATION

Figure 2-2 presents soil boring and temporary monitoring well locations at the five Group F sites (9, 10, 23, 29, and 34) and at Site



SOURCE: U.S. Naval Air Station Pensacola, Pensacola, Florida, 1990; Ecology and Environment 1991

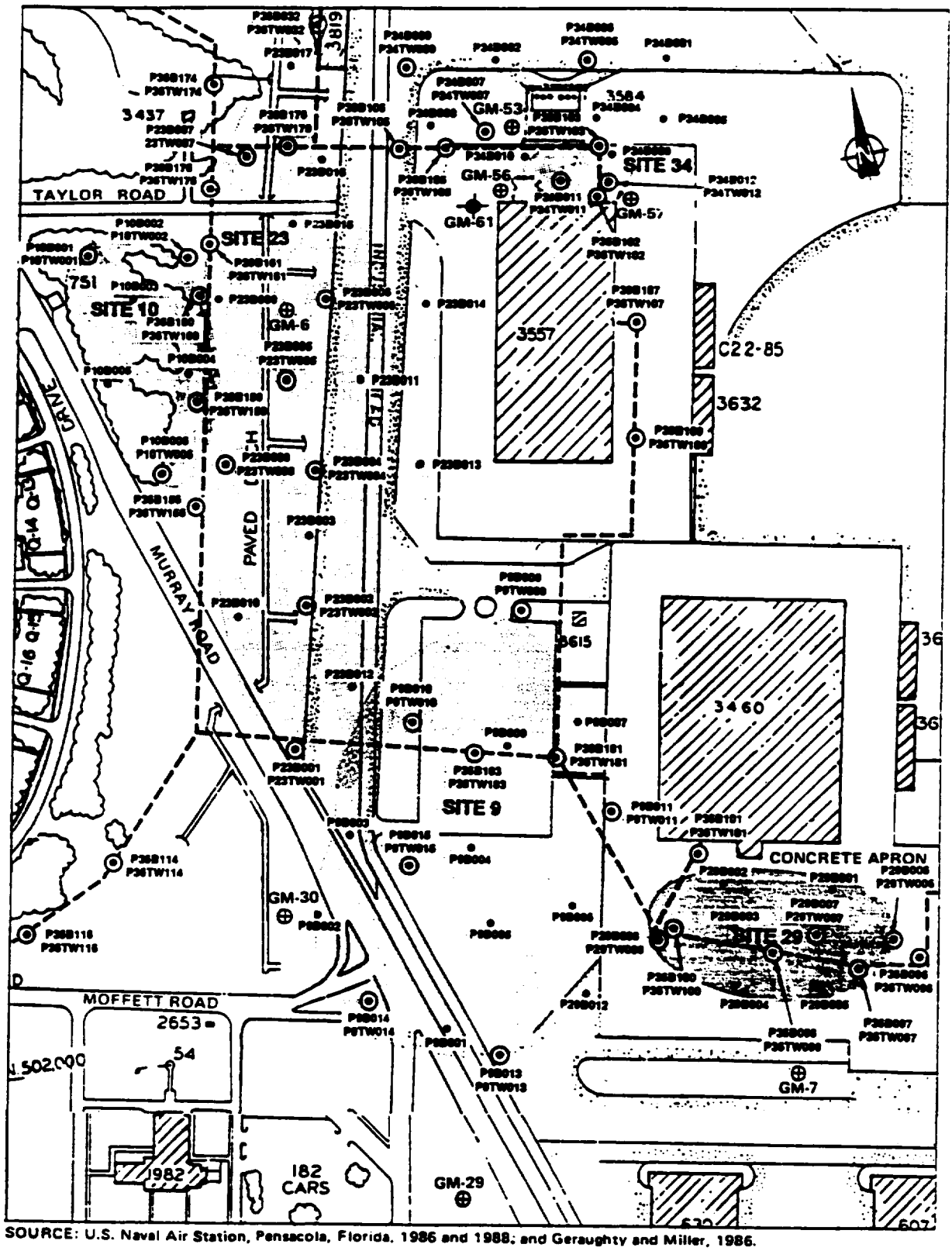
SCALE

0 100 200 FEET

KEY:

- U — Unpaved Area
- A — Asphalt-Paved Area
- C — Concrete-Paved Area
- Fence
- BLDG. 3557 — Building
- Storage Tank
- Existing Permanent Shallow Monitoring Well
- Existing Permanent Deep Monitoring Well
- Survey Grid Boundary
- GM53 — Permanent Monitoring Well Number

Figure 2-1 SURVEY GRID MAP — NAS PENSACOLA SITE 34



SOURCE: U.S. Naval Air Station, Pensacola, Florida, 1986 and 1988; and Geraughty and Miller, 1986.

SCALE

KEY:

0 200 400 600 800 FEET

⊕ Permanent Shallow Monitoring Well

Permanent Deep Monitoring Well

Building

Industrial Waste Sewer Line

Soil Boring

Temporary Monitoring Well

P10B001 Soil Boring Number

P10TW001 Temporary Monitoring Well Number

Figure 2-2 SOIL BORING AND TEMPORARY MONITORING WELL LOCATIONS — NAS PENSACOLA SITES 9, 10, 23, 29, 34, AND 36

3400575

36. Figure 2-3 presents the soil boring and temporary monitoring well locations only at Site *34*. Twelve soil borings were completed at Site *34* (see figures 2-2 and 2-3). At each Site *34* boring location, samples were collected by compositing soils over 5-foot depth intervals from land surface to the water table. Each 5-foot depth interval was assigned a letter designation as follows: A interval = surface to 5 feet BLS; B interval = 5 to 10 feet BLS; C interval = 10 to 15 feet BLS; and so on to the water table. Samples were collected using either hand-operated bucket augers or a solid-stem auger powered by a drill rig. Lithologic characteristics of the materials encountered in each borehole were recorded in the field logbook. All sampling, compositing, and lithologic logging activities were performed in accordance with Section 6.6 of the GQAPP. Equipment decontamination was performed in accordance with Section 6.10 of the GQAPP.

Temporary, stainless steel monitoring wells were installed in five of the 12 borings (see figures 2-2 and 2-3). Each well was constructed with 5 feet of 0.01-inch slotted screen and installed to a depth that allowed the well screen to bracket the water table. The wells were installed using solid-stem augers powered by a drill rig. Lithologic characteristics of materials encountered during installation of the wells were recorded in the field logbook in accordance with Section 6.6 of the GQAPP. All equipment decontamination activities were performed in accordance with Section 6.10 of the GQAPP.

2.8 SOIL SAMPLING

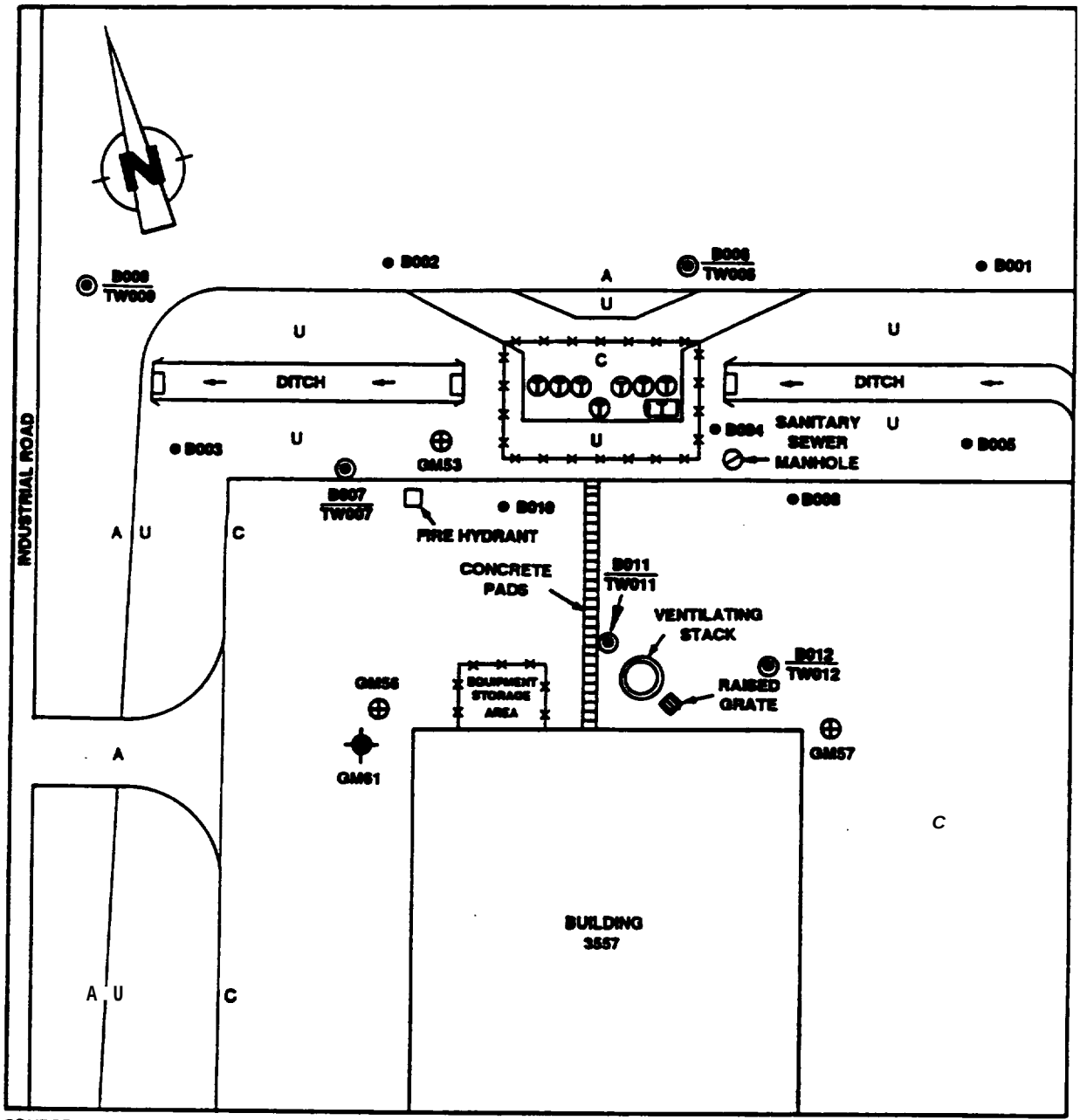
Twelve soil samples, plus one duplicate sample, were collected as described in Section 2.7, in accordance with Section 6.6.2 of the GQAPP. All soil samples were shipped to E & E's Analytical Services Center (ASC) in Buffalo, New York, and analyzed for the screening parameters listed in Table 2-2.

2.9 GROUNDWATER SAMPLING

2.9.1 Temporary Monitoring Wells

Five groundwater samples, plus a e duplica e sample, were collected from the five temporary monitoring wells shown on figures 2-2 and 2-3. Weather conditions; water levels; purge volumes; and groundwater pH,

[Bold items enclosed in brackets denote changes to last version of document]



SOURCE: U.S. Naval Air Station Pensacola, Pensacola, Florida, 1990; Ecology and Environment 1991

SCALE

0 100 200

KEY:

U	Unpaved Area		Existing Permanent Deep Monitoring Well
A	Asphalt-Paved Area		Soil Boring
C	Concrete-Paved Area		Temporary Monitoring Well
	Fence	B007	Soil Boring Number
BLDG. 3557	Building	TW007	Temporary Monitoring Well Number
	Existing Permanent Shallow Monitoring Well	GM53	Permanent Monitoring Well Number
	Storage Tank		

Figure 2-3 SOIL BORING AND TEMPOARARY MONITORING WELL LOCATIONS — NAS PENSACOLA SITE 34

3400576

Table 2-2

SAMPLING AND ANALYTICAL SUMMARY
NAS PENSACOLA SITE 34

Medium	NO. Of Samples	Duplicator	Total	Analytical Suite[a,b]
Soil	12	1	13	A
Groundwater[d]	5	1	6	A

Medium	no. of Samples	Dupli-cates	Trip Blanks[f]	Field Blanks	Rinsate Blanks[g]	Preservative Blanks[h]	Total	Analytical suite[a,c]
Groundwator[e]	4	1	1	1	1	1	9	B

[NASP]UH8018:T0358/585/10

Key:

'Analytical suite designation is as follows:

A = Volatile organic compounds (VOCs) including chlorobenzene, polynuclear aromatic hydrocarbons (PAHs), phenols, pesticides and total polychlorinated biphenyls (PCBs), total recoverable petroleum hydrocarbons (TRPHs), and metals (total, unfiltered).

B = Target Compound List (TCL) VOCs (EPA 8240), TCL base/neutral and acid extractable organic compounds (BNAs; EPA 8270), TCL pesticides and PCBs (EPA 8080), TRPHs (EPA 418.1), Target Analyte List (TALI motals (total [i.e., unfiltered] and dissolved [i.e., millipore-filtered]; EPA 6010/7060/7421/7471/7740/7841), cyanido (EPA 90101, total organic carbon (EPA 415.1), hardness (water only; EPA 130.21, and alkalinity (water only: EPA 310.1).

[b]Specific constituents encompassed by tho various chemical groups included within analytical suite A are identified in tables 9-1 through 9-4 of tho GQAPP.

[c]Specific constituents encompassed by tho various chemical groups included within analytical suite B are identified in tables 9-5 through 9-13 of the GQAPP.

[d]Groundwater samples and analyses shown are for temporary wells only.

[e]Groundwater samples and analyses shown are for existing permanent wells.

[f]Trip blanks analyzed for TCL VOCs only.

[g]Rinsate blanks analyzed for total and dissolved TAL motals, cyanide, TRPHs, TCL VOCs, TCL BNAs, TCL pesticides and PCBs, and total hardness.

[h]Preservative blanks analyzed for TCL VOCs, TRPHs, total TAL metals, and cyanide.

Source: Ecology and Environment, Inc., 1992.

[Bold items enclosed in brackets denote changes to last version of document]

specific conductance, and temperature measurements were recorded in the field logbook prior to sampling. In addition, prior to purging, each well was checked for the presence of floating and/or sinking immiscible hydrocarbons using a Solinst oil-water interface probe. Each groundwater sample was collected immediately folloving well purging. All well purging and sampling activities vere performed in accordance with sections 6.8 and 6.11 of the GQAPP. Equipment decontamination was performed in accordance with Section 6.10 of the GQAPP. All groundwater samples collected from the temporary monitoring wells vere shipped to E & *E's ASC* and analyzed for the screening parameters listed in Table 2-2.

2.9.2 Existing Permanent Monitoring Wells

Four groundwater samples, plus one duplicate sample, vere collected from the existing permanent monitoring wells located on the site (see Figure 2-2). Weather conditions; water levels; purge volumes; and groundwater pH, specific conductance, and temperature measurements were recorded in the field logbook prior to sampling. Each groundwater sample was collected immediately following well purging. All well purging and sampling activities were performed in accordance with sections 6.8 and 6.11 of the GQAPP. Equipment decontamination vas performed in accordance with Section 6.10 of the GQAPP. All groundwater samples collected from the existing wells were analyzed according to U.S. Environmental Protection Agency (BPA) Contract Laboratory Program (CLP) protocol for the Target Analyte List (TAL) and Target Compound List (TCL) and other parameters.

2.10 HYDROLOGIC ASSESSMENT

The hydrologic assessment of the site and surrounding areas included a wellhead elevation survey of the temporary monitoring vells, static water level measurements, and determination of water level elevations in both the existing permanent monitoring wells and the temporary monitoring wells.

Wellhead top-of-casing (TOC) elevations for the temporary monitoring wells were measured relative to the top of a driven reference stake located adjacent to each well using a spirit level and tape

measure. Following groundwater sampling and removal of the temporary monitoring wells, the elevations of the driven reference stakes were surveyed using a transit with reference to permanent monitoring well GM61 (8.91 feet above mean sea level [MSL]; G&M 1986).

Wellhead TOC elevations and static water levels measured in each existing permanent well were referenced directly to the established benchmark. Static water levels in the permanent monitoring wells were measured on May 1, 1991, over a 2-hour period. Static water levels in the temporary monitoring wells were measured on June 20, 1991. The static water level data were used to determine the water table elevation, shallow groundwater flow direction, and horizontal hydraulic gradient for the shallow, surficial zone of the Sand-and-Gravel Aquifer in the site vicinity.

In conjunction with the wellhead survey, the elevations of other nearby features (e.g., ponds, streams, and leachate seeps) were established.

2.11 FIELD QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

All field tasks performed during the investigation were documented in the field logbooks according to the procedures specified in Section 7.2 of the GQAPP.

2.11.1 Field QA/QC Samples

Field QA/QC samples were prepared for all samples collected at the site during the Phase I investigation according to the procedures described in Section 6.12 of the GQAPP. Chain-of-custody was maintained for all samples collected, packaged, and shipped to E & E's ASC for analysis. Sample management was performed as specified in Section 7 of the GQAPP. The collected field QA/QC samples and corresponding analytical parameters are listed in Table 2-2.

2.11.2 Decontamination Procedures

All equipment used during field activities was decontaminated in accordance with Section 6.10 of the GQAPP.

2.12 INVESTIGATION-DERIVED WASTE MANAGEMENT

Excess soil generated during soil boring and temporary monitoring well installation activities was temporarily contained adjacent to the well or boring and then backfilled into the borehole after the auger flights or temporary well casings had been removed following sample collection. Any soil material remaining after completion of borehole backfilling was placed in 55-gallon drums, sealed, labeled, and moved to a central area on the site. Each drum has a painted-on label listing the site number and the type of material contained in the drum.

All water generated during development and purging of the temporary monitoring wells was temporarily contained adjacent to the well and then poured back into the well folloving collection of samples.

All water generated during purging of the existing permanent monitoring wells was placed in 55-gallon drums, sealed, labeled, and moved to a central area on the site. Each drum has a painted-on label listing the site number and the type of material contained in the drum.

Potentially contaminated, personal protective clothing and disposable materials, vastes generated during decontamination activities, and other potentially contaminated, investigation-derived materials were placed in 55-gallon drums, labeled, and moved to a central area on the site. These drums are sealed and labeled "trash." All drummed investigation-derived materials were subsequently picked up and disposed of by NAS Pensacola.

[Bold items enclosed in brackets denote changes to last version of document]

3. RESULTS

3.1 AERIAL PHOTOGRAPH AND EXISTING DATA ANALYSIS

Reviev of aerial photographs from 1951 to 1989 indicated that activities and surface features on and in the vicinity of Site 34 evolved considerably during this period. A large building was constructed south of and adjacent to the site; a tank farm and unpaved drainage ditch were constructed in the northern portion of the site; and the southern portion of the site was paved with an extensive concrete pavement.

Review of the January 22, 1951, aerial photograph indicated that the site was covered with low-lying vegetation except for the northern area of the site where a portion of one of the Chevalier Field runways is located. Aircraft were observed nearby on the concrete apron of Chevalier Field in the area west of the site. The site surface is open and flat, and surface drainage is most likely directed toward the west away from Chevalier Field where an extensive paved drainage ditch system is located.

Aircraft were observed in the Chevalier Field area in the January 3, 1958, aerial photograph; however, subsequent aerial photographs from October 12, 1961, to Hay 4, 1973, indicate that aircraft were no longer present on Chevalier Field. No other changes to the site or site area are apparent during this period.

Review of the April 28, 1976, aerial photograph indicated that construction of Building 3557, located in the southern portion of the site, and the extensive concrete pavement, which covers the southern portion of the site surrounding Building 3557, was occurring at this time. Some construction in the area of the tank farm in the northern portion of the site is also apparent at this time. Although not visible in the photographs, the installation of the underground piping between

[Bold items enclosed in brackets denote changes to last version of document]

Building 3557 and the tank farm and the overlying concrete pads is reported to have occurred at this time.

Construction of Building 3557 and the extensive concrete pavement was apparently completed prior to the time of the March 6, 1981, aerial photograph. The tank farm and an unpaved drainage ditch were also observed in the northern area of the site.

Review of the September 22, 1983, to October 26, 1989, aerial photographs indicated that the site features appear the same as at present.

3.2 SITE RECONNAISSANCE

During the site reconnaissance, visual inspections vere conducted around the north side of Building 3557, the area around the tank farm and drainage ditch, and across the site area north of Building 3557 and east of Industrial Road (see Figure 1-3).

The southern portion of Site 34 is entirely paved with concrete. A small fenced area is located adjacent to the northwest corner of Building 3557 and is used for equipment storage. A large, cylindrical, ventilating stack, approximately 10 feet in diameter and 40 feet in height, is located 15 feet north of Building 3557. A steel grate, mounted on a concrete base and raised approximately 1 foot above the paved surface, is located near the base of the tower. An undetermined liquid substance was observed floving below the open grate away from Building 3557 and toward the area of a sanitary sever manhole, which is located southeast of the storage tank area (see Figure 1-3).

Eight 55-gallon steel drums vere located near the northeast corner of Building 3557. The contents of these drums are not known, and no apparent leaks or spills were observed around the drums.

A series of concrete pads, approximately 1.5 by 3 feet in size, extend north from the north side of Building 3557 to the tank farm area. Piping, which is associated vith the tanks, is reported to be in a paved trench located beneath these concrete pads.

The tank farm area is completely fenced and is approximately 75 feet by 100 feet in size (see Figure 1-3). Seven storage tanks are vertically oriented on a concrete platform in the tank farm area. These tanks are labeled: "T101" (epoxy stripper), "T102" (cleaning compound),

"T103" (detergent), "T104" (epoxy stripper), "T105" (detergent), "T106" (stoddard solvent), and "T107" (unknown). A smaller tank, oriented horizontally, is labeled "MEK," which is a common abbreviation for methyl ethyl ketone.

Building 3557 houses maintenance and reconditioning activities for aircraft. Six aircraft cleaning areas are located in the northern portion of the building. Detergents and wash water are directed to a series of floor drains that in turn are all directed to a central sump pit. The central sump pit, located beneath the northern half of the building, is concrete-lined and extends to a depth of 25 feet BLS. The aircraft wash water is pumped from the central sump pit to the industrial waste sewer north of Building 3557. Facility personnel report that groundwater infiltration to the sump pit is substantial, probably due to the lack of seal between clay drain pipes and the concrete sump box. An estimated 50,000 to 70,000 gallons per day (gpd) of infiltrated water are pumped from the sump and into the industrial sewer in order to render the structure effective as a sump. Facility personnel also report that a recent excavation was completed to a depth of 15 feet BLS north and adjacent to Building 3557 and that water table conditions were not encountered. This dry excavation suggests the pumping of the sump is effectively dewatering areas north of the building and is a significant factor to be considered in evaluation of past and present shallow groundwater conditions on Site *34*.

Ambient organic vapor readings of 1.0 part per million (ppm) were detected across the site using an HNu during the site reconnaissance, and a reading of 30 ppm was observed at the sanitary sewer manhole located east of the tank farm (see Figure 1-3).

An unpaved, grass-lined, drainage ditch runs east to west across the northern portion of the site and beneath the tank farm. Surface drainage from the site area is presumed to be directed toward this ditch, and water flow in the ditch has been observed to flow west after a rainfall.

The unpaved drainage ditch on Site *34* eventually connects to a paved, drainage ditch system located west of the site area. This paved drainage ditch is located on Site 23, which is currently being studied in conjunction with the Phase I investigations at NAS Pensacola.

Site 34 is currently being utilized for occasional parking of helicopters that are awaiting maintenance in Building 3557, storage of associated equipment, and the storage and piping of the previously mentioned cleaners and solvents from the tank farm into Building 3557.

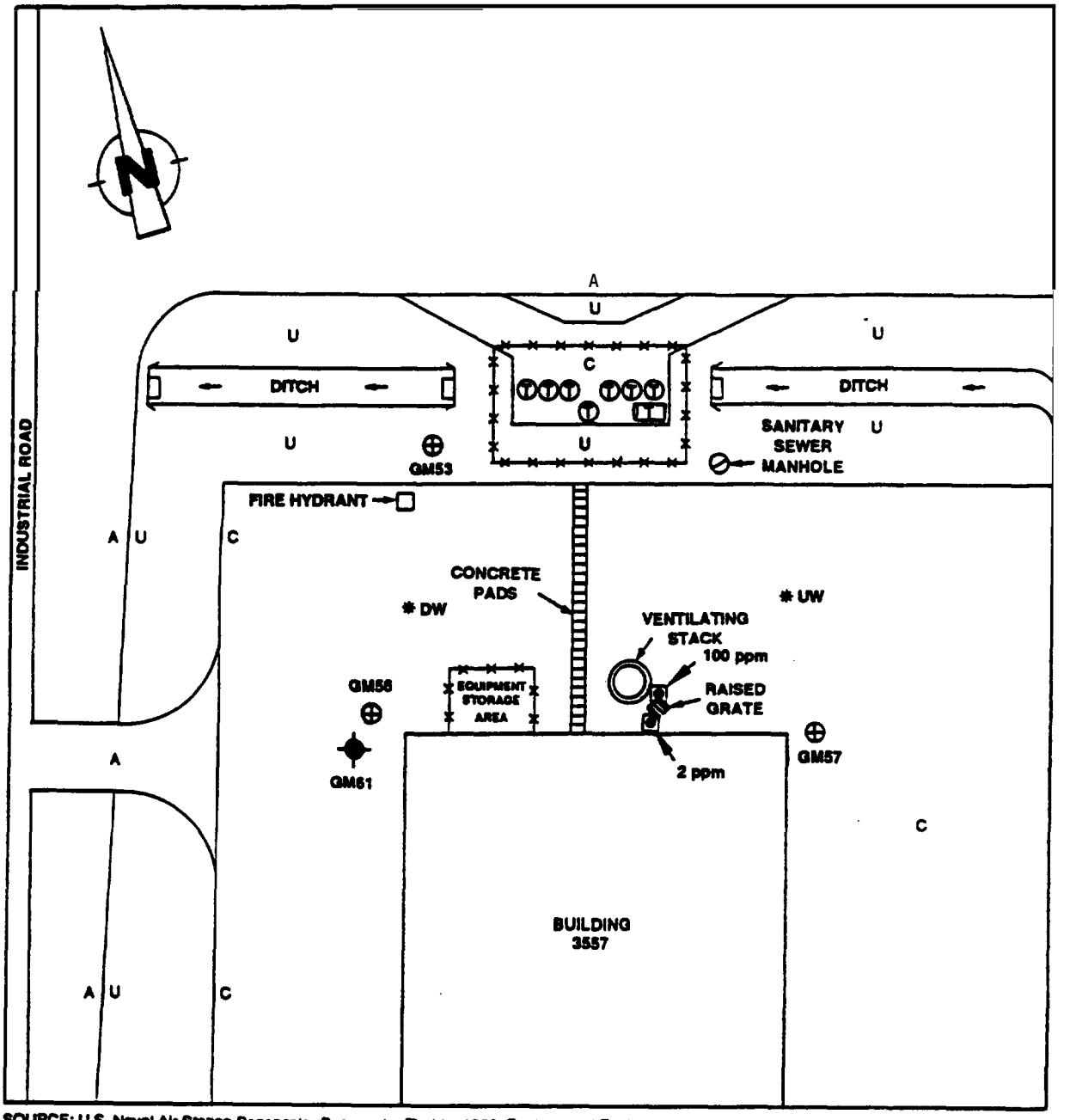
[The site is almost entirely paved and heavily utilized. No suitable terrestial and aquatic habitats or species were present on the site.]

3.3 SURFACE EMISSIONS SURVEY AND PARTICULATE AIR SCREENING

An OVA was used to monitor surface emissions across the site. Figure 2-1 shows the grid layout of the site. The background OVA reading during the surface emissions survey at Site *34* was 0.5 ppa. Appendix A presents the grid coordinates and corresponding emissions readings. Only two measurements *(2* ppm and 100 ppm) of organic vapors above background readings were observed during the surface emissions survey. These measurements were taken in the area of and above the grate north of Building 3557 (see Figure 3-1). Liquid, having a slight solvent odor, was observed floving below the open grate during the survey (see Section *3.2).*

On June 5, 1991, a Hini-Ram particulate air monitoring device was used to determine if Site 34 represents a source of particulates in the air. Figure 3-1 shows the particulate air screening locations on Site 34. Appendix B presents the particulate air screening data. During the test, the wind was blowing from the east at approximately 3 to 5 miles per hour (mph). The Hini-Ram was placed upwind (UW) at a grid location of N0+75, E2+25 in the eastern portion of the site (see Figure 3-1). After 15 minutes, the time veighted average (TWA) of particulates was 0.11 milligram per cubic meter (mg/m^3). The Mini-Ram vas then placed directly downwind (DW) and approximately *225* feet west of the upwind station (see Figure 3-1). After 15 minutes, the TWA was recorded as 0.12 mg/m^3. Based on these results (a difference in the two readings of 0.01 mg/m^3 during light winds), the central area of the site appears to be a potential source of lov levels of particulates.

[Bold items enclosed in brackets denote changes to last version of document]



SOURCE: U.S. Naval Air Station Pensacola, Pensacola, Florida, 1990; Ecology and Environment 1991

SCALE

0 100 200 FEET

KEY:

U	Unpaved Area	BLDG. 3557	Building
A	Asphalt-Paved Area	⊕	Existing Permanent Shallow Monitoring Well
C	Concrete-Paved Area	✦	Existing Permanent Deep Monitoring Well
⋯×⋯×⋯	Fence	GM53	Permanent Monitoring Well Number
*	Particulate Air Screening Location	⊡	OVA Concentration Above Background (ppm)
DW/UW	Downwind/Upwind	⊕	Storage Tank

Figure 3-1 SURFACE EMMISSIONS SURVEY AND PARTICULATE AIR SCREENING LOCATIONS MAP — NAS PENSACOLA SITE 34

3.4 HYDROLOGIC ASSESSMENT

3.4.1 Shallow Subsurface Lithology

Based on information collected during completion of the 12 borings at Site 34, the shallow subsurface lithology beneath Site 34 can be generally characterized as a dark brown to red, fine- to medium-grained quartz sand that generally becomes a tan to white, medium-grained quartz sand at the water table. At two borings (B002 and B003) in the northwestern portion of the site, a brown- or black-stained, fine- to medium-grained quartz sand saturated with a thick liquid substance was encountered in the A interval (0 to 5 feet BLS). During the installation of temporary well TW011, a gray to dark gray, medium-grained sand was encountered in the B interval (5 to 10 feet BLS), which was within the water table, in boring B011. Appendix C presents the lithologic logs for the 12 soil borings completed at Site 34. OVA readings taken in the open borehole during drilling ranged from 0 to 0.4 ppm. The OVA readings for the boreholes are also presented in Appendix C.

3.4.2 Water Levels and Groundwater Flow

Table 3-1 presents the water level elevations measured in the teaporary monitoring wells at Site 34, and Table 3-2 presents the water level elevations measured in the permanent monitoring wells at Site 34. Based on the measurements obtained from water levels observed in the monitoring wells, the depth to the water table across the site ranges from 0.45 feet BLS (GM53) to 6.98 feet (TW011).

Figure 3-2 illustrates the water level elevations and the groundwater flow direction in the upper portion of the surficial zone of the Sand-and-Gravel Aquifer at Site 34, based on the temporary monitoring well data. Based on these groundwater elevations, the direction of shallow groundwater flow is generally to the west. The horizontal hydraulic gradient is approximately 0.0030. The temporary monitoring well data presented on Figure 3-2 suggest that the horizontal gradient may be as high as 0.01 in the area of temporary monitoring wells TW011 and TW012. The flow directions and horizontal hydraulic gradient appear to have been influenced during the sampling interval due to pumping of water from the central sump pit located beneath Building 3557.

