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STUDY AREA SCREENING EVALUATION
for
BUILDING 32

Phase 1

Naval Station Newport
Newport, Rhode Island

Northern Division
Naval Facilities Engineering Command

Contract Number N62472-90-D-1298
Contract Task Order 0286

December 2000

TETRA TECH NUS, INC.

STUDY AREA SCREENING EVALUATION
BUILDING 32 – GOULD ISLAND
Naval Station Newport, Newport, Rhode Island

W5200232DF

STUDY AREA SCREENING EVALUATION
for
BUILDING 32

PHASE 1

NAVAL STATION NEWPORT,
NEWPORT, RHODE ISLAND

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION - NAVY (CLEAN) CONTRACT

Submitted to:
Northern Division
Environmental Branch
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop # 82
Lester, Pennsylvania 19113-2090

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Contract Number N62472-90-D-1298
"CLEAN" Contract Task Order 0286

DECEMBER 2000

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December 28, 2000

Project Number 7574

Mr. James Shafer
Remedial Project Manager
Northern Division, Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop 82
Lester, Pennsylvania 19113

Reference: CLEAN Contract No. N62472-90-D-1298
Contract Task Order No. 0286

Subject: Transmittal of Revised Report
Phase 1 Study Area Screening Evaluation, Building 32, Gould Island
Naval Station Newport, Newport Rhode Island

Dear Mr. Shafer:

Enclosed you will find four copies of the Phase 1 Study Area Screening Evaluation Report for Building 32 at Gould Island, which is part of Naval Station Newport, Newport Rhode Island. This report has been prepared as a revision to the draft submitted in August, 2000

This report has been revised as described in the responses to comments prepared by our office dated October 30, 2000. Additionally, comments received from RIDEM on December 7 have been incorporated into this revised report as follows: Table 4-1 was revised to show contaminants detected in surface soil that exceed RIDEM direct exposure criteria for residential soils. Section 5-1 has been revised to clarify the process for abandonment of the underground utilities.

If you have any questions regarding this material, please do not hesitate to contact me.

Very truly yours,

Stephen S. Parker
Project Manager

enclosure

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bc: File 7574-8.0 (w/encl. - 1)

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B Report of Soil Gas Investigation, W.L. Gore and Associates
C Data Validation Memoranda
D Photos of Sample Locations (Compact Disk, *.jpg files)
E RIDEM Direct Exposure Criteria for Commercial/Industrial Exposures
F Field Documentation

LIST OF ACRONYMS

AAL	Rhode Island Ambient Air Limit
ACOE	U.S. Army Corps of Engineers
ARAR	Applicable or Relevant and Appropriate Requirement
AVS	Acid Volatile Sulfides
AWQC	Ambient Water Quality Criteria
B&RE	Brown & Root Environmental
CAD	Contained Aquatic Disposal
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Contaminant of Concern
CT	Central Tendency
DAF	Dissolved Air Flotation
EPA	U.S. Environmental Protection Agency
ERA	Marine Ecological Risk Assessment
ER-L	Effects Range-Low: NOAA Adverse Effects Benchmark Value for Sediment
ER-M	Effects Range-Median: NOAA Adverse Effects Benchmark Value for Sediment
FFA	Federal Facilities Interagency Agreement
FS	Feasibility Study
FWENC	Foster Wheeler Environmental Corporation
GRA	General Response Action
HHRA	Human Health Risk Assessment
HI	Hazard Index Ratio
IAS	Initial Assessment Study
IEUBK	Integrated Exposure and Uptake Biokinetic Model
IRP	Installation Restoration Program
IU/BK	Integrated Uptake/Biokinetic Model
MCL	Maximum Contaminant Level
mg/kg	milligram per kilogram
ug/kg	microgram per kilogram
mg/l	milligram per liter
ug/l	microgram per liter
MLW	Mean Low Water Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NIOSH	National Institute for Occupational Safety and Health
NOAA	National Oceanic and Atmospheric Administration

LIST OF ACRONYMS (Continued)

NORTHDIV	Northern Division
NPL	National Priorities List
NS	Nearshore
O&M	Operation and Maintenance
OS	Offshore
OSHA	Occupational Safety and Health Administration
PAH	Polynuclear Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PDI	Pre-Design Investigation
POTW	Publicly-Owned Treatment Works
PPE	Personnel Protective Equipment
PRG	Preliminary Remedial Goal
RAB	Restoration Advisory Board
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RfD	Risk Reference Dose
RI	Remedial Investigation
RIDEM	Rhode Island Department of Environmental Management
RME	Reasonable Maximum Exposure
ROD	Record of Decision
SARA	Superfund Amendment and Reauthorization Act
SEM	Simultaneously Extracted Metals
SER	Shore Establishment Realignment Program
SVOC	Semivolatile Organic Compound
TAL	Target Analyte List
TBC	To Be Considered Guidance
TCL	Target Compound List
TCLP	Toxic Characteristic Leaching Procedure
TCR	Tissue Concentration Ratio
TEV-HQ	Threshold Effects Value - Hazard Quotient
TOC	Total Organic Carbon

LIST OF ACRONYMS (Continued)

TPH	Total Petroleum Hydrocarbons
TSDF	Treatment, Storage, and Disposal Facility
TSS	Total Suspended Solids
TWA	Time-Weighted Average Concentration
µg/dl	microgram per deciliter
µg/kg	microgram per kilogram
µg/l	microgram per liter
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

As part of the Navy's Installation Restoration Program, Building 32 at Gould Island has been identified for investigation to determine the nature of environmental contamination as a result of past industrial activities. Building 32 was originally identified as a possible area of concern in the Federal Facilities Agreement because a portion of this building housed an electroplating room, which was active in the 1940s. After additional evaluations including records searches and site walks, the Navy agreed that the entire building was a possible source area for contaminants due to its use as a torpedo overhaul and maintenance facility.

Building 32 has been inactive for a number of years, and its condition has deteriorated to such a point that its demolition became necessary, which was scheduled for 2000 and 2001. The Navy began preparation of an SASE work plan to direct investigations at the site, but that plan has not yet been completed due to a lack of funding. However, in 1999, some funds became available, and the Navy, with agreement from the RIDEM and USEPA, opted to accelerate the first step of the SASE investigation to evaluate past potential chemical releases while the building was still in an undisturbed state.

This report presents the approach and findings of this initial investigation. The Navy collected soil gas samples from beneath the floor slab, concrete chip samples from known disposal areas in the building floor, samples from residue present in floor drains, and samples of surface soil from areas outside of Building 32.

- Results of soil gas sampling indicated the possible presence of petroleum and trichloroethene (TCE) which should be further evaluated in soils and groundwater to determine possible presence of NAPL as a part of a Remedial Investigation.

- Results from analysis of concrete chip samples and residue from floor drains indicate that inorganics, PCBs, and PAHs should be evaluated in the future, particularly where direct discharges may have occurred from these drains.

- Results from surface soil samples indicated that semivolatile organic compounds are a potential contaminant of concern, and should be addressed in future investigations.

Based on these results, the Navy has acquired sufficient information to recommend that a Remedial Investigation be initiated to determine nature and extent of the contaminants present in and around the Building 32 area, and to assess potential risks associated with the site. SASE tasks not performed will be incorporated into the remedial investigation as appropriate. The Remedial Investigation work plan is currently planned for submittal January 29, 2003.

1.0 INTRODUCTION

This report has been prepared under the Comprehensive Long Term Environmental Action Navy (CLEAN) Contract No. N62472-90-D-1298, Contract Task Order (CTO) 286. The statement of work requires Tetra Tech NUS, Inc. (TtNUS) to perform field investigations for Study Area 17, which consists of Building 32 on Gould Island, which is part of Jamestown, Rhode Island. This report describes the activities and the findings of the first phase of this investigation.

Building 32 was originally identified as a Study Area in the Federal Facilities Agreement because a portion of this building housed an electroplating room, which was active in the 1940s. After additional evaluations, including records searches and site walks, the Navy agreed that the entire building could be a source area for contaminants due to its use as a torpedo overhaul and maintenance facility.

Building 32 has been inactive for a number of years, and its condition has deteriorated to such a point that its demolition became necessary, which was scheduled for 2000 and 2001. The Navy began preparation of a work plan for investigations at the site, but that plan has not yet been completed due to a lack of funding. However, in 1999, some funds became available, and the Navy, with agreement from the RIDEM and USEPA, opted to accelerate the first step of the investigation to evaluate past potential chemical releases while the building was still in an undisturbed state.

1.1 SITE-SPECIFIC INVESTIGATION OBJECTIVES

The investigation objectives for this effort were to identify and characterize potential environmental contamination resulting from former Building 32 activities and to assess potential pathways for releases of contamination to the on-shore and off-shore environments. The findings will be used to support direction of a Remedial Investigation anticipated to begin in 2003.

Building 32, the former Torpedo Overhaul Shop, was comprised of an electroplating shop, machine shops, degreasing shops, grinding and buffing shops, and overhaul shops used for naval operations support during the Second World War. Waste from the electroplating shop was reportedly carried through a single discharge pipe to the shoreline of the east passage of Narragansett Bay. The disposal practices for the wastes from other areas of Building 32 operations are not known.

The Initial Assessment Study performed in 1983 for NETC identified the Gould Island electroplating room as one of the areas where contaminants could pose human health or environmental risks. Therefore, a confirmation and verification study was performed in 1986, in which samples were collected near the

outfall pipe. Since metal contaminants were found in sediment and shellfish during that study, it was determined that additional investigations were warranted.

A draft work plan for a Study Area Screening Evaluation (SASE) was prepared in March 1998. The SASE was to be performed in order to identify if contaminants were present on site at concentrations that could pose a threat to human health or the environment. Although the SASE work plan was not finalized, it is the basis for the investigation described in this report.

The investigation was performed to assess the presence of releases of hazardous substances, including volatile organics, semivolatile agents, pesticides, PCBs, and metals, to the interior of Building 32 as well as surface soil and subsurface soil. Groundwater and sediment investigations will be conducted at a later date, possibly in concert with sites under the jurisdiction of the U.S. Army Corps of Engineers and RIDEM. The first phase of the investigation program that is described in this report included a reconnaissance survey, concrete slab sampling, surface soil sampling, soil gas sampling, and sampling of residue from drains and mechanical equipment sumps.

Given the available site background information, the investigation program was designed to document the presence of any environmental contamination, assess the nature the of contamination, and describe potential threats to human health and the terrestrial environment. The findings of the SASE may be used in accordance with a subsequent Remedial Investigation to evaluate remedial actions at the site through the performance of a feasibility study.

A description of the study objectives is included in Section 2.6 of the work plan, which discusses the development of project-specific data quality objectives.

The SASE was intended to be performed in two phases, including the tasks described below:

Phase I Activities

Task 1: Building 32 Interior Survey, Inspection, and Clearing
Task 2: Concrete Slab Floor and Sub-Slab soil Sampling
Task 3: Underground Drainage System Clearing, Tracking, and Sampling
Task 4: Offshore Outfall Tracking/Underwater Imaging
Task 5: Sediment Sampling
Task 6: Soil Gas Sampling
Task 7: Surface Soil Sampling

Phase II Activities

Task 8: Geologic/Hydrologic Investigation
Task 9: Ecological Setting Evaluation
Task 10: Onshore Survey

In the winter of 2000, limited funding became available to begin the first phase of the investigation, but not enough to complete all the tasks listed above. Therefore, some of the tasks were selected to begin the study. The site reconnaissance was performed to identify possible release points which would be appropriate sample locations. Concrete and surficial soil samples were collected. A soil gas survey was initiated and samples were collected of residue that was found present in the floor and equipment drains within the building. These tasks and the findings from these investigatory efforts are described in this report. Recommendations for the remaining Phase 1 work are presented as conclusions to the report.

Section 2.0 of this report describes the history of the site and some of the findings of previous investigations on and around the site. Section 3.0 presents a description of the field work performed during this investigation. Tasks are listed in chronological order of execution. Sample collection procedures and analytical parameters are also described in this section. Section 4.0 presents the data collected and the findings of the investigation. Section 5.0 presents recommendations for remainder of the Phase 1 investigation tasks.

2.0 BACKGROUND INFORMATION

This section presents an abbreviated site description and an update of the available background information that was used to design the Study Area Screening Evaluation (SASE) for Building 32 on Gould Island. A full description of the site and history, complete with construction drawings and historic air photos is presented in the work plan.

2.1 SITE DESCRIPTION

Gould Island is located in the East Passage of Narragansett Bay in Rhode Island, approximately 1.5 miles from the NETC shoreline. Gould Island is located between Aquidneck and Conanicut Islands, and occupies approximately 52 acres. Building 32, located on the northeast end of Gould Island, served as a torpedo overhaul shop that has been inactive since the 1950's. A Navy torpedo testing range is located on the northern tip of the island and is still active. The remainder of the island is inactive.

The Building 32 facility was used for overhaul and storage of torpedoes during WW II. The building includes the plating shop, a grinding and buffing shop, degreasing units, and equipment formerly used to overhaul torpedoes. Reportedly, extensive electroplating and degreasing operations were performed in the building between 1942 and 1945. Construction plans for Building 32 obtained from the NETC Public Works Department were used to identify the interior construction, drainage, and plumbing details.

2.2 PREVIOUS INVESTIGATIONS

An Initial Assessment Study (IAS) conducted by Envirodyne Engineers in 1983 identified areas, including the Gould Island Electroplating Shop, where potential contamination from past waste disposal or handling practices may pose human health or environmental risks. Because the shop was used for electroplating and the fate of the wastes it generated was unknown, the IAS recommended the site be investigated further.

A Confirmation Study (CS) was subsequently conducted of the Gould Island Electroplating Shop (Louriero Engineering, 1986). The Confirmation Study indicated that two offshore discharge pipes were present directly east of Building 32 in Narragansett Bay. The general locations of the discharge pipes are shown on Figures 2-2 and 2-3 of the Work Plan. The end of one of the discharge pipes (OF-02) was located during the CS. The end of the other pipe (OF-01) was not located, reportedly due to the presence of silt and vegetation over the pipe.

A Waste Inventory and Sampling Report (ENSR, 1992) was prepared to inventory and characterize waste materials present in Buildings 32 and 35. This program was undertaken to support a Navy contract for the removal of these materials prior to the planned building demolition. Following completion of this report all liquid and solid chemical wastes were removed from the building and properly disposed. Emptied vats and tanks that could not be removed were cleaned and left on site.

2.3 CURRENT ACTIVITIES

In January 2000, the Navy began mobilization for demolition of selected buildings at the North End of Gould Island. Building 32 is one of the structures that is included in the demolition plan. Demolition of Building 32 has been deemed necessary due to the deteriorated condition of the structure, including the exterior walls and roof. Asbestos removal activities commenced on May 1, 2000. The steps required for demolition of Building 32 are anticipated as follows:

1) Asbestos removal and lead paint removal as necessary,
2) removal of mechanical and heavy equipment,
3) demolition of the building shell, and
4) removal of the foundation slab.

Cleaning and removal of underground utilities will be performed as necessary. Available drawings for Building 32 and other improvements at Gould Island will be used to support this activity to the extent possible.

3.0 FIELD SAMPLING

This section presents a description of the field investigation activities that were conducted at the site. A presentation of results from analysis of samples is provided in section 4 of this report.

3.1 INTRODUCTION

The objective of the Field Sampling efforts was to obtain data to support the SASE report, including the human health risk evaluation (recreational and trespasser scenarios) described as a part of the decision rule presented in the work plan. The following sections detail the field activities that were performed during this investigation. Sample stations are depicted on Figure 3-1 (Surface Soil), Figure 3-2 (Drain Residue), and Figure 3-3 (Concrete). Sample stations for soil gas detectors are presented in Appendix B. Photos of all sample stations are provided as electronic (*.JPG) files on CD-ROM, included as Appendix C of this report.

Phase I activities were performed to document whether a release of contamination to the environment has actually occurred. Phase I results will be used with other data collected during the RI to characterize the nature and extent of site-related environmental contamination.

Specific Standard Operating Procedures (SOPs) were used as applicable as described in the work plan. Accutest was selected as the analytical laboratory. Laboratory SOPs will be maintained as part of the administrative record.

The work plan describes a phased approach for performing the SASE at this Site. As a part of these first investigations the following tasks were performed:

<u>Phase I Activities</u>

Task 1: Building 32 Interior Survey, Inspection and Onshore Survey
Task 2: Concrete Sample Collection
Task 3: Drain Investigation
Task 4: Soil Gas Sampling
Task 5: Surface Soil Sampling

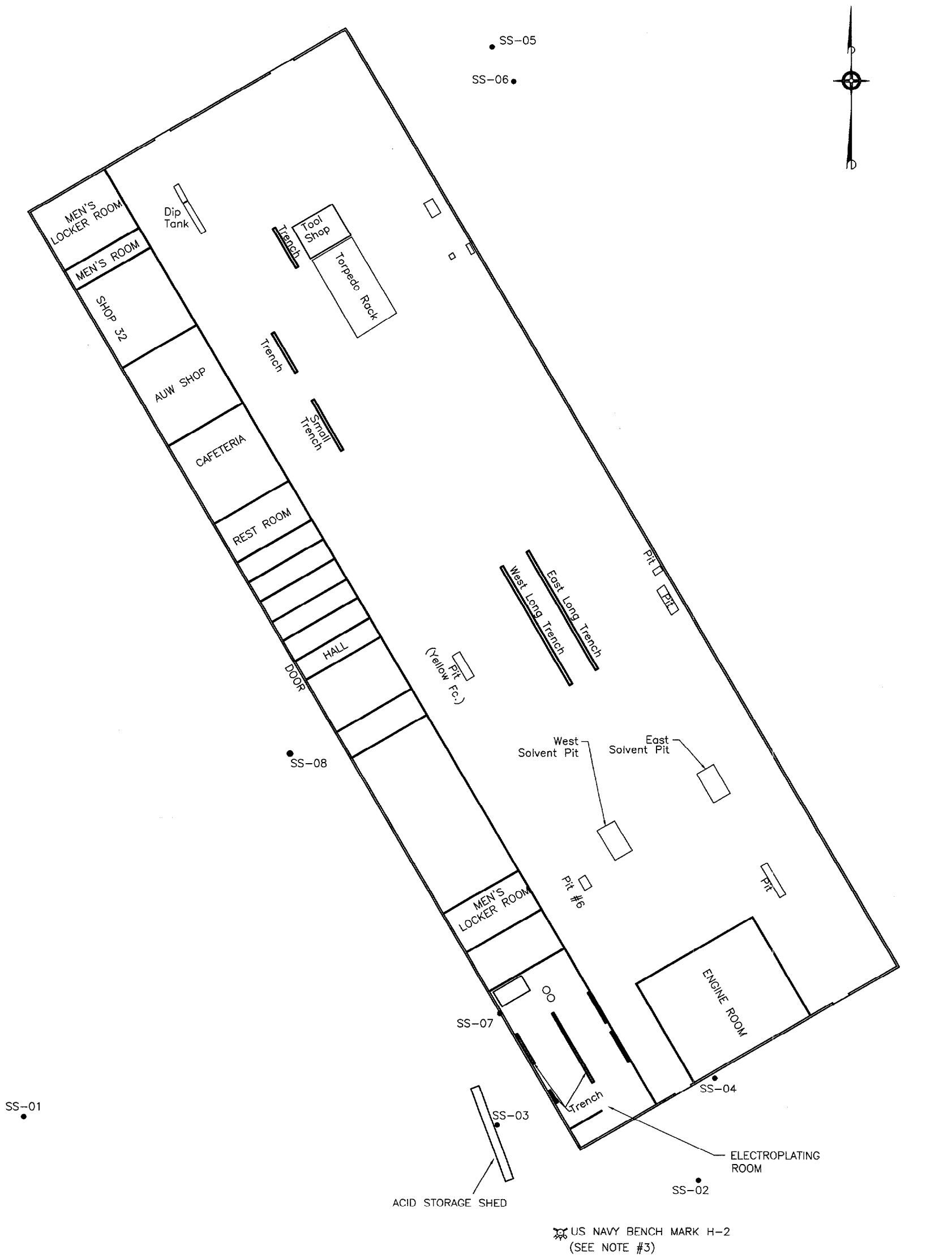
Table 3-1 presents a summary of samples collected during the performance of these tasks.