Table 3-1

TEMPORARY MONITORING WELL CONSTRUCTION INFORMATION AND WATER LEVEL ELEVATIONS NAS PENSACOLA SITE 34

Well Number	Total Depth (BLS)	Depth to Water (BLS)	Depth to Water BTOC	TOC Elevation	water Level Elevation	Date Measured
TW006	7.04	2.77	5.52	8.90	3.38	6/20/91
TW007	7.84	4.62	6.64	9.52	2.88	6/20/91
TW009	7.14	2.55	5.32	7.66	2.34	6/20/91
TW011	9.04	6.96	7.93	10.66	2.73	6/20/91
TW012	8.63	5.74	6.94	10.61	3.67	6/20/91

14[NASP]UH8018:T0358/598/22

Notes:

All depths are in feet; all elevations are in feet referenced to mean sea level (MSL); and a11 wells were constructed of 2-inch diameter stainless steel with 5 feet of 0.01-inch screen.

Key:

BLS = Below land surface.
TOC = Top of casing.
BTOC = Below top of casing.

Source: Ecology and Environment, Inc., 1992.

[Bold items enclosed in brackets denote changes to last version of document]

Table 3-2

PERMANENT MONITORING WELL CONSTRUCTION INFORMATION
AND WATER LEVEL ELEVATIONS
NAS PENSACOLA SITE 34

Well Number	Total Depth (BLS)	Depth to Water (BLS)	Depth to Water BTOC	TOC Elevation	Water Level Elevation	Date Measured
GM53	15.51	0.45	2.95	5.98	3.03	5/1/91
GM56	13.05	6.02	5.70	8.97	3.27	5/1/91
GM57	13.14	5.64	5.3s	7.39	2.04	5/1/91
GM61[a]	85.66	6.14	5.75	8.91	3.16	5/1/91

14[NASP]UN8018:T0358/609/22

Notes:

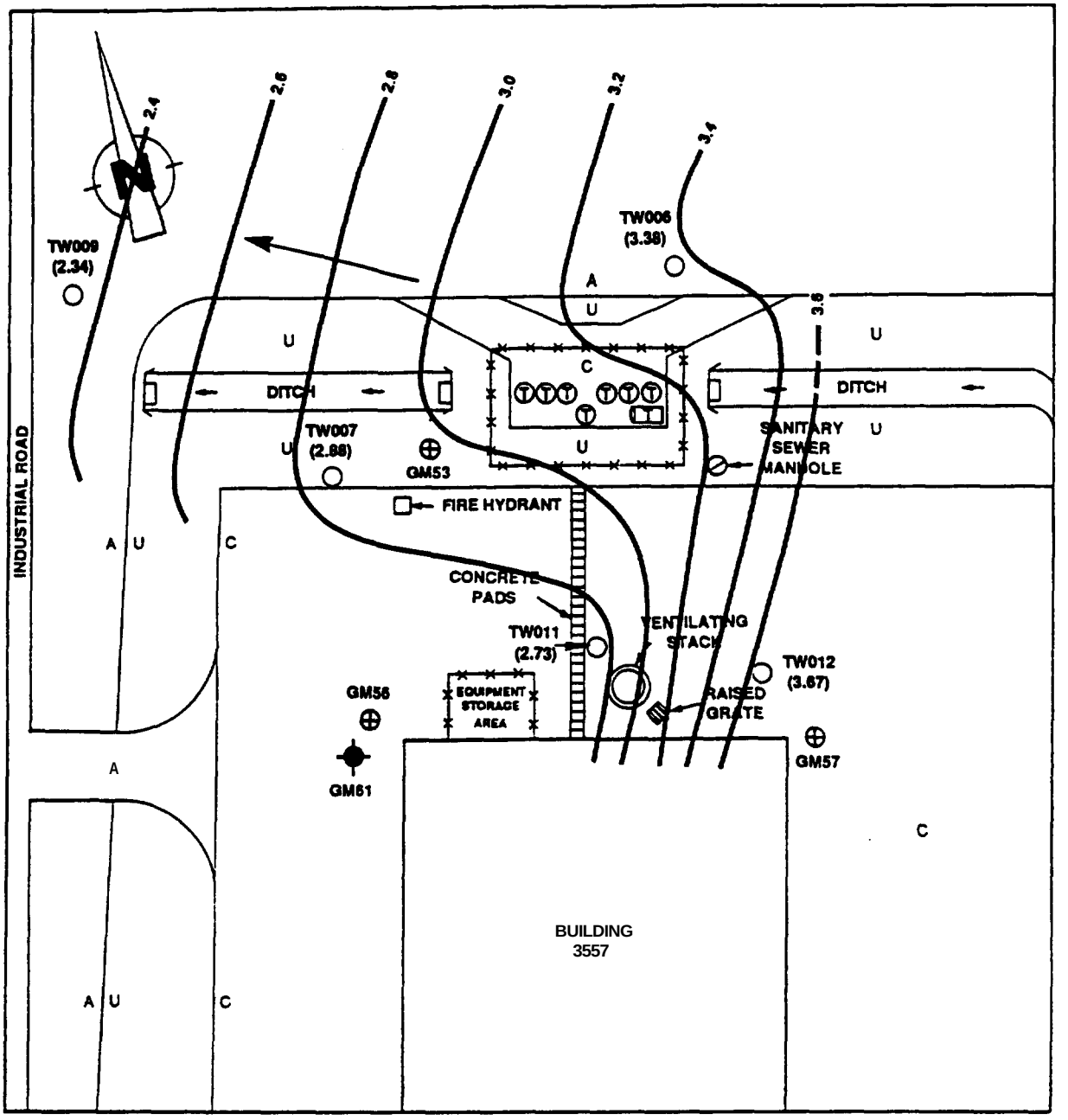
All wells were conrtructod of 2-inch diameter PVC; shallow wells were conrtructod with 2.5 foot of 0.01-inch screen; and tho deep well was conrttuctod with 5 foot of 0.01-inch screen.

Key:

ADeep well.
BLS = Below land surface.
TOC = Top of casing.
BTOC = Below top of casing.

Source: Ecology and Environment, Inc., 1992.

[Bold items enclosed in brackets denote changes to last version of document]



SOURCE: U.S. Naval Air Station Pensacola, Pensacola, Florida, 1990; Ecology and Environment 1991

SCALE

0 100 200 FEET

KEY:

U	Unpaved Area		Existing Permanent Deep Monitoring Well
A	Asphalt-Paved Area		Temporary Monitoring Well
C	Concrete-Paved Area	TW001	Temporary Monitoring Well Number
	Fence	GM53	Permanent Monitoring Well Number
BLDG. 3557	Building	(2.88)	Water Level Elevation (feet above MSL)
	Existing Permanent Shallow Monitoring Well	3.0	Water Level Elevation (feet above MSL; dashed where Interred)
T	Storage Tank		Groundwater Flow Direction

Figure 3-2 SURFICIAL ZONE WATER LEVEL ELEVATIONS FOR TEMPOARARY MONITORING WELLS — NAS PENSACOLA SITE 34

Figure 3-3 illustrates the water level elevations and the groundwater flow direction, based on the temporary monitoring well data, in the upper portion of the surficial zone of the Sand-and-Gravel Aquifer in the area of sites 34, 9, 10, 23, and 29. Based on these groundwater elevations, the direction of shallov groundwater flow is generally to the west over Site 34, toward an area on Site 23 west of Industrial Road. Eowever, the pumping of the central sump pit may serve to greatly affect flow directions and gradients in the Site 34 vicinity and, in effect, capture and divert a substantial amount of flow into the industrial waste sewer system.

Figure 3-4 illustrates the water level elevations and the groundwater flow direction based on the permanent monitoring well data and the temporary monitoring well data collected in the upper portion of the surficial zone of the Sand-and-Gravel Aquifer at and in the vicinity of Site 34. Based on these groundwater elevations, the direction of shallow groundwater flow is to the south; however, it appears that the central sump pump may not have been in operation during the time these measurements were made.

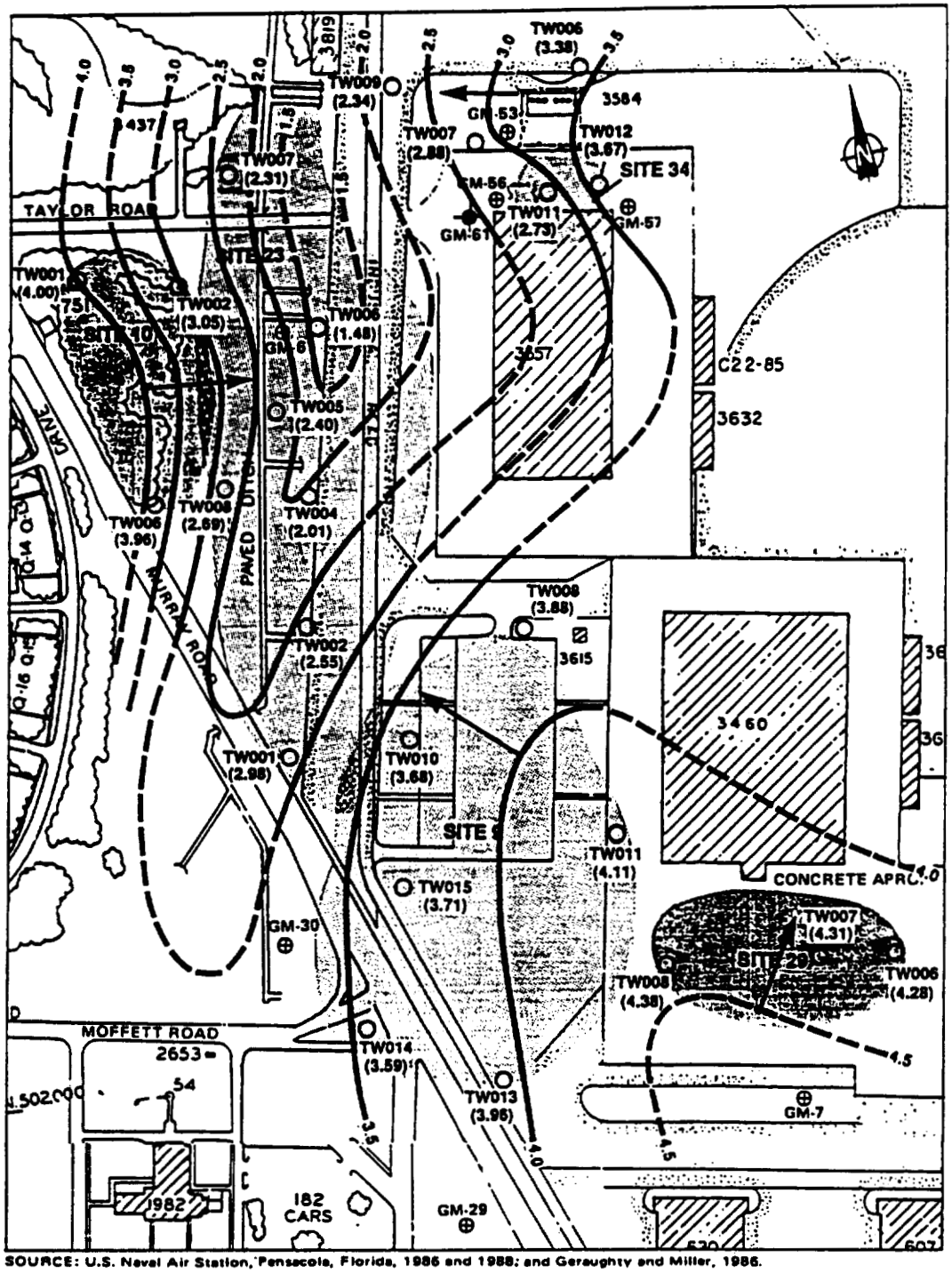
Permanent deep monitoring well GM61 is located on Site 34 near permanent shallow monitoring well GM56. The water level elevation in GH61 is 3.16 feet above HSL; whereas, the water level elevation in shallow monitoring well GM56 is 3.27 feet above MSL (see Table 3-2). These data indicate that GM61 is screened within a deeper, possibly confined or semi-confined flow system and that a downward hydraulic gradient exists; however, these measurements appear to have been taken during a time period when the sump pump was not in operation.

3.5 CHEMICAL ANALYSIS

The following section presents the results of the laboratory analyses of the Site 34 soil and groundvater samples. The specific analytical parameters and parameter groups are listed or referenced in Table 2-2.

3.5.1 Soil

Table 3-3 summarizes the analytical screening results for soil samples collected at Site 34 and presents the Resource Conservation and



SOURCE: U.S. Naval Air Station, Pensacola, Florida, 1986 and 1988; and Geraughty and Miller, 1986.

SCALE

0 200 400 600 800 FEET

KEY:

- ⊕ Existing Permanent Shallow Monitoring Well
- ⊕ Existing Permanent Deep Monitoring Well
- ▨ Building
- Q-12 Residential Quarters
- ○ Temporary Monitoring Well
- (3.71) Water Level Elevations (feet above MSL)
- 3.5 Water Level Elevation Isopleth (feet above MSL; dashed where inferred) (Isopleth interval = 0.5 foot)
- → Groundwater Flow Direction

Figure 3-3
SURFICIAL ZONE WATER LEVEL ELEVATIONS, TEMPORARY MONITORING WELLS
NAS PENSACOLA SITES 9, 10, 23, 29, AND 34

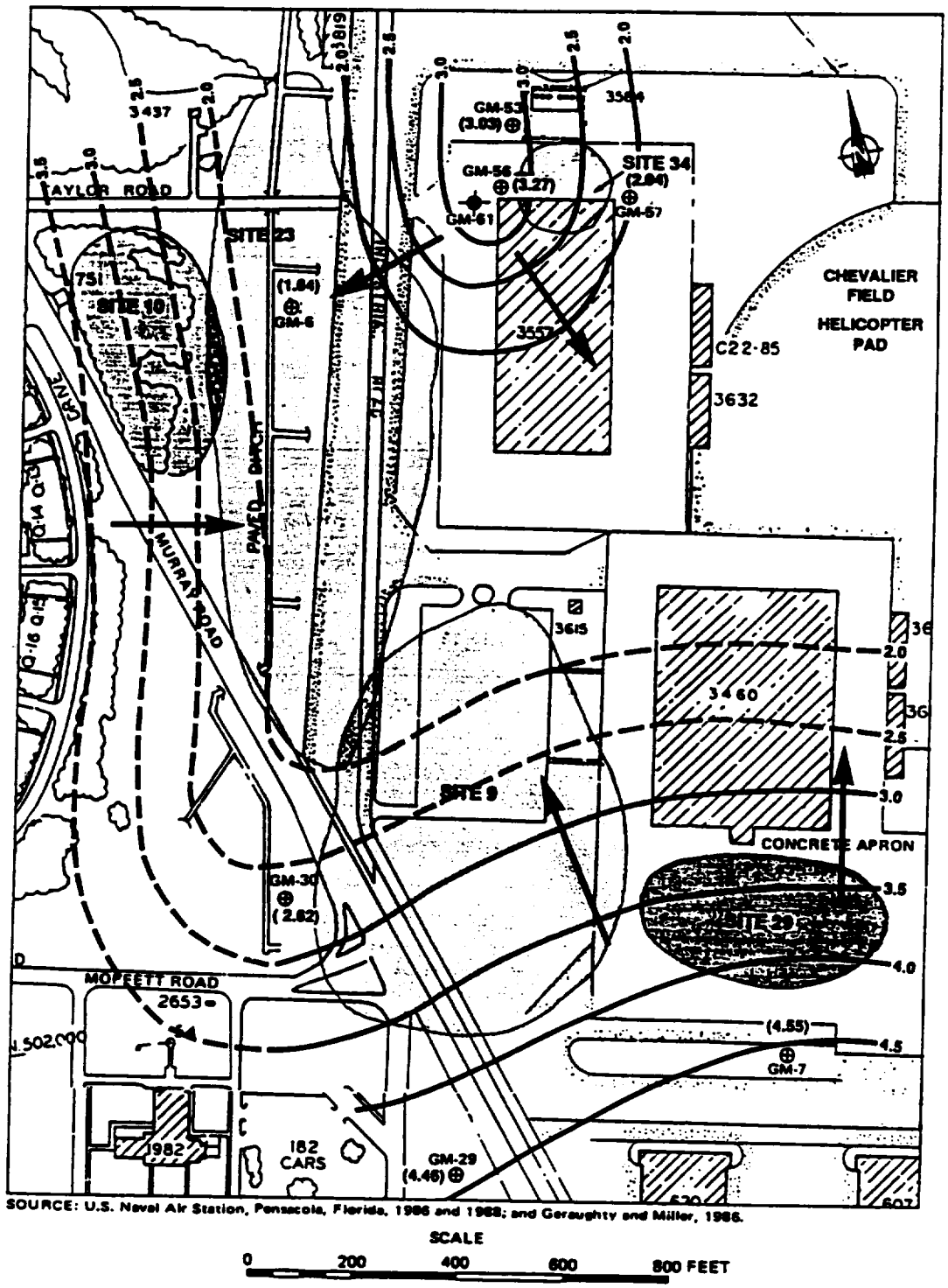


Figure 3-4
SURFICIAL ZONE WATER LEVEL ELEVATIONS, PERMANENT MONITORING WELLS NAS PENSACOLA SITE 9, 10, 23, 29, AND 34

3400584

Table 3-3

SUMMARY ANALYTICAL SCREENING RESULTS FOR SOIL SAMPLES
NAS PENSACOLA SITE 34
(All results in mg/kg)

Paramotor	Detection Limit	Sample Number (Location and Depth Interval) P34S001A (B001A)	P34S002A (B002A)	P34S003A (B003A)	P34S004A (B004A)	P34S00SA (B005A)	P34S005AD[a] (B005A)	P34S006A (B006A)	RCRA PCAL
Chromium	1	--	--	6.4	4.0	2.1	3.8	--	400[b]
Zinc	2	2.6	2.3	7.2	6.3	3.2	11	2.1	16,000
Load	4	--		8.3	8.2	7.7	13	--	
Cadmium	0.5	--	0.51	0.55	--	--	--	--	40
TRPHs	5	--	--	--	--	--	--	--	

14[NASP]UH8018:T0358/595/7

Koy at end of table.

[Bold items enclosed in brackets denote changes to last version of document]

Table 3-3 (Cont.)

Parameter	Detection Limit	Sample Number (Location and Depth Interval) P34S007A (B007A)	P34S008A (B008A)	P34S009A (B009A)	P34S010A (B010A)	P34S011A (B011A)	P34S011B (B011B)	P34S012A (B012A)	RCRA PCAL
Chromium	1	7.8	3.2	--	1.6	--	1.0	1.7	400[b]
Zinc	2	11	20	--	2.6	2.5	3.6	7.0	16,000
Lead	4	12	9.9	--	5.4	--	--	24	
Cadmium	0.5	--	--	--	--	0.51	--	--	40
TRPHs	5	--	--	--	--	--	7.7	--	

14[NASP]UH8018:T0358/595/7

Kay :

[a]Duplicate of sample P34S005A.
RCRA PCAL = Resource Conservation and Recovery Act Proposed Corrective Action Level.
Dash (--) indicates compound not detected.

Source: Ecology and Environment, Inc., 1992.

[Bold items enclosed in brackets denote changes to last version *of* document]

Recovery Act (RCRA) Proposed Corrective Action Levels (PCALs) for soil contamination (EPA 1990). Figure 2-3 indicates the soil boring locations on Site *34*. The complete analytical screening results for soil samples are presented in Appendix D.

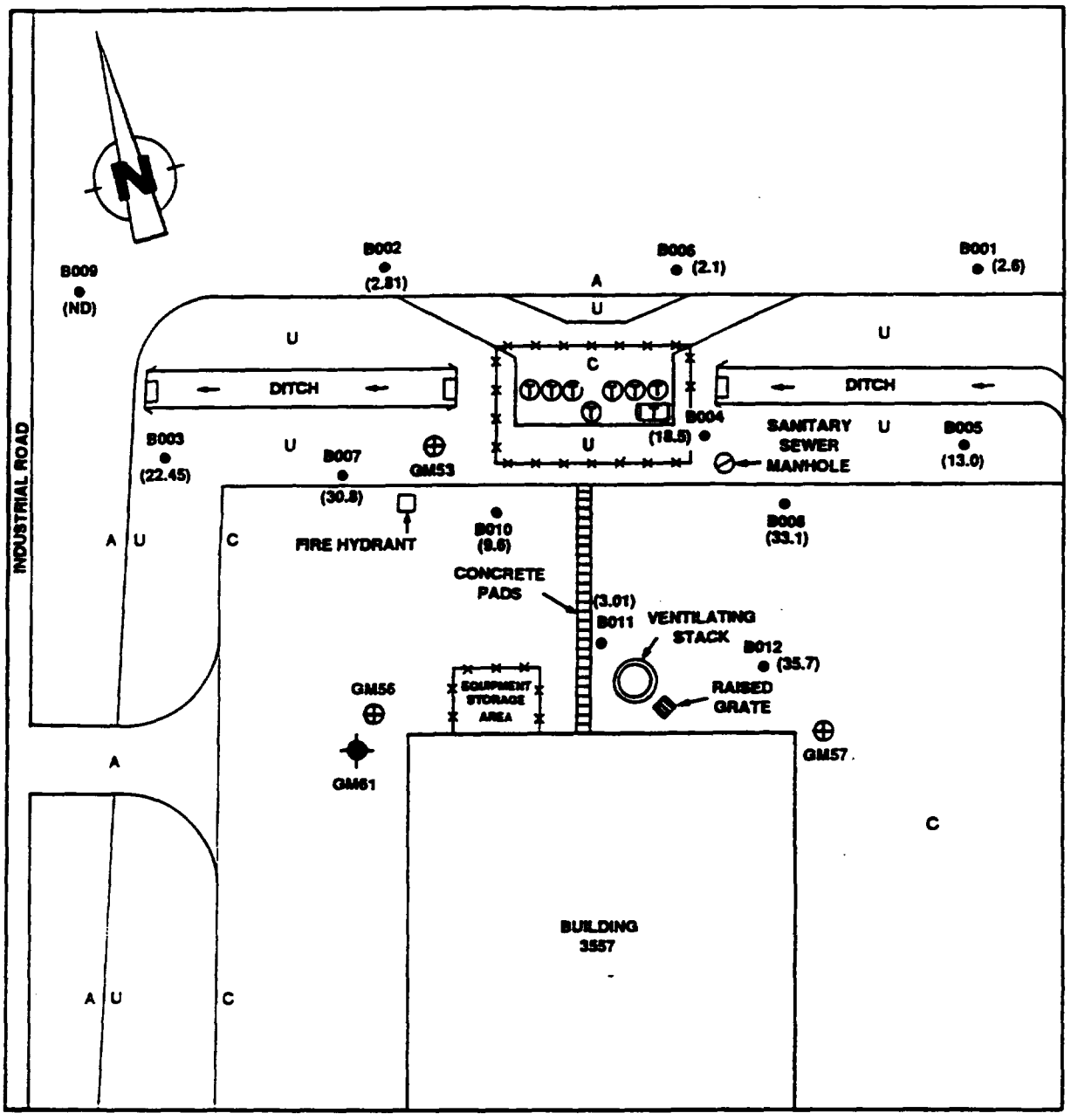
Due to the depth to the water table across Site *34* (0.45 feet to 6.98 feet BLS), soil samples were collected from the A interval only, except at boring B011 where soil samples were collected from the A and B intervals only. Soil sample numbers correspond to the number of the soil boring from which the sample was collected.

In general, metals concentrations were detected slightly above metal detection limits in soil samples across the site. Total recoverable petroleum hydrocarbons (TRPHs) were detected only in sample S011B. No volatile organic compounds (VOCs), base/neutral and acid extractable organic compounds (BNAs), polynuclear aromatic hydrocarbons (PAHs), phenols, pesticides, or polychlorinated biphenyls (PCBs) were detected in samples collected on Site 34.

Metals

The metals chromium, lead, zinc, and cadmium were detected at concentrations slightly above method detection limits in almost all of the soil samples recovered from the site. Figure 3-5 shows total metals concentrations for each A-interval soil sample collected from each of the Site *34* borings. Sample S009A, collected from a boring located in the northwest corner of the site (see Table 3-3 and Figure 3-5), was the only sample that did not exhibit any of the above metals at a concentration above the method detection limit.

The metals concentrations reported were generally low and ranged from: chromium, 1.0 to 7.8 milligrams per kilogram (mg/kg); zinc, 2.1 to 20.0 mg/kg; lead, 5.4 to *24.0* mg/kg; and cadmium, 0.51 to 0.55 mg/kg. Although the concentrations detected were elevated with respect to the reported concentrations in outlying sample S009A, the slight difference may be caused by general variations in the soil. In fact, all of the reported metals concentrations detected in the soil samples are within the trace chemical element content of natural soils (EPA 1983). Of the four metals detected in soil samples collected on Site 34, chromium (VI), zinc, and cadmium have RCRA PCALs of 400 mg/kg, 16,000 mg/kg, and



SOURCE: U.S. Naval Air Station Pensacola, Pensacola, Florida, 1990; Ecology and Environment 1991

SCALE

0 100 200 FEET

KEY:

- U — Unpaved Area
- A — Asphalt-Paved Area
- C — Concrete-Paved Area
- Fence
- BLDG. 3557 — Building
- Storage Tank
- Existing Permanent Shallow Monitoring Well
- Existing Permanent Deep Monitoring Well
- GM53 — Permanent Monitoring Well Number
- Soil Boring
- B007 — Soil Boring Number
- (ND) — Not Detected

Figure 3-5 TOTAL METALS CONCENTRATIONS DETECTED IN **A-INTERVAL** SOIL SAMPLES — NAS PENSACOLA **SITE** 34

40 mg/kg, respectively. The total chromium, zinc, and cadmium concentrations detected were well below these levels (see Table 3-3).

The single B-interval sample (SO11B) collected at the site exhibited chromium and zinc concentrations similar to the concentrations present in the A-interval samples collected throughout the site. A significant increase or decrease in the chromium and zinc concentrations compared with SO11A was not noted.

TRPHs

Sample SO11B exhibited a TRPB concentration of 7.7 mg/kg. This concentration is only slightly elevated above the analytical method detection limit of 5.0 mg/kg.

3.5.2 Groundwater

3.5.2.1 Field Parameters

Table *3-4* lists the groundwater temperature, pH, and specific conductance values measured in the groundwater samples collected from the temporary monitoring wells (June 20, 1991) and the existing permanent monitoring wells (May 1, 1991). Appendix C presents the temporary monitoring well installation information.

Several noticeable trends are evident based on the data supplied in Table *3-4*. Reported temperatures of the temporary well groundwater samples averaged 11.25°C higher than the values reported for the existing permanent monitoring wells. The temperatures reported for the permanent well samples are within the reported range of values for ambient groundwater in Escambia County (Clemens ~~et al~~. 1989), but the values reported for the temporary well samples are much higher.

The cause of these elevated temperatures is probably summer heating effects, given that the permanent well samples were collected on May 1, 1991, and that the temporary well samples were collected on June 20, 1991, during an excessive heatwave.

The pH values recorded from groundwater samples at the site ranged from 6.05 units to 7.8 units. Only the sample from temporary well TW006 with a pH value of 6.05 units was found to be outside the range (6.5 to 8.5 units) of Florida Secondary Drinking Water Standards (FSDWSs). In

Table 3-4

GROUNDWATER FIELD PARAMETERS
NAS PENSACOLA SITE 34

Well Number	Temperature (°C)	pH (units)	Specific Conductance (µmhos/cm)	Date Measured
TW006	34	6.05	82.5	6/20/91
TW007	35	6.7	203	6/20/91
TW009	36	6.65	8.26	6/20/91
TW011	35	6.7	201	6/20/91
m 1 2	30	6.71	203	6/20/91
GM53	22	7.6	120	5/01/91
GM56	23	7.8	290	5/01/91
GM57	23	7.7	220	5/01/91
GM61[a]	23	7.7	780	5/01/91

14[NASP]UH8018:T0358/666/26

Key:

[a]Deep well.

Source: Ecology and Environment, Inc., 1992.

[Bold items enclosed in brackets denote changes to last version of document]

general, the pH values recorded at Site 34 were well within the range of values for ambient shallow groundwater in Escambia County (Clemens et al. 1989).

The specific conductance values reported at the site ranged from 8.26 micromhos per centimeter (µmhos/cm) to 780 µmhos/cm. The specific conductance value reported in temporary well TW009 was the only single digit value. In general, the values exceed the reported range of values for ambient groundwater in Escambia County (30 to 200 µmhos/cm; Clemens et al.). Only reported values from wells TW006, TW009, and GM53 were found to be within the reported range. Well GM61 is a deep well, and the value of specific conductance (780 µmhos/cm) is only slightly above the reported range of values for deeper wells in Escambia County (28 to 747 µmhos/cm; Clemens et al. 1989).

No floating and/or sinking immiscible hydrocarbons were observed in any of the wells. The temporary well information, including field parameter and groundwater elevation data, is presented in Appendix C.

3.5.2.2 Analytical Screening Parameters

Table 3-5 summarizes the analytical screening results for the groundwater samples collected from the five temporary wells installed on Site 34. Figure 2-3 shows the temporary monitoring well locations at Site 34. The complete analytical screening results for the temporary monitoring well groundwater samples are presented in Appendix E.

The groundwater samples collected from the five temporary monitoring wells at Site 34 exhibited low concentrations of zinc above method detection limits. Sporadic occurrences of chromium and lead were also reported. TRPHs and total PAHs were detected in only one of the temporary wells (TW011), and phenols were detected in two of the temporary wells (TW007 and TW011).

No VOCs, pesticides, or PCBs were detected in any of the temporary monitoring wells at Site 34.