TABLE 3-1
SURFACE SOIL, CONCRETE, AND DRAIN RESIDUE SAMPLING SUMMARY
APRIL TO MAY 2000
STUDY AREA SCREENING EVALUATION
GOULD ISLAND BUILDING 32
NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND

Sample Identification	Sample Depth (feet bgs)	Matrix	VOC	GRO	DRO/ PPCB/ SVOC	Metals	% SOLID	Dup ID [2]
Surface Soil:								
G32-SS-01-06 IN	0-0.5	Soil	X	X	X	X	X	
G32-SS-02-06 IN	0-0.5	Soil	X	X	X	X	X	
G32-SS-03-06 IN	0-0.5	Soil	X	X	X	X	X	
G32-SS-04-06 IN	0-0.5	Soil	X	X	X	X	X	
G32-SS-05-06 IN	0-0.5	Soil	X	X	X	X	X	
G32-SS-06-06 IN	0-0.5	Soil	X	X	X	X	X	
G32-SS-07-06 IN	0-0.5	Soil	X	X	X	X	X	D2
G32-SS-08-06 IN	0-0.5	Soil	X	X	X	X	X	
Concrete Samples:								
G32-CO-01-03 IN	0-0.25	Concrete	X	X	X	X	X	
G32-CO-02-03 IN	0-0.25	Concrete	X	X	X	X	X	
G32-CO-03-03 IN	0-0.25	Concrete	X	X	X	X	X	
G32-CO-04-03 IN	0-0.25	Concrete	X	X	X	X	X	D1
G32-CO-05-03 IN	0-0.25	Concrete	X	X	X	X	X	
G32-CO-06-03 IN	0-0.25	Concrete	X	X	X	X	X	
G32-CO-07-03 IN	0-0.25	Concrete	X	X	X	X	X	
G32-CO-08-03 IN	0-0.25	Concrete	X	X	X	X	X	
Drain Residue:								
G32-DR-01	NA [1]	Sludge	X	X	X	X	X	
G32-DR-02	NA	Sludge	X	X	X	X	X	D3
G32-DR-03	NA	Sludge	X	X	X	X	X	
G32-DR-04	NA	Sludge	X	X	X	X	X	
G32-DR-05	NA	Sludge	X	X	X	X	X	
G32-DR-06	NA	Sludge	X	X	X	X	X	
G32-DR-07	NA	Sludge	X	X	X	X	X	
G32-DR-08	NA	Sludge			X	X	X	
G32-DR-09	NA	Sludge	X	X	X	X	X	
G32-DR-10	NA	Sludge			X	X	X	D4
G32-DR-11	NA	Sludge			X	X	X	
G32-DR-12	NA	Sludge	X	X	X	X	X	
G32-DR-13	NA	Sludge	X	X	X	X	X	
G32-DR-14	NA	Sludge	X	X	X	X	X	

NOTES:

(1) – DRAIN RESIDUE REMOVED FROM PIPES AND SUMPS AS AVAILABLE
(2) – D#: DUPLICATE SAMPLE MATCH NUMBER



NOTES:

1. NOT FOR DESIGN
2. ALL LOCATIONS ARE APPROXIMATE
3. VERTICAL DATUM IS BASED ON THE NAVY BM H-2, LOCATED AT THE NORTHEAST NUT ON VALVE HYDRANT OPPOSITE SOUTHWEST CORNER OF BUILDING #32, ESTABLISHED BY P.W. SURVEY PARTY, DATED 1/3/45, BOOK NUMBER 20-B PAGE 10, MLW ELEVATION (LOCAL) 14.12.
4. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM, R.I. STATE PLANE 1983.
5. U.S. NAVAL OPERATING BASE, NEWPORT, R.I. TORPEDO STATION GOULD ISLAND OVERHAUL SHOP PLUMBING FLOOR PLAN, CONT. NO. 4994, DRAWING P-201, DATED MARCH 14, 1942, BY JOHN BRACKETT, CONSULTING ENGINEER.

LEGEND:

• SURFACE SOIL
SS-02 TETRA TECH SAMPLE STATION I.D.

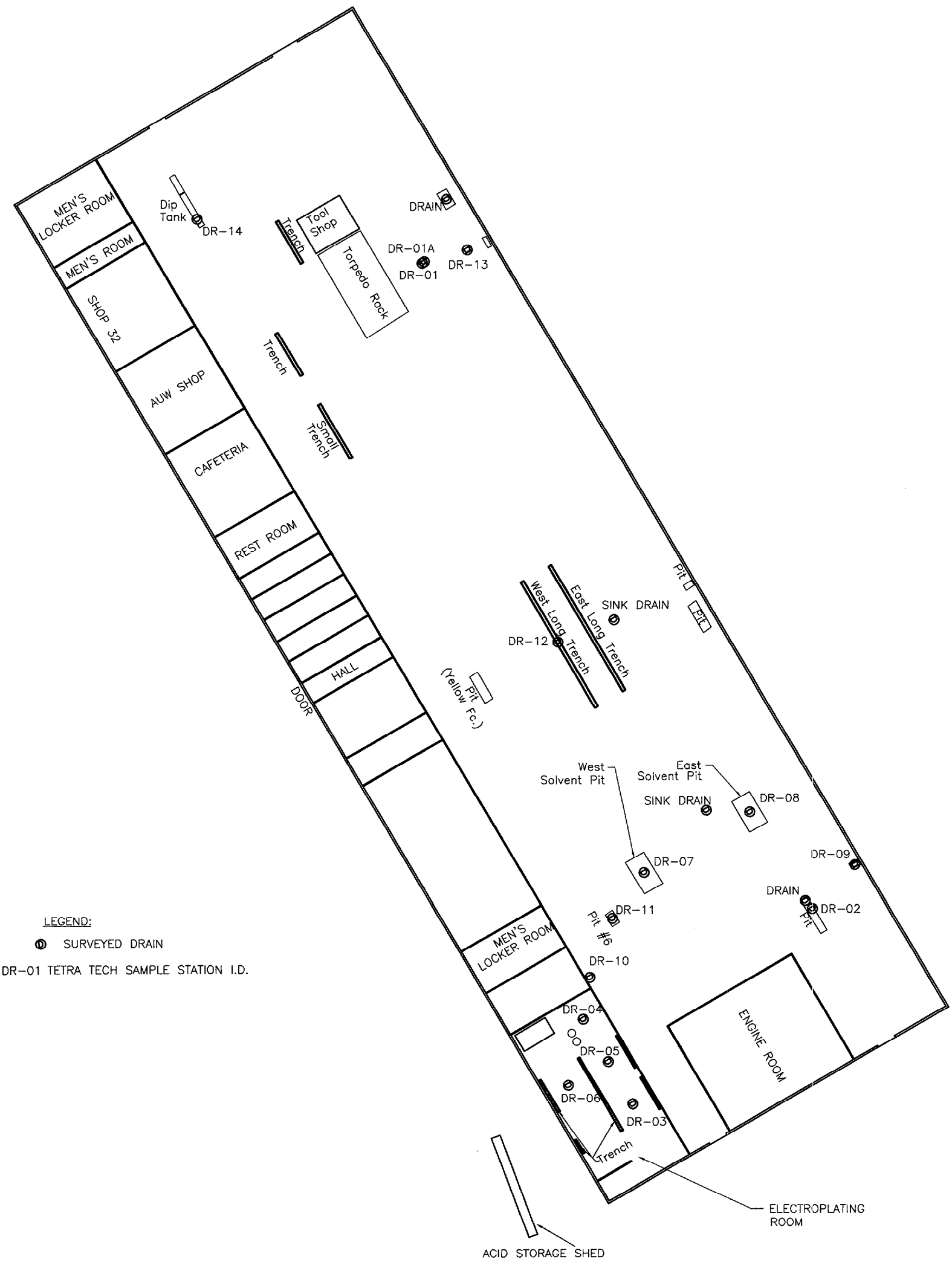
GRAPHIC SCALE
0' 60' 120'

1 INCH = 60 FEET

SURFACE SOIL SAMPLE LOCATIONS		FIGURE 3-1
GOULD ISLAND BUILDING 32		TETRA TECH NUS, INC.
NEWPORT, RHODE ISLAND		55 Jonspin Road Wilmington, MA 01887 (978)658-7899
DRAWN BY: D.W. MACDOUGALL	REV.: 0	
CHECKED BY: S. PARKER	DATE: JULY 24, 2000	
SCALE: 1" = 60'	FILE NO.: DWG\7574\1083\SURFACE SOIL.DWG	

DRAFT FINAL

00059 I B12



LEGEND:

SURVEYED DRAIN

DR-01 TETRA TECH SAMPLE STATION I.D.

NOTES:

1. NOT FOR DESIGN
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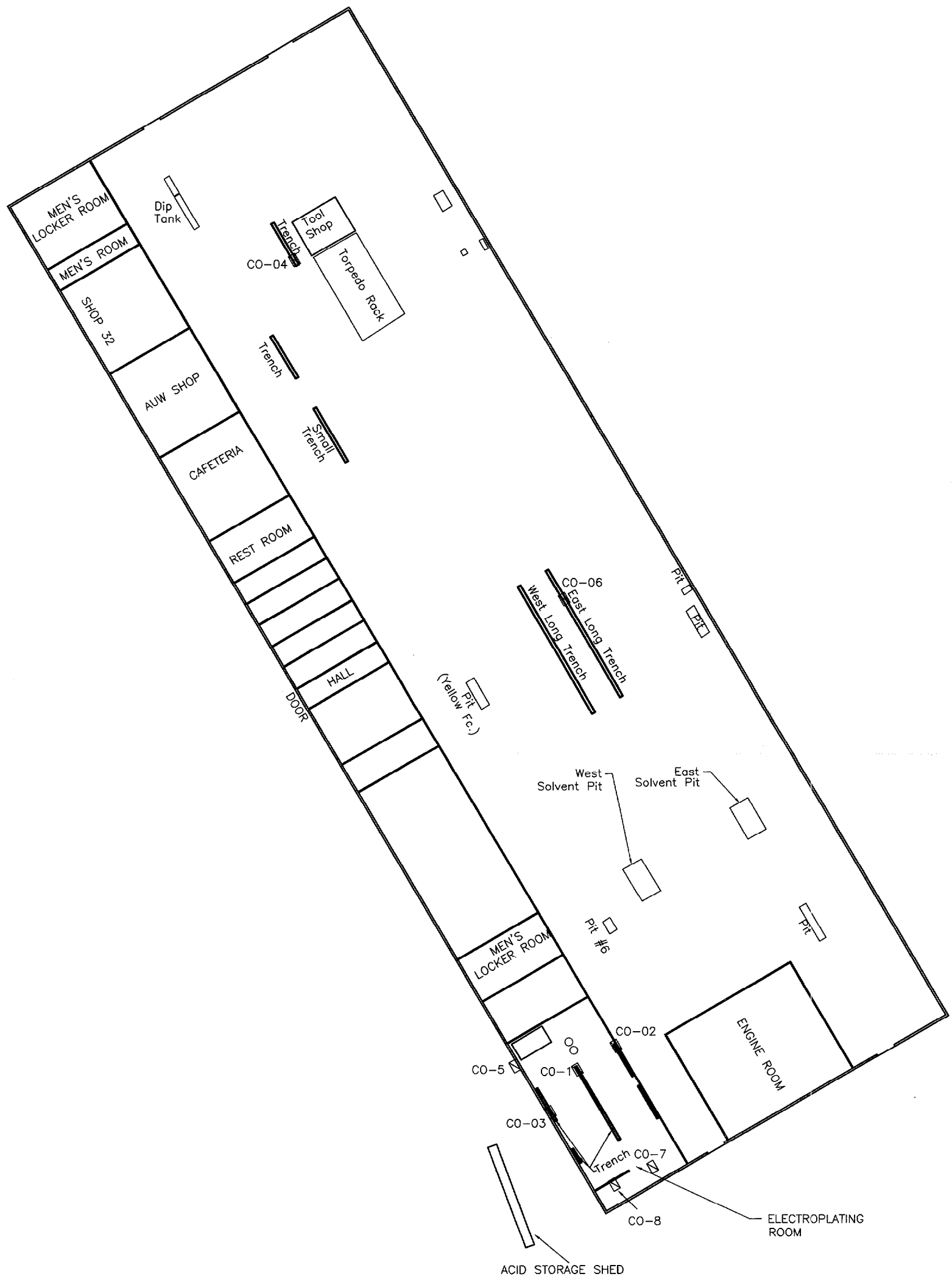
GRAPHIC SCALE

0' 60' 120'

1 INCH = 60 FEET

DRAIN RESIDUE SAMPLE LOCATIONS		3-2	
GOULD ISLAND BUILDING 32		TETRA TECH NUS, INC.	
NEWPORT, RHODE ISLAND			
DRAWN BY: J PICCUITO	REV.: 0		
CHECKED BY: S. PARKER	DATE: JULY 24, 2000		
SCALE: 1" = 60'	FILE NO.: DWG\7574\1083\DRAIN RESIDUE.DWG	55 Jonspin Road Wilmington, MA 01887 (978)658-7899	

DRAFT FINAL



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1. NOT FOR DESIGN
2. ALL LOCATIONS ARE APPROXIMATE
3. VERTICAL DATUM IS BASED ON THE NAVY BM H-2, LOCATED AT THE NORTHEAST NUT ON VALVE HYDRANT OPPOSITE SOUTHWEST CORNER OF BUILDING #32, ESTABLISHED BY P.W. SURVEY PARTY, DATED 1/3/45, BOOK NUMBER 20-B PAGE 10, MLW ELEVATION (LOCAL) 14.12.
4. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM, R.I. STATE PLANE 1983.
5. U.S. NAVAL OPERATING BASE, NEWPORT, R.I. TORPEDO STATION GOULD ISLAND OVERHAUL SHOP PLUMBING FLOOR PLAN, CONT. NO. 4994, DRAWING P-201, DATED MARCH 14, 1942, BY JOHN BRACKETT, CONSULTING ENGINEER.

US NAVY BENCH MARK H-2 (SEE NOTE #2)

LEGEND:

CONCRETE SAMPLE STATION

CO-8 TETRA TECH SAMPLE I.D.

GRAPHIC SCALE

0' 60' 120'

1 INCH = 60 FEET

CONCRETE SAMPLE LOCATIONS		FIGURE 3-3
GOULD ISLAND BUILDING 32		TETRA TECH NUS, INC.
NEWPORT, RHODE ISLAND		55 Jonspin Road Wilmington, MA 01887 (978)658-7899
DRAWN BY: J. PICCUITO	REV.: 0	
CHECKED BY: S. PARKER	DATE: JULY 24, 2000	
SCALE: 1" = 60'	FILE NO.: DWG\7574\1083\CONCRETE.DWG	

DRAFT FINAL

3.2 PHASE I ACTIVITIES

Phase I activities (Tasks 1-5) were performed from April 17, 2000 through May 2, 2000.

3.2.1 TASK 1: Building 32 Interior Survey, Inspection, and Onshore Survey

Task 1 included orientation to the site through inspections and surveys as well as review of documentation summarized in the work plan.

3.2.1.1 Reconnaissance Survey

Prior to initiating the inspection, a site walkover was conducted on April 12, 2000 by the TtNUS field team members to familiarize themselves with site conditions. The study area was visually surveyed with respect to access restrictions and sampling locations. Site-specific health and safety considerations, including emergency evacuation procedures, were reviewed. Pertinent features, such as overhead and subsurface utilities, structural integrity of different areas of the building, and other potential hazards were reviewed with Navy and Foster Wheeler personnel with respect to anticipated sampling activities.

Prior to the TtNUS site walkover, an ambient air survey was conducted by a subcontractor to Foster Wheeler Environmental Corporation (FWENC) inside Building 32 work areas to determine the presence of airborne asbestos. This survey was conducted throughout the building. TtNUS then conducted a second survey for the presence of volatile organic compounds (VOCs). This second survey included accessible floor penetrations (drains, trenches, pits, etc.) and areas where floor sampling/borings were planned. TtNUS ambient air survey was conducted with a photoionization (PID) survey monitoring instrument that assessed ambient conditions for the presence of volatile organic compounds (VOCs). No total VOC readings above background were found during this survey.

3.2.1.2 Building 32 Equipment Clearing

The work plan called for removal of mechanical equipment and clearing trenches to allow close inspection for cracks and joints in the concrete that could have allowed contaminant discharge to the subsurface soils. However, it was determined during mobilization, that samples should be collected prior to floor washing, etc. that occurs as part of asbestos and lead abatement. Therefore, all areas of the floor, particularly the trenches and equipment sumps could not be inspected in detail. It was agreed that this effort was best performed after removal of the bulk equipment.

3.2.1.3 Onshore Location Survey

Following the investigative work, a survey was performed by a professional land surveyor to identify locations of sample points, and other significant features identified during the investigation. The survey was performed by Louis Federici & Associates and supervised by TtNUS working under the TtNUS Health and Safety Plan.

The base map presented in this Work Plan was used; however, locations of existing buildings and study area boundaries were confirmed by land survey.

The survey was conducted to establish relative locations of sample points. Horizontal control was maintained by tying into the State of Rhode Island grid system. Elevations were referenced to a USGS benchmark and the mean low water level. Horizontal and vertical measurements were made relative to on-site control points. All surveyed features were horizontally and vertically located to within plus or minus 0.1 foot.

These tasks and the features that were surveyed are described below:

- Manholes and catch basins near and inside the building
- Trenches, pits, drains, soil, soil gas, and concrete sample locations
- Metal vats, tanks and other misc. equipment
- All sample collection points established during the investigation

Surveyed points were mapped with AutoCAD V14.0. The survey subcontractor provided hard-copy prints and disk versions of the survey information for each survey operation. Survey points for each task was set on a different "layer" of the AutoCAD data such that printouts of sample collection points can be made specific to each task or any group of tasks.

3.2.2 TASK 2: Concrete Sampling

The design drawings of the concrete floor in the electroplating shop from the 1940s specified acid resistant mastic coatings. Upon close inspection of the floor in this area, it appears that these floor coatings were not installed. Site inspections performed during previous investigations indicated that the concrete floors, trenches, and two cylindrical pits might have been potentially contaminated with hazardous substances from industrial process activities. In addition, several trenches are located throughout the main, open portion of Building 32, which may also be potentially contaminated or have acted as migration pathways for hazardous substances from activities in these areas. No significant

areas of concrete staining, other than from water or algal growth, were noted. Figure 3-3 depicts concrete sample locations.

After completion of the Task 1 activities, the concrete slab floor, pits, etc. in the plating shop and trenches in the Building 32 main area were inspected for significant cracks and/or damaged/deteriorated areas where contamination may have been released to the subsurface soils. However, due to the presence of machinery in these areas, a detailed inspection of the integrity of the trenches could not be conducted. Sample stations were therefore selected based on accessibility and obvious condition of the trenches. The building design drawings indicate the concrete at these locations is a 10-14 inch thick poured and formed slab, without reinforcement.

Nine concrete floor and/or trench samples were collected during this sampling activity (including one duplicate sample). Sampling locations were selected based on the criteria listed above and include the collection of samples in the pre-formed trenches, electroplating shop, acid dipping room, and other general areas of Building 32.

Concrete chip samples were collected from inside the drainage trenches to a depth of 0.25 feet (measured from the floor surface) in order to acquire an adequate volume of material for analysis. A rotary hammer drill equipped with a hardened steel drill bit was used to drive out the concrete chip samples from the areas of potential contamination. Concrete chips were driven from the bedded cement until a sufficient volume was loosened. Then VOC samples were collected from the scatter pile using En-Core samplers. The remainder of the material was scooped together, mixed and transferred to appropriate sample containers using stainless steel scoops or spatulas. The concrete chips were placed into 8-ounce wide-mouth jars (except VOC samples) for shipment to the laboratory.