Metals

Zinc concentrations were present above method detection limits in all five of the temporary monitoring well samples collected at Site 34. Zinc concentrations ranged from 55 micrograms per liter (µg/L; GW007) to

Table 3-5

SUMMARY ANALYTICAL SCREENING RESULTS FOR GROUNDWATER SAMPLES
(FROM TEMPORARY MONITORING WELLS)
NAS PENSACOLA SITE 34
(All results in µg/L, unless noted)

Parameter	Detection Limit	Sample Number (Well Number) P34GW006 (TWO06)	P34GW007 (TW007)	P34GW009 (TW009)	P34GW009D[a] (TW009)	P34GW011 (TW011)	P34GW012 (TW012)	FPDWS/ FSDWS
Chromium	10	—	15	—	—	12	37	50
Zinc	20	97	55	150	200	94	290	5,000
Lead	40	—	—	—	—	58	—	50
TRPHs	1	—	—	—	—	1.2	—	
Total PAHs as Benzo-a-pyrene	100	—	—	—	—	190	—	
Phenols as Trichlorophenol	100	—	190	—	—	960	—	

14[NASP]UH8018:T0358/596/7

Key:

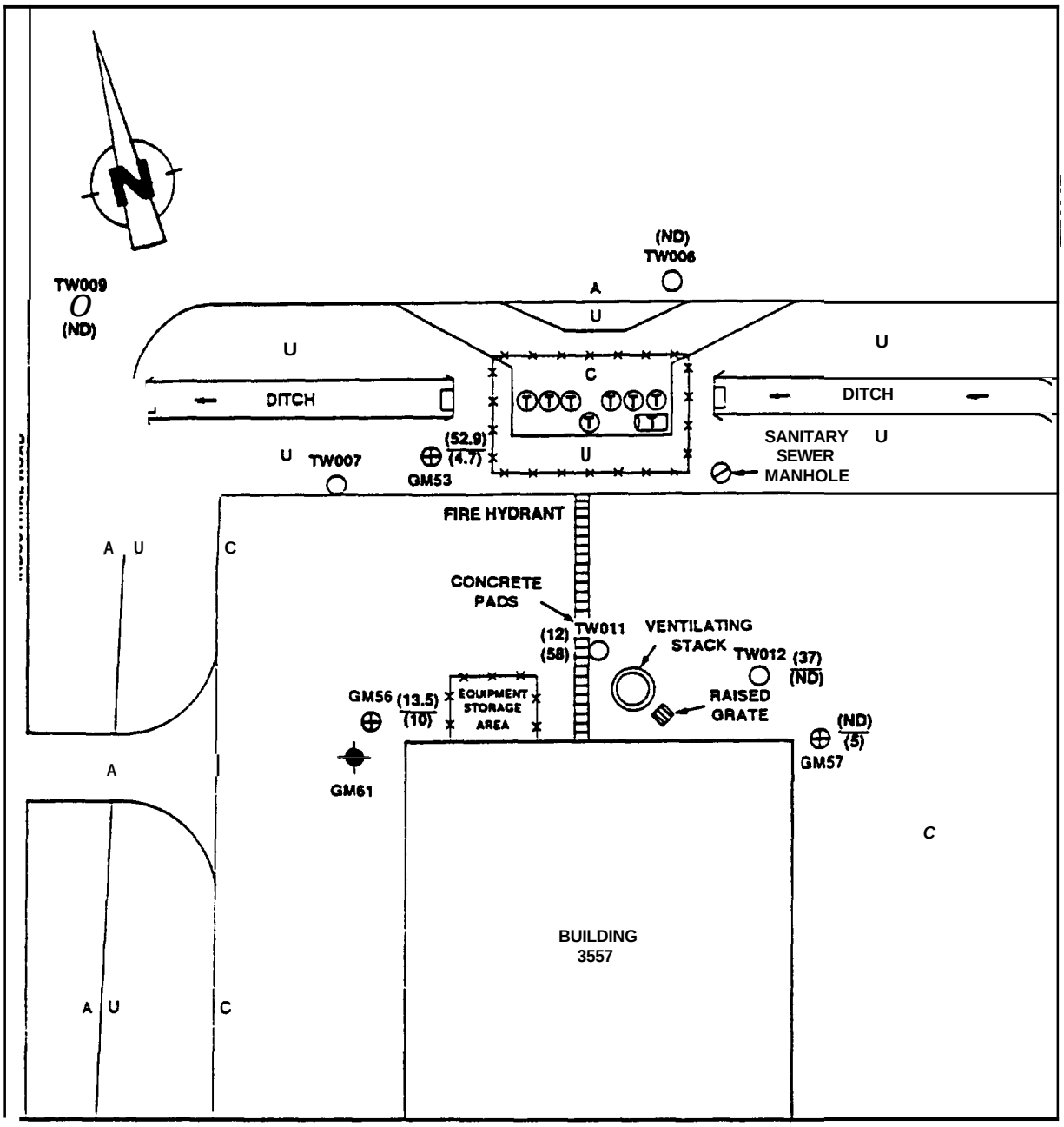
[a]Duplicate of sample P34GW009.

FPDWS = Florida Primacy Drinking Water Standard.
FSDWS = Florida Secondary Drinking Water Standard.

Dash (—) indicator compound not detected.

Source: Ecology and Environment, Inc., 1992.

[Bold items enclosed in brackets denote changes to last version of document]



SOURCE: U.S. Naval Air Station Pensacola, Pensacola, Flonca. 1990; Ecology and Environment 1991

SCALE

0 100 200 FEET

KEY:

- U — Unpaved Area
- A — Asphalt-Paved Area
- C — Concrete-Paved Area
- Fence
- BLDG. 3557 — Building
- Existing Permanent Shallow Monitoring Well
- Storage Tank
- Existing Permanent Deep Monitoring Well
- GM53 — Permanent Monitoring Well Number
- Temporary Monitoring Well
- TW007 — Temporary Monitoring Well Number
- (12)/(58) — Chromium Concentration (ug/L) / Lead Concentration (ug/L)
- (ND) — Not Detected

Figure 3-6 TOTAL CHROMIUM AND LEAD CONCENTRATIONS DETECTED IN SHALLOW GROUNDWATER SAMPLES — NAS PENSACOLA SITE 34

290 µg/L (GW012). All of the reported zinc concentrations are below the maximum limit of 5,000 µg/L established by the FSDWS (Chapter 17-550, Florida Administrative Code [FAC]).

Figure 3-6 shows the distribution of chromium and lead concentrations detected in groundwater samples from Site 34. Chromium concentrations were present above method detection limits in three of the temporary well samples (see Table 3-5 and Figure 3-6). Samples from temporary wells TW007, TW011, and TW012 exhibited total chromium Concentrations of 15 µg/L, 12 µg/L, and 37 µg/L, respectively. All chromium concentrations are within the Florida Primary Drinking Water Standard (FPDVS) of 50 µg/L (Chapter 17-550, FAC).

Lead was detected in only one of the temporary well samples collected at Site 34 (see Table 3-5 and Figure 3-6). The lead concentration detected in sample GW011 (58 µg/L) exceeds the FPDVS of 50 µg/L.

The samples collected from temporary wells were unfiltered and turbid. The results, although generally low, may yet reflect the effect of acid preservative leaching or dissolution of aquifer matrix sediments entrained in these unfiltered samples, rather than actual groundwater contamination. Therefore, the concentrations detected may be somevhat higher than the actual dissolved concentrations represented in the aquifer.

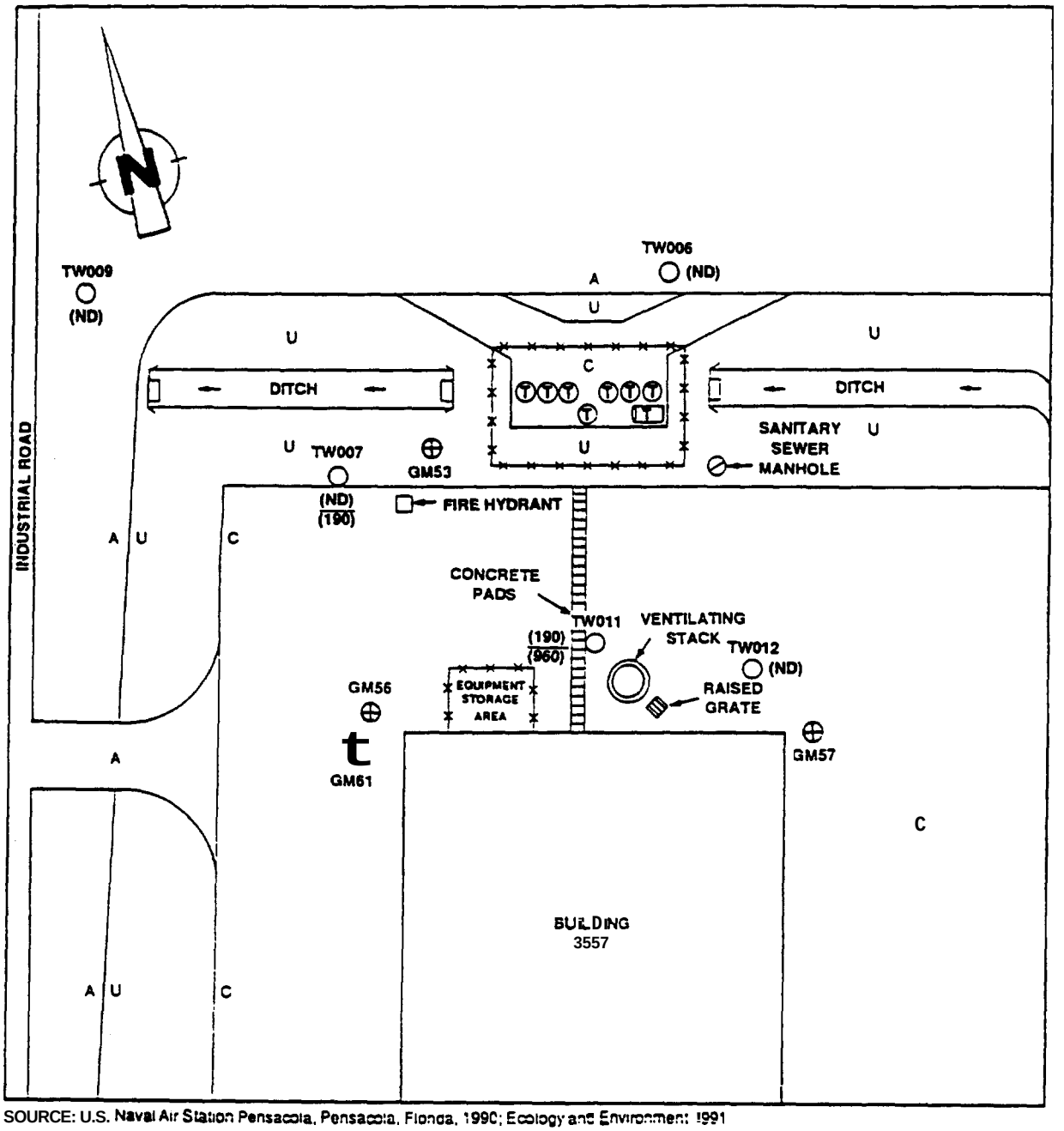
TRPHs and PAHs

TRPHs and total PAHs were detected only in sample GW011. The TRPH concentration detected (1.2 µg/L) was only slightly above the analytical method detection limit of 1.0 µg/L, and, similarly, the total PAH concentration (190 µg/L) was less than 2 times the analytical method detection limit of 100 µg/L (see Table 3-5 and Figure 3-7).

It should be noted that PAHs were reported as benzo-a-pyrene for laboratory reporting purposes; however, PAHs other than benzo-a-pyrene may be present in the samples.

Phenols

Phenol concentrations were detected above method detection limits in samples from temporary monitoring wells TW007 and TW011. The concentration detected in GW007 (190 µg/L) was only slightly elevated



SOURCE: U.S. Naval Air Station Pensacola, Pensacola, Florida, 1990; Ecology and Environment 1991

SCALE

0 100 200 FEET

KEY:

- U — Unpaved Area
- A — Asphalt-Paved Area
- C — Concrete-Paved Area
- Fence
- BLDG. 3557 — Building
- Existing Permanent Shallow Monitoring Well
- Storage Tank
- Existing Permanent Deep Monitoring Well
- GM53 — Permanent Monitoring Well Number
- Temporary Monitoring Well
- TW007 — Temporary Monitoring well Number
- (190)/(960) — Total PAH Concentration (ug/L) / Phenol Concentration (ug/L)

Figure 3-7 TOTAL PAH AND PHENOL CONCENTRATIONS DETECTED IN SHALLOW GROUNDWATER SAMPLES FROM TEMPORARY MONITORING WELLS — NAS PENSACOLA SITE 34

above the method detection limit of 100 µg/L; however, the concentration detected in GW011 (960 µg/L) is clearly above the method detection limit (see Table 3-5 and Figure 3-7).

It should be noted that phenols were reported as trichlorophenol for laboratory reporting purposes; however, phenols other than trichlorophenol may be present in the samples.

3.5.2.3 **TAL/TCL** Parameters

Table 3-6 summarizes the analytical results for the groundwater samples collected from the permanent monitoring wells on Site *34*. These samples were analyzed for the TAL/TCL parameter groups, TRPHs, total alkalinity, total hardness, and total organic carbon. Figure *1-3* illustrates the existing permanent monitoring well locations at Site *34*. The complete TAL/TCL analytical results for these groundvater samples are presented in Appendix F.

In general, a variety of metals were detected in each of the four permanent monitoring well samples at Site *34*. The dissolved (filtered) metals detected and concentrations reported vere similar to those reported for the total (unfiltered) metals analysis. Several VOCs and BNAs vere also detected at lov levels. TRPHs, cyanide, phenols, pesticides, and PCBs were not detected in any of the groundvater samples from the permanent monitoring wells.

Metals

Table *3-6* summarizes the analytical results for TAL metals in the permanent monitoring well groundvater samples. In comparison, the total and dissolved metals concentrations present in the permanent monitoring well samples are, in general, very similar. The similar concentrations betveen total (unfiltered) and dissolved (filtered) metals analyses indicate that these developed and purged wells yield few suspended sediments. The total and dissolved samples are in turn similar to duplicate samples as well, and the slight differences in concentrations can be attributed to natural variations in the water column.

In contrast to the other metals concentrations detected, the total aluminum concentrations present in samples W056 and W057, the total iron concentration present in W057, and the total chromium concentration

Table 3-6

SUMMARY TAL/TCL ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES
(FROM PERMANENT MONITORING WELLS)
NAS PENSACOLA SITE 34
(All results in µg/L, unless noted)

Parameter	Detection Limit	Sample Number (Well Number) P34W053 (GM53)	P34W056 (GM56)	P34W057 (GM57)	P34W061 (GM61)	FPDWS/ FSDWS
Total Metals						
Aluminum	14	1,650	1,110	706	279	
Antimony	33	--	--	**39.1(B)**	--	
Arsenic	2	--	**2.4(B)**	--	--	50
Barium	5	--	**17.6(B)**	**5.2(B)**	**38.7(B)**	1,000
Cadmium	3	**3.3(B)**		--	--	10
Calcium	**95**	15,700	60,000	49,500	*50,500*	
Chromium	9	52.9	13.5	--	--	50
Cobalt	5	7.6(B)	**6.3(B)**	**5.8(B)**	**6.5(B)**	
Copper	2	**4.4(B)**	--	**3.0(B)**	**6.6(B)**	1,000
Iron	**5**	4,400	6,590	2,600	4,800	300
Lead	**1**	4.7*	**10***	**5.0***	**7.3(S)***	50
Magnesium	**108**	5.210	4,440(B)	3,380(B)	6,330	
Manganese	**1**	101	607	40.9	54.0	50
Nickel	**8**	**11.7(B)**	--	--	--	
Potassium	263	**3,190(B)**	**3,800(B)**	**1,460(B)**	2,660(B)	
Selenium	2	--	--(W)	--(W)	--(W)	**10**
Sodium	74	5,890	9,130	**3,390(B)**	127,000	160,000
Thallium	3	--(W)	--	--	--	
Vanadium	4	**7.1(B)**	--	--	--	
Zinc	3	26.2	**16.7(B)**	25.1	39.1	*5,000*

14[NASP]UH8018:T0358/699/7

Key at end of table.

[Bold items enclosed in brackets denote
changes to last version of document]

Table 3-6 (Cont.)

Parameter	Detection Limit	Sample Number (Well Number) P34W053 (GM53)	P34W056 (GM56)	P34W057 (GM57)	P34W061 (GM61)	FPDWS/ FSDWS
Dissolved Metals						
Aluminum	14	3,330	107(B)	74.3(B)	302	
Antimony	33	34.5(B)	—	—	—	
Arsonic	2	—	—(W)	—	—	50
Barium	5	8.1(B)	15.3(B)	—	39.6(B)	1,000
cadmium	3	—	—	3.2(B)		10
Calcium	95	15,700	61,300	51,700	SO, *300*	
Cobalt	5	8.0(B)	10.7(B)	8.4(B)	10.1(B)	
Copper	2	4.5(B)	—	—	2.1(B)	1,000
Icon	5	4,400	4,070	139	4,800	300
Lead	1	5.4*	—*	—*	3.2*	50
Magnesium	108	5,370	4,430(B)	3,310(B)	6,240	
Manganese	1	99.3	592	36.6	51.1	50
Potassium	263	3,200	4,020(B)	1,550(B)	2,600(B)	
Selenium	2	—(W)	—	—	—(W)	10
Sodium	74	5,900	9,570	3,550(B)	122,000	160,000
Thallium	3	—(W)	—	—	—(W)	
Vanadium	4	10.8(B)	4.4(B)	5.4(B)	—	
Zinc	3	24.4	10.5(B)	6.6(B)	21.1	5,000
Methylene Chloride	5	1(B^a,J)	2(B^a,J)	2(B^a,J)	2(B^a,J)	
Acetone	10	5(B^a,J)	2(B^a,J)	3(B^a,J)	4(B^a,J)	
Carbon Disulfide	5	—	9	—	13	
Chlorobenzene	10	—	3(J)	—	—	
1,3-Dichlorobenzene	10	—	1(J)	—	—	
1,4-Dichlorobenzene	10	—	2(J)	—	—	75
Naphthalene	10	4(J)	15	—	—	
2-Methylnaphthalene	10	4(J)	60	—	—	
Bis(2-Ethylhexyl)Phthalate	10	3(B^a,J)	4(B^a,J)	4(B^a,J)	4(B^a,J)	

14[NASP]UH8018:T0358/699/7

Key at end of table.

[Bold items enclosed in brackets denote changes to last version of document]

Table 3-6 (Coat.)

Note: Tho number within parentheses preceding tho listed concontration value represents tho number of tentatively identified compounds (TICs) in this parameter group. Tho listed Concentration represents tho sum of the individual group-member concentrations.

Koy :

FPDWS = Florida Primary Drinking Water Standard.
FSDWS = Florida Secondary Drinking Water Standard.

NA = Analyses not performod.
Dash (—) indicates compound not detected.

*Duplicate analysis not within control limits.
**Values for TICs are ostimatod. Detection limits for TICs were not established.

Qualifiers:
(B) = Reported value was obtained from a reading that was less than tho Contract Required Detection Limit but greater than or equal to tho Instrument Detection Limit.
(B^a) = Present in method blank.
(J) = For non-TICs, estimated value; compound present but below stated method detection limit. Also indicates that TIC concentrations are ostimatod because no detection limits were established for TICs.
(S) = Tho reported valuo was determined by tho method of standard additions.
(W) = Post digestion spike for furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

Source: Ecology and Environment, Inc., 1992.

Table 3-6 (Cont.)

Parameter	Detection Limit	Sample Number (Well Number) P34W053 (GM53)	P34W056 (GM56)	P34W057 (GM57)	P34W061 (GM61)	FPDWS/ FSDWS
Tentatively Identified Compounds**						
Diethyl Benzene Isomor		(2)53(J)	(2)31(J)	--	--	
Dihydro Methyl 1H Indene Isomer		(5)603(J)	(4)212(J)	--	--	
Ethyl Dimethyl Benzene Isomor		(4)249(J)	(4)241(J)	--	--	
Methyl Methylethyl Benzene		(4)505(J)	(4)77(J)	--	--	
1 Methyl-Naphthalene		(1)14(J)	(1)57(J)	--	--	
Tetramethyl Benzene Isomer		(5)655(J)	(6)393(J)	--	--	
Unknown Hydrocarbon		--	(1)4(B^A,J)	(2)11(B^A,J)	--	
Unknown Hydrocarbon		(1)5(J)	(2)15(J)	(5)31(J)	(6)49(J)	
Unknown Compound		(7)174(J)	(3)104(J)	(3)74(J)	(4)107(J)	
Unknown Compound		(1)22(B^A,J)	(1)27(B^A,J)	(1)32(B^A,J)	--	
Total Alkalinity (mg/L as $CaCo_3$)		70	165	130	46	
Total Hardness (mg/L as $CaCo_3$)		50	160	130	140	
Total Organic Carbon (mg/L)		*1.3*	9.0	2.4	--	

14[NASP]UH8018:T0358/699/7

Key at end of table.

[Bold items enclosed in brackets denote changes to last version of document]

present in W053 were significantly higher than the dissolved concentrations. The detected concentrations suggest that the elevated total metals concentrations probably reflect the effect of acid preservative leaching or dissolution of aquifer matrix sediments entrained in these unfiltered samples, rather than actual groundwater contamination.

Although numerous metal compounds were detected in the groundwater samples from permanent monitoring wells at Site 34, only three of the metals, chromium, iron, and manganese, were detected at concentrations exceeding FPDWSs and FSDWSs. Total and dissolved iron and manganese concentrations in excess of the FSDWSs of 300 µg/L and 50 µg/L, respectively, were detected in samples from monitoring wells GM53, GM56, and GM61. The iron concentrations ranged from 4,070 µg/L to 6,590 µg/L, and manganese concentrations ranged from 54 µg/L to 607 µg/L. In addition, the total iron concentration (2,600 µg/L) present in sample W057 also exceeded the FSDWS. The total chromium concentration of 52.9 µg/L detected in sample W053 was the only other metal concentration reported above the FSDWS of 50 µg/L.

A number of the metals detected at elevated concentrations do not currently have state or federal standards for concentrations in groundwater. These metals and the range of total concentrations detected are as follows: aluminum, 279 µg/L to 1,650 µg/L; antimony, <33 µg/L to 39.1 µg/L; calcium, 15,700 µg/L to 60,000 µg/L; cobalt, 5.8 µg/L to 7.6 µg/L; magnesium, 3,380 µg/L to 6,330 µg/L; potassium, 1,460 µg/L to 3,800 µg/L; and vanadium, <4 µg/L to 7.1 µg/L.

VOCs

Table 3-6 also summarizes the analytical results for the TCL parameters in the permanent monitoring well groundwater samples. Methylene chloride and acetone were detected in all the permanent monitoring well groundwater samples. Given that these compounds were also detected in the associated laboratory method blanks at approximately the same values, the presence of these compounds in the groundwater samples is likely attributed to laboratory-derived contamination.

Carbon disulfide was detected in two samples (W056 and W061) at concentrations of 9 µg/L and 13 µg/L, respectively. Although carbon

disulfide was not detected in the analytical method blanks, the compound is believed to laboratory-derived.

Sample W056 exhibited detectable concentrations of chlorobenzene (3 µg/L), 1,3-dichlorobenzene (1 µg/L), and 1,4-dichlorobenzene (2 µg/L). All three reported values were estimated, because the compound was present below method detection limits. Of the three compounds, only 1,4-dichlorobenzene has an FPDWS (75 µg/L). The 1,4-dichlorobenzene detected in W056 is far below this standard.

BNAs

Naphthalene and 2-methylnaphthalene were detected in groundwater samples from permanent monitoring wells GM53 and GM56. Bis(2-ethylhexyl)phthalate was detected in all the permanent monitoring well groundwater samples, as well as in the associated laboratory method blanks; therefore, the presence of this compound can be attributed to laboratory-derived Contamination.

Tentatively Identified Compounds (TICs)

A number of VOC and BNA TICs were detected in the permanent groundwater samples (see Table 3-6). Six TICs (a diethyl benzene isomer, a dihydro methyl 1H indene isomer, an ethyl dimethyl benzene isomer, methyl methylethyl benzene, 1 methyl-naphthalene, and a tetramethyl benzene isomer) were detected in samples W053 and W056. Hiscellaneous unknown hydrocarbons and other unknown compounds were detected in all four groundwater samples from the site. The fact that a portion of the unknown hydrocarbons and other unknown compounds were also detected in the analytical method blanks may indicate that at least *some* of these compounds may be attributable to laboratory-derived contamination.

Remediation Parameters

The permanent well groundwater samples were also analyzed for total alkalinity, total hardness, and total organic carbon to support subsequent groundwater remediation design activities at Site 34, if required. Table 3-6 presents the analytical results for these remediation parameters. With respect to the four permanent monitoring

wells sampled at Site 34, total alkalinity ranged from 46 milligrams per liter (mg/L) to 165 mg/L; total hardness ranged from 50 mg/L to 160 µg/L; and total organic carbon ranged from <1 mg/L to 9.0 mg/L.

For comparative purposes, regional (i.e., within southern Escambia County) values of these same parameters in the Sand-and-Gravel Aquifer are as follows: alkalinity (as mg/L of $CaCO_3$) values range from <1.00 mg/L to 129.97 mg/L (Clemens et al. 1989); total hardness values range from 1.00 mg/L to 326.00 mg/L, with the majority being less than 50 mg/L (Johnson 1991); and total organic carbon values range from 2.88 mg/L to 24.41 mg/L (Clemens et al. 1989). The majority of Site 34 groundwater samples exhibited values of alkalinity, hardness, and total organic carbon well within the reported ranges of regional values.

3.6 CONTAMINATION DISTRIBUTION/SOURCE DISCUSSION

Soil samples from Site 34 yielded only very low concentrations of metals across the site and TRPHs at only one subsurface location. Groundwater samples collected on and in the vicinity of Site 34 were found to exhibit metals, TRPHs, VOCs, PAHs, and phenols. The detected contamination in soil and groundwater does not appear to be indicative of the descriptions of the former pipe leak reported on Site 34; however, the Phase I results indicate the presence of other potential contaminant sources impacting Site 34.

3.6.1 Soil

Low concentrations of the metals chromium, zinc, lead, and cadmium were detected in the samples from soil borings at Site 34.

Total detected metals concentrations were lowest in samples from the four borings (B001, B002, B006, and B009) located along the northern perimeter of the site where chromium and lead were not detected.

Only slightly higher concentrations of metals were found in the remaining soil borings, all located between the on-site drainage ditch and Building 3557. Low levels of lead, chromium, nickel, and cadmium are apparently widespread in soils throughout this area south of the ditch. Soil samples collected along the Site 36 industrial waste sewer line where it crosses Site 34 confirmed the above trend in that only very low concentrations of the same metals were detected in soils. The

data does not suggest the existence of "hot spots" or significant sources of metals contamination in soil affecting groundwater.

TRPHs were detected in only one Site 34 soil sample (S011B) at a low concentration (7.7 mg/kg) in the southern portion of the site; however, TRPHs were detected in three of the four soil borings (P36B103, P36B105, and P36B106) located along the industrial sever line (Site 36) at higher concentrations (22 to 93 mg/kg), indicating that the sever may be a potential source of TRPHs in this area.

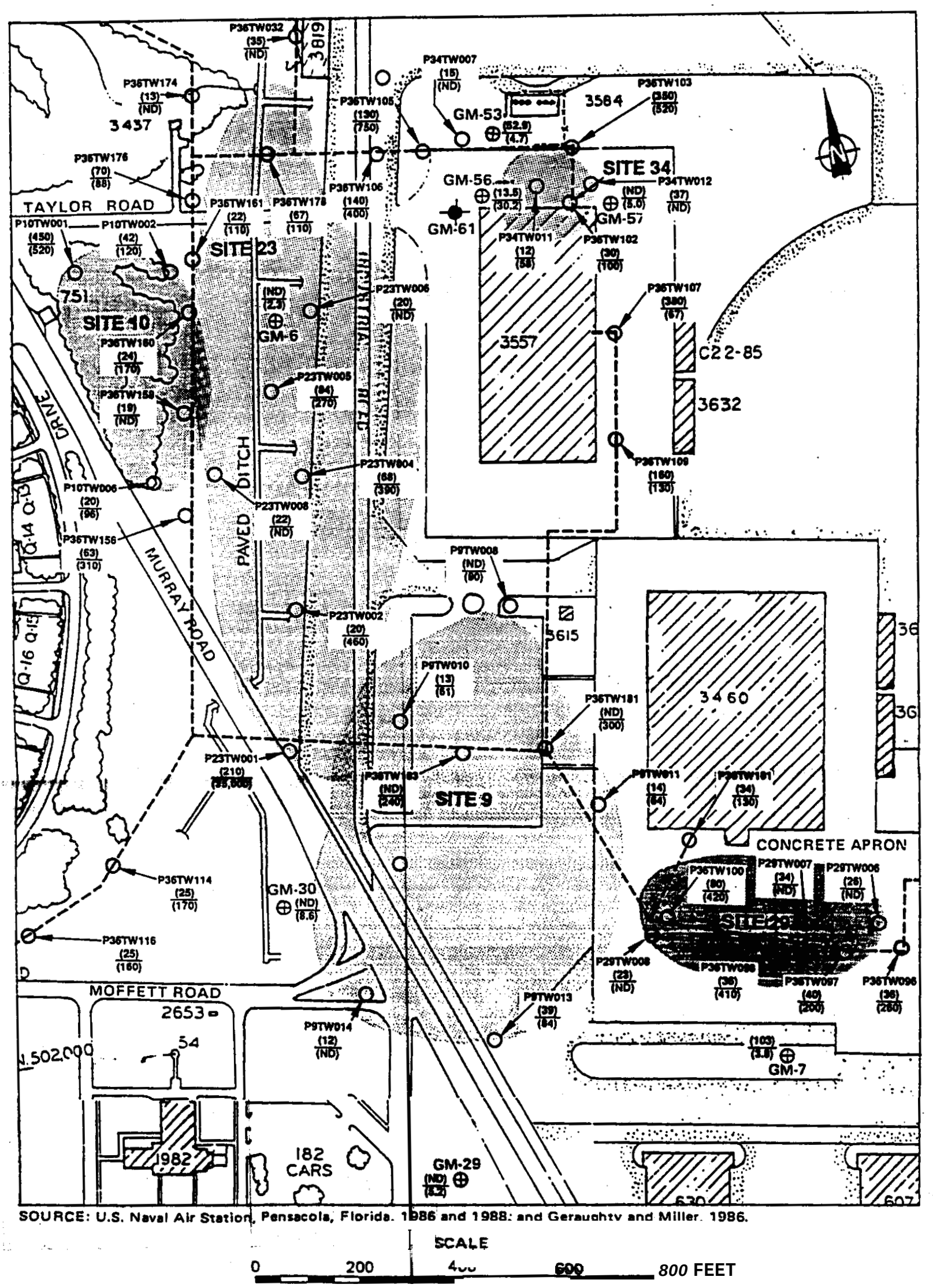
Although PAHs were not detected in any Site 34 soil samples, two samples (P36S102B and P36S105B) associated with the industrial sewer line (Site 36) exhibited low levels of total PAHs below the instrument detection limits of 1,000 micrograms per kilogram (µg/kg), adding to the possibility that the sewer may be a source of hydrocarbon contamination to the subsurface.

3.6.2 Groundwater

Numerous metals were detected in Site 34 groundwater samples at low to high Concentrations. TRPHs, VOCs, BNAs, PAHs, and phenols were also detected, but at few locations.

A comparison of metals concentrations detected in on-site soil samples to elevated metals concentrations detected in the groundwater samples indicates a slight correlation in that only zinc was detected in groundwater samples collected north of the drainage ditch and that the greater variety and concentrations of metals were present in samples collected between the ditch and Building 3557. There is no apparent correlation between the lead concentrations in soil and the lead concentrations in groundwater samples at boring and temporary well locations B/TW007, B/TW011, and B/TW012. Similarly, there is no correlation between soil and groundwater samples for zinc, which was detected in the groundwater sample collected from temporary well TW009.

The presence of metals in the samples from temporary and permanent monitoring wells does not seem to indicate any trend in distribution except in consideration of the results for groundwater samples collected from temporary wells along the industrial waste sewer line (Site 36; see Figure 3-8). Figure 3-8 presents chromium and lead concentrations detected in groundwater samples collected on sites 9, 10, 23, 29, 34,



SOURCE: U.S. Naval Air Station, Pensacola, Florida. 1986 and 1988; and Geraughty and Miller. 1986.