Samples for VOCs were collected using an Encore sampler, which captures a 5-gram volume. The Encore sampler collects, stores, and delivers soil samples all within one device. The sampler has three components: the coring body, the plunger and the cap. An attachable T-handle is used to assist in pushing the sampler into the material sampled. The airtight sealing cap prevents the transfer of volatiles, as the sampler becomes its own self-contained package. All samples were maintained and shipped on ice.

3.2.3 TASK 3: Drain Investigation

This task was intended to include opening and tracking drains to locate outfalls. This was to be performed in order to find where contaminants were discharged after they left the interior of the building. However, during the site reconnaissance tasks, it was found that many of these drains were blocked and

required cleaning in order to track them. Therefore, the process to be used was to wash the drains, sample the material in the wash water and identify the outfall through utility location efforts. In April 2000, the RIDEM requested that the drains not be washed out, as the washing process could dilute contaminants within the piping to concentrations below detection limits. RIDEM requested that the residue within the drains be sampled first in their current state so that the contaminants can be identified at their highest likely concentration.

This revised approach was adopted in the field, and drains that were found during the site reconnaissance that were accessible and had enough material within them were sampled as requested by RIDEM. This included floor drains, drainage trenches, equipment pits and floor sumps. However, drains that did not contain any residue accessible from the interior of the building were not sampled. Figure 3-2 depicts locations of Drain Residue Sample stations.

Samples were collected by opening drain covers and scooping or scraping material out from within using hand tools or dipping equipment. Photos of some drain samples (Appendix C) depict sampling procedures used.

Many samples of drain residue had a high water content, and were therefore containerized by TtNUS and handled by the analytical laboratory as "sludge" samples. Two samples, DR-10 and DR-11 were actually water samples, as no solids were present within these pits. Sludge and water samples were containerized in accordance with the work plan requirements for aqueous samples.

Drain samples were collected from drainage traps within the selected location. De-contaminated stainless steel scoops, trowels were used for sample collection. For soil samples collected for VOCs an approximate 5-gram soil volume was collected using the Encore sampler. The remaining samples at each location were collected into a stainless steel bowl, and solid material larger than 1 inch in diameter was discarded. The material was thoroughly mixed and transferred to the appropriate sample container. The samples were analyzed for full TCL organics (VOCs, BNAs, pesticides, PCBs), TAL metals, cyanide, and TPH (GRO-DRO).

3.2.4 TASK 4: Soil Gas Sampling

Under this task, 66 passive soil gas detectors were installed at 62 locations (four duplicate samples) to collect volatile organic compounds (VOCs) and TPH (GRO-DRO) compounds using the Gore-Sorber Screening Survey passive soil gas detection system. The purpose of the survey was to detect potential VOC and TPH contamination in the vadose zone (potentially indicating soil and/or groundwater contamination). The northern area of Building 32 that was previously investigated using this same soil

gas methodology (Section 2.0 if the Work Plan) was not re-investigated during this Phase I activity. Soil gas sample stations are depicted on Figures provided in Appendix B.

An approximate sample grid was laid out along five north/south transects at the site. At each specified sample location, a pilot hole (1-inch diameter) was created to a depth of approximately 3 feet below grade using a rotary drill hammer. No adjustments in the sample depth were needed to maintain the collector above the water table. The vendor-supplied collectors were inserted to the appropriate depth and the hole was sealed using a cork plug. The collectors were carefully handled at all times by using analyte-free tools and gloves. After a 2-week exposure time, the collectors were then retrieved, sealed in their original containers, and returned to the vendors laboratory for VOC and TPH analyses. During retrieval, three detectors were lost inside the drilled pilot holes due to soil collapse around the detector.

Appropriate chain-of-custody procedures were followed and samples were labeled, packaged, and shipped according to manufacturer instructions and the TtNUS Work Plan.

3.2.5 TASK 5: Surface Soil Sampling

The objective of the surface soil sampling was to assess the presence and nature of potential surface soil contamination at selected locations on the exterior of Building 32. This information would aid in meeting overall sampling plan objectives. A single site-area-specific surface soil sample was also collected upgradient based on ground surface topography.

During Phase I activities, surface soils were collected from four locations near the southwest corner of Building 32, one at the southeast corner of Building 33, two located in the northeast corner of Building 32 (behind Foster Wheeler office trailer), and one from an off-site background location. The samples were collected from the following general locations: two outside the southern entrance-way to Building 32, one outside the sandblasting room near the historic location of the baghouse (west side), one at the southeast corner of Building 33, two located at the northeast corner of Building 32 (behind the Foster Wheeler office trailer) and one near the exterior acid storage area (west side). The locations are presented on Figure 3-1.

The one background location is shown on Figure 3-1. This single location was selected within the intent of acquiring a sample representative of background or upgradient (based on surficial topography) characteristics. An attempt has been made to select a background soil sample location believed to be representative of site background soil conditions that have not been impacted by site activities and are removed from other potential sources (to the extent possible) of contamination. The one background location to the southwest of Building 32 is situated at a higher elevation than the roadways and building.

Surface soil samples were collected to a depth of 0.5 feet. De-contaminated stainless steel scoops, and trowels were used for sample collection. Aliquots of the material were collected *in situ* and containerized for VOCs analysis using Encore sampling devices. The remaining soil samples at each location was collected into a stainless steel bowl, and roots, cobbles, and other solid material larger than 1 inch in diameter were discarded. The soil was thoroughly mixed and transferred to the appropriate sample container. The samples were analyzed for full TCL organics (SVOCs, pesticides, PCBs), TAL metals, cyanide, and TPH (GRO-DRO).

Appropriate chain-of-custody procedures were followed and samples were labeled, packaged, and shipped according to the work plan. A summary of analytical samples is presented in Table 3-1.

3.2.5.1 Regulatory Oversight

During the sample collection efforts performed in April and May 2000, RIDEM requested that TtNUS collect samples as described in a letter provided by that office to the Navy dated January 12, 2000. The locations listed in item No. 17 of that letter were all investigated as described on Table 3-2. In addition, a visit by RIDEM representatives was performed on April 25, 2000. No additional sample stations were identified during this visit.

TABLE 3-2
SAMPLE TARGET AREAS REQUESTED BY RIDEM 1/12/00
STUDY AREA SCREENING EVALUATION PHASE 1
GOULD ISLAND BUILDING 32
NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND

LOCATION	SAMPLES REQUESTED	ACTION
1.Electroplating Shop, Motor Room	concrete/soil	Concrete sample collected. Sub-slab soils to be sampled if necessary after equipment removal.
2.Electroplating Shop, Acid Dipping Room	concrete/soil/ floor drain residue for disposal purposes	Concrete sample collected. Sub-slab soils to be sampled if necessary after equipment removal.
3. Electroplating Shop, Concrete pits	concrete	These pits were found to be constructed of steel, lined with rubber. They are empty and clean, therefore no samples were taken.
4. Electroplating Shop, Wood frame pits	concrete/soil	No wood – Framed pits were found in the electroplating shop.
5. Electroplating Shop Trenches (three)	concrete/soil	Concrete samples taken, one each trench. Sub-slab soils to be sampled if necessary after equipment removal.
6. Electroplating Shop Floor Drains	concrete/soil/ residue	Drain residue samples taken, one each drain. Concrete samples not appropriate. Soil samples to be taken at outfall when it is located.
7. Electroplating Shop Sand Blast Booth	concrete	Sandblast booth is steel on all sides and floor. No residue present, no samples taken.
8. Overall Shop Trenches (thirteen)	concrete/soil/residue/ drain	Each trench found was sampled: If sludge was present, it was sampled, concrete was not. If trench was empty and clean, concrete was sampled. Soil samples to be taken under trench or at drain outfalls when they are located.
9. Overall Shop Mixing tank entrance of building	concrete/soil/drain if present	Tank is empty. Drain under was found, also empty and clean. No residue to sample. Soil gas sample collected adjacent to this drain. Refer to Appendix C file entitled "NE AST and DRAIN.mpg" for images.
10. Overall Shop Grinding Areas (three)	Concrete/soil/drain	Drains found were sampled to collect residue. Soil samples to be taken under trench or at drain outfalls when they are located.
11. Overall Shop Machine Area	concrete/soil/drain	Machine room could not be entered due to wall collapse and overhead hazards. Will inspect after area is secured.
12. Overall Shop Manholes	concrete/soil/ residue	One manhole found outside of electroplating shop filled with water. An aqueous sample was collected from within. Concrete and soil samples to be taken when emptied and at drain outfalls when they are located.
13. Overall Shop Electrical Equipment (containing PCB components)	concrete/soil	No electrical equipment likely to contain PCBs were found in the electroplating shop.

TABLE 3-2 (continued)
SAMPLE TARGET AREAS REQUESTED BY RIDEM 1/12/00
STUDY AREA SCREENING EVALUATION PHASE 1
GOULD ISLAND BUILDING 32
NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND
PAGE 2 OF 2

LOCATION	SAMPLES REQUESTED	ACTION
14. Overall Shop Gyro Department	Concrete/soil/floor drains	Drains found were sampled to collect residue. Sub-slab soils to be sampled if necessary after equipment removal.
15. Overall Shop Floor drains (various locations)	residue/soil	Drains found were sampled to collect residue. Sub-slab soils to be sampled if necessary after equipment removal.
16. Exterior Acid Storage Area	Soil	Surface soil sample collected outside on likely area adjacent to east (open) side.
17. Exterior Baghouse Area	Soil	Surface debris collected and concrete sample collected.
18. Exterior Area north of Building	Soil	Area is under excavation by FWENC.

Note: Floor of Building 32 consists of approximately 10 to 14+ inches of concrete with unknown thickness of bedding stone underneath. Soil samples could not be acquired from underneath the slab without heavy equipment, which cannot be brought into Building 32 in its current condition. Recommend soil is tested and drains are tracked after building is removed.

4.0 FINDINGS OF THE INVESTIGATION

This section presents a description of the results of the field investigation activities performed for the Phase 1 Investigation.

The following sections present the findings from the sampling activities that comprised the Phase 1 Field Investigations. Additional detail is presented in Appendix A (results from laboratory analysis of surface soil, concrete, and drain residue samples), Appendix B (results from laboratory analysis of soil gas samples) and Appendix C (data validation memoranda).

4.1 SITE CONDITIONS

This section provides a general overview of the conditions encountered during the investigations at the site. Photos of all locations where samples were collected are presented in electronic format (*.jpg files) inscribed on a CD ROM and attached to this report as Appendix D. Each file is labeled with the sample station.

A complete description of the building and surroundings are presented in Section 2 of the work plan.

4.1.1 Surface Soil Samples

Surface soils were collected from areas where exposed soils are present on the exterior of the building. There were no surface soils found exposed within the building. As described in Section 3 of this report, samples were collected from likely discharge points on the exterior of the building.

The conditions of the site at the time of the sampling efforts were those of an old industrial area which had not been maintained for some time. Target areas were overgrown with vegetation and many times sample locations thought to be soil were actually leaf litter and other detritus underlain with concrete slabs or foundations. In some cases, the surface gradient was tracked and samples were taken where runoff could have carried contaminants. The following is a summary of the individual locations where samples were taken. Please note that gradient refers to the surface gradient of the ground based on surface topography.

SS-01 Background station - Upgradient from the road south to the center of the island, no buildings or foundations nearby, thick vegetation all around. No recent traffic in this area.

SS-02 Outside and downgradient (based on surface topography) of the electroplating shop (southwest doorway), off the edge of the pavement. Heavily vegetated, sample was taken at the soils outside the fence.

SS-03 Acid Storage area: The acid storage area was a wooden shed structure, open on one side to the paved apron outside the southwest corner of the building. Vegetation has grown around and through the shed, collapsing the wooden frames and walls. A concrete foundation is present on three sides and the bottom of this shed, with no lip or curb on the open (east) side. Releases within the shed could have flowed out the open east side of the shed and into the soil. The sample was collected from this soil on the east opening of the shed.

SS-04 Outside the Electroplating shop (southwest doorway) in area of broken concrete. This is the location where a UST was removed in 1997. The concrete curbing broken for the removal allowed access to soils in the joints between the slabs, however, sample may reflect soils placed here as backfill after the UST removal. These soils were taken from an on-site location.

SS-05 At the former location of Building 38, off the Northeast corner of Building 32. This was a maintenance facility supporting the Overhaul shop. The foundation slab of this building is still present, samples were taken on the downgradient (east) side of the slab.

SS-06 At former location of Building 38, off the Northeast corner of Building 32. This was a maintenance facility supporting the Overhaul shop. The foundation slab of this building is still present, samples were taken on the downgradient side of the slab.

SS-07 At former location of sandblast bag-house - sample of material taken from on top of the concrete: This material appeared to be a mix of sandblast grit, leaf litter, detritus and debris from equipment previously present.

SS-08 Between Buildings 33 and 32, downgradient of transformer. Sample taken from the soil between the transformer and the curbstone. Recent tree cutting here could show hydrocarbon residuals.

4.1.2 Concrete Samples

The floor of Building 32 was drilled through (one-inch diameter holes) at over 40 locations for the purposes of installation of soil gas collection modules. The floor slab was found to be between 10 and 14 inches thick, although no steel reinforcement was evident.

Concrete samples were taken from equipment pads, drainage trenches, and other suspect areas identified by inspection of the building as described in Section 3 of this report. The following is a summary of the individual locations where samples were taken:

CO-01 Electroplating shop, in one of the two central waste collection trenches. Electroplating tanks set to empty into this trench were labeled "copper cyanide".

CO-02 Electroplating shop, in the east waste collection trench. Electroplating tanks set to empty into this trench were labeled "annodex".

CO-03 Electroplating shop, in the west waste collection trench. Electroplating tanks set to empty into this trench were not labeled.

CO-04 Main shop area, shallow equipment or drainage trench, use unknown. Construction is similar to the waste collection trenches in the electroplating shop.

CO-05 Outside of electroplating shop, on concrete apron for Building 32. This is the former location of the sandblast storage and bag house.

CO-06 Main shop area, shallow equipment or drainage trench, use unknown. Construction is similar to the waste collection trenches in the electroplating shop, except no cross braces are present for placement of steel covers. May have been used as an equipment bath or dip tank.

CO-07 Electroplating shop, in the generator room. Generators have deteriorated, and oils present within may have leaked out. Sample was taken from the concrete under the mounts of one of the generators.

CO-08 Electroplating shop, in small southwest room. The use of this room is unknown. Sample was taken from the floor near what appear to be additional electroplating tanks.

4.1.3 Drain Residue Samples

Samples of residue within the drains were collected as described in Section 3. All drains located that were found to contain an adequate quantity of material that was accessible from the floor of the building were sampled. The following is a summary of the individual locations where samples were taken:

DR-01 North end of main shop, floor drain.

DR-02 South end of main shop area, equipment trench, use unknown. May have been used as an equipment bath or dip tank.

DR-03 Electroplating shop, floor drain.

DR-04 Electroplating shop, floor drain. This drain was found to be equipped with a catch basket to prevent large objects from passing into the drain.

DR-05 Residue within a floor drain in the electroplating shop.

DR-06 Residue within a floor drain in the electroplating shop. This drain was found to be equipped with a catch basket to prevent large objects from passing into the drain.

DR-07 Sludge sample from a sump underneath a large solvent bath apparatus (west solvent tank).

DR-08 Sludge sample from a sump underneath a second, similar large solvent bath apparatus (east solvent tank).

DR-09 Sludge sample from a drainage sump on the east wall of Building 32.

DR-10 Water sample from a manhole outside the electroplating shop (no sludge found). This manhole is estimated to be 8 feet deep, and contains water.

DR-11 Water sample from a pit in the main shop area. Pit is filled with water, no solids present. Use unknown.

DR-12 Residue from a shallow equipment or drainage trench in the main shop area, use unknown. Construction is similar to the waste collection trenches in the electroplating shop, except no cross braces are present for placement of steel covers. May have been used as an equipment bath or dip tank.

DR-13 Sludge from a settlement basin around a large floor drain in the north east corner of the building. Floor in this area is designed to slope into this drain, which will catch debris and let the lighter fluids to pass.

DR-14 Sludge from a large trench in the main shop area believed to be a hydrostatic tank or for submergence tests.

4.2 CONTAMINANT DISTRIBUTION

This section presents an abbreviated evaluation of the contaminants found in samples collected as described above and in Section 3 of this report. Full data tables are presented in Appendix A.

4.2.1 Soil Gas Contaminant Distribution

Soil gas samples were collected and analyzed as described in Section 3 of this report. The vendor of the soil gas collection modules provided an interpretation of selected contaminants detected in the soil gas samples, which is presented as Appendix B of this report. Contaminants were selected for the graphic interpretation presented in the report based on the concentrations detected and frequency of detection.

Trichloroethene (TCE), napthalene and diesel range organic compounds were all detected in most of the detectors installed. The extent of the detections presented in the figures in Appendix B indicate a widespread area where petroleum-related contaminants were detected, although the variation of the amounts collected on each detector was very slight. TCE results showed a relatively high concentration detected in the ground under the northwest corner of the building, and relatively low concentrations under the remainder of the building.

Analysis of soil gas provides an indication of which contaminants may be present in either soil or groundwater. Since the detected compounds were mostly found under the building, they may also be present due to materials used as a part of the building construction. These contaminants should be sought in soil and groundwater in future phases of the investigation at Building 32.

4.2.2 Surface Soil Contaminant Distribution

Table 4-1 presents a summary of analytical results for contaminants detected in surface soil. A complete set of data collected is presented in Appendix A. At stations where the contaminant is detected but is detected between the instrument detection limit and the reporting limit, the result is estimated and flagged with a "J". At stations where the contaminant was not detected at the instrument detection limit, the reported value is stated as the value at the reporting limit, and flagged with a "U". Data validation details are presented in the data validation memoranda in Appendix C.

Table 4-1 presents all detected contaminants as compared to RIDEM direct exposure criteria for residential soils. Those values which exceed the criteria are presented as bolded text. Although the current land use is industrial, and future land use is undefined, this comparison has been provided in response to special request from RIDEM.