Figure 3-8 CHROMIUM AND LEAD CONCENTRATIONS WHERE DETECTED IN GROUNDWATER SAMPLES — NAS PENSACOLA SITES 9, 10, 23, 29, 34, AND 36

and 36 in the southwest area of Chevalier Field. Lead and chromium are widely distributed in the groundwater over this area and may be of concern because many of the Concentrations detected in the groundwater samples exceed the FPDWS of 50 µg/L for each metal. Samples collected from Site 36 shallow monitoring wells TW103, TW105, and TW106 yielded chromium, lead, and zinc concentrations generally a magnitude higher than the surrounding Site 34 well samples. These elevated levels of metals along the industrial sewer suggest that the sewer is a source of groundwater contamination. The limited area of these high concentrations may be an indication that metals contamination which emanated from the sewer line has to an extent accumulated in the nearby sediments. The unfiltered and turbid groundwater samples collected from these Site 36 wells may at least partially reflect the dissolution of aquifer matrix materials through acid preservation of the sample.

The groundwater samples recovered from temporary wells TW007 and TW011 were the only temporary well samples found to contain elevated concentrations of organic contaminants (i.e., TRPHs, PAHs, and phenols). The highest concentrations were detected in temporary well TW011, with lesser concentrations detected in temporary well TW007. The proximity of the wells to the industrial waste sewer line suggests that the sewer is a possible contaminant source (see Figure 3-9). Figure 3-9 presents TRPH and phenol concentrations detected in groundwater samples collected on sites 9, 10, 23, 29, 34, and 36 in the southwest area of Chevalier Field.

Elevated concentrations of several VOCs (chlorobenzene, 3 µg/L; 1,3-dichlorobenzene, 1 µg/L; and 1,4-dichlorobenzene, 2 µg/L) and the BNA compounds naphthalene (15 µg/L) and 2-methylnaphthalene (60 µg/L) were detected in the sample from permanent monitoring well GH56 which, according to both the temporary and the permanent monitoring well data, is downgradient from temporary well TW011. Lesser concentrations of naphthalene (4 µg/L) and 2-methylnaphthalene (4 µg/L) were also detected in permanent monitoring well GM53, which is located in cross-gradient flow directions from temporary well TW011.

These detected VOCs may be representative of residual contamination from the reported 1984 solvent leak on the site. The almost continuous operation of the pump in the central sump pit beneath Building 3557

might have served as a recovery point for the detergent/solvent mixture. Any recovered contamination would have been directed to the industrial sewer.

Monitoring well GM61, completed to a depth of 85.66 feet BLS, was not reported to contain any organic contaminant concentrations that could not be attributed to laboratory-derived contamination.

3.7 QA/QC

3.7.1 Field QA/QC

Analytical Screening Samples

One soil field duplicate sample and one groundwater field duplicate sample were collected for the Site *34* screening samples. The analytical results for the duplicate samples are presented in the summary screening result tables for soil and groundwater (see tables *3-3* and *3-5*, respectively). The results for the soil duplicate sample (SOOSAD) and groundwater duplicate sample (GW009D) were in agreement with the results for the corresponding samples.

TAL/TCL Samples

One field duplicate sample, one bottle trip blank, one field blank, one sampling equipment rinsate blank, and one preservative blank were collected for the four Site *34* TAL/TCL groundwater samples. The analytical results for these QA/QC samples are presented in the summary results table for the groundwater field QA/QC samples (see Table *3-7)*.

Aluminum, antimony, calcium, cobalt, iron, lead, manganese, nickel, sodium, and zinc were the only metals detected in the QA/QC sample blanks. All reported metal concentrations were obtained from a reading less than the contract required detection limit but greater than or equal to the instrument detection limit. The values reported are therefore not significant.

The analytical results for groundwater duplicate sample W056D were in agreement with the results of corresponding sample W056.

Methylene chloride, acetone, and carbon disulfide were detected in the trip blank sample (analyzed for VOCs only) and the field blank. Methylene chloride and carbon disulfide were also detected in the rinsate blank and the preservative blank. Bis(2-ethylhexyl)phthalate

Table 3-7 (Cont.)

Parameter	Detection Limit	Sample Number (Well Number/Type) P34W056 (GM56)	P34W056D[a] (GM56)	P34WTB02[b] (Trip Blank)	P34WFB02 (Field Blank)	P34WRB02[c] (Rinsate Blank)	P34WPB02[d] (Preservative Blank)	FPDWS/ FSDWS
Arsonic	2	—(W)	2.0(B)	NA	—	—	NA	50
Barium	5	15.3(B)	16.4(B)	NA	—	—	NA	1,000
Calcium	95	61,300	62,800	NA	—	—	NA	
Cobalt	5	LO.7(B)	9.7(B)	NA	—	6.3(B)	NA	
Iron	5	4,070	4,180	NA	35.1(B)	23.1(B)	NA	300
Lead	1	—*	6.5(S)*	NA	2.7(B)*	—*	NA	50
Magnesium	108	4,430(B)	4,470(B)	NA	—	—	NA	
Manganese	1	592	629	NA	2.9(B)	2.1(B)	NA	50
Potassium	263	4,020(B)	4,130(B)	NA	—	—	NA	
Selenium	2	—(W)	—(W)	NA	—	—	NA	
Sodium	74	9,570	9,520	NA	239(B)	201(B)	NA	160,000
Thallium	3	—	—	NA	—(W)	—	NA	
Vanadium	4	4.4(B)	—	NA	—	—	NA	
Zinc	3	LO.5(B)	8.6(B)	NA	9.9(B)	21.1	NA	5,000
Methylene Chloride	5	2(B[a],J)	3(B[a],J)	2(B[a],J)	2(B[a],J)	2(B[a],J)	2(B[a],J)	
Acetone	10	2(B[a],J)	4(B[a],J)	1(B[a],J)	4(B[a],J)	—	—	
Carbon Disulfide	5	9	11	5	8	11	15	
Chlorobenzene	10	3(J)	5	NA	—	—	—	
1,3-Dichlorobenzene	10	1(J)	1(J)	NA	—	—	NA	
1,4-Dichlorobenzene	10	1(J)	1(J)	NA	—	—	NA	
Naphthalene	10	15	11	NA	—	—	NA	
2-Methylnaphthalene	10	60	53	NA	—	—	NA	
Bis(2-Ethylhexyl)Phthalate	10	4(B[a],J)	4(B[a],J)	NA	5(B[a],J)	2(B[a],J)	NA	

14[NASP]UH8018:T0358/701/0

Key at end of table.

[Bold items enclosed in brackets denote changes to last version of document]

Table 3-7 (Cont.)

14[NASP]UH8018:T0358/701/0

Note: The number within parentheses preceding the listed concentration value represents the number of tentatively identified compounds (TICs) in this parameter group. The listed concentration represents the sum of the individual group-member concentrations.

Key:

FPDWS = Florida Primary Drinking Water Standard.
FSDWS = Florida Secondary Drinking Water Standard.

NA = Analyses not performed.
Dash (—) indicates compound not detected.

*Duplicate analysis not within control limits.
**Value for TICs are estimated. Detection limits for TICs were not established.

[a]Duplicate of sample P34W056.
[b]Analyzed for VOCs only.
[c]Analyzed for total metals, dissolved metals, TRPHs, cyanide, VOCs, BNAs, pesticides, PCBs, and total hardness only.
[d]Analyzed for total metals, TRPHs, cyanide, and VOCs only.

Qualifiers:
(B) = Reported value was obtained from a reading that was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.
(B^a) = Present in method blank.
(J) = For non-TICs, estimated value; compound present but below detection limit. Also indicates that TIC concentrations were estimated because no detection limits were established for TICs.
(S) = The reported value was determined by the method of standard additions.
(W) = Post digestion spike for furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

Source: Ecology and Environment, Inc., 1992.

[Bold items enclosed in brackets denote changes to last version of document]

4. CONCLUSIONS

Soil and groundwater contamination are present on Site 34. Metals, TRPHs, PAHs, and phenols are the primary contaminants. The detected contamination does not appear to be indicative of the descriptions of the detergent/solvent pipe leak that occurred north of Building 3557 in 1984; however, additional sources of contamination, likely including the industrial sewer line (Site 36), may be impacting Site 34.

Low levels of metals contamination, including chromium, lead, zinc, and cadmium, was detected from land surface to the water table in the soil samples collected south of the on-site drainage ditch.

Limited areas of TRPH contamination were detected in soils in the southern portion of Site 34, near the pipeline from the tank farm to Building 3557 and also along the industrial sewer line. Very low levels of PAHs were also detected in soils in two areas along the industrial sewer line.

Slightly elevated metals concentrations were detected in groundwater samples from the Site 34 temporary and permanent monitoring wells. Three metals, chromium, iron, and manganese, were detected in samples collected from the permanent monitoring wells at concentrations exceeding the FPDWS or FSDWS. A comparison of the total versus dissolved metal concentrations indicated similar concentrations indicative of developed monitoring wells with few suspended sediments.

The highest metals concentrations on Site 34 occurred in samples from temporary monitoring wells located along the industrial sewer line (Site 36) during the corresponding Site 36 Phase I investigation, indicating a potential source of metals contamination in this area. The limited extent of the high metals concentrations suggests the

[Bold items enclosed in brackets denote changes to last version of document)

5. REFERENCES

Barraclough, J. T., and O. T. Marsh, 1962, Aquifers and Quality of Ground Water along the Gulf Coast of Western Florida: Florida Bureau of Geology, Report of Investigations No. 29.

Barraclough, J. T., 1967, Ground-water Features in Escambia and Santa Rosa Counties, Florida: Florida Geological Survey, Map Series No. 26.

Brooks, H. K., 1981, Physiographic Divisions of Florida: Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, Gainesville, Florida.

Carlisle, V. W., 1960, Soil Survey of Escambia County, Florida: Series 1955, No. 8, U.S. Department of Agriculture, Washington, D.C.

Coe, C. J., 1979, Geology of the Plio-Pleistocene Sediments in Escambia and Santa Rosa Counties, Florida: Florida State University, Masters Thesis.

Clemens, L., J. B. Dalton, and R. D. Fendick, 1989, Ambient Groundwater Quality in Northwest Florida: Northwest Florida Water Management District Water Resources Special Report 87-1; Revised Edition October, 1989.

Coffin, J. E., 1982, Summary of Ground-water and Surface-water Data for City of Pensacola and Escambia County, Florida: U.S. Geological Survey Open-file Report 82-361.

Cooke, C. U., 1939, Scenery of Florida Interpreted by a Geologist: Florida Geological Survey, Bulletin No. 17.

_____, 1945, Geology of Florida: Florida Geological Survey, Bulletin No. 29.

Cooley, N. R., 1978, An Inventory of Estuarine Fauna in the Vicinity of Pensacola, Florida: Florida Marine Research Publications No. 31, Florida Department of Natural Resources, Marine Research Laboratory, St. Petersburg, Florida.

Driscoll, F. G., 1986, Groundwater and Wells, Second Edition: Johnson Division, St. Paul, Minnesota.

[Bold items enclosed in brackets denote changes to last version of document]

Geraghty and Miller, Inc. (G & M), 1984, Verification Study, Assessment of Potential Ground-water Pollution at Naval Air Station, Pensacola, Florida.

_____, 1986, Characterization Study, Assessment of Potential Ground-water Pollution at Naval Air Station, Pensacola, Florida.

_____, 1987a, Quarterly Report, Corrective Action Program, Wastewater Treatment Plant, NAS Pensacola, Florida.

_____, 1987b, Lithologic Logs, NAS Pensacola Wastewater Treatment Facility, Pensacola, Florida.

_____, 1988, Semi-Annual Report, Corrective-Action and Compliance-Monitoring Programs, Surge Pond Operation Permit, Wastewater Treatment Facility, Naval Air Station, Pensacola, Florida.

Green, K. Michael, 1989, personal communication, Navy EIC.

Heil, D. C., 1989, personal communication, Florida Department of Natural Resources, Tallahassee, Florida.

Jacob, C. E., and H. H. Cooper, Jr., 1940, Report on the Ground-water Resources of the Pensacola Area in Escambia County, Florida: U.S. Geological Survey, Open-file Report 400001.

Johnson, T., 1991, personal communication, Northwest Florida Water Management District, Havana, Florida.

Joyner, Ron, 1991, personal communication, Installation Restoration Coordinator, Naval Air Station Pensacola, Pensacola, Florida.

Kennedy, L. R., 1982, Rainfall Summary for the Northwest Florida Water Management District: Water Resources Special Report 82-3.

Ketchen, E. G., and R. C. Staley, 1979, A Hydrographic Survey in Pensacola Bay: Florida State University, Department of Oceanography, Tallahassee, Florida.

Lohman, S. W., 1972, Ground-Water Hydraulics: U.S. Geological Survey Professional Paper 708, Washington, D.C.

Luckenbach, M. W., R. J. Diay, and L. C. Schaffner, 1988, Scientific Consultation and Analytical Services: Benthic Assessment Procedures, Project 5, Virginia Water Control Board, Gloucester Point, Virginia.

Harsh, O. T., 1966, Geology of Escambia and Santa Rosa Counties, Western Florida Panhandle: Florida Geological Survey, Bulletin 46.

(Bold items enclosed in brackets denote *changes* to last version of document]

_____, 1975, Hydrology of the Sand-and-Gravel Aquifer in Central and Southern Escambia County, Florida - Preliminary Report - November 1973: U.S. Geological Survey, Open-File Report FL74027.

_____, 1978, Preliminary Hydrologic Budget of the Sand-and-Gravel Aquifer under Unstressed Conditions, with a Section on Water Quality Monitoring, Pensacola, Florida: U.S. Geological Survey, Water-Resources Investigations 77-96.

U.S. Environmental Protection Agency (EPA), 1983, Trace Chemical Element Content of Natural Soils, Office of Solid Waste and Emergency Response Hazardous Waste Land Treatment.

_____, 1984, Standard Operating Safety Guidelines.

_____, 1985a, Guidance on Remedial Investigations under CERCLA: EPA, OSWER, HWERL; EPA Report #540/6-85/002; NTIS ref #PB-85-268616; OSWER Directive 9355.0-06B, U.S. EPA, Cincinnati, Ohio.

_____, 1985b, Guidance on Feasibility Studies under CERCLA: EPA, OSWER, OWPE, EPA report #540/G-85/003; NTIS ref #PB-85-238-590; OSWER Directive 9355.0-05c, U.S. EPA, Washington, D.C.

_____, 1987a, Data Quality Objectives for Remedial Response Activities: OSWER Directive 9335.0-7B, U.S. EPA, Washington D.C.

_____, 1987b, Compendium of Superfund Field Operations Methods: OSWER Directive 9355.0-14, EPA/540/P-87/00/a.

_____, 1988a, CERCLA Compliance with Other Laws Manual, Draft: OSWER Directive 9234.1-01, U.S. EPA, Washington, D.C.

_____, 1988b, Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA, Draft: OSWER Directive 9355.3-01 OERR # 68-01-7090 and 68-W8-0098, U.S. EPA, Washington, D.C.

_____, 1990, Corrective Action for Solid Waste Management Units at Hazardous Waste Management Facilities; Proposed Rule, 40 Code of Federal Regulations, Parts 264, 265, 270, and 271.

U.S. Fish and Wildlife Service, 1987, Long Range Fish and Wildlife Section, Naval Air Station Pensacola and Outlying Field Bronson, Pensacola, Florida: USFWS Field Office, Panama City, Florida.

U.S. Geological Survey, 1970a, 7 1/2 Minute Topographic Map, Fort Barrancas, Florida, Quadrangle.

_____, 1970b, 7-1/2 Minute Topographic Map, West Pensacola, Florida, Quadrangle, Photorevised 1987.

[Bold items enclosed in brackets denote changes to last version of document]

6. FLORIDA **PROFESSIONAL** GEOLOGIST SEAL

I hereby affix my seal to the Interim Data Report for Solven North of Building 3557 (Site 34), located at the Naval Air Station in Pensacola, Escambia County, Florida, in accordance with Chapter *492* of the Florida Statutes and applicable rules and regulations developed pursuant thereto:

Name:	Richard J. Rudy
License Number:	P.G. No. *97*
State:	Florida
Expiration Date:	July *31, 1994*

Richard J. Rudy
~~J.~~ Rudy

11-19-92
Date

[Bold items enclosed in brackets denote changes to last version of document]

A

APPENDIX A

SURFACE EMISSIONS DATA

SITE 34 SURFACE EMISSIONS SURVEY

COORDINATE LOCATION	OVA BACKGROUND (ppm)	OVA ABOVE BACKGROUND (ppm)
E0+00N0+00	0.5	0.0
E0+00N0+25	0.5	0.0
E0+00N0+50	0.5	0.0
E0+00N0+75	0.5	0.0
E0+00N1+00	0.5	0.0
E0+00N1+25	0.5	0.0
E0+00N1+50	0.5	0.0
E0+00N1+75	0.5	0.0
E0+00N2+00	0.5	0.0
E0+00N2+25	0.5	0.0
E0+00N2+50	0.5	0.0
E0+00N2+75	0.5	0.0
E0+00N3+00	0.5	-
E0+25N0+00	0.5	0.0
E0+25N0+25	0.5	0.0
E0+25N0+50	0.5	0.0
E0+25N0+75	0.5	0.0
E0+25N1+00	0.5	0.0
E0+25N1+25	0.5	0.0
E0+25N1+50	0.5	0.0
E0+25N1+75	0.5	0.0
E0+25N2+00	0.5	*0.0*
E0+25N2+25	0.5	0.0
E0+25N2+50	0.5	0.0
E0+25N2+75	0.5	0.0
E0+25N3+00	0.5	-
E0+50N0+00	0.5	-
E0+50N0+25	0.5	0.0
E0+50N0+50	0.5	0.0
E0+50N0+75	0.5	0.0
E0+50N1+00	0.5	0.0
E0+50N1+25	0.5	0.0
E0+50N1+50	0.5	0.0
E0+50N1+75	0.5	NR
E0+50N2+00	0.5	NR
E0+50N2+25	0.5	0.0
E0+50N2+50	0.5	0.0
E0+50N2+75	0.5	0.0
E0+50N3+00	0.5	-
E0+75N0+00	0.5	0.0
E0+75N0+25	0.5	0.0
E0+75N0+50	0.5	0.0
E0+75N0+75	0.5	0.0
E0+75N1+00	0.5	0.0
E0+75N1+25	0.5	0.0

SITE 34 SURFACE EHISSIONS SURVEY

COORDINATE LOCATION	OVA BACKGROUND (ppm)	ABOVE OVA BACKGROUND (ppm)
E0+75N1+50	0.5	0.0
E0+75N1+75	0.5	NR
E0+75N2+00	0.5	NR
E0+75N2+25	0.5	0.0
E0+75N2+50	0.5	0.0
E0+75N2+75	0.5	0.0
E0+75N3+00	0.5	-
E1+00N0+00	0.5	0.0
E1+00N0+25	0.5	0.0
E1+00N0+50	0.5	0.0
E1+00N0+75	0.5	0.0
E1+00N1+00	0.5	0.0
E1+00N1+25	0.5	0.0
E1+00N1+50	0.5	0.0
E1+00N1+75	0.5	NR
E1+00N2+00	0.5	NR
E1+00N2+25	0.5	0.0
E1+00N2+50	0.5	0.0
E1+00N2+75	0.5	0.0
E1+00N3+00	0.5	-
E1+25N0+00	0.5	0.0
E1+25N0+25	0.5	0.0
E1+25N0+50	0.5	0.0
E1+25N0+75	0.5	0.0
E1+25N1+00	0.5	0.0
E1+25N1+25	0.5	0.0
E1+25N1+50	0.5	0.0
E1+25N1+75	0.5	0.0
E1+25N2+00	0.5	NR
E1+25N2+25	0.5	0.0
E1+25N2+50	0.5	0.0
E1+25N2+75	0.5	0.0
E1+25N3+00	0.5	-
E1+50N0+00	0.5	2
E1+50N0+00	0.5	0.0
E1+50N0+10	0.5	100
E1+50N0+25	0.5	0.0
E1+50N0+50	0.5	0.0
E1+50N0+75	0.5	0.0
E1+50N1+00	0.5	0.0
E1+50N1+25	0.5	0.0
E1+50N1+50	0.5	0.0
E1+50N1+75	0.5	0.0
E1+50N2+00	0.5	0.0
E1+50N2+25	0.5	0.0

3400606

SITE 34 SURFACE EMISSIONS SURVEY

COORDINATE LOCATION	OVA BACKGROUND (ppm)	OVA ABOVE BACKGROUND (ppm)
E1+50N2+50	0.5	0.0
E1+50N2+75	0.5	0.0
E1+50N3+00	0.5	-
E1+75N0+00	0.5	0.0
E1+75N0+25	0.5	0.0
E1+75N0+50	0.5	0.0
E1+75N0+75	0.5	0.0
E1+75N1+00	0.5	0.0
E1+75N1+25	0.5	0.0
E1+75N1+50	0.5	0.0
E1+75N1+75	0.5	0.0
E1+75N2+00	0.5	0.0
E1+75N2+25	0.5	0.0
E1+75N2+50	0.5	0.0
E1+75N2+75	0.5	0.0
E1+75N3+00	0.5	-
E2+00N0+00	0.5	0.0
E2+00N0+25	0.5	0.0
E2+00N0+50	0.5	0.0
E2+00N0+75	0.5	0.0
E2+00N1+00	0.5	0.0
E2+00N1+25	0.5	0.0
E2+00N1+50	0.5	0.0
E2+00N1+75	0.5	0.0
E2+00N2+00	0.5	0.0
E2+00N2+25	0.5	0.0
E2+00N2+50	0.5	0.0
E2+00N2+75	0.5	0.0
E2+00N3+00	0.5	0.0
E2+25N0+00	0.5	0.0
E2+25N0+25	0.5	0.0
E2+25N0+50	0.5	0.0
E2+25N0+75	0.5	0.0
E2+25N1+00	0.5	0.0
E2+25N1+25	0.5	0.0
E2+25N1+50	0.5	0.0
E2+25N1+75	0.5	0.0
E2+25N2+00	0.5	0.0
E2+25N2+25	0.5	0.0
E2+25N2+50	0.5	0.0
E2+25N2+75	0.5	0.0
E2+25N3+00	0.5	0.0
E2+50N1+00	0.5	0.0
E2+50N1+25	0.5	0.0
E2+50N1+50	0.5	0.0

SITE 34 SURFACE EHISSIONS SURVEY

COORDINATE LOCATION	OVA BACKGROUND (ppm)	ABOVE	OVA BACKGROUND (ppm)
E2+50N1+75	0.5		0.0
E2+50N2+00	0.5		0.0
E2+50N2+25	0.5		0.0
E2+50N2+50	0.5		0.0
E2+50N2+75	0.5		0.0
E2+50N3+00	0.5		0.0
E2+75N1+00	0.5		0.0
E2+75N1+25	0.5		0.0
E2+75N1+50	0.5		0.0
E2+75N1+75	0.5		0.0
E2+75N2+00	0.5		0.0
E2+75N2+25	0.5		0.0
E2+75N2+50	0.5		0.0
E2+75N2+75	0.5		0.0
E2+75N3+00	0.5		0.0
E3+00N1+00	0.5		0.0
E3+00N1+25	0.5		0.0
E3+00N1+50	0.5		0.0
E3+00N1+75	0.5		0.0
E3+00N2+00	0.5		0.0
E3+00N2+25	0.5		0.0
E3+00N2+50	0.5		0.0
E3+00N2+75	0.5		0.0
E3+00N3+00	0.5		0.0
E3+25N1+00	0.5		0.0
E3+25N1+25	0.5		0.0
E3+25N1+50	0.5		0.0
E3+25N1+75	0.5		0.0
E3+25N2+00	0.5		0.0
E3+25N2+25	0.5		0.0
E3+25N2+50	0.5		0.0
E3+25N2+75	0.5		0.0
E3+25N3+00	0.5		-
E3+50N1+00	0.5		0.0
E3+50N1+25	0.5		0.0
E3+50N1+50	0.5		0.0
E3+50N1+75	0.5		0.0
E3+50N2+00	0.5		0.0
E3+50N2+25	0.5		0.0
E3+50N2+50	0.5		0.0
E3+50N2+75	0.5		0.0
E3+50N3+00	0.5		-
E3+75N1+00	0.5		0.0
E3+75N1+25	0.5		0.0
E3+75N1+50	0.5		0.0

SITE 34 SURFACE EMISSIONS SURVEY

COORDINATE LOCATION	OVA BACKGROUND (ppm)	OVA ABOVE BACKGROUND (ppm)
E3+75N1+75	0.5	0.0
E3+75N2+00	0.5	0.0
E3+75N2+25	0.5	0.0
E3+75N2+50	0.5	0.0
E3+75N2+75	0.5	0.0
E3+75N3+00	0.5	-
W0+25N1+00	0.5	0.0
W0+25N1+25	0.5	0.0
W0+25N1+50	0.5	0.0
W0+25N1+75	0.5	0.0
W0+25N2+00	0.5	0.0
W0+25N2+25	0.5	0.0
W0+25N2+50	0.5	0.0
W0+25N2+75	0.5	0.0
W0+25N3+00	0.5	-
W0+50N1+00	0.5	0.0
W0+50N1+25	0.5	0.0
W0+50N1+50	0.5	0.0
W0+50N1+75	0.5	0.0
W0+50N2+00	0.5	0.0
W0+50N2+25	0.5	0.0
W0+50N2+50	0.5	0.0
W0+50N2+75	0.5	0.0
W0+50N3+00	0.5	-
W0+75N1+00	0.5	0.0
W0+75N1+25	0.5	0.0
W0+75N1+50	0.5	0.0
W0+75N1+75	0.5	0.0
W0+75N2+00	0.5	0.0
W0+75N2+25	0.5	0.0
W0+75N2+50	0.5	0.0
W0+75N2+75	0.5	0.0
W0+75N3+00	0.5	-
W1+00N1+00	0.5	0.0
W1+00N1+25	0.5	0.0
W1+00N1+50	0.5	0.0
W1+00N1+75	0.5	0.0
W1+00N2+00	0.5	0.0
W1+00N2+25	0.5	0.0
W1+00N2+50	0.5	0.0
W1+00N2+75	0.5	0.0
W1+00N3+00	0.5	-
W1+25N1+00	0.5	0.0
W1+25N1+25	0.5	0.0
W1+25N1+50	0.5	0.0

SITE 34 SURFACE EMISSIONS SURVEY

COORDINATE LOCATION	OVA BACKGROUND (ppm)	OVA ABOVE BACKGROUND (ppm)
W1+25N1+75	0.5	0.0
W1+25N2+00	0.5	0.0
W1+25N2+25	0.5	0.0
W1+25N2+50	0.5	0.0
W1+25N2+75	0.5	0.0
W1+25N3+00	0.5	-
W1+50N1+00	0.5	0.0
W1+50N1+25	0.5	0.0
W1+50N1+50	0.5	0.0
W1+50N1+50	0.5	0.0
W1+50N1+75	0.5	0.0
W1+50N2+00	0.5	0.0
W1+50N2+25	0.5	0.0
W1+50N2+50	0.5	0.0
W1+50N2+75	0.5	0.0
W1+50N3+00	0.5	-
W1+75N1+00	0.5	0.0
W1+75N1+25	0.5	0.0
W1+75N1+75	0.5	0.0
W1+75N2+00	0.5	0.0
W1+75N2+25	0.5	0.0
W1+75N2+50	0.5	0.0
W1+75N2+75	0.5	-
W1+75N3+00	0.5	-
W2+00N1+00	0.5	0.0
W2+00N1+25	0.5	0.0
W2+00N1+50	0.5	0.0
W2+00N1+75	0.5	0.0
W2+00N2+00	0.5	0.0
W2+00N2+25	0.5	0.0
W2+00N2+50	0.5	0.0
W2+00N2+75	0.5	-
W2+00N3+00	0.5	-

3400608

B

APPENDIX B

PARTICULATE AIR SCREENING DATA

SITE *34*

PARTICULATE AIR SCREENING DATA

Date: June 5, 1991
Wind Direction: East
Wind Velocity: 3 to 5 miles per hour

Upwind Location: Grid coordinate NO+75, E2+25
Measurement Duration: 15 minutes
Time Weighted Average Particulate Concentration: 0.11 mg/m^3

Downwind Location: 225 feet west of upwind location
Measurement Duration: 15 minutes
Time Weighted Average Particulate Concentration: 0.12 mg/m^3

Upwind/Downwind Difference: 0.01 mg/m^3

C

APPENDIX C

TEMPORARY MONITORING WELL, SOIL BORING, AND LITHOLOGIC INFORMATION

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 34
2) Boring no./Well no.: P34B001
3) Drilling firm: Griner Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 06/18/91
6) Geologist: JOE FUGITT
7) Depth of boring (BLS): 5
8) Depth to water in borehole (BLS): 4
9) Highest open-borehole OVA/HNu reading (ppm): 0
10) Depth of well (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Approx. height of casing above land surface: NA
14) Depth to water in well (BTOC): NA
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundwater sampled:
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method: Backfill with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0- 1.0	Dark brown sand with orange-red sand, fine to medium grained.
1.0- 5.0	White sand, medium grained. Water at 4 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: *34*
2) Boring no./Well no.: P34B002
3) Drilling firm: Griner Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 06/18/91
6) Geologist: JOE FUGITT
7) Depth of boring (BLS): 5
8) Depth to water in borehole (BLS): 4
9) Highest open-borehole OVA/HNu reading (ppm): 0.2
10) Depth of well (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Approx. height of casing above land surface: NA
14) Depth to water in well (BTOC): NA
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundwater sampled:
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments: Black ooze in sand at *3-4* ft. No odors.

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0- 1.0	Dark brown to red sand, fine to medium grained.
1.0- 3.0	White sand, medium grained.
3.0- 4.0	Black stained sand with black goo. No odor noted.
4.0- 5.0	Grey stained sand. Wet at 4 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

340012

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 34
2) Boring no./Well no.: P34B003
3) Drilling firm: Griner Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 06/18/91
6) Geologist: JOE FUGITT
7) Depth of boring (BLS): 5
8) Depth to water in borehole (BLS): 3
9) Highest open-borehole OVA/HNu reading (ppm): 0.4
10) Depth of well (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Approx. height of casing above land surface: NA
14) Depth to water in well (BTOC): NA
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundwater sampled:
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments: Stained soil at 3-4 ft.

BOREHOLE LITEOLOGIC LOG

Sample Depth (BLS)	Sample Description
0- 1.0	Brown sand, medium grained.
1.0- 2.0	Orange sand, fine to medium grained.
2.0- 3.0	White sand, medium grained. Wet at 3 ft.
3.0- 4.0	Grey to dark brown and black stained sand with brown goo. No odor.
4.0- 5.0	Brown sand, fine to medium grained.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: *34*
2) Boring no./Well no.: P34B004
3) Drilling firm: Griner Drilling Service
4) Drilling method: EA
5) Date drilled/installed: 06/18/91
6) Geologist: JOE FUGITT
7) Depth of boring (BLS): 5
8) Depth to water in borehole (BLS): 4
9) Highest open-borehole OVA/HNu reading (ppm): 0
10) Depth of well (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Approx. height of casing above land surface: NA
14) Depth to water in well (BTOC): NA
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundwater sampled:
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0- 0.5	Dark brown silty sand.
0.5- 1.0	Tan sand, medium grained.
1.0- 1.5	Red clayey sand.
1.5- 2.0	Tan sand, medium grained.
2.0- 5.0	White sand, medium grained. Wet at 4 ft. No odor noted.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

3400613

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 34
2) Boring no./Well no.: P34B005
3) Drilling firm: Griner Drilling Service
4) Drilling method: HA
5) Date drilled/installed: 06/18/91
6) Geologist: JOE PUGITT
7) Depth of boring (BLS): 3
8) Depth to water in borehole (BLS): 2.5
9) Highest open-borehole OVA/HNu reading (ppm): 0
10) Depth of well (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Approx. height of casing above land surface: NA
14) Depth to water in well (BTOC): NA
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundwater sampled:
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITEOLOGIC LOG

Sample Depth (BLS)	Sample Description
0- 0.5	Dark brown to red silty sand, medium grained.
0.5- 3.0	White sand, fine to medium grained. Wet at 2.5 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: *34*
2) Boring no./Well no.: P34B006/P34TW006
3) Drilling firm: Griner Drilling Service
4) Drilling method: SSA
5) Date drilled/installed: 06/19/91
6) Geologist: JOE FUGITT
7) Depth of boring (BLS): 9
8) Depth to water in borehole (BLS): 4
9) Highest open-borehole OVA/HNu reading (ppm): 0.4
10) Depth of well (BLS): *7.04*
11) Length of well screen: 5
12) Length of casing (BLS): 2.04
13) Approx. height of casing above land surface: 2.75
14) Depth to water in well (BTOC): 5.52
15) Elevation of TOC: 8.90
16) Water level elevation: *3.38*
17) Date groundwater sampled: 06/20/91
18) pH (units): 6.05
19) Temperature (degrees C): *34*
20) Specific conductance (umhos/cm): 82.5
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0- 0.5	Dark brown sand and asphalt.
0.5- 1.0	Red and tan sand, fine to medium grained.
1.0- 7.0	White sand, fine to medium grained. Wet at 4 ft.
7.0- 9.0	Tan sand, medium grained.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

3400614

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 34
2) Boring no./Well no.: P34B007/P34TW007
3) Drilling firm: Griner Drilling Service
4) Drilling method: HA
5) Date drilled/installed: 06/19/91
6) Geologist: JOE FUGITT
7) Depth of boring (BLS): 9
8) Depth to water in borehole (BLS): 4
9) Highest open-borehole OVA/HNu reading (ppm): 0
10) Depth of well (BLS): 7.84
11) Length of well screen: 5
12) Length of casing (BLS): 2.84
13) Approx. height of casing above land surface: 2.02
14) Depth to water in well (BTOC): 6.64
15) Elevation of TOC: 9.52
16) Water level elevation: 2.88
17) Date groundwater sampled: 06/20/91
18) pH (units): 6.7
19) Temperature (degrees C): 35
20) Specific conductance (umhos/cm): 203
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0- 0.5	Brown and red silty sand, fine to medium grained.
0.5- 2.0	Tan sand, fine to medium grained.
2.0- 9.0	White sand, medium grained. Water at 4 ft.

Notes: All depths lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger

BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: *34*
2) Boring no./Well no.: P34B008
3) Drilling firm: Griner Drilling Service
4) Drilling method: HA
5) Date drilled/installed: 06/19/91
6) Geologist: JOE FUGITT
7) Depth of boring (BLS): *4.5*
8) Depth to water in borehole (BLS): 4
9) Highest open-borehole OVA/HNu reading (ppm): 0
10) Depth of well (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Approx. height of casing above land surface: NA
14) Depth to water in well (BTOC): NA
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundwater sampled:
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0- 0.7	Concrete.
0.7- 2.0	Light brown sand, medium grained.
2.0- 3.0	Red sand, fine to medium grained.
3.0- *4.5*	White clean sand, medium grained. Water at 4 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

3400615

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 34
2) Boring no./Well no.: P34B009/P34TW009
3) Drilling firm: Griner Drilling Service
4) Drilling method: HA
5) Date drilled/installed: 06/19/91
6) Geologist: JOE FUGITT
7) Depth of boring (BLS): 10
8) Depth to water in borehole (BLS): 3.5
9) Highest open-borehole OVA/HNu reading (ppm): 0
10) Depth of well (BLS): 7.14
11) Length of well screen: 5
12) Length of casing (BLS): 2.14
13) Approx. height of casing above land surface: 2.77
14) Depth to water in well (BTOC): 5.32
15) Elevation of TOC: 7.66
16) Water level elevation: 2.34
17) Date groundwater sampled: 06/20/91
18) pH (units): 6.65
19) Temperature (degrees C): 36
20) Specific conductance (umhos/cm): 8.26
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0- 0.3	Pavement.
0.3- 0.5	Red sand, fine grained.
0.5- 5.0	White sand, medium grained. Wet at 3.5 ft.
5.0- 10.0	Clean, tan sand, medium grained.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 34
2) Boring no./Well no.: P34B010
3) Drilling firm: Griner Drilling Service
4) Drilling method: EA
5) Date drilled/installed: 06/19/91
6) Geologist: JOE FUGITT
7) Depth of boring (BLS): 5
8) Depth to water in borehole (BLS): 5
9) Highest open-borehole OVA/HNu reading (ppm): 0
10) Depth of well (BLS): NA
11) Length of well screen: NA
12) Length of casing (BLS): NA
13) Approx. height of casing above land surface: NA
14) Depth to water in well (BTOC): NA
15) Elevation of TOC: NA
16) Water level elevation: NA
17) Date groundwater sampled:
18) pH (units): NA
19) Temperature (degrees C): NA
20) Specific conductance (umhos/cm): NA
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0- 0.75	Concrete.
0.75- 1.5	Brown and red silty sand, fine to medium grained.
1.5- 5.0	White sand, fine to medium grained. Wet at 5 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
EA = hand auger
BLS = below land surface
TOC = top of casing
BTOC = below top of casing

3400616

SOIL BORING/TEMPORARY MONITORING WELL INFORMATION

1) Site no.: 34
2) Boring no./Well no.: P34BO11/P34TWO11
3) Drilling firm: Griner Drilling Service.
4) Drilling method: HA
5) Date drilled/installed: 06/19/91
6) Geologist: JOE FUGITT
7) Depth of boring (BLS): 10
8) Depth to water in borehole (BLS): 6.5
9) Highest open-borehole OVA/HNu reading (ppm): 0
10) Depth of well (BLS): 9.04
11) Length of well screen: 5
12) Length of casing (BLS): 4.04
13) Approx. height of casing above land surface: 0.95
14) Depth to water in well (BTOC): 7.93
15) Elevation of TOC: 10.66
16) Water level elevation: 2.73
17) Date groundwater sampled: 06/20/91
18) pH (units): 6.7
19) Temperature (degrees C): 35
20) Specific conductance (umhos/cm): 201
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0- 1.0	Concrete.
1.0- 2.0	Light brown to red silty sand, fine to medium grained.
2.0- 5.0	Tan to white sand, fine to medium grained.
5.0- 7.0	Brown sand.
7.0- 10.0	Grey to dark grey stained sand, odor noted. Wet at 6.5 to 7 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger

BLS = below land surface
TOC = top of casing
BTOC = below top of casing

SOIL BORING/TEMPORARY HONITORING WELL INFORMATION

1) Site no.: 34
2) Boring no./Well no.: P34BO12/P34TWO12
3) Drilling firm: Griner Drilling Service
4) Drilling method: EA
5) Date drilled/installed: 06/19/91
6) Geologist: JOE FUGITT
7) Depth of boring (BLS): 10
8) Depth to water in borehole (BLS): 5.5
9) Highest open-borehole OVA/HNu reading (ppm): 0
10) Depth of well (BLS): 8.63
11) Length of well screen: 5
12) Length of casing (BLS): 3.63
13) Approx. height of casing above land surface: 1.20
14) Depth to water in well (BTOC): 6.94
15) Elevation of TOC: 10.61
16) Water level elevation: 3.67
17) Date groundwater sampled: 06/20/91
18) pH (units): 6.71
19) Temperature (degrees C): 30
20) Specific conductance (umhos/cm): 203
21) Borehole/Well abandonment method: Backfilled with cuttings.
22) Comments:

BOREHOLE LITHOLOGIC LOG

Sample Depth (BLS)	Sample Description
0- 1.1	Concrete.
1.1- 2.0	Red silty sand, fine to medium grained.
2.0- 3.0	Tan sand.
3.0- 10.0	White sand. Wet at 5.5 ft.

Notes: All depths, lengths, heights, and elevations are measured in feet. All boreholes are 4 inches in diameter. All well casings and screens are 2-inch-diameter; well screen slot sizes are .010 inches. No annular material (i.e. filter pack, seal or grout) was used in well installation. Unless otherwise noted, all sand grains are quartz.

NA = not applicable
SSA = solid stem auger
HA = hand auger

BLS = below land surface
TOC = top of casing
BTOC = below top of casing

3400617

D

e>

APPENDIX D

SOIL SAMPLING ANALYTICAL SCREENING RESULTS

MEMORANDUM

TO: John Barksdale

FROM: Gary Hahn

DATE: July 2, 1991

SUBJECT: ***UH-8000*** Pensacola Report

RE: ***9101.449***

CC: Lab File

Attached is the laboratory report of the analysis conducted on eight samples received at the Analytical Services Center on June ***21, 1991.*** Analysis was performed according to the screening procedures set forth in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", ***SW-846,*** Third Edition, U.S. EPA, ***1986.***

The following samples were not preserved to proper pH: **#14058, #14059, #14060, #14061, #14062,** and **#14063.**

All samples on which this report is based will be retained by E & E for a period of 30 days from the date of this report unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of ***$1.00*** per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

GH/jp
Enclosure

Dun

TO: John Barksdale

FROM: Gary Hahn

DATE: July 8, 1991

SUBJECT: UH-8000 Pensacola Report

RE: 9101.436

CC: Lab Pile

Attached is the laboratory report of the analysis conducted on tvelve samples received at the Analytical Services Center on June 20, 1991. Analysis vas performed according to the screening procedures set forth in "Generic Quality Assurance Project Plan, Contamination Assessments and Remedial Activities, Naval Air Station Pensacola, Pensacola, Florida," July 1990.

Sample P34-SOO5A was destroyed upon receipt as per Brian Caldvell.

Samples #14001 through 814012 were reanalyzed on 6/29/91 for phenols.

All samples on vhich this report is based will be retained by E 6 E for a period of 30 days from the date of this report unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of $1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

GH/kr
Enclosure

3400619

ANALYTICAL REFERENCE SUMMARY 9101.449

PARAMETER	METHOD
Chromium Zinc Cadmium Nickel Copper Silver	Method 6010 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
Arsenic	Method 7060 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
Lead	Method 7421 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
Polynuclear Aromatic Hydrocarbons	Method 8310 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
Purgeable Aromatics	Method 8020 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
Pesticides	Method 8080 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
Total Phenols	Method 420.1 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
T. Petroleum Hydrocarbons	Method 418.1 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.

ECOLOGY & ENVIRONMENT, INC.

ANALYTICAL SERVICES CENTER

SAMPLE PRESERVATION CHECK FORM

Job number: 9101.449 Page : 1 of 1

Date received: 6/24/91

Inspected by: Jack D'Agostino

Sample Container Number	Container Test	Preservitivc	pH
14058.04	TRPH	H_2SO_4	6
.05	Metals	HNO_3	<2
14059.04	TRPH	H_2SO_4	7
.05	metals	HNO_3	<2
14060.04	TRPH	H_2SO_4	
.05	Metals	HNO_3	<2
14061.04	TRPH	H_2SO_4	7
05	Metals	HNO_3	<2
14062.04	TRPH	H_2SO_4	7
05	metals	HNO_3	<2
14063.04	TRPH	H_2SO_4	7
.05	Metals	HNO_3	<2

3400620

ecology and environment, inc.
International Specialists in the Environment
PERSANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060

9101.449

Analysis As per site QAPP
See Jack Miller
" " "

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project No.:	Project Name:	Project Manager:
VH 8000	NAS Pensacola site 34 Group F	John Barksdale

Samplers: (Signature)

Field Team Leader: Arnold C Lamb

	STATION NUMBER	DATE	TIME	SAMPLE TYPE COMP	GRAB	AIR	SAMPLE INFORMATION EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	Skelly. Mthels	Screening VOC's	Screening Dissolved Metals	Screening PCB's	Screening Total PAH's	TRPH	REMARKS
P34	GW007	6/20/91	1515		X		Low	TW007	5	X	X	X	X	X	X	VOA preserved with HCL <2
P34	GW006	6/20/91	1055		X		↓	TW006	5	↓	↓	↓	↓	↓	↓	metals preserved with HNO_3 <2
P34	GW011	6/20/91	1548		X			TW011	5							TRPH preserved with H_2SO_4 <2
																VOA bottles Lot# 123033 QC# 10353C
																Lgal. Amber Lot# 107106 QC# 10180C
																liter poly Lot# 042021 QC# 10230C
																liter amber Lot# 107051 QC# 10141C
																All samples packed in ICE <4°C

Preservative:
HNO_3 Mallinckrodt Lot# 6623 KECG
Sulfuric Mallinckrodt Lot# 6843 KQBG
HCL Mallinckrodt Lot# 5587 KEGP

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
	6/20/91 1700				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
Relinquished By: (Signature)	Date/Time: 0815 6-21-91	Received For Laboratory By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received For Laboratory By: (Signature)

Ship Via: FEDERAL EXPRESS

BL/Airbill Number: 07765459 76

Date: 6/20/91

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

*See CONCENTRATION RANGE on back of form.

234059

7101.449

14058 - 14065

Analysis as per site QAPP
See Jack Miller

ecology and environment, inc.

ANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684 8060
International Specialists in the Environment

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project No.: 1H8000
Project Name: NAS Pensacola Site 39 Group F
Samplers (Signatures):
Project Manager: John Barksdale
Field Team Leader: Arnold C. Lamb

STATION NUMBER	DATE	TIME	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE TYPE AIR	SAMPLE INFORMATION EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	Screening Metals	Screening VOC's	Screening Pest./PCB's	Screening Phenols	Screening PAH's	TRPH	REMARKS
P34 SOOSA	6/20/91	0840	X			Low	Boring 5	3	X	X	X	X	X	X	VOA preserved with HCl <2
P34 SOOSAD	6/20/91	0840	X				Boring 5	3							Metals preserved with HNO_3 <2
P34 GW009	6/20/91	1335		X			TW009	5							TRPH preserved with H_2SO_4 <2
P34 GW009D	6/20/91	1335		X			TW009	5							
P34 GW012	6/20/91	1620		X			TW012	5							VOA bottles Lot# 1123033 QC# 10353C
															Vegas Amber Lot# 1071061 QC# 10180C
						Preservatives:									Liter poly Lot# 1092021 QC# 10230C
						HNO_3 Mallinckrodt Lot#6623KECG									Liter amber Lot# 1053051 QC# 10141C
						Sulfuric Mallinckrodt Lot#6843KCBG									All Samples Packed in ICE <4°C
						HCl Mallinckrodt Lot#5587KEGP									

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Ship Via:
	6/20/91 1701					FEDERAL EXPRESS
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	BL/Airbill Number: 0776545965
Relinquished By: (Signature)	Date/Time: 2230 6-21-91	Received For Laboratory By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received For Laboratory By: (Signature)	Date: 6/20/91

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files
*See CONCENTRATION RANGE on back of form.

234055

recycled paper

ecology and environment

2 day TA 7/01.456

Analysis AS per site QAPP
See Jack Miller

ecology and environment, inc.
368 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060
International Specialists in the Environment

14001 → 14012

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project No.:	Project Name:	Project Manager:
VH8000	NAS Pensacola Site #34 GrapF	John Barksdale

Samplers: (Signature) Daniel W. Cassalia, Joseph Zuffitt

Field Team Leader: Joe Fugitt

STATION NUMBER	DATE	TIME	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE TYPE AIR	SAMPLE INFORMATION EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	EMDS: Screening VOA's	Screening PAH	Screening Phenols	Screening Pesticides-PCB's	Screening metals TRPH
34	S001A	6/19/91	1450	X		✓ Low	Boring 1	3	X	X	X	X	X	X
34	S002A	6/19/91	1557	X		✓	Boring 2	3						
34	S003A	6/19/91	1624	X		✓	Boring 3	3						
34	S004A	6/19/91	1814	X		✓	Boring 4	3						
34	S005A	6/19/91	1828	X			Boring 5	3						
34	S006A	6/19/91	0850	X		✓	Boring 6	3						
34	S007A	6/19/91	1023	X		✓	Boring 7	3						
34	S008A	6/19/91	1220	X		✓	Boring 8	3						
34	S009A	6/19/91	1241	X		✓	Boring 9	3						
34	S010A	6/19/91	1455	X		✓	Boring 10	3						
34	S011A	6/19/91	1515	X		✓	Boring 11	3						
34	S011B	6/19/91	1520	X		✓	Boring 11	3						
34	S012A	6/19/91	1705	X		✓	Boring 12	3						

8oz. glass jar Lot# 1091051
#320-0250 QC# 10242C

VOA Lot# 1123033
#5326-0040 QC# 10353C

All samples preserved with ice 4°C.

* Sample P34S0054 Not to be Analyzed per Jack Miller

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
[signature]	6/19/91 1800	[signature]
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
Relinquished By: (Signature) [signature] Fed Ex	Date/Time: 0930 6.20.91	Received For Laboratory By: (Signature) [signature]

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
Relinquished By: (Signature)	Date/Time:	Received For Laboratory By: (Signature)

Ship Via: Federal Express

BL/Airbill Number: 0776545954

Date: 6/19/91

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

*See CONCENTRATION RANGE on back of form.

234058

JOB NUMBER : 9101.449

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
14058.01	P34-GW006	UPNPRGl	06/20/91		06/22/91
14058.03	P34-GW006	WPNP&P1	06/20/91		06/24/91
		WPNPAH1	06/20/91		06/25/91
		WPNPHL1	06/20/91		06/25/91
14058.04	P34-GW006	WPNTPH1	06/20/91		06/24/91
14058.05	P34-GW006	WPNMET1	06/20/91		06/24/91
14059.01	P34-GW007	WPNPRG1	06/20/91		06/22/91
14059.03	P34-GW007	WPNP&P1	06/20/91		06/24/91
		WPNPAH1	06/20/91		06/25/91
		WPNPHL1	06/20/91		06/25/91
14059.04	P34-GW007	WPNTPH1	06/20/91		06/24/91
14059.05	P34-GW007	WPNMET1	06/20/91		06/24/91
14060.01	P34-GW009	UPNPRGl	06/20/91		06/22/91
14060.03	P34-GW009	WPNP&P1	06/20/91		06/24/91
		WPNPAH1	06/20/91		06/25/91
		WPNPHL1	06/20/91		06/25/91
14060.04	P34-GW009	WPNTPH1	06/20/91		06/24/91
14060.05	P34-GW009	WPNMET1	06/20/91		06/24/91
14061.01	P34-GW009D	WPNPRG1	06/20/91		06/22/01
14061.03	P34-GW009D	WPNP&P1	06/20/91		06/24/91
		WPNPAH1	06/20/91		06/25/91
		WPNPHL1	06/20/91		06/25/91
14061.04	P34-GW009D	WPNTPH1	06/20/91		06/24/91
14061.05	P34-GW009D	WPNMET1	06/20/91		06/24/91
14062.01	P34-GW011	WPNPRG1	06/20/91		06/24/91
14062.03	P34-GW011	WPNP&P1	06/20/91		06/24/31
		WPNPAH1	06/20/91		06/25/91
		WPNPHL1	06/20/91		06/25/91
14062.04	P34-GW011	WPNTPH1	06/20/91		06/24/91
14062.05	P34-GW011	WPNMET1	06/20/91		06/24/91
14063.01	P34-GW012	WPNPRG1	06/20/91		06/24/91
14063.03	P34-GW012	WPNP&P1	06/20/91		06/25/91
		WPNPAH1	06/20/91		06/25/91
		WPNPHL1	06/20/91		06/25/91
14063.04	P34-GW012	WPNTPH1	06/20/91		06/24/91
14063.05	P34-GW012	WPNMET1	06/20/91		06/24/91
14064.01	P34-S005A	SPNPRG1	06/20/91		06/22/91
14064.02	P34-S005A	SPNTPH1	06/20/91		06/24/01
14064.03	P34-S005A	SPNMET1	06/20/91		06/24/91
		SPNP&P1	06/20/91		06/25/91
		SPNPAH1	06/20/91		06/25/91
		SPNPHL1	06/20/91		06/25/91
14065.01	P34-S005AD	SPNPRG1	06/20/91		06/22/91
14065.02	P34-S005AD	SPNTPH1	06/20/91		06/24/91
14065.03	P34-S005AD	SPNMET1	06/20/91		06/24/91
		SPNP&P1	06/20/91		06/25/91
		SPNPAH1	06/20/91		06/25/91

3400622

JOB NUMBER : 9101.449

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
14065.03	P34-S005AD	SPNPHL1	06/20/91		06/25/91

JOB NUMBER : 9101.436

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
14001.01	P34-S001A	SPNPRGl	06/18/91		06/21/91
14001.02	P34-S001A	SPNTPH1	06/18/91		06/21/91
14001.03	P34-S001A	SPNMET1	06/18/91		06/21/91
		SPNP&P1	06/18/91		06/21/91
		SPNPAH1	06/18/91		06/21/91
		SPNPHLl	06/18/91		06/29/91
14002.01	P34-S002A	SPNPRGl	06/18/91		06/21/91
14002.02	P34-S002A	SPNTPHl	06/18/91		06/21/91
14002.03	P34-S002A	SPNMET1	06/18/91		06/21/91
		SPNP&P1	06/18/91		06/21/91
		SPNPAH1	06/18/91		06/21/91
		SPNPHL1	06/18/91		06/29/91
14003.01	P34-S003A	SPNPRGl	06/18/91		06/21/91
14003.02	P34-S003A	SPNTPHl	06/18/91		06/21/91
14003.03	P34-S003A	SPNMET1	06/18/91		06/21/91
		SPNP&P1	06/18/91		06/21/91
		SPNPAH1	06/18/91		06/21/91
		SPNPHLl	06/18/91		06/29/91
14004.01	P34-S004A	SPNPRGl	06/18/91		06/21/91
14004.02	P34-S004A	SPNTPHl	06/18/91		06/21/91
14004.03	P34-S004A	SPNMET1	06/18/91		06/21/91
		SPNP&P1	06/18/91		06/21/91
		SPNPAH1	06/18/91		06/21/91
		SPNPHL1	06/18/91		06/29/91
14005.01	P34-S006A	SPNPRGl	06/19/91		06/21/91
14005.02	P34-S006A	SPNTPHl	06/19/91		06/21/91
14005.03	P34-S006A	SPNMET1	06/19/91		06/21/91
		SPNPCPl	06/19/91		06/21/91
		SPNPAH1	06/19/91		06/21/91
		SPNPHL1	06/19/91		06/29/91
14006.01	P34-S007A	SPNPRGl	06/19/91		06/21/91
14006.02	P34-S007A	SPNTPHl	06/19/91		06/21/91
14006.03	P34-S007A	SPNMET1	06/19/91		06/21/91
		SPNP&P1	06/19/91		06/21/91
		SPNPAH1	06/19/91		06/21/91
		SPNPHLl	06/19/91		06/29/91
14007.01	P34-S008A	SPNPRGl	06/19/91		06/21/91
14007.02	P34-S008A	SPNTPH1	06/19/91		06/21/91
14007.03	P34-S008A	SPNMET1	06/19/91		06/21/91
		SPNP&P1	06/19/91		06/21/91
		SPNPAH1	06/19/91		06/21/91
		SPNPHLl	06/19/91		06/29/91
14008.01	P34-S009A	SPNPRGl	06/19/91		06/21/91
14008.02	P34-S009A	SPNTPHl	06/19/91		06/21/91
14008.03	P34-S009A	SPNMET1	06/19/91		06/21/91
		SPNP&P1	06/19/91		06/21/91
		SPNPAH1	06/19/91		06/21/91

3400623

JOB NUMBER : 9101.436

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
14008.03	P34-S009A	SPNPHL1	06/19/91		06/29/91
14009.01	P34-S010A	SPNPRG1	06/19/91		06/21/91
14009.02	P34-S010A	SPNTPH1	06/19/91		06/21/91
14009.03	P34-S010A	SPNMET1	06/19/91		06/21/91
		SPNP&P1	06/19/91		06/21/91
		SPNPAH1	06/19/91		06/21/91
		SPNPHL1	06/19/91		06/29/91
14010.01	P34-S011A	SPNPRG1	06/19/91		06/21/91
14010.02	P34-S011A	SPNTPH1	06/19/91		06/21/91
14010.03	P34-S011A	SPNMET1	06/19/91		06/21/91
		SPNP&P1	06/19/91		06/21/91
		SPNPAH1	06/19/91		06/21/91
		SPNPHL1	06/19/91		06/29/91
14011.01	P34-S011B	SPNPRG1	06/19/91		06/21/91
14011.02	P34-S011B	SPNTPH1	06/19/91		06/21/91
14011.03	P34-S011B	SPNMET1	06/19/91		06/21/91
		SPNP&P1	06/19/91		06/21/91
		SPNPAH1	06/19/91		06/21/91
		SPNPEL1	06/19/91		06/29/91
14012.01	P34-S012A	SPNPRG1	06/19/91		06/21/91
14012.02	P34-S012A	SPNTPH1	06/19/91		06/21/91
14012.03	P34-S012A	SPNMET1	06/19/91		06/21/91
		SPNP&P1	06/19/91		06/21/91
		SPNPAH1	06/19/91		06/21/91
		SPNPHL1	06/19/91		06/29/91

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET VEIGHT
SAMPLE ID LAB : EE-91-14001 MATRIX: SOLID
SAHPLE ID CLIENT: P34-S001A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	2.6		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

3400624

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-14002 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S002A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	2.3		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	0.51		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = CONMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-14003 MATRIX: SOLID
SAHPLE ID CLIENT: P34-S003A

PARAMETER	RESULTS	Q	QNT. LIHIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	6.4		1.0	MG/KG
Zinc	7.2		2.0	MG/KG
Lead	8.3		4.0	MG/KG
Cadmium	0.55		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT
NA = NOT APPLICABLE

3400625

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-14004 MATRIX: SOLID
SAHPLE ID CLIENT: P34-S004A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	4.0		1.0	MG/KG
Zinc	6.3		2.0	MG/KG
Lead	8.2		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

METALS SECTION JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : BE-91-14064 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S005A
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	2.1		1.0	MG/KG
Zinc	3.2		2.0	MG/KG
Lead	7.7		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400626

METALS SECTION JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-14065 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S005AD
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	3.8		1.0	MG/KG
Zinc	11		2.0	MG/KG
Lead	13		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-14005 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S006A

PARAMETER	RESULTS	Q	QNT. LIHIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	2.1		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT
NA = NOT APPLJCABLE

3400627

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-14006 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S007A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	7.8		1.0	MG/KG
Zinc	11		2.0	MG/KG
Lead	12		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : 33-91-14007 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S008A

PARAMETER	RESULTS	Q	QNT. LIHIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	3.2		1.0	MG/KG
Zinc	20		2.0	MG/KG
Lead	9.9		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

3400628

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-14008 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S009A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-14009 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S010A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	1.6		1.0	MG/KG
Zinc	2.6		2.0	MG/KG
Lead	*5.4*		*4.0*	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		*4.0*	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

3400629

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-14010 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S011A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	2.5		2.0	MG/KG
Lead	ND		*4.0*	MG/KG
Cadmium	0.51		***0.50***	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-14011 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S011B

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	1.0		1.0	MG/KG
Zinc	3.6		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOV STATED DETECTION LIMIT
NA = NOT APPLICABLE

3400630

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : EE-91-14012 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S012A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	4.7		1.0	MG/KG
Zinc	7.0		2.0	MG/KG
Lead	24		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT .ND= NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
SAMPLE ID LAB : METHOD BLANK MATRIX: SOLID

PARAMETER	RESULTS	Q	QNT. LIHIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		*4.0*	MG/KG
Cadmium	ND		*0.50*	MG/KG
Nickel	ND		*4.0*	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

3400631

JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB : METHOD BLANK MATRIX: SOIL
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		6.0	MG/KG
Chromium	ND		1.0	MG/KG
Zinc	ND		2.0	MG/KG
Lead	ND		4.0	MG/KG
Cadmium	ND		0.50	MG/KG
Nickel	ND		4.0	MG/KG
Copper	ND		2.5	MG/KG
Silver	ND		1.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR PRECISION
RESULTS OF ANALYSIS OF REPLICATE
ANALYSES OF SOLID SAMPLES

9101.436

(mg/kg)

Parameter	E & E Laboratory No. 91-14003	Original Analysis	Replicate Analysis	Relative Percent Difference (RPD)
Arsenic		ND	ND	NC
Chromium		6.4	5.6	13
Zinc		7.2	5.8	22
Lead		8.3	9.5	13
Cadmium		0.55	0.60	8.7
Nickel		ND	ND	NC
Copper		ND	ND	NC
Silver		ND	ND	NC

ND = NOT DETECTED

NC = NOT CALCULABLE

QUALITY CONTROL FOR PRECISION
RESULTS OF ANALYSIS OF REPLICATE
ANALYSES OF SOIL SAMPLES

9101.449

(mg/kg)

Parameter	E & E Laboratory No. 91-14065	Original Analysis	Replicate Analysis	Relative Percent Difference (RPD)
Arsenic		ND	ND	NC
Cadmium		ND	ND	NC
Chromium		3.8	5.3	33
Copper		ND	ND	NC
Lead		13	4.9	90
Nickel		ND	ND	NC
Silver		ND	ND	NC
Zinc		11	7.3	40

ND = NOT DETECTED

NC = NOT CALCULABLE

NOTE: ALTHOUGH RESULTS ARE REPORTED AS ROUNDED VALUES, RPD'S ARE CALCULATED DIRECTLY FROM THE RAW DATA.

QUALITY CONTROL FOR ACCURACY: FER= RECOVERY FOR SPIKED SOLID SAMPLES

9101.636

(mg/kg)

Parameter	E C E Laboratory No. 91-14003	Original Value	Amount Added	Amount Determined	Percent Recovery
Arsenic		ND	200	190	97
Chromium		6.4	20	26	99
Zinc		7.2	50	56	97
Lead		8.3	50	57	97
Cadmium		0.55	5.0	5.5	99
Nickel		ND	50	50	100
Copper		ND	25	25	94
Silver		ND	5.0	4.8	97

ND = NOT DETECTED

NC = NOT CALCULABLE

** = RECOVERY NOT DETERMINED BECAUSE SAMPLE AMOUNT IS FOUR OR MORE TIMES GREATER THAN SPIKE AMOUNT.

NOTE: ALTHOUGH RESULTS ARE REPORTED AS ROUNDED VALUES, PERCENT RECOVERIES ARE CALCULATED DIRECTLY FROM THE RAW DATA.