TABLE 4-1
Analytical Results - Detected Compounds in Surface Soil Samples
Gould Island Building 32
Newport, Rhode Island

Sample Number		G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN		G32-SS-07-06IN		G32-SS-08-06IN	
Date Sampled		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
QC Identifier		Field Dup. G32-SS-07-06IN		None		None		None		None		None		None		Field Dup. G32-SS 07-06IN		None	
Matrix		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Percent Solids	Soil Direct Exposure Residential Criteria	68.9		53.1		73.4		29.8		84.6		92.1		83.5		61.7		80.5	
Volatile Organic Analysis (UG/KG)																			
2-Butanone	10000000	14	U	28	U	26	U	47	U	9.0	U	11	U	12	J	18	U	13	U
Acetone	7800000	75	J	150	J	140	J	140	J	34	J	40	J	74	J	100	J	120	J
Benzene	2500	14	U	28	U	26	U	47	U	9.0	U	11	U	2.0	J	18	U	13	U
Chloromethane		14	U	28	U	26	U	47	U	9.0	U	11	U	5.0	J	18	U	13	U
Methyl Acetate		14	U	20	J	14	J	47	U	9.0	U	11	U	14	U	18	U	13	U
Semivolatile Organic Analysis (UG/KG)																			
1,1'-Biphenyl		65	J	680	U	460	U	1200	U	130	J	360	U	400	U	320	J	130	J
2-Methylnaphthalene	123000	140	J	680	U	460	U	100	J	390	J	360	U	400	U	880	J	440	J
4-Methylphenol		530	U	680	U	460	U	1200	U	400	U	360	U	400	U	600	U	52	J
Acenaphthene	43000	1400		70	J	92	J	750	J	1700		360	U	32	J	6300	*J	1400	J
Acenaphthylene	23000	340	J	680	U	460	U	1200	U	60	J	360	U	34	J	300	J	49	J
Anthracene	35000	3500	*J	130	J	200	J	1400		3400	*J	20	J	90	J	10000	*J	2400	
Benzaldehyde		530	U	680	U	460	U	1200	U	400	U	360	U	400	U	600	U	47	J
Benzo(a)anthracene	**900**	**12000**	*J	410	J	690		**4100**		**8500**	*	88	J	600		**22000**	*J	**5300**	*
Benzo(a)pyrene	**400**	**9800**	*J	390	J	**630**		**3500**		**8100**	*	85	J	**860**	J	**19000**	*J	**4800**	*
Benzo(b)fluoranthene	**900**	**10000**	*J	450	J	770		**3700**		**6900**	*	110	J	**1500**	J	**18000**	*J	**4000**	*
Benzo(g,h,i)perylene	**800**	**6200**	*J	140	J	280	J	**1100**	J	**2900**	J	73	J	450	J	**14000**	*J	**1300**	
Benzo(k)fluoranthene	**900**	**9300**	*J	360	J	680		**3400**		**6400**	*	78	J	**1200**	J	**17000**	*J	**4500**	*
bis(2-Ethylhexyl)phthalate	46000	310	J	680	U	460	U	1200	U	400	U	41	J	400	U	280	J	52	J
Carbazole		2600		81	J	130	J	870	J	1500		360	U	79	J	5800	*J	1600	
Chrysene	**400**	**14000**	*	**470**	J	**810**		**4400**		**9200**	*	100	J	**1000**		**23000**	*	**5200**	*
Di-n-Butylphthalate		530	U	680	U	460	U	1200	U	400	U	42	J	400	U	600	U	410	U
Dibenzo(a,h)anthracene	**400**	**2900**	*J	88	J	130	J	**720**	J	**1500**		360	U	200	J	**6600**	*J	**810**	
Dibenzofuran		920		680	U	35	J	410	J	630		360	U	400	U	3300	J	890	
Fluoranthene	**20000**	**30000**	*	990		1600		9400	*	20000	*	180	J	560		**61000**	*J	12000	*
Fluorene	28000	1800		65	J	84	J	750	J	1200		360	U	400	U	5400	*J	1500	
Indeno(1,2,3-cd)pyrene	**900**	**5900**	*J	140	J	270	J	**1300**		**2700**		56	J	410	J	**12000**	*J	**1500**	
Naphthalene	54000	190	J	680	U	35	J	220	J	1400		360	U	400	U	3500	J	990	J
Phenanthrene	**40000**	20000	*	680		930		7300		15000	*	83	J	260	J	**50000**	*J	11000	*
Pyrene	**13000**	**24000**	*	830		1500		8400		**19000**	*	160	J	1300		**48000**	*J	10000	*J

Bold - Exceeds criteria; U - Not detected; UJ - Detection limit approximate;
J - Quantitation approximate; * - From dilution analysis; R - Rejected; NA - Not Analyzed

TABLE 4-1
Analytical Results - Detected Compounds in Surface Soil Samples
Gould Island Building 32
Newport, Rhode Island

Sample Number		G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN		G32-SS-07-06IN		G32-SS-08-06IN	
Date Sampled		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
QC Identifier		Field Dup. G32-SS-07-06IN		None		None		None		None		None		None		Field Dup. G32-SS 07-06IN		None	
Matrix		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Percent Solids	Soil Direct Exposure Residential Criteria	68.9		53.1		73.4		29.8		84.6		92.1		83.5		61.7		80.5	
Pesticide/PCB Analysis (UG/KG)																			
4,4'-DDT		5.3	U	6.9	U	6.2	P	12		17		5.5		5.4		6.0	U	6.6	
Aroclor-1254		4000	*	69	U	110		120	U	39	U	37	U	42	U	5800	*	43	U
Gasoline Range Organics (MG/KG)																			
Gasoline Range Organics		0.664		0.55	U	0.44	U	1.0	U	0.283		0.23	U	0.27	U	0.407		0.257	J
Diesel Range Organics (MG/KG)																			
Diesel Range Organics		558		123		410		490		371		364		553		734		94.2	J
TAL Metal Analysis (MG/KG)																			
Aluminum		1950		3480		6920		3840	J	11400		5820		4880		1750		6590	
Antimony	**10**	**93.0**	J	0.94	UJ	0.68	UJ	1.8	J	0.59	UJ	1.7	J	8.7	J	**106**	J	0.62	UJ
Arsenic	**1.7**	**13.9**		1.9	UJ	**5.9**		**6.6**	J	**16.8**		3.5	U	**9.6**		**16.4**		2.8	U
Barium	5500	203		21.1		39.4		113	J	21.2		20.3		200		352		18.7	
Cadmium	**39**	38.1	J	2.3		9.9		**511**	J	1.4	J	2.6	J	8.1	J	**51.8**	J	1.7	
Calcium		10500		5420		642		16800	J	2440		1140		2010		12400		1300	
Chromium	1400	79.8	J	7.4		67.3		86.8	J	21.3	J	14.1	J	48.2	J	86.7	J	12.1	
Cobalt		6.8		3.0		9.0		7.8	J	12.5		6.0		11.4		7.6		4.5	
Copper	3100	112	J	27.8		413		146	J	36.3	J	94.0	J	287	J	121	J	26.6	
Cyanide	200	1.6		0.94	U	0.68	U	2.6	J	0.59	U	0.54	U	0.60	U	0.81	U	0.62	U
Iron		98200		7790		20700		17000	J	33000		25000		97600		113000		14900	
Lead	**150**	**3140**		35.8		**225**		**337**	J	106		**292**		**1950**		**2710**		112	
Magnesium		1010		1550		1890		1640	J	3800		2600		2490		767		2600	
Manganese	**390**	**460**		240		142		**475**	J	**399**		193		**494**		**461**		124	
Mercury	23	0.04	UJ	0.08	UJ	0.04	UJ	0.45	J	0.02	U	0.04	UJ	0.17		0.05	UJ	0.04	UJ
Nickel	1000	33.3	J	9.2		23.5		64.3	J	24.6	J	13.4	J	47.8	J	44.7	J	13.1	
Potassium		305	J	485	J	429	J	551	J	385	J	655	J	773	J	236	J	928	J
Selenium	390		R	2.8	J	1.7	J	3.4	J	0.90	U		R		R		R	0.97	J
Silver	200	0.76	J	0.24	UJ	0.26	UJ	0.82	J	0.12	UJ	0.11	UJ	0.75	J	0.85	J	0.12	U
Vanadium	550	45.9		11.5		25.8		41.3	J	18.0		14.7		25.7		44.6		63.5	
Zinc	6000	4430		60.2		129		2140	J	205		231		1310		4990		43.6	

Bold - Exceeds criteria; U - Not detected; UJ - Detection limit approximate;
J - Quantitation approximate; * - From dilution analysis; R - Rejected; NA - Not Analyzed

Figure 4-1 presents concentrations of selected contaminants. Results that exceed RIDEM Industrial/Commercial Direct Exposure Criteria are shaded on the figure. RIDEM Direct Exposure Criteria for commercial/industrial exposures are presented in Appendix E. These contaminants were selected for presentation on these figures based on frequency of detection, and as stated below. These contaminant depictions are only included to represent groups of contaminants, since other contaminants were detected as presented on Table 4-1. The contaminants presented on Figure 4-1 were selected as follows by data reviewers:

- Volatile Organic Compounds - None of note detected in surface soil, however results are presented for benzene and TCE, as these were detected in other media.
- Non-PAH Semivolatile organic compounds - 1,1-biphenyl – Most frequently detected and showed highest concentrations of non-PAH SVOCs.
- PAH compounds – Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene – Frequently detected above RIDEM Industrial/Commercial Direct Exposure Criteria.
- Total Petroleum Hydrocarbons – DRO – Previously identified to be present at site in other media (soil gas).
- PCBs - Aroclor 1254 – Most frequently detected PCB compound, identified as a potential contaminant due to presence of transformers at site.
- Pesticides – DDT – Most frequently detected pesticide.
- Metals – Arsenic, cadmium, chromium, copper, lead, nickel, and zinc - Frequently detected above RIDEM Industrial/Commercial Direct Exposure Criteria in other media; Cyanide – Anticipated to be present based on known use of property.

Soil samples collected from outside the southern end of the building were found to contain organic compounds related to fuel oils (benzo(a)pyrene, 630 ug/kg - 19000 ug/kg and other PAHs), whereas those taken from the samples collected at the north end of the building contained lower concentrations of these compounds. The highest concentrations were found outside the exterior wall at station SS-07. However, these concentrations may be a result of the unknown nature of the material on the ground that was sampled (refer to Section 4.1.1 of this report). Elevated concentrations of metals, including lead and zinc were also detected at this location. PCBs, signified by the presence of Aroclor 1254, were detected at this location.

Elevated concentrations of cyanide and other metals were detected in the surface soil outside the acid storage shed. PCBs were not detected in the surface soil downgradient of the transformer outside Building 35.

4.2.3 Concrete Contaminant Distribution

Table 4-2 presents a summary of analytical results for contaminants detected in concrete. A complete set of data collected is presented in Appendix A. At stations where the contaminant is detected but is detected between the instrument detection limit and the reporting limit, the result is estimated and flagged with a "J". At stations where the contaminant was not detected at the instrument detection limit, the reported value is stated as the value at the reporting limit, and flagged with a "U". Data validation details are presented in the data validation memoranda in Appendix C.

Figure 4-2 presents concentrations of selected contaminants in concrete samples collected. Results that exceed RIDEM Industrial/Commercial Direct Exposure Criteria are shaded on the figure. RIDEM Direct Exposure Criteria are presented in Appendix E. These criteria were selected for comparison as there are no known regulatory criteria specific to concrete unless it is being disposed of. The contaminants were selected for presentation on these figures based on their concentrations, known toxicity, and frequency of detection. These contaminant depictions are only included to represent groups of contaminants, since other contaminants were detected as presented on Table 4-2. The contaminants were selected as follows by data reviewers:

- Aromatic Volatile Organic Compounds – Benzene.
- Chlorinated Volatile Organic Compounds – trichloroethene – Previously identified in soil gas at site.
- Non-PAH Semivolatile organic compounds - 1,1-biphenyl – Most frequently detected, and highest concentrations of non-PAH compounds reported.
- PAH compounds – Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene – Frequently detected above RIDEM Industrial/Commercial Direct Exposure Criteria in other media.
- Total Petroleum Hydrocarbons – DRO – Previously identified to be present at site.
- PCBs - Aroclor 1254 – Most frequently detected PCB compound, identified as a potential contaminant due to presence of transformers at site.
- Pesticides – DDT – Most frequently detected pesticide.
- Metals – Arsenic, cadmium, chromium, copper, lead, nickel, and zinc - Frequently detected above RIDEM Industrial/Commercial Direct Exposure Criteria in other media; Cyanide – Anticipated to be present based on known use of property.

Table 4-2 presents all contaminants detected in concrete samples collected. Traces of organic compounds were found in some of the concrete samples, including trichloroethene, benzene, toluene, and xylene. Trichloroethene was found in the soil gas samples collected at the site during this and previous phases of the investigation. Benzene, toluene and xylene are indicative of gasoline or other fuels.

Xylenes were found to be co-located with diesel range organics, detected at elevated concentrations in samples collected from the electroplating rooms. Semivolatile organic compounds were detected at low concentrations in most samples collected, or were not detected at all. However, high detection limits were noted in the validation of the samples from the electroplating rooms, and the individual fuel components may be obscured by these detection limits.

Low concentrations of PCBs (Aroclor 1254, 0.3 mg/kg) were detected in only one sample within the electroplating room. Other samples did not contain PCBs, indicating that widespread contamination of PCBs is not present.

Elevated concentrations of metals were also found in concrete samples collected from the electroplating room, including copper (699 mg/kg), cadmium (451, and 482 mg/kg), chromium (2,720 mg/kg), and cyanide (24 mg/kg).

4.2.4 Drain Residue Contaminant Distribution

Table 4-3 presents a summary of analytical results for contaminants detected in drain residue collected from floor drains and pits or sumps. A complete set of data collected is presented in Appendix A. At stations where the contaminant is detected, but is detected between the instrument detection limit and the reporting limit, the result is estimated and flagged with a "J". At stations where the contaminant was not detected at the instrument detection limit, the reported value is stated as the value at the reporting limit, and flagged with a "U". Samples flagged with an "R" were rejected during validation. Most rejections in drain residue samples were made due to the solids content in the samples being less than 30 percent or analytical interferences from other compounds. Data validation details are presented in the data validation memoranda presented in Appendix C.

Antimony and potassium results were rejected for some of the sludge samples due to an extremely high concentration of iron in these samples. Data validation memoranda (Appendix C) indicate the iron interferences mask these results.

TABLE 4-2
ANALYTICAL RESULTS - DETECTED IN COMPOUNDS IN CONCRETE SAMPLES
GOULD ISLAND BUILDING 32
NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND

Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/26/00		4/27/00		4/27/00		4/18/00	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		None		None		None		Field Dup. G32-CO-05-03IN	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	90.2		94		97.8		96.4		95		96.3		93.4		93.2		96.5	
Volatile Organic Analysis (UG/KG)																		
2-Butanone	38		17		19	U	6.0	J	14	U	11	UJ	12	UJ	20	J	14	U
2-Hexanone	14		15	U	19	U	18	U	14	U	11	UJ	12	UJ	15	UJ	14	U
4-Methyl-2-Pentanone	9.0	J	15	U	19	U	5.0	J	14	U	11	U	12	U	15	U	14	U
Acetone	67	J	40	J	24	J	27	J	21	J	31	J	24	J	53	J	23	J
Benzene	2.0	J	15	U	19	U	18	U	14	U	11	U	12	U	15	U	14	U
Carbon Disulfide	5.0	J	3.0	J	19	U	18	U	14	U	11	U	12	U	15	U	14	U
Ethylbenzene	2.0	J	15	U	19	U	18	U	14	U	11	U	12	U	2.0	J	14	U
Isopropylbenzene	12	U	15	U	6.0	J	18	U	14	U	11	U	12	U	15	U	14	U
Methylcyclohexane	12	U	15	U	19	U	18	U	14	U	11	U	12	U	2.0	J	14	U
Methylene Chloride	12	U	15	U	19	U	18	U	14	U	8.0	J	4.0	J	6.0	J	14	U
Toluene	7.0	J	2.0	J	19	U	18	U	14	U	11	U	12	U	7.0	J	14	U
Total Xylenes	11	J	4.0	J	9.0	J	18	U	14	U	11	U	3.0	J	10	J	14	U
Trichloroethene	3.0	J	15	U	19	U	18	U	14	U	11	U	12	U	15	U	14	U
Semivolatile Organic Analysis (UG/KG)																		
1,1'-Biphenyl	17000	U	11000	U	11000	U	370	U	370	U	43	J	360	U	11000	U	370	U
2-Methylnaphthalene	17000	U	11000	UJ	11000	U	370	U	370	U	150	J	360	U	11000	U	370	U
Anthracene	17000	U	11000	U	11000	U	370	U	370	U	360	U	360	U	11000	U	31	J
Benzo(a)anthracene	4000	J	11000	U	11000	U	56	J	39	J	51	J	55	J	11000	U	80	J
Benzo(a)pyrene	3500	J	11000	U	11000	U	43	J	370	U	57	J	54	J	11000	U	73	J
Benzo(b)fluoranthene	3800	J	11000	U	11000	U	50	J	33	J	55	J	49	J	11000	U	85	J
Benzo(g,h,i)perylene	17000	UJ	11000	U	11000	UJ	31	J	16	J	360	U	360	U	11000	UJ	36	J
Benzo(k)fluoranthene	3600	J	11000	U	11000	U	54	J	37	J	54	J	47	J	11000	U	81	J
bis(2-Ethylhexyl)phthalate	17000	U	11000	U	11000	U	370	U	38	J	360	U	360	U	11000	U	29	J
Chrysene	4300	J	11000	U	11000	U	71	J	52	J	72	J	67	J	11000	U	110	J
Di-n-Butylphthalate	17000	U	11000	U	11000	U	34	J	370	U	41	J	17000	D	11000	U	54	J
Fluoranthene	9100	J	11000	U	920	J	130	J	100	J	130	J	130		11000	U	210	J
Indeno(1,2,3-cd)pyrene	17000	U	11000	U	11000	U	28	J	370	U	360	U	360	U	11000	UJ	33	J
N-Nitroso-diphenylamine	17000	U	11000	U	11000	U	370	U	370	U	360	U	56	J	11000	U	370	U
Phenanthrene	3700	J	11000	U	11000	U	98	J	56	J	88	J	85	J	11000	U	160	J
Pyrene	7600	J	11000	U	1200	J	110	J	80	J	91	J	110	J	11000	U	160	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

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TABLE 4-2 (continued)
ANALYTICAL RESULTS - DETECTED IN COMPOUNDS IN CONCRETE SAMPLES
GOULD ISLAND BUILDING 32
NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND
PAGE 2 OF 2

Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/26/00		4/27/00		4/27/00		4/18/00	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		None		None		None		Field Dup. G32-CO-05-03IN	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	90.2		94		97.8		96.4		95		96.3		93.4		93.2		96.5	
Pesticide/PCB Analysis (UG/KG)																		
4,4'-DDT	22	U	24	U	22	U	5.4		7.2		3.6	U	4.1		22	U	4.9	
Aroclor-1254	220	U	240	U	220	U	34	U	320	J	36	U	37	U	220	U	36	UJ
Heptachlor Epoxide	11	U	12	U	11	U	1.7	U	2.3	J	1.8	U	1.8	U	11	U	1.8	UJ
Gasoline Range Organic Analysis (MG/KG)																		
Gasoline Range Organics	0.354		0.28	U	0.528		0.22	U	0.27	UJ	0.21	U	0.23	U	0.25	U	0.27	U
Diesel Range Organic Analysis (MG/KG)																		
Diesel Range Organics	17900		21800		13300		44.1		14.1	J	310		71.2		2420		70.8	J
TAL Metal Analysis (MG/KG)																		
Aluminum	3070		3310		3590		8580		9280		6880		7860		3400		8250	
Antimony	7.7	J	6.4	J	11.4	J	0.52	UJ	0.53	UJ		R	2.1	UJ	3.6	UJ	0.52	UJ
Arsenic	1.6	UJ	3.3	UJ	7.6	J	3.5	UJ	3.8	J	6.3	J	2.9	J	2.5	J	3.3	UJ
Barium	225		76.0		326		181		96.4		90.8	J	282		211		202	
Cadmium	451	J	40.1	J	482	J	8.2	J	18.4	J	20.2	J	2.9	UJ	4.9	J	10.7	J
Calcium	4980		3680		13400		50000		52100		49400		69800		11300		48700	
Chromium	48.1		2720		70.1	J	16.9		15.1		15.8		20.2		16.8		19.9	
Cobalt	4.0		3.7		7.5		5.7		5.9		5.6	J	5.4	J	3.9		6.2	
Copper	840	J	699	J	275	J	38.6	J	12.4	J	1060	J	102	J	45.4	J	53.1	J
Cyanide	23.8		0.53	U	2.9		0.52	U	0.53	U	0.52	U	0.54	U	0.54	U	0.52	U
Iron	15900		15200		63500		17700		16300		21000		16700		11200		19400	
Lead	598	J	526	J	650	J	183	J	40.5	J	246	J	245	J	377	J	275	J
Magnesium	1670		1630		1630		3870		3700		2850		3500		1650		4040	
Manganese	198	J	192	J	423	J	305	J	301	J	301	J	279	J	196	J	288	J
Mercury	0.09	UJ	0.16		0.06	UJ	0.02	U	0.02	U	0.07	U	0.05	U	0.08	U	0.02	UJ
Nickel	369	J	44.4	J	87.8	J	11.2	J	12.0	J	22.9	J	12.6	J	15.3	J	12.8	J
Potassium	794		987		867	J	2470		1160		2230	J	1690	J	585		2520	
Selenium	0.84	U	0.81	U		R	1.2	J	1.6	J	0.79	UJ	0.81	UJ	0.82	UJ	1.8	J
Silver	1.9		2.1		0.51	J	4.1		0.62		0.58		0.63		0.91		1.5	
Sodium	650		878		394	UJ	1680		79.7	U	1340		426		177	U	1800	
Vanadium	40.4		54.3		50.0		11.1		12.3		12.4	J	10.1	J	38.3		10.6	
Zinc	521	J	293	J	513	J	83.7	J	810	J	687	J	339	J	366	J	115	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

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Figure 4-3 presents concentrations of selected contaminants in residue samples collected. Results that exceed RIDEM Industrial/Commercial Direct Exposure Criteria are shaded on the figure. RIDEM Direct Exposure Criteria are presented in Appendix E. These criteria were selected for comparison, as there is no direct criteria for debris and sludge unless it is undergoing disposal. The contaminants were selected from all media for presentation on these figures based on their concentrations, frequency of detection, known toxicity, and to represent general analyte groups. These contaminant depictions are only included to represent groups of contaminants, since other contaminants were detected as presented on Table 4-3. The contaminants were selected as follows by data reviewers:

- Aromatic Volatile Organic Compounds – Benzene.
- Chlorinated Volatile Organic Compounds – trichloroethene – Previously identified in soil gas at site.
- Non-PAH Semivolatile organic compounds – 2,4-dimethylphenol – representative of non-PAH SVOCs detected at highest concentrations.
- PAH compounds - Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene – Frequently detected above RIDEM Industrial/Commercial Direct Exposure Criteria in this and other media.
- Total Petroleum Hydrocarbons – DRO – Previously identified to be present at site.
- PCBs - Aroclor 1254 – Most frequently detected PCB compound, identified as a potential contaminant due to presence of transformers at site.
- Metals – Antimony, arsenic, cadmium, chromium, copper, lead, nickel, and zinc - Frequently detected above RIDEM Industrial/Commercial Direct Exposure Criteria; Cyanide – Anticipated to be present based on known use of property.

Table 4-3 presents all contaminants detected in drain residue at the site. As indicated in this table, traces of numerous volatile organic compounds were detected in the drain residue samples. Many of these were detected in the sample collected at DR-13, located in the northeast corner of the building. Acetone was the most frequently detected VOC, although this is anticipated to be a laboratory artifact. The maximum detection for volatile organics was for toluene, detected in DR-13 at 7,700 ug/kg. The next highest was trichloroethene, which was detected at 250 ug/kg in the sludge taken from a pit under the west solvent tank (DR-07). Trichloroethene was also detected at lower concentrations in the sludge taken from the east solvent tank and in one floor drain in the electroplating room.

Semivolatile organic compounds detected in the drain residue samples were dominated by PAH compounds (Table 4-3). These were detected at high concentrations at almost all stations, with the exception of the manhole outside the electroplating room (DR-10). In addition, DR-07 and DR-08, where trichloroethene was detected, was found to have low concentrations of PAHs present. However, the highest concentrations of PAHs were found in the floor drain in the electroplating room (DR-05).

Metals were detected at elevated concentrations throughout the drain residue samples. These results were dominated by the presence of iron and zinc, a likely result of the deteriorating steel structure and rust that is being carried down drainage paths into these drains by infiltrating rainwater. Lead concentrations were also extremely high in the residue samples, most likely a result of the paint that is visibly peeling from surfaces all over the building interior. Other metals of note include cyanide, which was detected at 865 mg/kg in a floor drain sample in the electroplating room. Cyanide was also detected in other floor drain samples in the electroplating room, and was co-located with elevated concentrations of cadmium and copper (Table 4-3).

TABLE 4-3
ANALYTICAL RESULTS - DETECTED COMPOUNDS IN DRAIN RESIDUE SAMPLES
GOULD ISLAND BUILDING 32
NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND

Sample Number	G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05		G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09	
Date Sampled	4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/25/00		4/25/00		4/26/00	
QC Identifier	None		Field Dup. G32-DR-02		None		None		None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain		Drain		Drain		Drain		Drain	
Percent Solids	66.5		59.5		58.6		81.9		62.2		75.9		21.1		27.9		11.1	
Volatile Organic Analysis (UG/KG)																		
2-Butanone	14	U	70		33		37	J	26	J	11	U	70	UJ	29	J	140	UJ
Acetone	97	J	290	J	170	J	110	J	170	J	38	J	210	J	73	J	210	J
Benzene	14	U	18	U	3.0	J	6.0	J	16	U	11	U	70	U	34	U	140	U
Carbon Disulfide	14	U	18	U	18	U	11	UJ	3.0	J	11	U	150		34	U	32	J
Chloroethane	14	U	6.0	J	18	U	11	UJ	4.0	J	11	U	70	U	34	U	140	U
Chloromethane	14	U	21		18	U	11	UJ	7.0	J	11	U	70	U	34	U	140	U
cis-1,2-Dichloroethene	14	U	18	U	18	U	11	UJ	16	U	11	U	11	J	28	J	140	U
Ethylbenzene	14	U	18	U	18	U	11	UJ	16	U	11	U	70	U	34	U	140	U
Isopropylbenzene	14	U	18	U	18	U	11	UJ	16	U	11	U	70	U	34	U	140	U
Methylcyclohexane	14	U	18	U	18	U	11	UJ	16	U	11	U	70	U	34	U	140	U
Methylene Chloride	3.0	J	2.0	J	18	U	11	UJ	6.0	J	2.0	J	12	J	7.0	J	150	
Tetrachloroethene	14	U	18	U	18	U	11	UJ	16	U	11	U	70	U	34	U	140	U
Toluene	14	U	18	U	2.0	J	1.0	J	16	U	11	U	70	U	34	U	140	U
Total Xylenes	14	U	18	U	18	U	11	UJ	16	U	11	U	70	U	34	U	140	U
trans-1,2-Dichloroethene	14	U	18	U	18	U	11	UJ	16	U	11	U	70	U	34	J	140	U
Trichloroethene	14	U	18	U	5.0	J	48	J	16	U	11	U	250		69		140	U
Vinyl Chloride	14	U	18	U	18	U	11	UJ	16	U	11	U	70	U	34	U	140	U
Semivolatile Organic Analysis (UG/KG)																		
1,1'-Biphenyl	5100	U	5800	U	6100	U	4100	U	820	J	4500	U	1500	UJ	1200	UJ	5200	J
2,4-Dimethylphenol	5100	U	5800	U	6100	U	4100	U	5300	U	4500	U	1500	UJ	1200	UJ	1300	J
2-Methylnaphthalene	5100	U	5800	U	1300	J	4100	U	2400	J	4500	U	1500	UJ	1200	UJ	18000	J
Acenaphthene	3100	J	5800	U	6200		750	J	9700		4500	U	1500	UJ	1200	UJ	71000	*J
Acenaphthylene	5100	U	5800	U	6100	U	4100	U	1800	J	4500	U	1500	UJ	1200	UJ	39000	J
Anthracene	6000		1000	J	10000		2200	J	57000	*	4500	U	170	J	1200	UJ	220000	*J
Benzaldehyde	5100	U	5800	U	6100	U	4100	U	5300	U	1700	J	1500	UJ	1200	UJ	5800	UJ
Benzo(a)anthracene	18000		2900	J	19000		7600		220000	*	700	J	460	J	1200	UJ	620000	*J
Benzo(a)pyrene	19000		3200	J	17000		6200		150000	*	600	J	320	J	1200	UJ	490000	*J
Benzo(b)fluoranthene	21000		4000	J	17000		6200		150000	*	590	J	270	J	1200	UJ	370000	*J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed; ND Not Detected (aqueous samples, see Appendix A)

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TABLE 4-3 (continued)
ANALYTICAL RESULTS - DETECTED COMPOUNDS IN DRAIN RESIDUE SAMPLES
GOULD ISLAND BUILDING 32
NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND
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Sample Number	G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05		G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09	
Date Sampled	4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/25/00		4/25/00		4/26/00	
QC Identifier	None		Field Dup. G32-DR-02		None		None		None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain		Drain		Drain		Drain		Drain	
Percent Solids	66.5		59.5		58.6		81.9		62.2		75.9		21.1		27.9		11.1	
Benzo(g,h,i)perylene	9700		720	J	5500	J	2300	J	27000		4500	U	1500	UJ	1200	UJ	170000	*J
Benzo(k)fluoranthene	16000		3300	J	16000		7000		140000	*	710	J	320	J	1200	UJ	400000	*J
bis(2-Ethylhexyl)phthalate	7900		5800	U	3900	*	520	J	5300	U	160000	*	1500	UJ	1200	UJ	51000	j
Carbazole	5200		590	J	6100		1400	J	36000		4500	U	1500	UJ	1200	UJ	61000	*J
Chrysene	20000		4100	J	20000		8300		230000	*	1100	J	480	J	1200	UJ	520000	*J
Di-n-Butylphthalate	1100	J	5800	U	6500		4100	U	5300	U	4500	U	1500	UJ	1200	UJ	5800	UJ
Dibenzo(a,h)anthracene	4600	J	5800	U	2900	J	1200	J	17000		4500	U	1500	UJ	1200	UJ	38000	J
Dibenzofuran	1400	J	5800	U	2800	J	540	J	9800		4500	U	1500	UJ	1200	UJ	38000	*J
Fluoranthene	51000	D	7600		53000	*	22000		550000	*	1700	J	1200	J	1200	UJ	1500000	*J
Fluorene	2100	J	5800	U	4600	J	680	J	12000		4500	U	1500	UJ	1200	UJ	5800	UJ
Indeno(1,2,3-cd)pyrene	10000		770	J	5100	J	2400	J	32000		4500	U	1500	UJ	1200	UJ	190000	*J
Naphthalene	1000	J	5800	U	2600	J	770	J	4100	J	4500	U	1500	UJ	1200	UJ	39000	*J
Phenanthrene	34000		6000		51000	*	12000		26000	*	810	J	780	J	1200	UJ	600000	*J
Pyrene	40000		6800		45000	*	17000		470000	*	1400	J	1000	J	1200	UJ	1200000	*J
Pesticide/PCB Analysis (UG/KG)																		
4,4'-DDD	4.9	U	5.9	U	5.7	U	8.9		5.5	U	18		17	UJ	12	UJ	32	UJ
4,4'-DDE	260	*	61	J	13		30		5.5	U	43		17	UJ	12	UJ	32	UJ
4,4'-DDT	200	*	230	*J	72		82	*	5.5	U	55		24	J	12	UJ	32	UJ
alpha-Chlordane	2.4	U	2.9	U	2.8	U	27	J	2.8	U	2.3	U	8.3	UJ	5.9	UJ	16	UJ
Aroclor-1248	1200	*	59	U	57	U	43	U	55	U	46	U	170	UJ	120	UJ	320	UJ
Aroclor-1254	49	U	1400	J	150		340		55	U	320		170	UJ	120	UJ	320	UJ
Aroclor-1260	49	U	1100	J	57	U	43	U	55	U	46	U	170	UJ	120	UJ	320	UJ
Dieldrin	28		17	J	5.7	U	4.3	U	5.5	U	8.7		17	UJ	12	UJ	32	UJ
Endosulfan II	4.9	U	5.9	U	6.0		4.3	U	5.5	U	4.6	U	17	UJ	12	UJ	32	UJ
gamma-Chlordane	2.4	U	2.9	U	2.8	U	18	J	2.8	U	2.3	U	8.3	UJ	5.9	UJ	16	UJ
Gasoline Range Organic Analysis (MG/KG)																		
Gasoline Range Organics	0.52		0.36	UJ	0.31	UJ	0.282	J	0.424		0.275		3.34	J	0.20	U	2.3	UJ

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed; ND Not Detected (aqueous samples, see Appendix A)

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TABLE 4-3 (continued)
ANALYTICAL RESULTS - DETECTED COMPOUNDS IN DRAIN RESIDUE SAMPLES
GOULD ISLAND BUILDING 32
NAVAL STATION NEWPORT
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Sample Number	G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05		G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09	
Date Sampled	4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/25/00		4/25/00		4/26/00	
QC Identifier	None		Field Dup. G32-DR-02		None		None		None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain		Drain		Drain		Drain		Drain	
Percent Solids	66.5		59.5		58.6		81.9		62.2		75.9		21.1		27.9		11.1	
Diesel Range Organic Analysis (MG/KG)																		
Diesel Range Organics	1490		17900	J	1350	J	690		7720		320		35.1	J	98.5	J	12900	J
TAL Metal Analysis (MG/KG)																		
Aluminum	3230	J	3140	J	1100	J	1070	J	1010	J	352	J	996	J	1170	J	1710	J
Antimony	95.8	J		R	541	J	103	J	2100		166	J	63.9	J		R		R
Arsenic	10.3	J	18.5	J	29.8	J	41.7	J	40.4	J	9.5	J	22.2	J	29.8	J	10.5	J
Barium	1250		1340		1640	J	702	J	6090		419	J	1120	J	1150	J	230	J
Beryllium	1.1		0.15	UJ	0.13	UJ	0.76	U	0.10	U	0.08	U		R	0.22	UJ		R
Cadmium	201		95.2	J	1140		4540		435	J	56900		230	J	106	J	73.6	J
Calcium	21500	J	15300	J	8400	J	10200	J	7510	J	3480	J	8470	J	5190	J	15300	J
Chromium	149		219		1480		495		600		11800		149	J	103	J	226	J
Cobalt	16.9	J	17.4	J	36.6	J	35.6	J	48.7	J	22.5	J	17.7	J	21.8	J	13.2	J
Copper	1300		2320		24700		1390	J	1050	J	9540		931	J	1680	J	2160	J
Cyanide	1.3	J	1.6		16.3		194		16.9		865			R		R		R
Iron	78600		199000		331000		334000		377000		177000		314000	J	453000	J	146000	J
Lead	4180		7590		28500		5270		24100		31600		7560	J	2410	J	2500	J
Magnesium	2340		1990		1130		1530		991		328		673	J	1010	J	1300	J
Manganese	462		939		1330		1300		1700		728		878	J	2010	J	641	J
Mercury	1.1	J	0.84	J	2.5	J	0.56	J	0.33	J	6.7	J	0.95	J	0.34	J	1.6	J
Nickel	169	J	285	J	1420	J	276	J	607	J	14100	J	175	J	142	J	980	J
Potassium	1170	J	3060	J		R	2270	J		R	4870	J		R	1020	J	645	J
Selenium	1.1	UJ	1.3	UJ	2.0	J	1.9	UJ	3.1	J	1.0	UJ	5.3	J	8.2	J		R
Silver	3.3		5.7		22.1		10.4		3.4		104		3.3	J	1.2	J	10.3	J
Sodium	560	J	5840	J	290	J	2360	J	160	UJ	7870	J	1070	J	3780	J	561	J
Thallium	1.4	UJ	1.2	UJ	1.3	UJ	1.8	UJ	2.4	UJ	16.0	J		R		R		R
Vanadium	33.9	J	15.3	J	34.5	J	57.6		38.0	J	41.3		15.5	J	13.2	J	19.3	J
Zinc	3050		62900		12100		2770		13700		2290		7420	J	11600	J	1670	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed; ND Not Detected (aqueous samples, see Appendix A)

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TABLE 4-3 (continued)
ANALYTICAL RESULTS - DETECTED COMPOUNDS IN DRAIN RESIDUE SAMPLES
GOULD ISLAND BUILDING 32
NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND
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Sample Number	G32-DR-10		G32-DR-11		G32-DUP4		G32-DR-12		G32-DR-13		G32-DR-14		G32-DUP3	
Date Sampled	4/26/00		4/26/00		4/26/00		4/24/00		4/25/00		4/25/00		4/24/00	
QC Identifier	Field Dup. G32-DR-10		None		Field Dup. G32-DR-10		None		None		None		Field Dup. G32-DR-02	
Matrix	Drain		Drain		Drain		Drain		Drain		Drain		Drain	
Percent Solids	AQ Sample		AQ Sample		AQ Sample		55.9		61.1		28.5		65.3	
Volatile Organic Analysis (UG/KG)														
2-Butanone	ND		ND		ND		21		64	J	47	UJ	79	
Acetone	ND		ND		ND		120	J	150	J	130	J	260	J
Benzene	ND		ND		ND		19	U	13	U	47	U	17	U
Carbon Disulfide	ND		ND		ND		19	U	46	J	45	J	17	U
Chloroethane	ND		ND		ND		19	U	13	U	47	U	7.0	J
Chloromethane	ND		ND		ND		19	U	13	U	47	U	25	
cis-1,2-Dichloroethene	ND		ND		ND		19	U	11	J	47	U	17	U
Ethylbenzene	ND		ND		ND		19	U	2.0	J	6.0	J	17	U
Isopropylbenzene	ND		ND		ND		19	U	4.0	J	47	U	17	U
Methylcyclohexane	ND		ND		ND		19	U	12	J	47	U	17	U
Methylene Chloride	ND		ND		ND		3.0	J	2.0	J	9.0	J	2.0	J
Tetrachloroethene	ND		ND		ND		19	U	40	J	47	U	17	U
Toluene	ND		ND		ND		19	U	7700	*	7.0	J	17	U
Total Xylenes	ND		ND		ND		19	U	14	J	29	J	17	U
trans-1,2-Dichloroethene	ND		ND		ND		19	U	13	U	47	U	17	U
Trichloroethene	ND		ND		ND		19	U	13	U	47	U	17	U
Vinyl Chloride	ND		ND		ND		19	U	5.0	J	47	U	17	U
Semivolatile Organic Analysis (UG/KG)														
1,1'-Biphenyl	1100	UJ	330	J	860	U	6100	U	2800	U	1200	UJ	2700	U
2,4-Dimethylphenol	1100	UJ	1100	U	860	U	6100	U	2800	U	1200	UJ	2700	U
2-Methylnaphthalene	1100	UJ	1200		860	U	1000	J	16000		1200	UJ	2700	U
Acenaphthene	1100	UJ	1800		860	U	4700	J	2800	U	1200	UJ	530	J
Acenaphthylene	1100	UJ	1100	U	190	J	6100	U	2800	U	1200	UJ	2700	U
Anthracene	1100	UJ	6300		180	J	11000		1600	J	240	J	1100	J
Benzaldehyde	1100	UJ	1100	U	860	U	6100	U	2800	U	1200	UJ	2700	U
Benzo(a)anthracene	1100	UJ	15000	*	1200		16000		5200		580	J	2600	J
Benzo(a)pyrene	1100	UJ	8500	*	1200		14000		6300		530	J	2600	J
Benzo(b)fluoranthene	1100	UJ	7500	*	1300		13000		7500		520	J	3500	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed; ND Not Detected (aqueous samples, see Appendix A)