3400633

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED SOIL SAMPLES

9101.449

(mg/kg)

Parameter	E & E Laboratory No. 91-14065	Original Value	Amount Added	Amount Determined	Percent Recovery
Arsenic		ND	200	200	102
Cadmium		ND	5.0	5.0	100
Chromium		3.8	20	25	106
Copper		ND	25	24	98
Lead		13	50	58	90
Nickel		ND	50	46	92
Silver		ND	5.0	4.7	95
Zinc		11	50	57	92

ND = NOT DETECTED

NOTE: ALTHOUGH RESULTS ARE REPORTED AS ROUNDED VALUES, PERCENT RECOVERIES ARE CALCULATED DIRECTLY FROM THE RAW DATA.

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAHPLE ID LAB :EE-91-14001 HATRIX: SOLID
SAHPLE ID CLIENT: P34-S001A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
TRPH	ND		5.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

3400634

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14002 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S002A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
TRPH	ND		5.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : **UH-8000** NASP - PHASE I BATCH 2
SAMPLE **ID** LAB :EE-91-14003 HATRIX: SOLID
SAMPLE ID CLIENT: P34-S003A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
TRPH	ND		5.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT **DETECTED**
J = ESTIHATED VALUE B = *ALSO* **PRESENT** IN **BLANK**
L = PRESENT BELOW STATED DETECTION LIHIT
NA = NOT APPLICABLE

3400635

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14004 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S004A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
TRPH	ND		5.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

TEST CODE :SPNTPH1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC TRPH UNITS : MG/KG
PARAMETER : TRPH

SAMPLE ID	RESULTS	Q	QNT. LIMIT
EE-91-14064			
P34-S005A	ND		5.0
EE-91-14065			
P34-S005AD	ND		5.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

3400635

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14005 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S006A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
TRPH	ND		5.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14006 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S007A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
TRPH	ND		5.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

3400637

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14007 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S008A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
TRPH	ND		5.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14008 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S009A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
TRPH	ND		5.0	MG/KG

QUALIFIERS: C = COMMENT UD = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

3400638

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14009 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S010A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
TRPH	ND		5.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
SAMPLE ID LAB :EE-91-14010 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S011A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
TRPH	ND		5.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

340639

JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14011 MATRIX: SOLID
SAMPLE ID CLIENT: P34-S011B

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
TRPH	7.7		5.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PRASE I BATCH 2
SAMPLE ID LAB :EE-91-14012 HATRIX: SOLID
SAMPLE ID CLIENT: P34-S012A

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
TRPH	ND		5.0	MG/KG

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

34006:0

QUALITY CONTROL FOR PRECISION
RESULTS OF ANALYSIS OF REPLICATE
ANALYSES OF SOLID SAMPLES

9101.449

(mg/kg)

Parameter	E & E Laboratory No. 91-	Original Analysis	Replicate Analysis	Relative Percent Difference (RPD)
T. RECOVERABLE PETROLEUM HYDROCARBONS	Batch QC	ND	ND	NC

ND = NOT DETECTED

NC = NOT CALCULABLE

NOTE: ALTHOUGH RESULTS *ARE* REPORTED AS ROUNDED VALUES, RPD'S ARE CALCULATED DIRECTLY FROM THE RAW DATA.

QUALITY CONTROL FOR *ACCURACY:* PERCENT RECOVERY FOR SPIKED SOLID SAMPLES

9101.449

(mg/kg)

Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
T. RECOVERABLE PETROLEUM HYDROCARBONS	Batch QC	ND	130	100	77.4

ND = NOT DETECTED

NOTE: ALTHOUGH RESULTS *ARE* REPORTED AS ROUNDED VALUES, PERCENT RECOVERIES ARE CALCULATED DIRECTLY FROM TEE RAW DATA.

3400641

TEST CODE :SPNPRG1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGET
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14001 MATRIX : SOLID
SAMPLE ID CLIENT: P34-SOO1A

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14002 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S002A

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400612

TEST CODE : SPNPRG1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14003 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S003A

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAHE : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14004 HATRIX : SOLID
SAMPLE ID CLIENT: P34-S004A

PARAMETER	RESULTS	Q	QNT. LIHTT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400643

TEST CODE :SPNPRG1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14064 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S005A
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	NU		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPRG1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14065 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S005AD
SAMPLE LOCATION :

PARAHETER	RESULTS	Q	QNT. LIMIT
Benzene	NO		1000
Toluene	NU		1000
Ethylbenzene	ND		1000
Total Xylenes	NU		1000
1,2 - Dichlorobenzene	ND		1000
I,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,I,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	NU		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHLT

3400614

TEST CODE : SPNPRG1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14005 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S006A

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14006 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S007A

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT NO = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

340615

TEST CODE : SPNPRG1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14007 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S008A

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAHPLE ID LAB : EE-91-14008 MATRIX : SOLID
SAHPLE ID CLIENT: P34-S009A

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400646

TEST CODE : SPNPRG1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14009 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S010A

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAHE : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14010 MATRIX : SOLID
SAHPLE ID CLIENT: P34-SO11A

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT 'IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400617

TEST CODE : SPNPRG1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14011 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S011B

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCE 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14012 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S012A

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400618

TEST CODE : SPNPRG1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000. NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 -.Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPRG1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
TEST NAME : PNC PURGABLES- GC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX :SOLID
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		1000
Toluene	ND		1000
Ethylbenzene	ND		1000
Total Xylenes	ND		1000
1,2 - Dichlorobenzene	ND		1000
1,3 - Dichlorobenzene	ND		1000
1,4 - Dichlorobenzene	ND		1000
1,1 - dichloroethene	ND		1000
Methylene Chloride	ND		1000
Trans-1,2, - Dichloroethene	ND		1000
1,1 - dichloroethane	ND		1000
1,1,1 - Trichloroethane	ND		1000
1,2 - Dichloroethane	ND		1000
Trichloroethene	ND		1000
Tetrachloroethene	ND		1000
chlorobenzene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

3400649

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY OF SURROGATE SPIKES

9101.436

Compound	E C E Laboratory No. *91-*	Percent Recovery
Trifluorotoluene	*14001*	*102*
	14002	*96*
	14003	*93*
	14004	*95*
	14005	*96*
	14006	*100*
	14007	*92*
	14008	*87*
	14009	*85*
	14010	*83*
	14011	*92*
	14012	*86*
	Method Blank	*100*

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY OF SURROGATE SPIKES

9101.449

Compound	E & E Laboratory No. 91-	Percent Recovery
Trifluorotoluene	14064	87
	14065	80
	Method Blank	100

3400650

TEST CODE : SPNPAH1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UW-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14001 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S001A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAHE : PNC PAH - LC UNITS : UG/KG
SAHPLE ID LAB : EE-91-14002 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S002A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400651

TEST CODE : SPNPAH1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UR-8000 NASP - PHASE I BATCA 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14003 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S003A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PAE - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14004 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S004A

PARAMETER	RESULTS	Q	ON". LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

34000652

TEST CODE :SPNPAH1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14064 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S005A
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE D = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :**SPNPAH1** **JOB NUMBER** :9101.449

Ecology **and** Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN **WET WEIGHT**
TEST NAME : PNC PAH - LC **UNITS** : UG/KG
SAMPLE ID LAB : EE-91-14065 MATRIX : SOLID
SAMPLE ID CLIENT: **P34-S005AD**
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400653

TEST CODE :SPNPAH1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14005 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S006A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAHPLE ID LAB : E€-91-14006 MATRIX : SOLID
SAHPLE ID CLIENT: P34-S007A

PARAMETER	RESULTS	Q	ONT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400654

TEST CODE : SPNPAH1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14007 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S008A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAHE : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14008 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S009A

PARAMETER	RESULTS	Q	ONT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400655

TEST CODE : SPNPAH1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14009 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S010A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPAH1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
'RESULTS IN WET WEIGHT
TEST NAHE : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14010 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S011A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

3400656

TEST CODE : SPNPAH1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14011 MATRIX : SOLID
SAMPLE ID CLIENT: P34-SO11B

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14012 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S012A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400657

TEST CODE : SPNPAH1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK #1 MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LINIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPAH1 JOB NUMBER 39101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAHE : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK #2 MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

3400658

TEST CODE :SPNPAH1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAHE : PNC PAH - LC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK 598/90 MATRIX : SOLID
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		1000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR SPIKED SOIL SAMPLES

9101.436

(ug)

Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
Benzo(a)pyrene					
	Blank #1	ND	50	54	108
	Blank #2	ND	50	51	102

ND = NOT DETECTED

3400650

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED SOIL SAMPLES

9101.449

		(ug)			
Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
Benzo(a)pyrene	Blank	ND	*50*	37	*74*

ND = NOT DETECTED

TEST **CODE** : SPNPHL1 **JOB NUMBER** : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH **2**
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : **UG/KG**
SAMPLE ID LAB : EE-91-14001 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S001A

PARAMETER	**RESULTS**	Q	**QNT. LIMIT**
Total as Trichlorophenol	**ND**		2000

QUALIFIERS: C = **COMMENT** ND = **NOT** DETECTED
J = ESTIMATED **VALUE** B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED **DETECTION** LIMIT

3400660

TEST CODE : SPNPHL1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : **UH-8000 NASP - PHASE I BATCH** 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14002 MATRIX : SOLID
SAMPLE ID CLIENT: **P34-S002A**

PARAMETER	RESULTS	Q	QNT. LIMIT
Total **as** Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = **ALSO** PRESENT IN BLANK
L = PRESENT **BELOW** STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14003 MATRIX : SOLID
SAMPLE ID CLIENT: P34-SO03A

PARAMETER	RESULTS	Q	QNT. LIHIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COHHENT ND = NOT DETECTED
J = ESTIMATED *VALUE* B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

3400661

TEST CODE :SPNPHL1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14004 MATRIX : SOLID
SAMPLE ID CLIENT: P34-SO04A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2009

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14064 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S005A
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400662

TEST CODE :SPNPHL1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14065 HATRIX : SOLID
SAMPLE ID CLIENT: P34-S005AD
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14005 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S006A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOV STATED DETECTION LIHIT

3400663

TEST CODE :SPNPHL1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UR-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14006 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S007A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLAMK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAHPLE ID LAB : E€-91-14007 MATRIX : SOLID
SAHPLE ID CLIENT: P34-S008A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400664

TEST CODE : SPNPHL1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14008 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S009A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNPHL1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCE 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14009 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S010A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400665

TEST CODE : SPNPHL1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14010 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S011A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNPHL1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14011 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S011B

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

3400666

TEST CODE : SPNPHL1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : EE-91-14012 MATRIX : SOLID
SAMPLE ID CLIENT: P34-SO12A

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODB :SPNPHL1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = ——— ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400667

TEST CODE :SPNPHL1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PHENOL - LC UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK 600/56 MATRIX : SOLID
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		2000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR SPIKED SOIL SAMPLES

9101.436

(ug)

Parameter	E & E Laboratory No. 91- Blank	Spike	Original Value	Amount Added	Amount Determined	Percent Recovery
2,4,6-Trichlorophenol			ND	100	as	85

ND = NOT DETECTED

3400669

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED SOIL SAMPLES

9101.449

(ug)

Parameter	E & E Laboratory No. *91-* Blank	Spike	Original Value	Amount Added	Amount Determined	Percent Recovery
2,4,6-Trichlorophenol			ND	500	430	86

ND = NOT DETECTED

TEST CODE : SPNP&P1 JOB NUMBER : 9101.436

Ecology and Environment, **Inc.**
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS **IN** WET WEIGHT
TEST NAHE : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-14001 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S001A

PARAMETER	RESULTS	Q	QNT. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT I N BLANK
L = **PRESENT** BELOW STATED DETECTION LIHIT

3400669

TEST CODE : SPNP&P1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-14002 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S002A

PARAMETER	RESULTS	Q	QNT. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : E€-91-14003 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S003A

PARAMETER	RESULTS	Q	QNT. LIHIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
494 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400670

TEST CODE :SPNP&P1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-14004 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S004A

PARAMETER	RESULTS	Q	ONT. LIMIT
Heptachlor	ND		1090
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-14064 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S005A
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COHHENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400671

TEST CODE :SPNP&P1 **JOB** NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UR-8000 NASP - FHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : **EE-91-14065** MATRIX : SOLID
SAMPLE ID CLIENT: **P34-S005AD**
SAMPLE LOCATION :

PARAMETER	**RESULTS**	Q	QNT. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COMMENT **ND = NOT DETECTED**
J = ESTIMATED VALUE B = ALSO PRESENT IN **BLANK**
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : SPNP&P1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-14005 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S006A

PARAMETER	RESULTS	Q	QNT. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COMMENT . ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400672

TEST CODE : SPNP&P1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UEi-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-14006 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S007A

PARAMETER	RESULTS	Q	QNT. LIMIT
Heptachlor	ND		1000
Lindane	ND		**1000**
Aldrin	ND		**1000**
4,4 - DDT	ND		1000
Dieldrin	ND		**1000**
Endrin	ND		**1000**
Chlordane	ND		**1000**
4,4-DDE	ND		1000
Total PCBs	ND		**5000**

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-8000 NASP - PEASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-14007 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S008A

PARAMETER	RESULTS	Q	QNT. LIMIT
Eeptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

3400673

TEST CODE : SPNP&P1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-14008 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S009A

PARAMETER	RESULTS	Q	ONT. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-14009 MATRIX : SOLID
SAHPLE ID CLIENT: P34-S010A

PARAHETER	RESULTS	Q	QNT. LIHIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COHHENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

3400674

TEST CODE : SPNP&P1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-14010 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S011A

PARAHETER	RESULTS	Q	ONT. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 **JOB** NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : **UH-8000** NASP - PHASE I BATCH 2
RESULTS IN **WET WEIGHT**
TEST NAHE : PNC PEST./PCB UNITS : UG/KG
SAHPLE ID LAB : EE-91-14011 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S011B

PARAMETER	RESULTS	Q	QNT. LIHIT
Heptachlor	**ND**		1000
Lindane	**ND**		1000
Aldrin	**ND**		1000
4,4 - DDT	**ND**		1000
Dieldrin	**ND**		1000
Endrin	**ND**		1000
Chlordane	**ND**		1000
4,4-DDE	**ND**		**1000**
Total PCBs	**ND**		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400675

TEST CODE : SPNP&P1 JOB NUMBER : 9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : EE-91-14012 MATRIX : SOLID
SAMPLE ID CLIENT: P34-S012A

PARAMETER	RESULTS	Q	QNT. LXMJT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :SPNP&P1 JOB NUMBER :9101.436

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
RESULTS IN WET WEIGHT
TEST NAME : PNC PEST./PCB UNITS : UG/KG
SAMPLE ID LAB : METHOD BLANK MATRIX : SOLID

PARAMETER	RESULTS	Q	QNT. LIMIT
Heptachlor	ND		1000
Lindane	ND		1000
Aldrin	ND		1000
4,4 - DDT	ND		1000
Dieldrin	ND		1000
Endrin	ND		1000
Chlordane	ND		1000
4,4-DDE	ND		1000
Total PCBs	ND		5000

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400676

QUALITY CONTROL FOR ACCURACY:
PERCENT RECOVERY OF SOIL MATRIX SPIKE
(Sample # 14010)

9101.436

Compound	Original Result	Amount Added	Amount Determined	Percent Recovery
		(ug/kg)		
Heptachlor	ND	400	467	116
Lindane	ND	400	423	106
Aldrin	ND	400	461	115
4,4'-DDT	ND	1000	1378	138
Dieldrin	ND	1000	1244	124
Endrin	ND	1000	1263	126
PCB-1254	ND	5000	5890	118

ND = NOT DETECTED

NA = NOT APPLICABLE

QUALITY CONTROL FOR ACCURACY:
PERCENT RECOVERY OF SOIL MATRIX SPIKE
(Sample # 14065)

9101.449

Compound	Original Result	Amount Added	Amount Determined	Percent Recovery
		(ug/kg)		
Heptachlor	ND	400	407	102
Lindane	ND	400	410	102
Aldrin	ND	400	467	117
4,4'-DDT	ND	1000	1146	115
Dieldrin	ND	1000	1178	118
Endrin	ND	1000	1186	119
PCB-1254	ND	5000	6052	121

ND = NOT DETECTED

NA = NOT APPLICABLE

3400677

E

APPENDIX E

TEMPORARY MONITORING WELL GROUNDWATER SAMPLING ANALYTICAL SCREENING RESULTS

MEMORANDUM

TO: John Barksdale

FROM: Gary Eahn

DATE: July 2, 1991

SUBJECT: UH-8000 Pensacola Report

RE: 9101.449

CC: Lab File

Attached is the laboratory report of the analysis conducted on eight samples received at the Analytical Services Center on June 21, 1991. Analysis was performed according to the screening procedures set forth in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.

The following samples were not preserved to proper pH: #14058, #14059, #14060, #14061, #14062, and #14063.

All samples on which this report is based will be retained by E & E for a period of 30 days from the date of this report unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of $1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

GH/jp
Enclosure

ANALYTICAL SERVICES CENTER

SAMPLE PRESERVATION CHECK FORM

Job number: 9101.449 Page: 1 of 1

Date received: 6/24/91

Inspected by: Joe Dobgenski

Sample Container Number	Container Test	Preservitive	pH
14058.04	TRPH	H_2SO_4	6
.05	Metals	HNO_3	<2
14059.04	TRPH	H_2SO_4	—
.05	metals	HNO_3	<2
14060.04	TRPH	H_2SO_4	7
.05	Metals	HNO_3	<2
14061.04	TRPH	H_2SO_4	7
05	metals	HNO_3	<2
14062.04	TRPH	H_2SO_4	7
05	metals	HNO_3	<2
14063.04	TRPH	H_2SO_4	—
05	metals	HNO_3	<2

3400678

recycled paper

ecology and environment

ecology and environment, inc.
International Specialists in the Environment
[illegible]-PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060

9101.449

Analysis As per site G.I.P
See Jack Miller

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project No.:	Project Name:	Project Manager:
VH 8000	NAS Pensacola Site 34 Group F	John Barksdale

Samplers: (Signature)

Field Team Leader: Arnold C Lamb

STATION NUMBER	DATE	TIME	SAMPLE TYPE COMP	GRAB	AIR	SAMPLE INFORMATION / EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	Screening Metals	Screening VOC's	Screening Pest./PCB's	Screening Phenols	Screening TRPH	Screening TOTAL PAH's	REMARKS
P34	GW007	6/20/91	1515		X	Low	TW007	5	X	X	X	X	X	X	VOA preserved with HCL <2
P34	GW006	6/20/91	1055		X	↓	TW006	5	↓	↓	↓	↓	↓	↓	metals preserved with HNO_3 <2
P34	GW011	6/20/91	1548		X		TW011	5							TRPH preserved with H_2SO_4 <2
															VOA bottles Lot# 123033 QC# 10353C
															1gal Amber Lot# 1071061 QC# 10180C
															liter poly Lot# 1042021 QC# 10230C
															liter amber Lot# 10[illegible]051 QC# 10141C
						Preservative: HNO_3 Mallinckrodt Lot# 6623 KECG; Sulfuric Mallinckrodt Lot# 6843 KCBG; HCl Mallinckrodt Lot# 5587 KEGP									All samples packed in ICE <4°C

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
	6/20/91 1700				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
Relinquished By: (Signature)	Date/Time: 0830 6-21-91	Received For Laboratory By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received For Laboratory By: (Signature)

Ship Via: FEDERAL EXPRESS

BL/Airbill Number: 0776545976

Date: 6/20/91

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

*See CONCENTRATION RANGE on back of form.

234055

7101.449

14058 - 14069

Analysis AS per site HASP
See Jack Miller

...gy and environment, inc.

...ANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060
...ional Specialists in the Environment

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

...ct No.:	Project Name:	Project Manager:
1H8000	NAS Pensacola Site 39 Group F	John Barksdale
Samplers: (Signatures)		Field Team Leader:
		Arnold C. Lamb

STATION NUMBER	DATE	TIME	SAMPLE TYPE: COMP	SAMPLE TYPE: GRAB	SAMPLE TYPE: AIR	SAMPLE INFORMATION: EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	Screening Metals	Screening VOC's	Screening Pest./PCB's	Screening Phenols	Screening PAH's	TRPH	REMARKS
P34	S005A	6/20/91	0840	X		Low	Boring 5	3	X	X	X	X	X	X	VOA preserved with HCl <2
P34	S005AD	6/20/91	0840	X			Boring 5	3							Metals preserved with HNO_3 <2
P34	GW009	6/20/91	1335		X		TW 009	5							TRPH preserved with H_2SO_4 <2
P34	GW009D	6/20/91	1335		X		TW 009	5							
P34	GW012	6/20/91	1820		X		TW 012	5							VOA bottles Lot# 1123033 QC# 10353C
															½ gal Amber Lot# 107106 QC# 10180C
						Preservative:									Liter poly Lot# 1092021 QC# 10230C
						HNO_3 Mallinckrodt Lot# 6623KECG									Liter amber Lot# 1057051 QC# 10141C
						Sulfuric Mallinckrodt Lot# 6843KCBG									All Samples packed in ICE <4°C
						HCl Mallinckrodt Lot# 5587KEGP									

Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
	6/20/91 1701				
Relinquished By: (Signature)	Date/Time:	Received By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received By: (Signature)
Relinquished By: (Signature)	Date/Time: 2010 6-21-91	Received For Laboratory By: (Signature)	Relinquished By: (Signature)	Date/Time:	Received For Laboratory By: (Signature)

Ship Via: FEDERAL EXPRESS

BL/Airbill Number: 0776545965

Date: 6/20/91

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

*See CONCENTRATION RANGE on back of form.

234086

recycled paper

ecology and environ

ANALYTICAL REFERENCE SUMMARY

9101.449

PARAMETER	METHOD
Chromium Zinc Cadmium Nickel Copper Silver	Method 6010 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
Arsenic	Method 7060 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
Lead	Method 7421 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
Polynuclear Aromatic Hydrocarbons	Method 8310 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
Purgeable Aromatics	Method 8020 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
Pesticides	Method 8080 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
Total Phenols	Method 420.1 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.
T. Petroleum Hydrocarbons	Method 418.1 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, U.S. EPA, 1986.

JOB NUMBER : 9101.449

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
14058.01	P34-GW006	UPNPRGl	06/20/91		06/22/91
14058.03	P34-GW006	WPNP&P1	06/20/91		06/24/91
		WPNPAH1	06/20/91		06/25/91
		WPNPHL1	06/20/91		06/25/91
14058.04	P34-GW006	WPNTPH1	06/20/91		06/24/91
14058.05	P34-GW006	WPNMET1	06/20/91		06/24/91
14059.01	P34-GW007	WPNPRG1	06/20/91		06/22/31
14059.03	P34-GW007	WPNP&P1	06/20/91		06/24/91
		WPNPAH1	06/20/91		06/25/91
		WPNPHL1	06/20/91		06/25/91
14059.04	P34-GW007	WPNTPH1	06/20/91		06/24/91
14059.05	P34-GW007	WPNMET1	06/20/91		06/24/91
14060.01	P34-GW009	WPNPRGl	06/20/91		06/22/91
14060.03	P34-GW009	WPNP&P1	06/20/91		06/24/91
		WPNPAH1	06/20/91		06/25/91
		WPNPHL1	06/20/91		06/25/91
14060.04	P34-GW009	WPNTPH1	06/20/91		06/24/91
14060.05	P34-GW009	WPNMET1	06/20/91		06/24/91
14061.01	P34-GW009D	WPNPRG1	06/20/91		06/22/31
14061.03	P34-GW009D	WPNP&P1	06/20/31		06/24/91
		WPNPAH1	06/20/91		06/25/91
		WPNPHL1	06/20/91		06/25/91
14061.04	P34-GW009D	WPNTPH1	06/20/91		06/24/91
14061.05	P34-GW009D	WPNMET1	06/20/91		06/24/91
14062.01	P34-GW011	UPNPRGl	06/20/91		06/24/91
14062.03	P34-GW011	WPNP&P1	06/20/91		06/24/91
		WPNPAH1	06/20/91		06/25/91
		WPNPHL1	06/20/91		06/25/91
14062.04	P34-GW011	WPNTPH1	06/20/91		06/24/01
14062.05	P34-GW011	WPNMET1	06/20/91		06/24/91
14063.01	P34-GW012	WPNPRG1	06/20/91		06/24/91
14063.03	P34-GW012	WPNP&P1	06/20/91		06/25/91
		WPNPAH1	06/20/91		06/25/91
		WPNPHL1	06/20/91		06/25/91
14063.04	P34-GW012	WPNTPH1	06/20/91		06/24/91
14063.05	P34-GW012	WPNMET1	06/20/91		06/24/91
14064.01	P34-S005A	SPNPRG1	06/20/91		06/22/91
14064.02	P34-S005A	SPNTPH1	06/20/91		06/24/91
14064.03	P34-S005A	SPNMET1	06/20/91		06/24/91
		SPNP&P1	06/20/91		06/25/91
		SPNPAH1	06/20/91		06/25/91
		SPNPHL1	06/20/91		06/25/91
14065.01	P34-S005AD	SPNPRGl	06/20/91		06/22/91
14065.02	P34-S005AD	SPNTPH1	06/20/91		06/24/91
14065.03	P34-S005AD	SPNMET1	06/20/91		06/24/91
		SPNP&P1	06/20/91		06/25/91
		SPNPAH1	06/20/91		06/25/91

3400631

JOB NUMBER : 9101.449

Ecology and Environment, Inc.
SAMPLE TRACKING REPORT

LAB SAMPLE ID	CLIENT SAMPLE ID	TEST CODE	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED
14065.03	P34-S005AD	SPNPHL1	06/20/91		06/25/91

JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14058 HATRIX: VATBR
SAMPLE ID CLIENT: P34-GW006
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		60	UG/L
Chromium	ND		10	UG/L
Zinc	97		20	UG/L
Lead	ND		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400632

JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14059 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW007
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		60	UG/L
Chromium	15		10	UG/L
Zinc	55		20	UG/L
Lead	ND		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14060 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW009
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		60	UG/L
Chromium	ND		10	UG/L
Zinc	150		20	UG/L
Lead	ND		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400683

JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14061 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW009D
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		60	UG/L
Chromium	ND		10	UG/L
Zinc	200		20	UG/L
Lead	ND		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAHPLE ID LAB :EE-91-14062 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW011
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		60	UG/L
Chromium	12		10	UG/L
Zinc	94		20	UG/L
Lead	58		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = BSTIHATED VALUE B = *ALSO* PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400684

JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-14063 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW012
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		60	UG/L
Chromium	37		10	UG/L
Zinc	290		20	UG/L
Lead	ND		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB : METHOD BLANK MATRIX: WATER
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Arsenic	ND		60	UG/L
Chromium	ND		10	UG/L
Zinc	ND		20	UG/L
Lead	ND		40	UG/L
Cadmium	ND		5.0	UG/L
Nickel	ND		40	UG/L
Copper	ND		25	UG/L
Silver	ND		10	UG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400685

TEST CODE :WPNTPH1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC TRPH UNITS : MG/L
PARAMETER : TRPH

SAMPLE ID	RESULTS	Q	QNT. LIMIT
EE-91-14058			
P34-GW006	ND		1.0
EE-91-14059			
P34-GW007	ND		1.0
EE-91-14060			
P34-GW009	ND		1.0
EE-91-14061			
P34-GW009D	ND		1.0
EE-91-14062			
P34-GW011	1.2		1.0
EE-91-14063			
P34GUO 12	ND		1.0

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY
FOR SPIKED WATER SAMPLES

9101.449

(mg/L)

Parameter	E & E Laboratory No. 91-	Original Value	Amount Added	Amount Determined	Percent Recovery
T. RECOVERABLE PETROLEUM HYDROCARBONS	Batch QC	ND	8.5	8.4	98.6

ND = NOT DETECTED

NOTE: ALTHOUGH RESULTS ARE REPORTED AS ROUNDED VALUES, PERCENT RECOVERIES ARE CALCULATED DIRECTLY FROM THE RAV DATA.

3400636

TEST CODE :WPNPRG1 **JOB NUMBER** :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : **UH-8000** NASP - PHASE I BATCH 2
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : EE-91-14058 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW006
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		10
Toluene	NU		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroetliene	ND		10
Tetrachloroethene	ND		10
Chlorobenzene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPRG1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : BE-91-14059 MATRIX : WATER
SAMPLE ID CLIENT: P34-GW007
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIHIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	PID		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10
Chlorobenzene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400687

TEST CODE :WPNPRG1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : OH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : EE-91-140GO MATRIX: WATER
SAMPLE ID CLIENT: P34-GW009
SAMPLE LOCATION.:

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	NU		10
1,1 - Dichloroethene	NU		10
Hethylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	NU		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10
Chlorobenzene	NU		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN DLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPRG1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PUASE I BATCH 2
TEST NME : PNC PURGABLES- GC UNITS : UG/L
SAHPLE I D LAB : EE-91-14061 MATRIX: WATER
SAMPLE I D CLIENT: P34-GW009D
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		10
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10
Chlorobenzene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN CLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400688

TEST CODE : WPNPRG1 JOB NUMBER **39101.449**

Ecology arid Environment , Inc.
Analytical Services Center

CLIENT : **UH-8000 NASP - PHASE I** BATCH 2
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : EE-91-14062 MATRIX: WATER
SAMPLE ID CLIENT: **P34-GW011**
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene **Chloride**	ND		10
Trans - **1,2** - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10
Chlorobenzene	ND		10

QUALIFIERS: **C** = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPRG1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : EE-91-14063 MATRIX: VATER
SAMPLE ID CLIENT: P34-GW012
SAHPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10
Chlorobenzene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400689

QUALITY CONTROL FOR ACCURACY AND PRECISION:
PERCENT RECOVERY AND RELATIVE PERCENT DIFFERENCE (RPD)
OF WATER MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD)
(Sample # 14058)

9101.449

(ug/L)

Parameter	Original Value	Amount Added MS	Amount Added MSD	Amount Determined MS	Amount Determined MSD	Percent Recovery MS	Percent Recovery MSD	RPD
Benzene	ND	20	20	19	18	95	90	5.4
Toluene	ND	20	20	17	16	85	80	6.1
Ethyl Benzene	ND	20	20	17	16	85	80	6.1
1,2-Dichlorobenzene	ND	20	20	16	16	80	80	0
1,3-Dichlorobenzene	ND	20	20	16	16	80	80	0
1,4-Dichlorobenzene	ND	20	20	16	15	80	75	6.5
1,1-Dichloroethene	ND	20	20	19	20	95	100	5.1
Methylene Chloride	ND	20	20	20	20	100	100	0
Trans-1,2-Dichloroethene	ND	20	20	20	20	100	100	0
1,1-Dichloroethane	ND	20	20	19	19	95	95	0
1,1,1-Trichloroethane	ND	20	20	19	18	95	90	5.4
1,2-Dichloroethane	ND	20	20	23	23	115	115	0
Trichloroethene	ND	20	20	20	19	100	95	5.1
Tetrachloroethene	ND	20	20	22	21	110	105	4.7

These recoveries and RPDs are within E & E, Inc. limits.