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TABLE 4-3 (continued)
ANALYTICAL RESULTS - DETECTED COMPOUNDS IN DRAIN RESIDUE SAMPLES
GOULD ISLAND BUILDING 32
NAVAL STATION NEWPORT
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Sample Number	G32-DR-10		G32-DR-11		G32-DUP4		G32-DR-12		G32-DR-13		G32-DR-14		G32-DUP3	
Date Sampled	4/26/00		4/26/00		4/26/00		4/24/00		4/25/00		4/25/00		4/24/00	
QC Identifier	Field Dup. G32-DR-10		None		Field Dup. G32-DR-10		None		None		None		Field Dup. G32-DR-02	
Matrix	Drain		Drain		Drain		Drain		Drain		Drain		Drain	
Percent Solids	AQ Sample		AQ Sample		AQ Sample		55.9		61.1		28.5		65.3	
Benzo(g,h,i)perylene	1100	UJ	1900		630	J	3700	J	3000		250	J	2700	U
Benzo(k)fluoranthene	1100	UJ	9000	*	1300		13000		5100		480	J	3800	
bis(2-Ethylhexyl)phthalate	1100	UJ	1100	U	860	U	780	J	1100	J	1200	UJ	2700	U
Carbazole	1100	UJ	3200		860	U	4900	J	2800	U	1200	UJ	540	J
Chrysene	1100	UJ	15000	*	1300		15000		6700		650	J	3400	
Di-n-Butylphthalate	1100	UJ	1100	U	860	U	6100	U	300	J	1200	UJ	520	J
Dibenzo(a,h)anthracene	1100	UJ	1300		310	J	2300	J	1300	J	120	J	2700	U
Dibenzofuran	1100	UJ	2400		860	U	3400	J	2800	U	1200	UJ	360	J
Fluoranthene	120	J	43000	*	1400		46000		12000		1400	J	7700	
Fluorene	1100	UJ	1600		860	U	5500	J	1400	J	1200	UJ	530	J
Indeno(1,2,3-cd)pyrene	1100	UJ	2300		640	J	4000	J	3000		240	J	2700	U
Naphthalene	1100	UJ	3600		860	U	1200	J	2800	U	1200	UJ	2700	U
Phenanthrene	1100	UJ	35000	*	490	J	44000		13000		1000	J	5700	
Pyrene	110	J	33000	*	1100		33000		12000		1200	J	4700	
Pesticide/PCB Analysis (UG/KG)														
4,4'-DDD	11	UJ	11	U	8.7	U	5.9	U	5.3	U	12	UJ	5.4	U
4,4'-DDE	11	UJ	11	U	8.7	U	18		5.3	U	12	UJ	32	J
4,4'-DDT	11	UJ	11	U	8.7	U	34		5.3	U	24	J	55	J
alpha-Chlordane	5.7	UJ	5.3	U	4.3	U	3.0	U	2.6	U	5.9	UJ	2.7	U
Aroclor-1248	110	UJ	110	U	87	U	59	U	53	U	120	UJ	54	U
Aroclor-1254	110	UJ	110	U	87	U	270	J	2300		120	UJ	830	J
Aroclor-1260	110	UJ	110	U	87	U	59	U	53	U	260	J	500	J
Dieldrin	11	UJ	11	U	8.7	U	5.9	U	5.3	U	12	UJ	8.3	J
Endosulfan II	11	UJ	11	U	8.7	U	5.9	U	5.3	U	12	UJ	5.4	U
gamma-Chlordane	5.7	UJ	5.3	U	4.3	U	3.0	U	2.6	U	5.9	UJ	2.7	U
Gasoline Range Organic Analysis (MG/KG)														
Gasoline Range Organics	ND		ND		ND		0.522		57		0.936	J	0.477	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed; ND Not Detected (aqueous samples, see Appendix A)

DRAFT FINAL

TABLE 4-3 (continued)
ANALYTICAL RESULTS - DETECTED COMPOUNDS IN DRAIN RESIDUE SAMPLES
GOULD ISLAND BUILDING 32
NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND
PAGE 6 OF 6

Sample Number	G32-DR-10		G32-DR-11		G32-DUP4		G32-DR-12		G32-DR-13		G32-DR-14		G32-DUP3	
Date Sampled	4/26/00		4/26/00		4/26/00		4/24/00		4/25/00		4/25/00		4/24/00	
QC Identifier	Field Dup. G32-DR-10		None		Field Dup. G32-DR-10		None		None		None		Field Dup. G32-DR-02	
Matrix	Drain		Drain		Drain		Drain		Drain		Drain		Drain	
Percent Solids	AQ Sample		AQ Sample		AQ Sample		55.9		61.1		28.5		65.3	
Diesel Range Organic Analysis (MG/KG)														
Diesel Range Organics	123	J	1490		130	J	3600		25900		277	J	10600	J
TAL Metal Analysis (MG/KG)														
Aluminum	5520	J	943		3540		1770	J	2510		1180	J	5970	J
Antimony	13.7	J		R	1.2	UJ		R	26.5	J		R		R
Arsenic	24.9	J	36.0	J	3.2	J	21.1	J	11.0	J	14.3	J	23.7	J
Barium	194	J	120	J	64.5		857	J	108	J	1340	J	1130	J
Beryllium	0.67	UJ	0.18	U	0.43	U	0.11	U	0.21	U	0.32	UJ	0.19	U
Cadmium	67.1	J	39.3	J	30.2	J	46.0	J	16.6	J	73.4	J	64.2	J
Calcium	106000	J	3970	J	52100	J	19400	J	12100	J	18700	J	9090	J
Chromium	133	J	206	J	23.8	J	159		49.5	J	197	J	222	
Cobalt	50.1	J	30.3	J	20.4		18.4	J	11.4	J	21.8	J	25.6	J
Copper	904	J	601	J	299	J	973	J	436	J	322	J	2940	
Cyanide		R	1.5	UJ	1.2	UJ	0.89	U	1.0	J		R	1.6	
Iron	170000	J	605000	J	36900	J	213000		102000	J	250000	J	278000	
Lead	911	J	1300	J	249	J	4300		12700	J	2670	J	7720	
Magnesium	5520	J	3050		3430		2310		1370		31200	J	2010	
Manganese	1160	J	2100	J	582	J	1040		263	J	1360	J	1250	
Mercury	0.22	J	0.38		0.48		0.69	J	0.61		2.6	J	1.8	J
Nickel	132	J	236		44.5		167	J	76.1		228	J	528	J
Potassium	560	J		R	347		826	J	590	J	1110	J	2170	J
Selenium		R	12.2		2.0	UJ	1.4	UJ	1.4	J	3.7	J	1.8	J
Silver	2.8	J	3.4		0.86		2.4		2.6		7.6	J	2.8	
Sodium	203	UJ	794		390		737	J	367		1100	J	3790	J
Thallium		R	2.2	U	1.8	U	1.3	J	1.2	U		R	1.1	UJ
Vanadium	60.8	J	5.2	J	25.2	J	11.4	J	8.5	J	13.9	J	10.0	J
Zinc	8230	J	3610	J	4050	J	2790		1030	J	2200	J	93800	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed; ND Not Detected (aqueous samples, see Appendix A)

DRAFT FINAL

SS-08	
ANALYTE	RESULT
BENZENE	13 U
TRICHLOROETHENE	13 UJ
1,1'BIPHENYL	130 J
BENZO(A)ANTHRACENE	5300 *
BENZO(A)PYRENE	4800 *
BENZO(B)FLUORANTHENE	4000 *
BENZO(K)FLUORANTHENE	4500 *
DIBENZO(A,H)ANTHRACENE	810
INDENO(1,2,3-CD)PYRENE	1500
4,4-DDT	6.6
AROCLOR-1254	43 U
DRO	94.2 J
ARSENIC	2.8 U
CADMIUM	1.7
CHROMIUM	12.1
COPPER	26.6
CYANIDE	0.62 U
LEAD	112
NICKEL	13.1
ZINC	43.6

SS-05	
ANALYTE	RESULT
BENZENE	11 U
TRICHLOROETHENE	11 U
1,1'BIPHENYL	360 U
BENZO(A)ANTHRACENE	88 J
BENZO(A)PYRENE	85 J
BENZO(B)FLUORANTHENE	110 J
BENZO(K)FLUORANTHENE	78 J
DIBENZO(A,H)ANTHRACENE	360 U
INDENO(1,2,3-CD)PYRENE	56 J
4,4-DDT	5.5
AROCLOR-1254	37 U
DRO	364
ARSENIC	3.5 U
CADMIUM	2.6 J
CHROMIUM	14.1 J
COPPER	94 J
CYANIDE	0.54 U
LEAD	292
NICKEL	13.4 J
ZINC	231

SS-06	
ANALYTE	RESULT
BENZENE	2 J
TRICHLOROETHENE	14 U
1,1'BIPHENYL	400 U
BENZO(A)ANTHRACENE	600
BENZO(A)PYRENE	860 J
BENZO(B)FLUORANTHENE	1500 J
BENZO(K)FLUORANTHENE	1200 J
DIBENZO(A,H)ANTHRACENE	200 J
INDENO(1,2,3-CD)PYRENE	410 J
4,4-DDT	5.4
AROCLOR-1254	42 U
DRO	553
ARSENIC	9.6
CADMIUM	8.1 J
CHROMIUM	48.2 J
COPPER	287 J
CYANIDE	0.6 U
LEAD	1950
NICKEL	47.8 J
ZINC	1310

SS-07		
ANALYTE	RESULT	DUP. RESULT
BENZENE	18 U	14 U
TRICHLOROETHENE	18 U	14 U
1,1'BIPHENYL	320 J	65 J
BENZO(A)ANTHRACENE	22000 *J	12000 *J
BENZO(A)PYRENE	19000 *J	9800 *J
BENZO(B)FLUORANTHENE	18000 *J	10000 *J
BENZO(K)FLUORANTHENE	17000 *J	9300 *J
DIBENZO(A,H)ANTHRACENE	6800 *J	2900 *J
INDENO(1,2,3-CD)PYRENE	12000 *J	5900 *J
4,4-DDT	6 U	5.3 U
AROCLOR-1254	5800 *	4000 *
DRO	734	558
ARSENIC	16.4	13.9
CADMIUM	51.8 J	38.1 J
CHROMIUM	86.7 J	79.8 J
COPPER	121 J	112 J
CYANIDE	0.81 U	1.6
LEAD	2710	3140
NICKEL	44.7 J	33.3 J
ZINC	4990	4430

SS-04	
ANALYTE	RESULT
BENZENE	9 U
TRICHLOROETHENE	9 U
1,1'BIPHENYL	130 J
BENZO(A)ANTHRACENE	8500 *
BENZO(A)PYRENE	8100 *
BENZO(B)FLUORANTHENE	6900 *
BENZO(K)FLUORANTHENE	6400 *
DIBENZO(A,H)ANTHRACENE	1600
INDENO(1,2,3-CD)PYRENE	2700
4,4-DDT	17
AROCLOR-1254	39 U
DRO	371
ARSENIC	16.8
CADMIUM	1.4 J
CHROMIUM	21.3 J
COPPER	36.3 J
CYANIDE	0.59 U
LEAD	106
NICKEL	24.6 J
ZINC	205

SS-01	
ANALYTE	RESULT
BENZENE	28 U
TRICHLOROETHENE	28 U
1,1'BIPHENYL	680 U
BENZO(A)ANTHRACENE	410 J
BENZO(A)PYRENE	390 J
BENZO(B)FLUORANTHENE	450 J
BENZO(K)FLUORANTHENE	360 J
DIBENZO(A,H)ANTHRACENE	88 J
INDENO(1,2,3-CD)PYRENE	140 J
4,4-DDT	6.9 U
AROCLOR-1254	69 U
DRO	123
ARSENIC	1.9 UJ
CADMIUM	2.3
CHROMIUM	7.4
COPPER	27.8
CYANIDE	0.94 U
LEAD	35.8
NICKEL	9.2
ZINC	60.2

SS-03	
ANALYTE	RESULT
BENZENE	47 U
TRICHLOROETHENE	47 U
1,1'BIPHENYL	1200 U
BENZO(A)ANTHRACENE	4100
BENZO(A)PYRENE	3500
BENZO(B)FLUORANTHENE	3700
BENZO(K)FLUORANTHENE	3400
DIBENZO(A,H)ANTHRACENE	720 J
INDENO(1,2,3-CD)PYRENE	1300
4,4-DDT	12 P
AROCLOR-1254	120 U
DRO	490
ARSENIC	6.6 J
CADMIUM	511 J
CHROMIUM	86.8 J
COPPER	146 J
CYANIDE	2.6 J
LEAD	337 J
NICKEL	64.3 J
ZINC	2140 J

SS-02	
ANALYTE	RESULT
BENZENE	26 U
TRICHLOROETHENE	26 U
1,1'BIPHENYL	460 U
BENZO(A)ANTHRACENE	690
BENZO(A)PYRENE	630
BENZO(B)FLUORANTHENE	770
BENZO(K)FLUORANTHENE	680
DIBENZO(A,H)ANTHRACENE	130 J
INDENO(1,2,3-CD)PYRENE	270 J
4,4-DDT	6.2 P
AROCLOR-1254	110
DRO	410
ARSENIC	5.9
CADMIUM	9.9
CHROMIUM	67.3
COPPER	413
CYANIDE	0.68 U
LEAD	225
NICKEL	23.5
ZINC	129

GRAPHIC SCALE

30' 0' 30' 60'

1 INCH = 30 FEET

NOTES:

1. ALL RESULTS ARE EXPRESSED AS FOLLOWS: DRO, METALS: MG/KG ALL OTHERS: UG/KG
2. ALL LOCATIONS ARE TO BE CONSIDERED APPROXIMATE.
3. PLAN NOT TO BE USED FOR DESIGN.
4. DRAWING ENTITLED "GEOTECHNICAL SURVEY PLAN AT FORMER BUILDING 44 AND BUILDING 32, US NAVAL BASE ON GOULD ISLAND, NEWPORT, RHODE ISLAND FOR BROWN & ROOT ENVIRONMENTAL", BY LOUIS FEDERICI & ASSOCIATED, DATED 9/8/97, DRAWING NO. 970706-03.
5. RESULTS QUALIFIERS ARE DESCRIBED IN TEXT AND APPENDICES.

LEGEND:

● SURFACE SOIL

SS-02 TETRA TECH SAMPLE STATION I.D.

VALUE EXCEEDS RIDEM INDUSTRIAL/COMMERCIAL DIRECT EXPOSURE CRITERIA

US NAVY BENCH MARK H-2

DRAWN BY: D.W. MACDOUGALL	TITLE: SELECTED COMPOUNDS IN SURFACE SOIL GOULD ISLAND, BUILDING 32 NEWPORT, RHODE ISLAND
PREPARED BY: K. O'NEILL	
CHECKED BY: S. PARKER	SOURCE: BASE PLAN BY SEE NOTE 4.
PROJECT MANAGER: S. PARKER	SCALE: 1" = 30' / DATE: NOVEMBER 28, 2000 / PROJ. NO: 7574
PROGRAM MANAGER: J. TREPANOWSKI	DRAWING NO: 4-1 / ACFILE NAME: DWG\7574\1083\FIG_4-1.DWG / REV: 0

TETRA TECH NUS, INC.
55 JONSPIN ROAD
WILMINGTON, MASSACHUSETTS 01887
(978)658-7899

CO-04	
ANALYTE	RESULT
BENZENE	18 U
TRICHLOROETHENE	18 U
1,1'BIPHENYL	370 U
BENZO(A)ANTHRACENE	56 J
BENZO(A)PYRENE	43 J
BENZO(B)FLUORANTHENE	50 J
BENZO(K)FLUORANTHENE	54 J
DIBENZO(A,H)ANTHRACENE	370 U
INDENO(1,2,3-CD)PYRENE	28 J
4,4-DDT	5.4
AROCLOR-1254	34 U
DRO	44.1
ARSENIC	3.5 UJ
CADMIUM	8.2 J
CHROMIUM	16.9
COPPER	38.6 J
CYANIDE	0.52 U
LEAD	183 J
NICKEL	11.2 J
ZINC	83.7 J

CO-06	
ANALYTE	RESULT
BENZENE	11 U
TRICHLOROETHENE	11 U
1,1'BIPHENYL	43 J
BENZO(A)ANTHRACENE	51 J
BENZO(A)PYRENE	57 J
BENZO(B)FLUORANTHENE	55 J
BENZO(K)FLUORANTHENE	54 J
DIBENZO(A,H)ANTHRACENE	360 U
INDENO(1,2,3-CD)PYRENE	360 U
4,4-DDT	3.6 U
AROCLOR-1254	36 U
DRO	310
ARSENIC	6.3 J
CADMIUM	20.2 J
CHROMIUM	15.8
COPPER	1060 J
CYANIDE	0.52 U
LEAD	246 J
NICKEL	22.9 J
ZINC	687 J

CO-01	
ANALYTE	RESULT
BENZENE	2 J
TRICHLOROETHENE	3 J
1,1'BIPHENYL	17000 U
BENZO(A)ANTHRACENE	4000 J
BENZO(A)PYRENE	3500 J
BENZO(B)FLUORANTHENE	3800 J
BENZO(K)FLUORANTHENE	3600 J
DIBENZO(A,H)ANTHRACENE	17000 U
INDENO(1,2,3-CD)PYRENE	17000 U
4,4-DDT	22 U
AROCLOR-1254	220 U
DRO	17900
ARSENIC	1.6 UJ
CADMIUM	451 J
CHROMIUM	48.1
COPPER	840 J
CYANIDE	23.8
LEAD	598 J
NICKEL	369 J
ZINC	521 J

CO-02	
ANALYTE	RESULT
BENZENE	15 U
TRICHLOROETHENE	15 U
1,1'BIPHENYL	11000 U
BENZO(A)ANTHRACENE	11000 U
BENZO(A)PYRENE	11000 U
BENZO(B)FLUORANTHENE	11000 U
BENZO(K)FLUORANTHENE	11000 U
DIBENZO(A,H)ANTHRACENE	11000 U
INDENO(1,2,3-CD)PYRENE	11000 U
4,4-DDT	24 U
AROCLOR-1254	240 U
DRO	21800
ARSENIC	3.3 UJ
CADMIUM	40.1 J
CHROMIUM	2720
COPPER	699 J
CYANIDE	0.53 U
LEAD	536 J
NICKEL	44.4 J
ZINC	293 J

CO-05		
ANALYTE	RESULT	DUP. RESULT
BENZENE	14 U	14 U
TRICHLOROETHENE	14 U	14 U
1,1'BIPHENYL	370 U	370 U
BENZO(A)ANTHRACENE	39 J	80 J
BENZO(A)PYRENE	370 U	73 J
BENZO(B)FLUORANTHENE	33 J	85 J
BENZO(K)FLUORANTHENE	37	81 J
DIBENZO(A,H)ANTHRACENE	370 U	370 U
INDENO(1,2,3-CD)PYRENE	370 U	33 J
4,4-DDT	7.2	4.9
AROCLOR-1254	320 J	36 UJ
DRO	14.1 J	70.8 J
ARSENIC	3.8 J	3.3 UJ
CADMIUM	18.4 J	10.7 J
CHROMIUM	15.1	19.9
COPPER	12.4 J	53.1 J
CYANIDE	0.53 U	0.52 U
LEAD	40.5 J	275 J
NICKEL	12 J	12.8 J
ZINC	810 J	115 J

CO-07	
ANALYTE	RESULT
BENZENE	12 U
TRICHLOROETHENE	12 U
1,1'BIPHENYL	360 U
BENZO(A)ANTHRACENE	55 J
BENZO(A)PYRENE	54 J
BENZO(B)FLUORANTHENE	49 J
BENZO(K)FLUORANTHENE	47 J
DIBENZO(A,H)ANTHRACENE	360 U
INDENO(1,2,3-CD)PYRENE	360 U
4,4-DDT	4.1
AROCLOR-1254	37 U
DRO	71.2
ARSENIC	2.9 J
CADMIUM	2.9 UJ
CHROMIUM	20.2
COPPER	102 J
CYANIDE	0.54 U
LEAD	245 J
NICKEL	12.6 J
ZINC	339 J

CO-08	
ANALYTE	RESULT
BENZENE	15 U
TRICHLOROETHENE	15 U
1,1'BIPHENYL	11000 U
BENZO(A)ANTHRACENE	11000 U
BENZO(A)PYRENE	11000 U
BENZO(B)FLUORANTHENE	11000 U
BENZO(K)FLUORANTHENE	11000 U
DIBENZO(A,H)ANTHRACENE	11000 U
INDENO(1,2,3-CD)PYRENE	11000 UJ
4,4-DDT	22 U
AROCLOR-1254	220 U
DRO	2420
ARSENIC	2.5 J
CADMIUM	4.9 J
CHROMIUM	16.8
COPPER	45.4 J
CYANIDE	0.54 U
LEAD	377 J
NICKEL	15.3 J
ZINC	366 J

CO-03	
ANALYTE	RESULT
BENZENE	19 U
TRICHLOROETHENE	19 U
1,1'BIPHENYL	11000 U
BENZO(A)ANTHRACENE	11000 U
BENZO(A)PYRENE	11000 U
BENZO(B)FLUORANTHENE	11000 U
BENZO(K)FLUORANTHENE	11000 U
DIBENZO(A,H)ANTHRACENE	11000 U
INDENO(1,2,3-CD)PYRENE	11000 U
4,4-DDT	22 U
AROCLOR-1254	220 U
DRO	13300
ARSENIC	7.6 J
CADMIUM	482 J
CHROMIUM	70.1 J
COPPER	275 J
CYANIDE	2.9
LEAD	850 J
NICKEL	87.8 J
ZINC	513 J

GRAPHIC SCALE

30' 0' 30' 60'

1 INCH = 30 FEET

NOTES:

1. ALL RESULTS ARE EXPRESSED AS FOLLOWS: DRO, METALS: MG/KG
   ALL OTHERS: UG/KG
2. ALL LOCATIONS ARE TO BE CONSIDERED APPROXIMATE.
3. PLAN NOT TO BE USED FOR DESIGN.
4. DRAWING ENTITLED "GEOTECHNICAL SURVEY PLAN AT FORMER BUILDING 44 AND BUILDING 32, US NAVAL BASE ON GOULD ISLAND, NEWPORT, RHODE ISLAND FOR BROWN & ROOT ENVIRONMENTAL", BY LOUIS FEDERICI & ASSOCIATED, DATED 9/8/97, DRAWING NO. 970706-03.
5. RESULTS QUALIFIERS ARE DESCRIBED IN TEXT AND APPENDICES.