ND = NOT DETECTED

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY OF SURROGATE SPIKES

9101.449

Compound	E & E Laboratory No. 91-	Percent Recovery
Trifluorotoluene	14058	93
	14059	90
	14060	93
	14061	91
	14062	105
	14063	122
	Method Blank #1	100
	Method Blank #2	100

3400650

TEST CODE :WPNPRG1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : METHOD BLANK 1 MATRIX: WATER
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		10
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethene	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10
Chlorobenzene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPRG1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PURGABLES- GC UNITS : UG/L
SAMPLE ID LAB : METHOD BLANK 2 MATRIX: WATER
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Benzene	ND		lo
Toluene	ND		10
Ethylbenzene	ND		10
Total Xylenes	ND		10
1,2 - Dichlorobenzene	ND		10
1,3 - Dichlorobenzene	ND		10
1,4 - Dichlorobenzene	ND		10
1,1 - Dichloroethene	ND		10
Methylene Chloride	ND		10
Trans - 1,2 - Dichloroethme	ND		10
1,1 - Dichloroethane	ND		10
1,1,1 - Trichloroethane	ND		10
1,2 - Dichloroethane	ND		10
Trichloroethene	ND		10
Tetrachloroethene	ND		10
Chlorobenzene	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400691

TEST CODE :WPNPAH1 JOB NUMBER :*9101.443*

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-14058 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW006
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPAH1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-14059 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW007
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400692

TEST CODE :WPNPAH1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASF - PHASE I BATCH 2
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-14060 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW009
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	UNT. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT NU = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPAH1 JOB NUMBER :9101.449

Ecology and Environment, INC.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-14061 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW009D
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	VNT. LIMIT
Total as Benzo-a-pyrelie	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400603

TEST CODE :WPNPAH1 JOB NUMBER :9101.449

Ecology arid Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-14062 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW011
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	190		100

QUALIFIERS: C = COMMENT NU = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPAH1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-14063 MATRIX: VATER
SAMPLE ID CLIENT: P34-GW012
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

3400694

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED WATER SAMPLES

9101.449

(ug)

Parameter	E & E Laboratory No. *91-*	Original Value	Amount Added	Amount Determined	Percent Recovery
Benzo(a)pyrene	*14063* MS	ND	*10*	*7.7*	*77*

ND = NOT DETECTED

TEST CODE :VPNPAH1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PAH - LC UNITS : UG/L
SAMPLE ID LAB : METHOD BLANK 598/88 MATRIX: WATER
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Benzo-a-pyrene	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400695

TEST CODE :WPNPHL1 JOB NUMBER :3101.449

Ecology and Environment, Iiic.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-14058 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW006
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COMMENT ND = MOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPHL1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAHPLE ID LAB : EE-91-14059 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW007
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	190		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400696

TEST CODE : WPNPHL1 JOB NUMBER : 9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAMPLE ID LAB : ***EE-91-14060*** MATRIX: WATER
SAMPLE ID CLIENT: P34-GW009
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPHL1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASI' - PHASE I BATCH 2
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-14061 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW009D
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	ONT. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIHATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400697

TEST CODE :WPNPHL1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-14062 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW011
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	960		100

QUALIFIERS: C = COMMENT NU = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNPHL1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCE 2
TEST NAME : PNC PEENOL - LC UNITS : UG/L
SAMPLE ID LAB : EE-91-14063 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW012
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COHHENT NU = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400633

QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED WATER SAMPLES

9101.449

(ug)

Parameter	E & E Laboratory No. 91- Blank	Spike	Original Value	Amount Added	Amount Determined	Percent Recovery
2,4,6-Trichlorophenol			ND	500	462	92

ND = NOT DETECTED

TEST CODE :WPNPHL1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PHENOL - LC UNITS : UG/L
SAMPLE ID LAB : METHOD BLANK 600/55 MATRIX: WATER
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Total as Trichlorophenol	ND		100

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400639

TEST CODE : WPNP&P1 JOB NUMBER : 9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAHPLE ID LAB : EE-91-14058 MATRIX: WATER
SAHPLE ID CLIENT: P34-GW006
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Heptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
4,4-DDE	ND		5.0
Total PCBs	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE : WPNP&P1 JOB NUMBER : 9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : EE-91-14059 MATRIX: WATER
SAHPLE ID CLIENT: P34-GW007
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIHIT
Heptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
4,4-DDE	ND		5.0
Total PCBs	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400700

TEST CODE :WPNP&P1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASF - PBASE I BATCH 2
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : EE-91-14060 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW009
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Heptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
4,4-DDE	ND		5.0
Total PCBs	ND		10

QUALIFIERS: C = COMMENT @ID = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN CLANK
L = PRESENT BELOW STATED DETECTION LIMIT

TEST CODE :WPNP&P1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAHPLE I D LAB : EE-91-14061 MATRIX: WATER
SAMPLE I D CLIENT: P34-GW009D
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIHIT
Heptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
4,4-DDE	ND		5.0
Total PCBs	ND		10

QUALIFIERS: C = COMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT I N BLANK
L = PRESENT BELOW STATED DETECTION LIHIT

3400701

TEST CODE :WPNP&P1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAMPLE ID LAB : EE-91-14062 MATRIX: WATER
SAMPLE ID CLIENT: P34-GW011
SAMPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Heptachlor	NU		5.0
Lindane	ND		5.0
Aldrin	NU		5.0
4,4 - DDT	ND		5.0
Die1drin	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
4,4-DDE	ED		5.0
Total PCBs	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELUW STATED DETECTION LIMIT

TEST CODE :WPNP&P1 JOB NUMBER :9101.449

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
TEST NAME : PNC PEST./PCB UNITS : UG/L
SAHPLE ID LAB : EE-91-14063 MATRIX: *WATER*
SAMPLE ID CLIENT: P34-GW012
SAWPLE LOCATION :

PARAMETER	RESULTS	Q	QNT. LIMIT
Heptachlor	ND		5.0
Lindane	ND		5.0
Aldrin	ND		5.0
4,4 - DDT	ND		5.0
Dieldrin	ND		5.0
Endrin	ND		5.0
Chlordane	ND		5.0
4,4-DUE	ND		5.0
Total PCBs	ND		10

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT

3400702

QUALITY CONTROL FOR ACCURACY:
PERCENT RECOVERY OF WATER MATRIX SPIKE
(Sample # 14063)

9101.449

Compound	Original Result	Amount Added	Amount Determined	Percent Recovery
		(ug/L)		
Heptachlor	ND	2.0	1.5	75
Lindane	ND	2.0	2.0	100
Aldrin	ND	2.0	1.45	73
4,4'-DDT	ND	5.0	3.5	70
Dieldrin	ND	5.0	5.06	101
Endrin	ND	5.0	5.3	106
PCB-1254	ND	25.0	27.6	110

ND = NOT DETECTED

NA = NOT APPLICABLE

F

APPENDIX F

EXISTING PERMANENT MONITORING WELL GROUNDWATER SAMPLING ANALYTICAL RESULTS

M E M O R A N D U M

TO: John Barksdale

FROM: Gary Hahn G. Hahn/TB

DATE: June 18, 1991

SUBJECT: NASP Well Resampling (Site 34)

REF: 9101.044

CC: Lab File

Attached is the laboratory report of the analysis conducted on nine samples received at the Analytical Services Center on May 03, 1991. Analysis was performed according to the "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, USEPA, Third Edition, 1986 and USEPA Contract Laboratory Program, Statement of Work for Organic Analysis, 2/88 and Statement of Work for Inorganic Analysis, 7/88.

All samples on which this report is based will be retained by E & E for a period of 30 days from the date of this report, unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of $1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

GH/bjh
enclosure

Based on the amount of mass spectral information available, the GC/MS computer is not always able to supply three matches for the unknown.

Carbon disulfide was detected in several of the volatile samples. This compound is believed to be laboratory introduced and is not native to the samples.

The pesticide EVALB standard analyzed at 17:23 on 05/22/91 contained carryover. This standard was immediately reanalyzed.

A pesticide spiked method blank was not extracted with samples included in this data pack. Blank spike analysis vas performed with and is reported in other data packs associated with this project.

The order which the 05/15/91 ICP analytical sequence was performed did not precisely follow the Statement of Work. The initial calibration blank contained carryover and was reanalyzed later in the sequence with acceptable results. We do not believe this oversight to affect the data validity.

Times reported for mercury and cyanide analysis on Form 14 are not real. The instruments utilized are not capable of recording time of analysis.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Gary Hahn
Manager - Analytical Services Center

Date 6/20/91

GH/tjb

3400705

E & E JOB NUMBER: 9101.044

CLIENT SAMPLE ID	LAB SAMPLE ID	ID USED IN REPORT
P-34-W053	9923	W053
P-34-W056	9924	W056
P-34-W056D	9925	W056D
P-34-W057	9926	W057
P-34-W061	9927	W061
P-34-WFB02	9928	WFB02
P-34-WRB02	9929	WRB02
P-34-WPB02	9930	WPB02
P-34-WTB02	9931	WTB02
P-34-W053-DISS	9932	W053 DISS
P-34-W056-DISS	9933	W056 DISS
P-34-W056D-DISS	9934	W056D DISS
P-34-W057-DISS	9935	W057 DISS
P-34-W061-DISS	9936	W061 DISS
P-34-WFB02-DISS	9937	WFB02 DISS
P-34-WRB02-DISS	9938	WRB02 DISS

ALL ANALYSES FOLLOW CLP PROTOCOL

ecology and environment, inc.
368 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL 716/684-8060
International Specialists in the Environment

CHAIN OF CUSTODY RECORD

Page 1 of 1

Project No.	Project Name	Project Manager
VH800	NASP WELL RESAMPLING	JOHN BARKSDALE

Samplers: (Signatures) Vic A. Spooner

Field Team Leader: Vic A. Spooner

STATION NUMBER	DATE 1991	TIME	SAMPLE TYPE COMP	GRAB	AIR	SAMPLE INFORMATION — EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	TCL TRPHS	TCL PHENAS	TCL PESTICIDES + PCBs	TCL DISSOLVED METALS + ***	TCL TOTAL METALS + ***	TCL CYANIDE	TOC	ALKALINITY	REMARKS
P34W053	5/2	16:00		X		Low Levels	Well GM-53	9	X	X	X	X	X	X	X	X	* H_2SO_4 Preservative
P34W057	5/2	17:15		X		" "	Well GM-57	9	X	X	X	X	X	X	X	X	** HNO_3 Preservative
																	*** NaOH Preservative

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Ship Via:
V. Spooner	5/2/91 16:30	Fed Ex				Federal Express
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Fed Ex	5-3-91 0930	Received for Laboratory By: (Signature)	Relinquished By: (Signature)	Date/Time	Received For Laboratory By: (Signature)	AirBill Number: 965924630 Date: 5/2/91

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

*See CONCENTRATION RANGE on back of form.

234055

ecology and environment, inc.
368 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL 716/684-8060
International Specialists in the Environment

ALL ANALYSES FOLLOW CLP PROTOCOL

CHAIN OF CUSTODY RECORD

Page 1 of 1

Project No.	Project Name	Project Manager
VH8600	NASP WELL RESAMPLING	JOHN BARKSDALE

Samplers: (Signatures)	Field Team Leader
V. A. Scoones	V. Scoones

STATION NUMBER	DATE 1991	TIME	SAMPLE TYPE COMP	GRAB	AIR	SAMPLE INFORMATION EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	TCL VOCs + Xylenes + Ketones *	TCL BNAs **	TCL PESTICIDES + PCBs *	TCL TOTAL METALS + HARDNESS ***	TCL DISSOLVED METALS ***	TCL CYANIDE ***	TOC	ALKALINITY	REMARKS
P34W061	5/1	15:00		X		LOW LEVELS	Well GM-61	11	X	X	X	X	X	X	X	X	* HCl Preservative
P34W057	5/1	17:05		X		" "	Well GM-57	2	X								** H2SO4 Preservative
P34W053	5/1	16:20		X		" "	Well GM-53	2	X								*** HNO3 Preservative
P34WRB02	5/1	13:35		X		" "	Site 34 Rinsate	2	X								**** NaOH Preservative
P34WFB02	5/1	13:25		X		" "	Site 34 Field Blank	2	X								
P34W056	5/1	14:15		X		" "	Well GM-56	2	X								
P34W056D	5/1	16:15		X		" "	Well GM-56 Dup.	2	X								
P34WPB02	5/1	07:15		X		" "	Site 34 Pre-E Blank	5	X	X		X		X			
P34WTB02	5/1	08:15		X		" "	Site 34 Trip Blank	2	X					-			

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Ship Via:
V. A. Scoones	5/2/91	Fed Ex				FEDERAL EXPRESS
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Relinquished By: (Signature)	Date/Time	Received By: (Signature)	
Relinquished By: (Signature)	Date/Time	Received For Laboratory By (Signature)	Relinquished By: (Signature)	Date/Time	Received For Laboratory By: (Signature)	BL/Airbill Number: 965924466 3
FedEx	5-3-91 0950					Date: 5/02/91

Distribution: Original Accompanies Shipment, Copy to Coordinator Field Files

*See CONCENTRATION RANGE on back of form.

23405

ecology and environment, inc.
International Specialists in the Environment
300 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684

ALL ANALYSES FOLLOW WCP PROTOCOL

CHAIN OF CUSTODY RECORD

Page 1 of 1

Project No.	Project Name	Project Manager
UH8000	NASP WELL RESAMPLING	JOHN BARESDALE

Samplers: (Signatures) V. A. Spooner

Field Team Leader: V. Spooner

STATION NUMBER	DATE 1991	TIME	SAMPLE TYPE COMP	GRAB	AIR	SAMPLE INFORMATION EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	TCL VOAs	TCL BNAs	TCL PESTICIDES + PCBs	TCL TOTAL METALS + HARDNESS	TCL DISSOLVED METALS	TCL CYANIDE	TOC	ALKALINITY	REMARKS
P34W056	5/1	16:15		X		LOW LEVELS	WELL GM-56	9	X	X	X	X	X	X	X	X	* H_2SO_4 Preservative ** HNO_3 Preservative *** NaOH Preservative
P34W056D	5/1	16:15		X		" "	WELL GM-56 (DUP)	9									

Relinquished By (Signature)	Date/Time	Received By (Signature)	Relinquished By (Signature)	Date/Time	Received By (Signature)	Ship Via:
V. A. Spooner	05/02/91 16:30	Fed Ex				Federal Express
Relinquished By (Signature)	Date/Time	Received By (Signature)	Relinquished By (Signature)	Date/Time	Received By (Signature)	
Fed Ex	5-3-91 0930	Received For Laboratory By (Signature) Julian Jerome			Received For Laboratory By (Signature)	AB/Airbill Number 965924465 2

Date: 05/02/91

Distribution: Original Accompanies Shipment, Copy to Coordinator Field Files

*See CONCENTRATION RANGE on back of form.

234055

ALL ANALYSES FOLLOW CLP PROTOCOL **

ecology and environment, inc.
368 PLEASANTVIEW DRIVE, LANCASTER, NEW YORK 14086, TEL. 716/684-8060
International Specialists in the Environment

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project No.	Project Name	Project Manager
VH8000	NASP WELL RESAMPLING	JOHN BARKSDALE

Samplers (Signatures): Vic A. Spooner

Field Team Leader: Vic A. Spooner

STATION NUMBER	DATE 1991	TIME	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE TYPE AIR	SAMPLE INFORMATION / EXPECTED COMPOUNDS (Concentration)*	STATION LOCATION	NUMBER OF CONTAINERS	TCL TCPHs	TCL BNAs	TCL PESTICIDES + PCBs	TCL TOTAL METALS + HARDNESS	TCL DISSOLVED METALS ***	TCL CYANIDE	TOC	ALKALINITY	REMARKS
P34W	RB025 5/1	13:15		X		LOW LEVELS	SITE 34 RINSATE	7	X	X	X	X	X	X			* H_2SO_4 Preservative
P34W	RB02 5/1	13:35		X		" "	SITE 34 FIELD BLANK	9	X	X	X	X	X	X	X	X	** HNO_3 Preservative
																	*** NaOH Preservative

Relinquished By (Signature)	Date/Time	Received By (Signature)	Relinquished By (Signature)	Date/Time	Received By (Signature)	Ship Via
Vic A. Spooner	5/2/91 16:30	Fed Ex				Federal Express
Relinquished By (Signature)	Date/Time	Received By (Signature)	Relinquished By (Signature)	Date/Time	Received By (Signature)	Air Bill Number / Date
Relinquished By (Signature)	Date/Time	Received For Laboratory By (Signature)	Relinquished By (Signature)	Date/Time	Received For Laboratory By (Signature)	965424641 5/2/91
Fed Ex	5.3.91 0930					

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

*See CONCENTRATION RANGE on back of form.

234055

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

W053

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water) : WATER Lab Sample ID: 9923_____

Level (low/med) : Low— Date Received: 05/03/91

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight) : UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1650			P
7440-36-0	Antimony	33.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	5.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.3	B		P
7440-70-2	Calcium	15700			P
7440-47-3	Chromium	52.9			P
7440-48-4	Cobalt	7.6	B		P
7440-50-8	Copper	4.4	B		P
17439-89-6	Iron	4400			P
17439-92-1	Lead	4.7		*	F
17439-95-4	Magnesium	5210			P
17439-96-5	Manganese	101			P
17439-97-6	Mercury	0.20	U		CV
17440-02-0	Nickel	11.7	B		P
17440-09-7	Potassium	3190	B		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	5890			P
7440-28-0	Thallium	3.0	U	W	F
7440-62-2	Vanadium	7.1	B		P
17440-66-6	Zinc	26.2			P
	Cyanide	10.0	U		AS

Color Before: CL_____ Clarity Before: CL____ Texture: _____

Color After: CL_____ Clarity After: CL____ Artifacts: _____

Comments:

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

W053 DISSOLVED

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water): WATER Lab Sample ID: 9932_____

Level (low/med): LOW__ Date Received: 05/03/91

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3330			P
7440-36-0	Antimony	34.5	B		P
17440-38-2	Arsenic	2.0	U		F
17440-39-3	Barium	8.1	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.0	U		P
7440-70-2	Calcium	15700			P
17440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	8.0	B		P
7440-50-8	Copper	4.5	B		P
17439-89-6	Iron	4400			P
7439-92-1	Lead	5.4		*	F
7439-95-4	Magnesium	5370			P
7439-96-5	Manganese	99.3			P
17439-97-6	Mercury	0.20	U		CV
17440-02-0	Nickel	8.0	U		P
7440-09-7	Potassium	32801	B		P
17782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	5900			P
7440-28-0	Thallium	3.0	U	W	F
7440-62-2	Vanadium	10.8	B		P
7440-66-6	Zinc	24.4			P
	Cyanide				NR

6/18/91

Color Before: CL_____ Clarity Before: CL____ Texture: _____

Color After: CL_____ Clarity After: CL____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

W056

Lab Name: ECOLOGY-AND-ENVIRONMENT — Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water): WATER Lab Sample ID: 9924_____

Level (low/med): LOW__ Date Received: 05/03/91

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1110			P
7440-36-0	Antimony	33.0			P
7440-38-2	Arsenic	2.4	B		F
7440-39-3	Barium	17.6	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.0	U		P
7440-70-2	Calcium	60000			P
7440-47-3	Chromium	13.51			P
7440-48-4	Cobalt	6.3	B		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	6590			P
7439-92-1	Lead	10		*	F
17439-95-4	Magnesium	4440	B		P
17439-96-5	Manganese	607			P
17439-97-6	Mercury	0.20	U		CV
17440-02-0	Nickel	8.0	U		P
17440-09-7	Potassium	3800	B		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	3.0	U		P
17440-23-5	Sodium	91301			P
17440-28-0	Thallium	3.0	U		F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	16.7	B		P
	Cyanide —	10.0	U		AS

Color Before: CL_____ Clarity Before: CL____ Texture: _____

Color After: CL_____ Clarity After: CL____ Artifacts: _____

Comments:

FORM I - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

W056 DISSOLVED

Lab Name: ECOLOGY AND ENVIRONMENT — Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water) : WATER Lab Sample ID: 9933_____

Level (low/med) : LOW__ Date Received: 05/03/91

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight) : UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	107	B		P
7440-36-0	Antimony	33.0	U		P
17440-38-2	Arsenic	2.0	U	W	F
7440-39-3	Barium	15.3	B		P
7440-41-7	Beryllium	1.0	U		P
17440-43-9	Cadmium	3.0	U		P
7440-70-2	Calcium	61300			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	10.7	B		P
7440-50-8	Copper	2.0	U		P
17439-89-6	Iron	4070		*	P
17439-92-1	Lead	1.0	U	*	F
7439-95-4	Magnesium	4430	B		P
7439-96-5	Manganese	592			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.0	U		P
7440-09-7	Potassium	4020	B		P
17782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	9570			P
17440-28-0	Thallium	3.0	U		F
17440-62-2	Vanadium	4.4	B		P
7440-66-6	Zinc	10.5	B		P
	Cyanide				NR

Color Before: CL_____ Clarity Before: C_____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments :

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

W056D

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water) : WATER Lab Sample ID: 9925_____

Level (low/med) : LO"— Date Received: 05/03/91

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight) : UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_	2020			P_
7440-36-0	Antimony_	33.0	U		P_
7440-38-2	Arsenic__	4.4	B		F_
7440-39-3	Barium___	19.3	B		P_
7440-41-7	Beryllium	1.0	U		P_
7440-43-9	Cadmium__	3.4	B		P_
7440-70-2	Calcium__	61400			P_
17440-47-3	Chromium_	9.0	U		P_
17440-48-4	Cobalt___	7.4	B		P_
7440-50-8	Copper___	4.9	B		P_
17439-89-6	Iron_____	8800			P_
7439-92-1	Lead_____	30.2		S*	F_
17439-95-4	Magnesium	4420	B		P_
7439-96-5	Manganese	634			P_
17439-97-6	Mercury__	0.20	U		CV
17440-02-0	Nickel___	8.0	U		P_
17440-09-7	Potassium	3840	B		P_
7782-49-2	Selenium_	2.0	U	W	F_
7440-22-4	Silver___	3.0	U		P_
17440-23-5	[Sodium __	9070			P_
17440-28-0	Thallium_	3.0	U	W	F_
7440-62-2	Vanadium_	4.0	U		P_
17440-66-6	Zinc_____	23.4			P_
_____	Cyanide__	10.0	U		AS
_____	_____	_____		_____	__

Color Before: CL_____ Clarity Before: CL____ Texture: _____

Color After: CL_____ Clarity After: CL____ Artifacts: _____

Comments:

FORM I - IN

34007-0

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

W056D
DISSOLVED

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water): WATER Lab Sample ID: 9934_____

Level (low/med): LOW__ Date Received: 05/03/91

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	111	B		P
7440-36-0	Antimony	33.0	U		P
7440-38-2	Arsenic	2.0	B		F
7440-39-3	Barium	16.4	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.0	U		P
7440-70-2	Calcium	62800			P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	9.7	B		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	4180			P
7439-92-1	Lead	6.5		S*	F
7439-95-4	Magnesium	4470	B		P
17439-96-5	Manganese	629			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.0	U		P
7440-09-7	Potassium	4130	B		P
					F
					P
					P
					F
					P
					P
					NR

Color Before: CL_____ Clarity Before: C_____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

W057

Lab Name: ECOLOGY-AND-ENVIRONMENT — Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water) : WATER Lab Sample ID: 9926_____

Level (low/med) : LOW__ Date Received: 05/03/91

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
17429-90-5	Aluminum	706			P
7440-36-0	Antimony	39.1	B		P
7440-38-2	Arsenic	2.0	U		F
17440-39-3	Barium	5.2	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.0	U		P
17440-70-2	Calcium	49500			P
17440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	5.8	B		P
17440-50-8	Copper	3.0	B		P
7439-89-6	Iron	2600			P
7439-92-1	Lead	5.0		*	F
17439-95-4	(Magnesium	3380	B		P
7439-96-5	Manganese	40.9			P
17439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.0	U		P
7440-09-7	Potassium	1460	B		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	3390	B		P
17440-28-0	(Thallium	3.0	U		F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	25.1			P
	Cyanide —	10.0	U		AS

Color Before: CL_____ Clarity Before: CL____ Texture: _____

Color After: CL_____ Clarity After: CL____ Artifacts: _____

Comments:

FORM I - IN

3400711

7/88

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

W057 DISSOLVED

Lab Name: ECOLOGY_AND_ENVIRONMENT_ Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water) : WATER Lab Sample ID: 9935_____

Level (low/med) : LOW__ Date Received: 05/03/91

% Solids: __0.0

Concentration Units (ug/L or mg/kg *dry* weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
17429-90-5	Aluminum	74.318			P
7440-36-0	Antimony	33.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	5.0	U		P
7440-41-7	Beryllium	1.0	U		P
17440-43-9	Cadmium	3.2	B		P
17440-70-2	Calcium	51700			P
7440-47-3	Chromium	9.0	U		P
17440-48-4	Cobalt	8.4	B		P
7440-50-8	Copper	2.0	U		P
17439-89-6	Iron	139			P
7439-92-1	Lead	1.0	U	? *	F
17439-95-4	Magnesium	3310	B		P
7439-96-5	Manganese	36.6			P
17439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.0	U		P
7440-09-7	Potassium	1550	B		P
7782-49-2	Selenium	2.0	U	W	F
7440-22-4	Silver	3.0	U		P
17440-23-5	Sodium	3550	B		P
7440-28-0	Thallium	3.0	U		F
17440-62-2	Vanadium	5.4	B		P
17440-66-6	Zinc	6.6	B		P
	Cyanide				NR

6/13/91

Color Before: CL_____ Clarity Before: C_____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

W061

Lab Name: ECOLOGY-AND-ENVIRONMENT — Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water) : WATER Lab Sample ID: 9927_____

Level (low/med) : LOW__ Date Received: 05/03/91

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight) : UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	279			P
17440-36-0	Antimony	33.0	U		P
17440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	38.7	B		P
7440-41-7	Beryllium	1.0	U		P
17440-43-9	Cadmium	3.0	U		P
17440-70-2	Calcium	50500			P
17440-47-3	Chromium	9.0	U		P
17440-48-4	Cobalt	6.5	B		P
7440-50-8	Copper	6.6	B		P
17439-89-6	Iron	4800			P
17439-92-1	Lead	7.3		S*	F
17439-95-4	Magnesium	6330			P
17439-96-5	Manganese	54.0			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.0	U		P
17440-09-7	Potassium	2660	B		P
17782-49-2	Selenium	2.0	U	W	F
17440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	127000			P
7440-28-0	Thallium	3.0	U		F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	39.1			P
	Cyanide	10.0	U		AS

Color Before: CL_____ Clarity Before: C_____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

3400712

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

W061 DISSOLVED

Lab Name: ECOLOGY-AND_ENVIRONMENT — Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water): WATER Lab Sample ID: 9936_____

Level (low/med): LOW__ Date Received: 05/03/91

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
17429-90-5	Aluminum_	302	_		P_
17440-36-0	Antimony_	33.0	U		P_
17440-38-2	Arsenic__	2.0	U		F_
17440-39-3	Barium —	39.6	B		P_
17440-41-7	Beryllium	1.0	U		P_
17440-43-9	Cadmium —	3.0	U		P_
17440-70-2	Calcium —	50300	_		P_
17440-47-3	Chromium_	9.0	U		P_
17440-48-4	Cobalt___	10.1	B		P_
17440-50-8	Copper___	2.1	B		P_
17439-89-6	Iron_____	4800	_		P_
17439-92-1	Lead_____	3.2	_	—* —	F_
17439-95-4	Magnesium	6240	_		P_
17439-96-5	Manganese	57.1	_		P_
17439-97-6	Mercury —	0.20	U		CV
17440-02-0	Nickel —	8.0	U		P_
17440-09-7	Potassium	2600	B		P_
17782-49-2	Selenium_	2.0	U	—W —	F_
17440-22-4	Silver___	3.0	U		P_
7440-23-5	Sodium —	122000	_		P_
17440-28-0	Thallium_	3.0	U	—W —	F_
17440-62-2	Vanadium_	4.0	U		P_
17440-66-6	Zinc_____	21.1	_		P_
_____	Cyanide__		_		NR

6/13/91

Color Before: CL_____ Clarity Before: C_____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

WFB02

Lab Name: ECOLOGY_AND-ENVIRONMENT — Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water): WATER Lab Sample ID: 9928_____

Level (low/med): LOW__ Date Received: 05/03/91

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	75.8	B		P
7440-36-0	Antimony	39.9	B		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	5.0	U		P
17440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.0	U		P
7440-70-2	Calcium	95.0	U		P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt —	5.0	U		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	25.9	B		P
17439-92-1	Lead	1.0	U	*	F
17439-95-4	Magnesium	108	U		P
17439-96-5	Manganese	1.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.1	B		P
17440-09-7	Potassium	263	U		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	324	B		P
7440-28-0	Thallium	3.0	U		F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	9.6	B		P
	Cyanide	10.0	U		AS

Color Before: CL_____ Clarity Before: C_____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

WFB02
DISSOLVED

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water): WATER Lab Sample ID: 9937_____

Level (low/med): LOW__ Date Received: 05/03/91

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
17429-90-5	Aluminum	22.7	B		P
17440-36-0	Antimony	40.7	B		P
17440-38-2	Arsenic	2.0	U		F
17440-39-3	Barium	5.0	U		P
17440-41-7	Beryllium	1.0	U		P
17440-43-9	Cadmium	3.0	U		P
17440-70-2	Calcium	95.0	U		P
17440-47-3	Chromium	9.0	U		P
17440-48-4	Cobalt	5.0	U		P
17440-50-8	Copper	2.0	U		P
17439-89-6	Iron	35.1	B		P
17439-92-1	Lead	2.7	B	*	F
17439-95-4	Magnesium	108	U		P
17439-96-5	Manganese	2.9	B		P
17439-97-6	Mercury	0.20	U		CV
17440-02-0	Nickel	8.0	U		P
17440-09-7	Potassium	263	U		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	239	B		P
7440-28-0	Thallium	3.0	U	W	F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	9.9	B		P
	Cyanide				NR

6/12/91

Color Before: CL_____ Clarity Before: C_____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

WPB02

Lab Name: ECOLOGY_AND_ENVIRONMENT__ Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water): WATER Lab Sample ID: 9930_____

Level (low/med): LOW__ Date Received: 05/03/91

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14.0	U		P
7440-36-0	Antimony	33.0	U		P
17440-38-2	Arsenic	2.0	U		F
17440-39-3	Barium	5.0	U		P
17440-41-7	Beryllium	1.0	U		P
17440-43-9	Cadmium	3.0	U		P
7440-70-2	Calcium	152	B		P
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	5.0	U		P
17440-50-8	Copper	2.0	U		P
17439-89-6	Iron	59.4	B		P
7439-92-1	Lead	1.0	U	*	F
7439-95-4	Magnesium	108	U		P
7439-96-5	Manganese	1.6	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	8.0	U		P
17440-09-7	Potassium	263	U		P
7782-49-2	Selenium	2.0	U		F
17440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	300	B		P
17440-28-0	Thallium	3.0	U		F
17440-62-2	Vanadium	4.0	U		P
17440-66-6	Zinc	6.0	B		P
	Cyanide	10.0	U		AS

Color Before: CL_____ Clarity Before: C_____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

FORM I - IN

3400714

7/88

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSES DATA SHEET

WRB02

Lab Name: ECOLOGY-AND-ENVIRONMENT Contract: _____

Lab Code: EANDE Case No.:9101.044 SAS No.: _____ SDG No.: WFB02

Matrix (soil/water): WATER Lab Sample ID: 9929

Level (low/med): LOW Date Received: 05/03/91

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
17429-90-5	Aluminum	20.1	B		P
17440-36-0	Antimony	35.3	B		P
17440-38-2	Arsenic	2.0	U	W	F
17440-39-3	Barium	5.0	U		P
17440-41-7	Beryllium	1.0	U		P
17440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	95.0	U		P
17440-47-3	Chromium	9.0	U		P
17440-48-4	Cobalt	5.4	B		P
17440-50-8	Copper	2.0	U		P
7439-89-6	Iron	32.2	B		P
17439-92-1	Lead	3.8		*	F
7439-95-4	Magnesium	108	U		P
17439-96-5	Manganese	1.2	B		P
17439-97-6	Mercury	0.20	U		CV
17440-02-0	Nickel	8.0	U		P
17440-09-7	Potassium	263	U		P
17782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	208	B		P
17440-28-0	Thallium	3.0	U	W	F
17440-62-2	Vanadium	4.0	U		P
17440-66-6	Zinc	5.4	B		P
	Cyanide	10.0	U		AS

Color Before: CL Clarity Before: C Texture: _____

Color After: CL Clarity After: C Artifacts: _____

Comments:

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

WRB02
DISSOLVED

Lab Name: ECOLOGY-AND-ENVIRONMENT — Contract: _____

Lab Code: EANDE_ Case No.:9101.044 SAS No.: _____ SDG No.: WFB02_

Matrix (soil/water) : WATER Lab Sample ID: 9938_____

Level (low/med) : Low — Date Received: 05/03/91

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
17429-90-5	Aluminum	16.0	B		P
7440-36-0	Antimony	33.0	U		P
17440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	5.0	U		P
7440-41-7	Beryllium	1.0	U		P
17440-43-9	Cadmium	3.0	U		P
17440-70-2	Calcium	95.0	U		P
17440-47-3	Chromium	9.0	U		P
17440-48-4	Cobalt	6.3	B		P
17440-50-8	Copper	2.0	U		P
17439-89-6	Iron	23.1	B		P
17439-92-1	Lead	1.0	U	*	F
17439-95-4	Magnesium	108	U		P
7439-96-5	Manganese	2.1	B		P
17439-97-6	Mercury	0.20	U		CV
17440-02-0	Nickel	8.0	U		P
7440-09-7	Potassium	263	U		P
7782-49-2	Selenium	2.0	U		F
17440-22-4	Silver	3.0	U		P
17440-23-5	Sodium	201	B		P
7440-28-0	Thallium	3.0	U		F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	21.1			P
	Cyanide				NR

6/13/91

Color Before: CL_____ Clarity Before: C_____ Texture: _____

Color After: CL_____ Clarity After: C_____ Artifacts: _____

Comments:

FORM I - IN

3400715

7/08

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA **SAMPLE** NO.

w053

Lab Name: **E & E INC.** Contract:

Lab Code: EANDE **Case** No.: 9101-044 SAS No.: **SDG No.:**

Matrix: (soil/water) WATER **Lab** Sample I@: 9923

Sample wt/vol: 5.0 (g/mL) ML **Lab** File ID: 02405

Level: (low/med) LOW **Date Received:** 05/03/91

% Moisture: not **dec.** Gate Analyzed: 05/10/91

Column: (pack/cap) **CAP** Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	BJ
67-64-1	Acetone	5	BJ
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IOENTIFIED COMPOUNDS

EPA SAMPLE NO.