LEGEND:

CONCRETE SAMPLE STATION

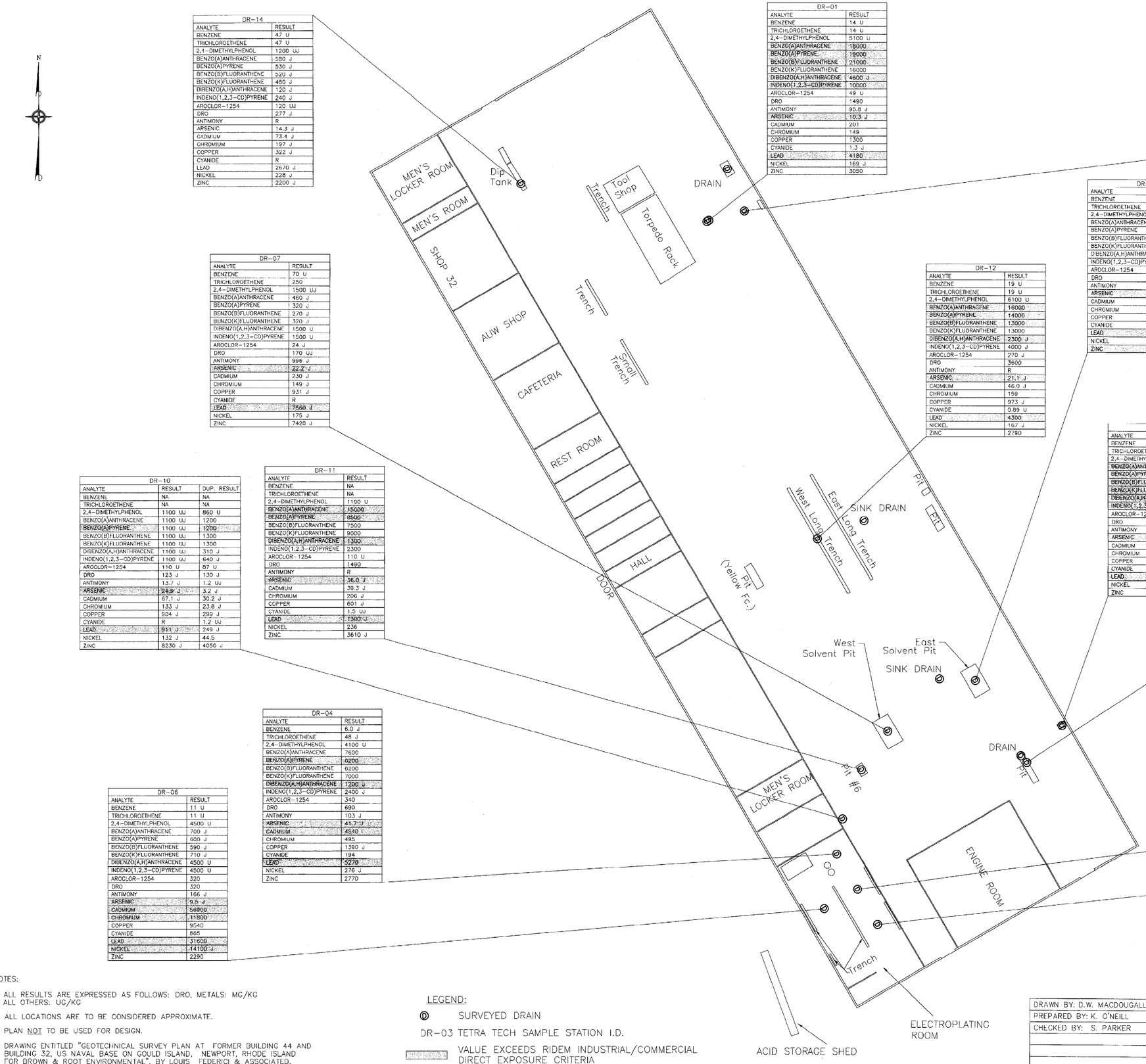
CO-08 TETRA TECH SAMPLE STATION I.D.

VALUE EXCEEDS RIDEM INDUSTRIAL/COMMERCIAL DIRECT EXPOSURE CRITERIA

US NAVY BENCH MARK H-2 (SEE NOTE #2)

DRAWN BY: D.W. MACDOUGALL	TITLE: SELECTED COMPOUNDS IN CONCRETE SAMPLES GOULD ISLAND, BUILDING 32 NEWPORT, RHODE ISLAND
PREPARED BY: K. O'NEILL	SOURCE: BASE PLAN BY SEE NOTE 4.
CHECKED BY: S. PARKER	SCALE: 1" = 30' / DATE: NOVEMBER 28, 2000 / PROJ. NO: 7574
PROJECT MANAGER: S. PARKER	DRAWING NO: 4-2 / ACFILE NAME: DWG\7574\1083\FIG_4-2.DWG / REV: 0
PROGRAM MANAGER: J. TREPANOWSKI	

TETRA TECH NUS, INC.
55 JONSPIN ROAD
WILMINGTON, MASSACHUSETTS 01887
(978)658-7899



DR-14	
ANALYTE	RESULT
BENZENE	47 U
TRICHLOROETHENE	47 U
2,4-DIMETHYLPHENOL	1200 UJ
BENZO(A)ANTHRACENE	580 J
BENZO(A)PYRENE	530 J
BENZO(B)FLUORANTHENE	520 J
BENZO(K)FLUORANTHENE	480 J
DIBENZO(A,H)ANTHRACENE	120 J
INDENO(1,2,3-CD)PYRENE	240 J
AROCLOR-1254	120 UJ
DRO	277 J
ANTIMONY	R
ARSENIC	14.3 J
CADMIUM	73.4 J
CHROMIUM	197 J
COPPER	322 J
CYANIDE	R
LEAD	2670 J
NICKEL	228 J
ZINC	2200 J

DR-01	
ANALYTE	RESULT
BENZENE	14 U
TRICHLOROETHENE	14 U
2,4-DIMETHYLPHENOL	5100 U
BENZO(A)ANTHRACENE	18000
BENZO(A)PYRENE	19000
BENZO(B)FLUORANTHENE	21000
BENZO(K)FLUORANTHENE	16000
DIBENZO(A,H)ANTHRACENE	4600 J
INDENO(1,2,3-CD)PYRENE	10000
AROCLOR-1254	49 U
DRO	1490
ANTIMONY	95.8 J
ARSENIC	103 J
CADMIUM	201
CHROMIUM	149
COPPER	1300
CYANIDE	1.3 J
LEAD	4180
NICKEL	169 J
ZINC	3050

DR-13	
ANALYTE	RESULT
BENZENE	13 U
TRICHLOROETHENE	13 U
2,4-DIMETHYLPHENOL	2800 U
BENZO(A)ANTHRACENE	5200
BENZO(A)PYRENE	6300
BENZO(B)FLUORANTHENE	7500
BENZO(K)FLUORANTHENE	5100
DIBENZO(A,H)ANTHRACENE	1300 J
INDENO(1,2,3-CD)PYRENE	3000
AROCLOR-1254	2300
DRO	25900
ANTIMONY	26.5 J
ARSENIC	11.0 J
CADMIUM	16.6 J
CHROMIUM	49.5 J
COPPER	436 J
CYANIDE	1.0 J
LEAD	12700 J
NICKEL	76.1
ZINC	1030 J

DR-08	
ANALYTE	RESULT
BENZENE	34 U
TRICHLOROETHENE	69
2,4-DIMETHYLPHENOL	1200 UJ
BENZO(A)ANTHRACENE	1200 UJ
BENZO(A)PYRENE	1200 UJ
BENZO(B)FLUORANTHENE	1200 UJ
BENZO(K)FLUORANTHENE	1200 UJ
DIBENZO(A,H)ANTHRACENE	1200 UJ
INDENO(1,2,3-CD)PYRENE	1200 UJ
AROCLOR-1254	120 UJ
DRO	98.5 J
ANTIMONY	R
ARSENIC	29.8 J
CADMIUM	106 J
CHROMIUM	103 J
COPPER	1680 J
CYANIDE	R
LEAD	2410 J
NICKEL	142 J
ZINC	11600 J

DR-12	
ANALYTE	RESULT
BENZENE	19 U
TRICHLOROETHENE	19 U
2,4-DIMETHYLPHENOL	6100 U
BENZO(A)ANTHRACENE	16000
BENZO(A)PYRENE	14000
BENZO(B)FLUORANTHENE	13000
BENZO(K)FLUORANTHENE	13000
DIBENZO(A,H)ANTHRACENE	2300 J
INDENO(1,2,3-CD)PYRENE	4000 J
AROCLOR-1254	270 J
DRO	3600
ANTIMONY	R
ARSENIC	21.1 J
CADMIUM	46.0 J
CHROMIUM	159
COPPER	973 J
CYANIDE	0.89 U
LEAD	4300
NICKEL	167 J
ZINC	2790

DR-07	
ANALYTE	RESULT
BENZENE	70 U
TRICHLOROETHENE	250
2,4-DIMETHYLPHENOL	1500 UJ
BENZO(A)ANTHRACENE	460 J
BENZO(A)PYRENE	320 J
BENZO(B)FLUORANTHENE	270 J
BENZO(K)FLUORANTHENE	320 J
DIBENZO(A,H)ANTHRACENE	1500 U
INDENO(1,2,3-CD)PYRENE	1500 U
AROCLOR-1254	24 J
DRO	170 UJ
ANTIMONY	996 J
ARSENIC	22.2 J
CADMIUM	230 J
CHROMIUM	149 J
COPPER	931 J
CYANIDE	R
LEAD	7560 J
NICKEL	175 J
ZINC	7420 J

DR-09	
ANALYTE	RESULT
BENZENE	140 U
TRICHLOROETHENE	140 U
2,4-DIMETHYLPHENOL	1300 J
BENZO(A)ANTHRACENE	620000 J
BENZO(A)PYRENE	490000 J
BENZO(B)FLUORANTHENE	370000 J
BENZO(K)FLUORANTHENE	400000 J
DIBENZO(A,H)ANTHRACENE	38000 J
INDENO(1,2,3-CD)PYRENE	180000 J
AROCLOR-1254	320 UJ
DRO	12900 J
ANTIMONY	R
ARSENIC	10.5 J
CADMIUM	73.6 J
CHROMIUM	226 J
COPPER	2160 J
CYANIDE	R
LEAD	2500 J
NICKEL	980 J
ZINC	1670 J

DR-02		
ANALYTE	RESULT	DUP. RESULT
BENZENE	18 U	17 U
TRICHLOROETHENE	18 U	17 U
2,4-DIMETHYLPHENOL	2800 U	2700 U
BENZO(A)ANTHRACENE	2900 J	2600 J
BENZO(A)PYRENE	3200 J	2600 J
BENZO(B)FLUORANTHENE	4000 J	3500
BENZO(K)FLUORANTHENE	3300 J	3800
DIBENZO(A,H)ANTHRACENE	5800 U	2700 U
INDENO(1,2,3-CD)PYRENE	770 J	2700 U
AROCLOR-1254	1400 J	830 J
DRO	17900 J	10600 J
ANTIMONY	18.5 J	23.7 J
ARSENIC	18.5 J	23.7 J
CADMIUM	95.2 J	64.2 J
CHROMIUM	219	222
COPPER	2320	2940
CYANIDE	1.6	1.6
LEAD	7590	7720
NICKEL	285 J	528 J
ZINC	62900	93800

DR-10		
ANALYTE	RESULT	DUP. RESULT
BENZENE	NA	NA
TRICHLOROETHENE	NA	NA
2,4-DIMETHYLPHENOL	1100 UJ	860 U
BENZO(A)ANTHRACENE	1100 UJ	1200
BENZO(A)PYRENE	1100 UJ	1200
BENZO(B)FLUORANTHENE	1100 UJ	1300
BENZO(K)FLUORANTHENE	1100 UJ	1300
DIBENZO(A,H)ANTHRACENE	1100 UJ	310 J
INDENO(1,2,3-CD)PYRENE	1100 UJ	640 J
AROCLOR-1254	110 U	87 U
DRO	123 J	130 J
ANTIMONY	13.7 J	1.2 UJ
ARSENIC	24.9 J	3.2 J
CADMIUM	67.1 J	30.2 J
CHROMIUM	133 J	23.8 J
COPPER	904 J	299 J
CYANIDE	R	1.2 UJ
LEAD	911 J	249 J
NICKEL	132 J	44.5
ZINC	8230 J	4050 J

DR-11	
ANALYTE	RESULT
BENZENE	NA
TRICHLOROETHENE	NA
2,4-DIMETHYLPHENOL	1100 U
BENZO(A)ANTHRACENE	15000
BENZO(A)PYRENE	8500
BENZO(B)FLUORANTHENE	7500
BENZO(K)FLUORANTHENE	9000
DIBENZO(A,H)ANTHRACENE	1300
INDENO(1,2,3-CD)PYRENE	2300
AROCLOR-1254	110 U
DRO	1490
ANTIMONY	R
ARSENIC	36.0 J
CADMIUM	39.3 J
CHROMIUM	206 J
COPPER	601 J
CYANIDE	1.5 UJ
LEAD	1300 J
NICKEL	236
ZINC	3610 J

DR-05	
ANALYTE	RESULT
BENZENE	16 U
TRICHLOROETHENE	16 U
2,4-DIMETHYLPHENOL	5300 U
BENZO(A)ANTHRACENE	220,000
BENZO(A)PYRENE	150,000
BENZO(B)FLUORANTHENE	150,000
BENZO(K)FLUORANTHENE	140,000
DIBENZO(A,H)ANTHRACENE	17000
INDENO(1,2,3-CD)PYRENE	32000
AROCLOR-1254	55 U
DRO	7720
ANTIMONY	2100
ARSENIC	40.4 J
CADMIUM	435 J
CHROMIUM	600
COPPER	1050 J
CYANIDE	16.9
LEAD	24100
NICKEL	607 J
ZINC	13700

DR-03	
ANALYTE	RESULT
BENZENE	3.0 J
TRICHLOROETHENE	5.0 J
2,4-DIMETHYLPHENOL	6100 U
BENZO(A)ANTHRACENE	19000
BENZO(A)PYRENE	17000
BENZO(B)FLUORANTHENE	17000
BENZO(K)FLUORANTHENE	16000
DIBENZO(A,H)ANTHRACENE	2900 J
INDENO(1,2,3-CD)PYRENE	5100 J
AROCLOR-1254	150
DRO	1350
ANTIMONY	29.8 J
ARSENIC	29.8 J
CADMIUM	1140
CHROMIUM	1480
COPPER	24700
CYANIDE	16.3
LEAD	28500
NICKEL	1420 J
ZINC	12100

DR-04	
ANALYTE	RESULT
BENZENE	6.0 J
TRICHLOROETHENE	48 J
2,4-DIMETHYLPHENOL	4100 U
BENZO(A)ANTHRACENE	7600
BENZO(A)PYRENE	6200
BENZO(B)FLUORANTHENE	6200
BENZO(K)FLUORANTHENE	7000
DIBENZO(A,H)ANTHRACENE	1200 J
INDENO(1,2,3-CD)PYRENE	2400 J
AROCLOR-1254	340
DRO	690
ANTIMONY	103 J
ARSENIC	41.7 J
CADMIUM	4540
CHROMIUM	495
COPPER	1390 J
CYANIDE	194
LEAD	5270
NICKEL	276 J
ZINC	2770

DR-06	
ANALYTE	RESULT
BENZENE	11 U
TRICHLOROETHENE	11 U
2,4-DIMETHYLPHENOL	4500 U
BENZO(A)ANTHRACENE	700 J
BENZO(A)PYRENE	600 J
BENZO(B)FLUORANTHENE	590 J
BENZO(K)FLUORANTHENE	710 J
DIBENZO(A,H)ANTHRACENE	4500 U
INDENO(1,2,3-CD)PYRENE	4500 U
AROCLOR-1254	320
DRO	320
ANTIMONY	166 J
ARSENIC	9.5 J
CADMIUM	56900
CHROMIUM	11800
COPPER	9540
CYANIDE	865
LEAD	31600
NICKEL	14100 J
ZINC	2290

NOTES:

1. ALL RESULTS ARE EXPRESSED AS FOLLOWS: DRO, METALS: MG/KG
   ALL OTHERS: UG/KG
2. ALL LOCATIONS ARE TO BE CONSIDERED APPROXIMATE.
3. PLAN NOT TO BE USED FOR DESIGN.
4. DRAWING ENTITLED "GEOTECHNICAL SURVEY PLAN AT FORMER BUILDING 44 AND BUILDING 32, US NAVAL BASE ON GOULD ISLAND, NEWPORT, RHODE ISLAND FOR BROWN & ROOT ENVIRONMENTAL", BY LOUIS FEDERICI & ASSOCIATED, DATED 9/8/97, DRAWING NO. 970706-03.
5. RESULTS QUALIFIERS ARE DESCRIBED IN TEXT AND APPENDICES.

LEGEND:

SURVEYED DRAIN

DR-03 TETRA TECH SAMPLE STATION I.D.

VALUE EXCEEDS RIDEM INDUSTRIAL/COMMERCIAL DIRECT EXPOSURE CRITERIA

GRAPHIC SCALE

30' 0' 30' 60'

1 INCH = 30 FEET

DRAWN BY: D.W. MACDOUGALL	TITLE: SELECTED COMPOUNDS DRAIN RESIDUE GOULD ISLAND, BUILDING 32 NEWPORT, RHODE ISLAND
PREPARED BY: K. O'NEILL	
CHECKED BY: S. PARKER	SOURCE: BASE PLAN BY SEE NOTE 4.
	SCALE: 1" = 30' / DATE: NOVEMBER 28, 2000 / PROJ. NO: 7574
PROJECT MANAGER: S. PARKER	DRAWING NO: 4-3 / ACFILE NAME: DWG\7574\1083\FIG_4-3.DWG / REV: 0
PROGRAM MANAGER: J. TREPANOWSKI	

TETRA TECH NUS, INC.
55 JONSPIN ROAD
WILMINGTON, MASSACHUSETTS 01887
(978)658-7899

5.0 RECOMMENDATIONS FOR FURTHER INVESTIGATIONS

After assessing the data collected during these tasks the following recommendations are made for consideration while completing the RI work plan for Building 32.

1. Install shallow borings within the footprint of the building with continuous sampling at one foot intervals to determine the presence of TCE, TPH and Napthalene in the soils based on the presence of these compounds in soil gas.

2. Finish these borings as overburden groundwater monitoring wells, to determine the presence of TCE, TPH and Napthalene in the groundwater based on the presence of these compounds in soil gas.

3. Because of the identification of cyanide and other metals in drains located in the electroplating shop, marine sediment samples should be collected for a full suite of possible contaminants.

In addition, as a part of building demolition, the underground utilities will require cleaning and removal. As these utilities are located and cleaned out, outfalls should be identified for future soil, sediment and/or groundwater sample collection. Samples at outfalls should be collected for a full suite of possible contaminants. Specific approaches that will be taken to abandon underground utilities will be developed as part of future demolition or investigation work plans.