W053

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No. : SDG No. :

Matrix: (soil/water) WATER Lab Sample ID: 9923

Sample wt/vol: 5.0 (g/mL) ML Lab File I@: 02405

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column (pack/cap) CAP Dilution Factor: 1.0

Plumber TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	23.56	82	J
2.		Ethyl Dimethyl Benzene Isome	23.75	81	J
3.		Ethyl Dimethyl Benzene Isome	24.42	13	J
4.		Methyl Methyl Ethyl Benzene	24.74	260	J
5.		Dihydro Methyl 1H Indene Iso	25.07	55	J
6.		Tetramethyl Benzene Isomer	25.67	180	J
7.		Tetramethyl Benzene Isomer	25.86	210	J
8.		Dihydro Methyl 1H Indene Iso	26.76	130	J
9.		Ethyl Dimethyl Benzene Isome	27.04	140	J
10.		Dihydro Methyl 1H Indene Iso	27.19	220	J

3400716

1A

VOLATILE **ORGANICS** ANALYSIS DATA SHEET

EPA SAMPLE NO.

W056

Lab Name: E & **E** INC. Contract:

Lab Code: EANDE Case No.: 9101-044 **SAS** No.: **SDG** No. :

Matrix: (soil/water) **WATER** Lab Sample **ID:** ***9924***

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D2406

Level: (low/med) **LOW** Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	2	BJ
75-15-0	Carbon Disulfide	9	J
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	3	J
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

UOLATILE **ORGANICS** ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

W056

Lab Name: E & E INC. Contract:

Lab **Code:** EANDE **Case** No.: 9101_044 **SAS No.:** **SDG** No.:

Matrix: (soil/water) WATER Lab **Sample ID:** 9924

Sample wt/vol: 5.0 (g/mL) ML Lab File IO: D2406

Level: (low/med) LOW **Date Received:** 05/03/91

% Moisture: not **dec.** Date Analyzed: 05/10/91

Column (pack/cap) CAP Dilution **Factor:** 1.0

Number TICs found: 10

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	23.59	31	J
2.		Ethyl Dimethyl Benzene Isome	23.74	24	J
3.		Ethyl Dimethyl Benzene Isome	24.45	34	J
4.		Ethyl Dimethyl Benzene Isome	24.73	94	J
5.		UNKNOWN	25.06	18	J
6.		Tetramethyl Benzene Isomer	25.60	95	J
7.		Tetramethyl Benzene Isomer	25.86	94	J
8.		Dihydro Methyl 1H Indene Iso	26.75	42	J
9.		Tetramethyl Benzene Isomer	27.01	48	J
10.		Dihydro Methyl 1H Indene Iso	27.13	76	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W056D

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9925

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D2407

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	BJ
67-64-1	Acetone	4	BJ
75-15-0	Carbon Disulfide	11	
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

W056D

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101—044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9925

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 02407

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 10 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Diethyl Benzene Isomer	23.55	40	J
2.		Ethyl Dimethyl Benzene Isome	23.74	44	J
3.		Methyl Methylethyl Benzene I	24.46	67	J
4.		Methyl Methylethyl Benzene I	24.77	150	J
5.		UNKNOWN	25.09	27	J
6.		Tetramethyl Benzene Isomer	25.66	130	J
7.		Tetramethyl Benzene Isomer	25.86	140	J
8.		Dihydro Methyl 1H Indene Iso	26.76	58	J
9.		Tetramethyl Benzene Isomer	27.02	68	J
10.		Dihydro Methyl 1H Indene Iso	27.19	110	J

3400718

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W057

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101-044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9926

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D2408

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	3	BJ
75-15-0	Carbon Disulfide	2	U
75-35-4	1,1-Dichloroethene	2	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

W057

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: *9101-044* SAS No.: SDG No. :

Matrix: (soil/water) WATER Lab Sample ID: 9926

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D2408

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Oats Analyzed: 05/10/91

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs Found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	25.40	6.0	J
2.	UNKNOWN HYDROCARBON	29.37	8.0	J

3400719

1A

VOLATILE ORGANICS ANALYSIS OATA SHEET

EPA SAMPLE NO.

W061

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Hatrix: (soil/water) WATER Lab Sample ID: 9927

Samp1e wt/vol: 5.0 (g/mL) ML Lab File ID: D2409

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	4	BJ
75-15-0	Carbon Disulfide	13	
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

W061

Lab Name: E a E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9927

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D2409

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	24.29	9.J	J
2.		UNKNOWN HYDROCARBON	25.46	10	J
3.		UNKNOWN HYDROCARBON	28.36	12	J

3400720

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WFB02

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9928

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D2410

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	4	BJ
75-15-0	Carbon Disulfide	8	
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WFB02

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101—044 SAS No.: SDG No. :

Matrix: (soil/water) WATER Lab Sample ID: 9928

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D2410

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column (pack/cap) CAP Dilution Factor: 1.0

Plumber TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	24.29	29	J
2.		UNKNOWN HYDROCARBON	25.42	5.0	J
3.		UNKNOWN HYDROCARBON	28.37	6.0	J

3400721

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WP802

Lab Name: E & E INC. Contract:

Code: EANDE Case No.: 9101-044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9930

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D941

1: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	B
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	15	
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	E	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone		U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WPB02

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101-044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9930

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D2412

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column (pack/cap) CAP Dilution Factor: 1.0

Plumber TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	19.55	10	J
2.		UNKNOWN	24.37	50	J

3400722

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WRB02

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101-044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9929

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 02411

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	11	
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS 'DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WRB02

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No. : 9101_044 SAS No.: SDG No. :

Matrix: (soil/water) WATER Lab Sample ID: 9929

Sample wt/vol: 5.U (g/mL) ML Lab File ID: 02411

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/10/91

Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	24.29	25	J

3400723

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WTB02

Lab Name: E 8 E INC. Contract:

Code: EANDE Case No.: 9101-044 SAS No.: SDG No. :

Matrix: (soil/water) WATER Lab Sample ID: 9931

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D2413

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/11/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	BJ
67-64-1	Acetone	1	BJ
75-15-0	Carbon Disulfide	5	
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIUELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WTB02

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: *9101-044* SAS No.: SDG No. :

Matrix: (soil/water) WATER Lab Sample ID: 3931

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D2413

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. Date Analyzed: 05/11/91

Column (pack/cap) CAP Dilution factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	19.55	14	J
2.		UNKNOWN	24.31	69	J

3400724

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NU.

VBLKW1

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: VBLKW1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D2402

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 05/10/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	8	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIUELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKW1

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample I@: VBLKW1

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: D2402

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 05/10/91

Column 'pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

3400725

FORM I UOA-TIC 1/87 Rev.

VOLATILE METHOD BLANK SUMMARY

Lab Name:-E & E INC. **Contract:**

Lab Code: EANDE **Case No.:** 9101_044 SAS No.: SDG No. :

Lab File ID: D2402 Lab Sample ID: VBLKW1

Date Analyzed: 05/10/91 Time Analyzed: 1720

Matrix: (soil/water) MATER Level:(low/med) LOW

Instrument ID: 7001D

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	W053	9923	D2405	1925
02	W056D	9925	D2407	2039
03	W057	9926	D2408	2116
04	W061	9927	D2409	2153
05	WFB02	9928	D2410	2230
06	W056	9924	D2406	2002
07	WPB02	9930	D2412	2344
08	WRB02	9929	D2411	2307
09	WTB02	9931	D2413	0020
10	WTB02MSD	9931MSD	D2415	0134
11	WTB02MS	9931MS	D2414	0057

COMMENTS:

2A

WATER VOLATILE SURROGATE RECOVERY

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	W053	103	92	101	0	0
02	W056D	100	91	98	0	0
03	W057	107	96	104	0	0
04	W061	105	92	101	0	0
05	WFB02	101	90	97	0	0
06	W056	100	91	94	0	0
07	WPB02	102	90	95	0	0
08	WR802	104	94	99	0	0
09	WTB02	104	90	99	0	0
10	WTB02MSD	104	87	97	0	0
11	WTB02MS	102	87	98	0	0
12	VBLKW1	101	92	99	0	0

		QC LIMITS
S1 (TOL)	= Toluene-d8	(88-110)
S2 (BFB)	= Bromofluorobenzene	(86-115)
S3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3400726

FORM II VOA-1

1/87 Rev.

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: WTB02

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	33.9	68		61-145
Trichloroethene	50.0	0	41.2	82		71-120
Benzene	50.0	0	36.8	74	*	76-127
Toluene	50.0	0	36.5	73	*	76-125
Chlorobenzene	50.0	0	40.4	81		75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.0	36.1	72		-6		14	61-145
Trichloroethene	50.0	42.8	86		-5		14	71-120
Benzene	50.0	37.7	75	*	-1		11	76-127
Toluene	50.0	37.9	76		-4		13	76-125
Chlorobenzene	50.0	41.1	82		-1		13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 3 out of 10 outside limits

COMMENTS:

SEMIUOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W053

Lab Name: E & E INC. Contract :

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WGTER Lab Sample ID: 9923

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5228

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	4	J
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	4	J
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W053

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101-044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9923

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5229

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dac. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	13	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	3	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

W053

Lab Name: E & E INC. Contract:

Lab Code: EANOE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9923

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5228

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

Number TICs found: 20

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	9.65	19	J
2.		Diethyl Benzene Isomer	10.08	32	J
3.		Diethyl Benzene Isomer	10.19	21	J
4.		Methyl Methylethyl Benzene I	10.29	53	J
5.		Ethyl Dimethyl Benzene Isome	10.68	15	J
6.		Methyl Methylethyl Benzene I	10.85	180	J
7.		Methyl Methylethyl Benzene I	10.98	12	J
8.		Tetramethyl Benzene Isomer	11.50	89	J
9.		Tetramethyl Benzene Isomer	11.58	66	J
10.		Dihydro Methyl 1H Indene Iso	11.93	68	J
11.		Dihydro Methyl 1H Indene Iso	12.16	130	J
12.		Tetramethyl Benzene Isomer	12.22	77	J
13.	90120	1-Methyl-Naphthalene	15.17	14	J
14.		UNKNOWN	15.66	5.0	J
15.		UNKNOWN	18.65	22	BJ
16.		UNKNOWN HYDROCARBON	20.00	5.0	J
17.		UNKNOWN	32.93	12	J
18.		UNKNOWN	37.82	22	J
19.		UNKNOWN	40.04	17	J
20.		UNKNOWN	42.33	17	J

3400728

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W056

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9924

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5242

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	2	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	15	
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	60	
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W056

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No. :

Matrix: (soil/water) WATER Lab Sample I@: 9924

Sample wt/vol: 1000 (g/mL) ML Lab Fils I@: E5242

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: no: dac. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	4	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

3400723

EPA SAMPLE NO.

W056

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101-044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9924

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5242

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

Number TICs found: 20 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	8.38	55	J
2.		Trimethyl Benzene Isomer	9.33	8.0	J
3.		Diethyl Benzene Isomer	10.04	17	J
4.		Diethyl Benzene Isomer	10.15	14	J
5.		Methyl Methylethyl Benzene I	10.23	23	J
6.		Methyl Methylethyl Benzene I	10.64	37	J
7.		Ethyl Dimethyl Benzene Isome	10.81	89	J
8.		Methyl Methyl Ethyl Benzene	10.92	6.0	J
9.		Methyl Methylethyl Benzene I	11.23	11	J
10.		Tetramethyl Benzene Isomer	11.45	53	J
11.		Tetramethyl Benzene Isomer	11.53	64	J
12.		Dihydro Methyl 1H Indene Iso	11.87	33	J
13.		Dihydro Methyl 1H Indene Iso	12.10	61	J
14.		Tetramethyl Benzene Isomer	12.17	39	J
15.		Dimethyl Methylethyl Benzene	13.10	6.0	J
16.	90120	1-Methyl-Naphthalene	15.11	57	J
17.		UNKNOWN	18.58	27	BJ
18.		UNKNOWN HYDROCARBON	19.96	5.0	J
19.		UNKNOWN HYDROCARBON	21.40	4.0	BJ
20.		UNKNOWN HYDROCARBON	26.03	10	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W056D

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101-044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9925

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5243

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	11	
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	53	
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NC.

W056D

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No. : 9101_044 SAS No. : SDG No. :

Matrix: (soil/water) WATER Lab Sample ID: 9925

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5243

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	4	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIUOLHTILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IOENTIFIED COMPOUNDS

EPA SAMPLE NO.

W056D

Lab Name: E & E INC. Conttact :

Lab Code: **EANDE** **Case** No. : **9101_044** SAS No. : **SDG No.** :

Matrix: (soil/water) WUTER **Lab Sample** ID: **9925**

Sample wt/vol: 1000 (g/mL) ML Lab **File** ID: E5243

Leve1: (low/med) LOW **Date Received:** 05/03/91

% Moisture: not **dec.** dec. **Date** Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF **Date Analyzed:** 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

Number TICs found: 19

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
i.		UNKNOWN	8.37	37	J
2.		Diethyl Benzene Isomer	10.04	14	J
3.		Diethyl Benzene Isomer	10.17	12	J
■ _		Ethyl Dimethyl Benzene Isome	10.25	20	J
5.		Ethyl Dimethyl Benzene Isome	10.64	28	J
6.		Ethyl Dimethyl Benzene Isome	10.81	82	J
7.		Methyl Methylethyl Benzene I	10.94	5.0	J
8.		Methyl Methylethyl Benzene I	11.23	10	J
3.		Tetramethyl Benzene Isomer	11.45	49	J
10.		Tetramethyl Benzene Isomer	11.54	58	J
11.		Dihydro Methyl 1H Indene Iso	11.89	31	J
12.		Dihydro Methyl 1H Indene Iso	12.10	52	J
If.		Tetramethyl Benzene Isomer	12.17	36	J
14.	90120	1-Methyl-Naphthalene	15.11	53	J
15.		UNKNOWN	18.60	31	BJ
16.		UNKNOWN HYDROCARBON	19.96	6.0	J
17.		UNKNOWN HYDROCARBON	21.40	5.0	BJ
18.		UNKNOWN HYDROCARBON	26.05	4.0	J
19.		UNKNOWN	37.54	17	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W057

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No : 9101_044 SAS No : SDG No :

Matrix: (soil/water) WATER Lab Sample ID: 9926

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5244

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec dec Date Extracted: 05/07/91

Extraction: (SepF Cont Sonc) SEPF Date Analyzed: 05 13 91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W057

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101-044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample I@: 9926

Sample wt/vol: 1000 (g/mL) ML Lab File IC;: E5244

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	4	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

W057

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101-044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9926

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5244

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

Number TICs Found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	8.37	44	J
2.		UNKNOWN HYDROCARBON	10.33	6.0	BJ
3.		UNKNOWN HYDROCARBON	14.74	5.0	BJ
4.		UNKNOWN	18.59	32	BJ
5.		UNKNOWN HYDROCARBON	19.95	6.0	J
6.		UNKNOWN HYDROCARBON	21.40	5.0	J
7.		UNKNOWN HYDROCARBON	26.04	6.0	J
8.		UNKNOWN	37.54	25	J
9.		UNKNOWN	42.22	5.0	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W061

Lab Name: E & E INC Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9927

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5245

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W061

Lab Name: E & E INC Contract:

Lab Code: EANDE Case No : 9101_044 SAS No : SDG No :

Matrix: (soil/water) WATER Lab Sample ID: 9927

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5245

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	4	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphemylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

W061

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9927

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5245

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

Number TICs Found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	8.37	37	J
2.		UNKNOWN HYDROCARBON	10.38	6.0	J
3.		UNKNOWN HYDROCARBON	14.74	4.0	J
4.		UNKNOWN	18.60	31	J
5.		UNKNOWN HYDROCARBON	19.96	6.0	J
6.		UNKNOWN HYDROCARBON	26.03	11	J
7.		UNKNOWN	37.67	34	J

3400734

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WFB02

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9928

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5246

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WFB02

Lab Name: E & E INC. Contract:

Lab Code: EANOE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9928

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5246

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	5	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

3400735

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WFB02

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9928

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5246

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

Number TICs found: 8

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	8.39	43	J
2.		UNKNOWN HYDROCARBON	10.33	7.0	J
3.		UNKNOWN HYDROCARBON	14.74	6.0	BJ
4.		UNKNOWN	18.59	32	BJ
5.		UNKNOWN HYDROCARBON	19.96	6.0	J
6.		UNKNOWN HYDROCARBON	21.40	5.0	J
7.		UNKNOWN HYDROCARBON	26.03	7.0	J
8.		UNKNOWN	37.63	13	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WRB02

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9929

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5247

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: riot dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WRB02

Lab Name: E & E INC Contract:

Lab Code: EANDE Case No : 9101_044 SAS No : SDG No :

Matrix: (soil/water) WATER Lab Sample ID: 9929

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5247

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	BJ
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

WRB02

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9929

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5247

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/13/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN HYDROCARBON	10.34	8.0	BJ
2.		UNKNOWN HYDROCARBON	14.74	5.0	J
3.		UNKNOWN	18.60	33	BJ
4.		UNKNOWN	37.65	32	J

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW1

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: SBLKW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E7221

Level: (low/med) LOW Date Received:

% Moisture: not doc. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKW1

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: SBLKW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5221

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-10-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	2	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLKW1

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: SBLKW1

Sample wt/vol: 1000 (g/mL) ML Lab File ID: E5221

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 05/07/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/10/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.0

Number TICs found: 7 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN HYDROCARBON	10.37	9.0	J
2.		UNKNOWN HYDROCARBON	10.48	5.0	J
3.		UNKNOWN HYDROCARBON	14.76	5.0	J
4.		UNKNOWN	18.62	42	J
5.		UNKNOWN	21.09	4.0	J
6.		UNKNOWN HYDROCARBON	21.58	5.0	J
7.		UNKNOWN	32.66	5.0	J

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: E & E INC. Contract:

Lsb Code: EANDE Case No.: 9101_044 SAS No.: SDG No.:

Lib File ID: E5221 Lab Sample ID: SBLKW1

Date Extracted: 05/07/91 Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 05/10/91 Time Analyzed: 1545

Matrix: (soil/water) WATER Leue1:(low/med) LOW

Instrument ID: 7002E

THIS METHOD BLANK APPLIES TC THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	W053	9923	E5228	05/10/91
02	W056	9924	E5242	05/13/91
03	W056D	9925	E5243	05/13/91
04	W057	9926	E5244	05/13/91
05	W061	9927	E5245	05/13/91
06	WFB02	9928	E5246	05/13/91
07	WRB02	9929	E5247	05/13/91

COMMENTS:

3400739

FORM IU SU 1/87 Rev.

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 9101_044 SAS No.: SDG No :

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	W053	71	73	51	20	33	46	0	0
02	W056	82	84	61	42	54	98	0	0
03	W056D	76	76	52	35	52	92	0	0
04	W057	82	76	65	34	50	108	0	0
05	W061	81	78	68	32	46	78	0	0
06	WFB02	74	74	72	36	51	95	0	0
07	WRB02	74	72	80	39	40	80	0	0
08	SBLKW1	87	84	108	43	64	105	0	0

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl	(33-141)
S4 (PHL)	= Phenol-d5	(10-94)
S5 (2FP)	= 2-Fluorophenol	(21-100)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAIIPLE NO.

W053

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9923

Sampie wt/vo1: 1000 (g/mL) ML Lab File ID:

Leve1: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/08/91

Extraction: (SepF/Cont/Sonc) SEPF Date Anaiyzed: 05/22/9i

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.iru

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

3400740

ID

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W056

Lab Name: E & E It-IC. Contract:

Lab Code: EANDE Case No.: 044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9924

Sample wt/vol: 1000 (g/mL) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/08/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/22/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.UFO	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W056D

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9925

Sample wt/vol: 1000 (g/mL) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Estracted: 05/01/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/22/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

3400741

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

W05[illegible]

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No : 044 SAS No : SDG No :

Matrix: (soil/water) WATER Lab Sample ID: 9926

Sample wt/vol: 1000 (g/mL) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec dec Date Extracted: 05/08/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/22 91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1 00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1 0	U

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

W061

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample if: 9927

Sample wt/vol: 1000 (g/mL) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/03/91

% hoisturc: not dec. dec. Gate Extracted: 05/08/91

Extraction: (SepF/Cont/Sonc) SEPF Date knalyzea: 05/22/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or. ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

3400742

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

E?k SAMPLE NO.

WFB02

Lab Name: E & E INC. iontract:

Lab Code: EANDE Case No.: 044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 3328

Sample wt/vol: 1000 (g/mL) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/08/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/22/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan i	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endri	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	kroclor-1242	0.50	U
12372-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

ID

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

WRB02

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 9929

Sample wt/vol: 1000 (g/mL) ML Lab File ID:

Level: (low/med) LOW Date Received: 05/03/91

% Moisture: not dec. dec. Date Extracted: 05/08/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/22/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

3400743

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLKW4

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 044 SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 032-5

Sample wt/vol: 1000 (g/mL) ML Lab File ID:

Level: (low/med) LOW Date Received:

% Moisture: not dec. dec. Date Extracted: 05/08/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/22/91

GPC Cleanup: (Y/N) N pH: Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

4c

PESTI2IDE METHOD BLANK SUMMARY

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case ho.: 044 SAS No.: SDG No.:

Lab Sample ID: 632-5 Lao File ID:

Matrix:(soil/water) WATER ieue1:(low/meo) LOW

Date Extracted: 05/08/91 Extract ion:(SepF/Cont/Sonc) SEPF

Date Analyzed (1): 05/22/91 Gate Analyzed (2):

Time Analyzed (1): 1005 Time Analyzed (2):

Instrument ID (1): 6000_2A Instrument ID (2):

GC Column ID (1): OV-1 GC Column ID (2):

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	W053	9923	05/22/91	
02	W056	9924	05/22/91	
03	W056D	9925	05/22/91	
04	W057	9926	05/22/91	
05	W061	9927	05/22/91	
06	WFB02	9928	05/22/91	
07	WRB02	9929	05/22/91	
08	W056DMS	9925MS	05/22/91	
09	W056DMSD	9925MSD	05/22/91	

COMMENTS:

3400744

2E

WATER PESTICIDE SURROGATE RECOVERY

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 044 SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
01	PBLKW4	125	0
02	W053	68	0
03	W056	100	0
04	W056D	59	0
05	W057	111	0
06	W061	124	0
07	WFB02	131	0
08	WRB02	91	0
09	W056DMS	112	0
10	W056DMSD	107	0

ADVISORY QC LIMITS

S1 (DBC) = Dibutylchlorendate (24-154)

Caiumn to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: E & E INC. Contract:

Lab Code: EANDE Case No.: 044 SAS No. : SDG No. :

Matrix Spike - EPA Sample No.: W056D

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
gamma-BHC (Lindane)	0.200	0	0.195	98		56-123
Heptachlor	0.200	0	0.196	98		40-131
Aldrin	0.200	0	0.178	89		40-120
Dieldrin	0.500	0	0.502	100		52-126
Endrin	0.500	0	0.519	104		56-121
4,4'-DDT	0.500	0	0.532	106		38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	0.200	0.183	92		6		15	56-123
Heptachlor	0.200	0.179	90		9		20	40-131
Aldrin	0.200	0.158	79		12		22	40-120
Dieldrin	0.500	0.512	102		-2		18	52-126
Endrin	0.500	0.528	106		-2		21	56-121
4,4'-DDT	0.500	0.572	114		-7		27	38-127

Column to be used to flag recovery ana RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

COMMENTS:

3400745

JOB NUMBER :9101.044

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-09923 MATRIX: WATER
SAMPLE ID CLIENT: P34-W053

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Total Alkalinity	70		1.0	MG/L CACO3
Total Hardness	50		1.0	MG/L CACO3
Petroleum Hydrocarbons	ND		1.0	MG/L
TOC	7.3		1.0	MG/L

QUALIFIERS: C = COHHENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

JOB NUMBER :9101.044

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UE-8000 NASP - PEASE I BATCH 2
SAMPLE ID LAB :EE-91-09924 MATRIX: WATER
SAMPLE ID CLIENT: P34-W056

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Total Alkalinity	165		1.0	MG/L CACO3
Total Hardness	160		1.0	MG/L CACO3
Petroleum Hydrocarbons	ND		1.0	MG/L
TOC	*9.0*		1.0	MG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

3400746

JOB NUMBER :9101.044

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAHPLE ID LAB :EE-91-09925 MATRIX: WATER
SAMPLE ID CLIENT: P34-W056D

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Total Alkalinity	170		1.0	MG/L CACO3
Total Hardness	150		1.0	MG/L CACO3
Petroleum Eydrocarbons	ND		1.0	MG/L
TOC	6.5		1.0	MG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

JOB NUMBER :9101.044

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PEASE I BATCH 2
SAMPLE ID LAB :EE-91-09926 MATRIX: WATER
SAMPLE ID CLIENT: P34-W057

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Total Alkalinity	*130*		1.0	MG/L CACO3
Total Hardness	*130*		1.0	MG/L CACO3
Petroleum Hydrocarbons	ND		1.0	MG/L
TOC	*2.4*		1.0	MG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE

3400747

JOB NUHBER :9101.044

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - **PEASE** I BATCH **2**
SAXPLE I D LAB : EE-91-09927 MATRIX: WATER
SAXPLE I D CLIENT: P34-W061

PARAMETER	RESULTS	Q	QNT. LIHIT	UNITS
Total Alkalinity	46		1.0	MG/L CAC03
Total Hardness	140		1.0	MG/L CAC03
Petroleum Hydrocarbons	**ND**		1.0	**MG/L**
TOC	ND		1.0	MG/L

QUALIFIERS: C = **COMMENT** ND = NOT DETECTED
J = ESTIMATED VALUE B = ***ALSO*** **PRESENT** I N BLANK
L = PRESENT BELOW STATED DETECTION LIHIT
NA = NOT APPLICABLE

JOB NUMBER :9101.044

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAMPLE ID LAB :EE-91-09928 MATRIX: WATER
SAMPLE ID CLIENT: P34-WFB02

PARAMETER	RESULTS	Q	QNT. LIHIT	UNITS
Total Alkalinity	1.0		1.0	MG/L CACO3
Total Hardness	ND		1.0	MG/L CACO3
Petroleum Hydrocarbons	ND		1.0	MG/L
TOC	1.5		1.0	MG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
3 = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT
NA = NOT APPLICABLE

3400748

JOB NUMBER :9101.044

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SAHPLE ID LAB :EE-91-09929 MATRIX: WATER
SAHPLE ID CLIENT: P34-WR802

PARAMETER	RESULTS	Q	ONT. LIMIT	UNITS
Total Hardness	**ND**		**1.0**	**MG/L CACO3**
Petroleum Hydrocarbons	**ND**		**1.0**	**MG/L**

QUALIFIERS: **C = COHMENT** ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT
NA = NOT APPLICABLE

JOB NUMBER :9101.044

€~~logy Environment, Inc.
Analytical Services Center

CLIENT : UH-8000 NASP - PHASE I BATCH 2
SMPLE ID LAB :EE-91-09930 MATRIX: VATER
SMPLE ID CLIENT: P34-WPB02

PARAMETER	RESULTS	Q	QNT. LIHIT	UNITS
Total Hardness	ND		1.0	MG/L CACO3
Petroleum Hydrocarbons	ND		1.0	MG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIHIT
NA = NOT APPLICABLE

3400749

JOB NUMBER :9101.044

Ecology and Environment, Inc.
Analytical Services Center

CLIENT : **UH-8000** NASP - PHASE I BATCH 2
LAB SAMPLE ID : METHOD BLANK MATRIX: WATER

PARAMETER	RESULTS	Q	QNT. LIMIT	UNITS
Total Hardness	ND		1.0	MG/L CACO3
Petroleum Rydrocarbons	ND		1.0	MG/L

QUALIFIERS: C = COMMENT ND = NOT DETECTED
J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK
L = PRESENT BELOW STATED DETECTION LIMIT
NA = NOT APPLICABLE