The removal of Building 32 is anticipated to be complete by 2001. This will greatly facilitate the conduct of the remedial investigation, as subsurface soils will be accessible and removal of subsurface utilities will have already identified the outfall locations of drains.

A draft of the Remedial Investigation Report is anticipated in October 2004.

APPENDIX A

CHEMICAL DATA COLLECTED APRIL 2000

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	90.2		94		97.8		96.4		95		96.5	
Volatile Organic Analysis (UG/KG)												
1,1,1-Trichloroethane	12	U	15	U	19	U	18	U	14	U	14	U
1,1,2,2-Tetrachloroethane	12	U	15	U	19	U	18	U	14	U	14	U
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	15	U	19	U	18	U	14	U	14	U
1,1,2-Trichloroethane	12	U	15	U	19	U	18	U	14	U	14	U
1,1-Dichloroethane	12	U	15	U	19	U	18	U	14	U	14	U
1,1-Dichloroethene	12	U	15	U	19	U	18	U	14	U	14	U
1,2,4-Trichlorobenzene	12	U	15	U	19	U	18	U	14	U	14	U
1,2-Dibromo-3-chloropropane	12	U	15	U	19	U	18	U	14	U	14	U
1,2-Dibromoethane	12	U	15	U	19	U	18	U	14	U	14	U
1,2-Dichlorobenzene	12	U	15	U	19	U	18	U	14	U	14	U
1,2-Dichloroethane	12	U	15	U	19	U	18	U	14	U	14	U
1,2-Dichloropropane	12	U	15	U	19	U	18	U	14	U	14	U
1,3-Dichlorobenzene	12	U	15	U	19	U	18	U	14	U	14	U
1,4-Dichlorobenzene	12	U	15	U	19	U	18	U	14	U	14	U
2-Butanone	38		17		19	U	6.0	J	14	U	14	U
2-Hexanone	14		15	U	19	U	18	U	14	U	14	U
4-Methyl-2-Pentanone	9.0	J	15	U	19	U	5.0	J	14	U	14	U
Acetone	67	J	40	J	24	J	27	J	21	J	23	J
Benzene	2.0	J	15	U	19	U	18	U	14	U	14	U
Bromodichloromethane	12	U	15	U	19	U	18	U	14	U	14	U
Bromoform	12	U	15	U	19	U	18	U	14	U	14	U
Bromomethane	12	U	15	U	19	U	18	U	14	U	14	U
Carbon Disulfide	5.0	J	3.0	J	19	U	18	U	14	U	14	U
Carbon Tetrachloride	12	U	15	U	19	U	18	U	14	U	14	U
Chlorobenzene	12	U	15	U	19	U	18	U	14	U	14	U
Chloroethane	12	U	15	U	19	U	18	U	14	U	14	U
Chloroform	12	U	15	U	19	U	18	U	14	U	14	U
Chloromethane	12	U	15	U	19	U	18	U	14	U	14	U
cis-1,2-Dichloroethene	12	U	15	U	19	U	18	U	14	U	14	U
cis-1,3-Dichloropropene	12	U	15	U	19	U	18	U	14	U	14	U
Cyclohexane	12	U	15	U	19	U	18	U	14	U	14	U
Dibromochloromethane	12	U	15	U	19	U	18	U	14	U	14	U
Dichlorodifluoromethane	12	U	15	U	19	U	18	U	14	U	14	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	90.2		94		97.8		96.4		95		96.5	
Ethylbenzene	2.0	J	15	U	19	U	18	U	14	U	14	U
Isopropylbenzene	12	U	15	U	6.0	J	18	U	14	U	14	U
Methyl Acetate	12	U	15	U	19	U	18	U	14	U	14	U
Methyl tert-Butyl Ether	12	U	15	U	19	U	18	U	14	U	14	U
Methylcyclohexane	12	U	15	U	19	U	18	U	14	U	14	U
Methylene Chloride	12	U	15	U	19	U	18	U	14	U	14	U
Styrene	12	U	15	U	19	U	18	U	14	U	14	U
Tetrachloroethene	12	U	15	U	19	U	18	U	14	U	14	U
Toluene	7.0	J	2.0	J	19	U	18	U	14	U	14	U
Total Xylenes	11	J	4.0	J	9.0	J	18	U	14	U	14	U
trans-1,2-Dichloroethene	12	U	15	U	19	U	18	U	14	U	14	U
trans-1,3-Dichloropropene	12	U	15	U	19	U	18	U	14	U	14	U
Trichloroethene	3.0	J	15	U	19	U	18	U	14	U	14	U
Trichlorofluoromethane	12	U	15	U	19	U	18	U	14	U	14	U
Vinyl Chloride	12	U	15	U	19	U	18	U	14	U	14	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	90.2		94		97.8		96.4		95		96.5	
Semivolatile Organic Analysis (UG/KG)												
1,1'-Biphenyl	17000	U	11000	U	11000	U	370	U	370	U	370	U
2,2'-oxybis(1-Chloropropane)	17000	U	11000	U	11000	U	370	U	370	U	370	U
2,4,5-Trichlorophenol	43000	U	27000	U	27000	U		R		R		R
2,4,6-Trichlorophenol	17000	U	11000	U	11000	U		R		R		R
2,4-Dichlorophenol	17000	U	11000	U	11000	U		R		R		R
2,4-Dimethylphenol	17000	U	11000	U	11000	U		R		R		R
2,4-Dinitrophenol	43000	UJ	27000	U	27000	UJ		R		R		R
2,4-Dinitrotoluene	17000	U	11000	U	11000	U	370	U	370	U	370	U
2,6-Dinitrotoluene	17000	U	11000	U	11000	U	370	U	370	U	370	U
2-Chloronaphthalene	17000	U	11000	U	11000	U	370	U	370	U	370	U
2-Chlorophenol	17000	U	11000	U	11000	U		R		R		R
2-Methylnaphthalene	17000	U	11000	UJ	11000	U	370	U	370	U	370	U
2-Methylphenol	17000	U	11000	U	11000	U		R		R		R
2-Nitroaniline	43000	U	27000	U	27000	U	920	U	930	U	930	U
2-Nitrophenol	17000	U	11000	U	11000	U		R		R		R
3,3'-Dichlorobenzidine	17000	U	11000	U	11000	U	370	U	370	U	370	U
3-Nitroaniline	43000	U	27000	U	27000	U	920	U	930	U	930	U
4,6-Dinitro-2-methylphenol	43000	UJ	27000	U		R		R		R		R
4-Bromophenyl-phenylether	17000	U	11000	U	11000	U	370	U	370	U	370	U
4-Chloro-3-methylphenol	17000	U	11000	U	11000	U		R		R		R
4-Chloroaniline	17000	U	11000	U	11000	U	370	U	370	U	370	U
4-Chlorophenyl-phenylether	17000	U	11000	U	11000	U	370	U	370	U	370	U
4-Methylphenol	17000	U	11000	U	11000	U		R		R		R
4-Nitroaniline	43000	U	27000	U	27000	U	920	U	930	U	930	U
4-Nitrophenol	43000	U	27000	U	27000	U		R		R		R
Acenaphthene	17000	U	11000	U	11000	U	370	U	370	U	370	U
Acenaphthylene	17000	U	11000	U	11000	U	370	U	370	U	370	U
Acetophenone	17000	U	11000	U	11000	U	370	U	370	U	370	U
Anthracene	17000	U	11000	U	11000	U	370	U	370	U	31	J
Atrazine	17000	U	11000	U	11000	U	370	U	370	U	370	U
Benzaldehyde	17000	U	11000	U	11000	U	370	U	370	U	370	U
Benzo(a)anthracene	4000	J	11000	U	11000	U	56	J	39	J	80	J
Benzo(a)pyrene	3500	J	11000	U	11000	U	43	J	370	U	73	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	90.2		94		97.8		96.4		95		96.5	
Benzo(b)fluoranthene	3800	J	11000	U	11000	U	50	J	33	J	85	J
Benzo(g,h,i)perylene	17000	UJ	11000	U	11000	UJ	31	J	16	J	36	J
Benzo(k)fluoranthene	3600	J	11000	U	11000	U	54	J	37	J	81	J
Bis(2-Chloroethoxy)methane	17000	U	11000	U	11000	U	370	U	370	U	370	U
Bis(2-Chloroethyl)ether	17000	U	11000	U	11000	U	370	U	370	U	370	U
bis(2-Ethylhexyl)phthalate	17000	U	11000	U	11000	U	370	U	38	J	29	J
Butylbenzylphthalate	17000	U	11000	U	11000	U	370	U	370	U	370	U
Caprolactam	17000	U	11000	U	11000	U	370	U	370	U	370	U
Carbazole	17000	U	11000	U	11000	U	370	U	370	U	370	U
Chrysene	4300	J	11000	U	11000	U	71	J	52	J	110	J
Di-n-Butylphthalate	17000	U	11000	U	11000	U	34	J	370	U	54	J
Di-n-octylphthalate	17000	U	11000	U	11000	U	370	U	370	U	370	U
Dibenzo(a,h)anthracene	17000	U	11000	U	11000	U	370	U	370	U	370	U
Dibenzofuran	17000	U	11000	U	11000	U	370	U	370	U	370	U
Diethylphthalate	17000	U	11000	U	11000	U	370	U	370	U	370	U
Dimethylphthalate	17000	U	11000	U	11000	U	370	U	370	U	370	U
Fluoranthene	9100	J	11000	U	920	J	130	J	100	J	210	J
Fluorene	17000	U	11000	U	11000	U	370	U	370	U	370	U
Hexachlorobenzene	17000	U	11000	U	11000	U	370	U	370	U	370	U
Hexachlorobutadiene	17000	UJ	11000	UJ	11000	UJ	370	UJ	370	UJ	370	UJ
Hexachlorocyclopentadiene	17000	UJ	11000	UJ	11000	UJ	370	U	370	U	370	U
Hexachloroethane	17000	U	11000	U	11000	U	370	U	370	U	370	U
Indeno(1,2,3-cd)pyrene	17000	U	11000	U	11000	U	28	J	370	U	33	J
Isophorone	17000	U	11000	U	11000	U	370	U	370	U	370	U
N-Nitroso-di-n-propylamine	17000	U	11000	U	11000	U	370	U	370	U	370	U
N-Nitroso-diphenylamine	17000	U	11000	U	11000	U	370	U	370	U	370	U
Naphthalene	17000	U	11000	U	11000	U	370	U	370	U	370	U
Nitrobenzene	17000	U	11000	U	11000	U	370	U	370	U	370	U
Pentachlorophenol	43000	UJ	27000	UJ		R		R		R		R
Phenanthrene	3700	J	11000	U	11000	U	98	J	56	J	160	J
Phenol	17000	U	11000	U	11000	U		R		R		R
Pyrene	7600	J	11000	U	1200	J	110	J	80	J	160	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	90.2		94		97.8		96.4		95		96.5	
Pesticide/PCB Analysis (UG/KG)												
4,4'-DDD	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
4,4'-DDE	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
4,4'-DDT	22	U	24	U	22	U	5.4		7.2		4.9	
Aldrin	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
alpha-BHC	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
alpha-Chlordane	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
Aroclor-1016	220	U	240	U	220	U	34	U	37	U	36	U
Aroclor-1221	450	U	470	U	440	U	69	U	74	U	72	U
Aroclor-1232	220	U	240	U	220	U	34	U	37	U	36	U
Aroclor-1242	220	U	240	U	220	U	34	U	37	U	36	U
Aroclor-1248	220	U	240	U	220	U	34	U	37	U	36	U
Aroclor-1254	220	U	240	U	220	U	34	U	320	J	36	UJ
Aroclor-1260	220	U	240	U	220	U	34	U	37	U	36	U
beta-BHC	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
delta-BHC	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
Dieldrin	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
Endosulfan I	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
Endosulfan II	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
Endosulfan Sulfate	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
Endrin	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
Endrin Aldehyde	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
Endrin Ketone	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
gamma-BHC	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
gamma-Chlordane	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
Heptachlor	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
Heptachlor Epoxide	11	U	12	U	11	U	1.7	U	2.3	J	1.8	UJ
Methoxychlor	110	U	120	U	110	U	17	U	19	U	18	U
Toxaphene	1100	U	1200	U	1100	U	170	U	190	U	180	U
Gasoline Range Organic Analysis (MG/KG)												
Gasoline Range Organics	0.354		0.28	U	0.528		0.22	U	0.27	UJ	0.27	U
Diesel Range Organic Analysis (MG/KG)												
Diesel Range Organics	17900		21800		13300		44.1		14.1	J	70.8	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	90.2		94		97.8		96.4		95		96.5	
TAL Metal Analysis (MG/KG)												
TAL Metal Analysis (SU)												
Aluminum	3070		3310		3590		8580		9280		8250	
Antimony	7.7	J	6.4	J	11.4	J	0.52	UJ	0.53	UJ	0.52	UJ
Arsenic	1.6	UJ	3.3	UJ	7.6	J	3.5	UJ	3.8	J	3.3	UJ
Barium	225		76.0		326		181		96.4		202	
Beryllium	0.20	U	0.13	U	0.13	UJ	0.42	U	0.42	U	0.38	U
Cadmium	451	J	40.1	J	482	J	8.2	J	18.4	J	10.7	J
Calcium	4980		3680		13400		50000		52100		48700	
Chromium	48.1		2720		70.1	J	16.9		15.1		19.9	
Cobalt	4.0		3.7		7.5		5.7		5.9		6.2	
Copper	840	J	699	J	275	J	38.6	J	12.4	J	53.1	J
Cyanide	23.8		0.53	U	2.9		0.52	U	0.53	U	0.52	U
Iron	15900		15200		63500		17700		16300		19400	
Lead	598	J	526	J	650	J	183	J	40.5	J	275	J
Magnesium	1670		1630		1630		3870		3700		4040	
Manganese	198	J	192	J	423	J	305	J	301	J	288	J
Mercury	0.09	UJ	0.16		0.06	UJ	0.02	U	0.02	U	0.02	UJ
Nickel	369	J	44.4	J	87.8	J	11.2	J	12.0	J	12.8	J
pH	9.2		9.2		11.5		12.1		12.0		11.9	
Potassium	794		987		867	J	2470		1160		2520	
Selenium	0.84	U	0.81	U		R	1.2	J	1.6	J	1.8	J
Silver	1.9		2.1		0.51	J	4.1		0.62		1.5	
Sodium	650		878		394	UJ	1680		79.7	U	1800	
Thallium	0.82	UJ	0.79	UJ	1.4	UJ	0.77	UJ	2.5	UJ	0.77	UJ
Vanadium	40.4		54.3		50.0		11.1		12.3		10.6	
Zinc	521	J	293	J	513	J	83.7	J	810	J	115	J

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN	
Date Sampled	4/26/00		4/27/00		4/27/00	
QC Identifier	None		None		None	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	96.3		93.4		93.2	
Volatile Organic Analysis (UG/KG)						
1,1,1-Trichloroethane	11	U	12	U	15	U
1,1,2,2-Tetrachloroethane	11	U	12	U	15	U
1,1,2-Trichloro-1,2,2-trifluoroethane	11	U	12	U	15	U
1,1,2-Trichloroethane	11	U	12	U	15	U
1,1-Dichloroethane	11	U	12	U	15	U
1,1-Dichloroethene	11	U	12	U	15	U
1,2,4-Trichlorobenzene	11	U	12	U	15	U
1,2-Dibromo-3-chloropropane	11	U	12	U	15	U
1,2-Dibromoethane	11	U	12	U	15	U
1,2-Dichlorobenzene	11	U	12	U	15	U
1,2-Dichloroethane	11	U	12	U	15	U
1,2-Dichloropropane	11	U	12	U	15	U
1,3-Dichlorobenzene	11	U	12	U	15	U
1,4-Dichlorobenzene	11	U	12	U	15	U
2-Butanone	11	UJ	12	UJ	20	J
2-Hexanone	11	UJ	12	UJ	15	UJ
4-Methyl-2-Pentanone	11	U	12	U	15	U
Acetone	31	J	24	J	53	J
Benzene	11	U	12	U	15	U
Bromodichloromethane	11	U	12	U	15	U
Bromoform	11	U	12	U	15	U
Bromomethane	11	U	12	U	15	U
Carbon Disulfide	11	U	12	U	15	U
Carbon Tetrachloride	11	U	12	U	15	U
Chlorobenzene	11	U	12	U	15	U
Chloroethane	11	U	12	U	15	U
Chloroform	11	U	12	U	15	U
Chloromethane	11	U	12	U	15	U
cis-1,2-Dichloroethene	11	U	12	U	15	U
cis-1,3-Dichloropropene	11	U	12	U	15	U
Cyclohexane	11	U	12	U	15	U
Dibromochloromethane	11	U	12	U	15	U
Dichlorodifluoromethane	11	U	12	U	15	U

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN	
Date Sampled	4/26/00		4/27/00		4/27/00	
QC Identifier	None		None		None	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	96.3		93.4		93.2	
Ethylbenzene	11	U	12	U	2.0	J
Isopropylbenzene	11	U	12	U	15	U
Methyl Acetate	11	U	12	U	15	U
Methyl tert-Butyl Ether	11	U	12	U	15	U
Methylcyclohexane	11	U	12	U	2.0	J
Methylene Chloride	8.0	J	4.0	J	6.0	J
Styrene	11	U	12	U	15	U
Tetrachloroethene	11	U	12	U	15	U
Toluene	11	U	12	U	7.0	J
Total Xylenes	11	U	3.0	J	10	J
trans-1,2-Dichloroethene	11	U	12	U	15	U
trans-1,3-Dichloropropene	11	U	12	U	15	U
Trichloroethene	11	U	12	U	15	U
Trichlorofluoromethane	11	U	12	U	15	U
Vinyl Chloride	11	U	12	U	15	U

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN	
Date Sampled	4/26/00		4/27/00		4/27/00	
QC Identifier	None		None		None	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	96.3		93.4		93.2	
Semivolatile Organic Analysis (UG/KG)						
1,1'-Biphenyl	43	J	360	U	11000	U
2,2'-oxybis(1-Chloropropane)	360	U	360	U	11000	U
2,4,5-Trichlorophenol		R		R	27000	U
2,4,6-Trichlorophenol		R		R	11000	U
2,4-Dichlorophenol		R		R	11000	U
2,4-Dimethylphenol		R		R	11000	U
2,4-Dinitrophenol		R		R	27000	U
2,4-Dinitrotoluene	360	U	360	U	11000	U
2,6-Dinitrotoluene	360	U	360	U	11000	U
2-Chloronaphthalene	360	U	360	U	11000	U
2-Chlorophenol		R		R	11000	U
2-Methylnaphthalene	150	J	360	U	11000	U
2-Methylphenol		R		R	11000	U
2-Nitroaniline	900	U	900	U	27000	U
2-Nitrophenol		R		R	11000	U
3,3'-Dichlorobenzidine	360	U	360	U	11000	U
3-Nitroaniline	900	U	900	U	27000	U
4,6-Dinitro-2-methylphenol		R		R	27000	U
4-Bromophenyl-phenylether	360	U	360	U	11000	U
4-Chloro-3-methylphenol		R		R	11000	U
4-Chloroaniline	360	U	360	U	11000	UJ
4-Chlorophenyl-phenylether	360	UJ	360	UJ	11000	UJ
4-Methylphenol		R		R	11000	U
4-Nitroaniline	900	U	900	U	27000	U
4-Nitrophenol		R		R	27000	U
Acenaphthene	360	U	360	U	11000	U
Acenaphthylene	360	U	360	U	11000	U
Acetophenone	360	U	360	U	11000	U
Anthracene	360	U	360	U	11000	U
Atrazine	360	U	360	U	11000	U
Benzaldehyde	360	U	360	U	11000	U
Benzo(a)anthracene	51	J	55	J	11000	U
Benzo(a)pyrene	57	J	54	J	11000	U

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN	
Date Sampled	4/26/00		4/27/00		4/27/00	
QC Identifier	None		None		None	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	96.3		93.4		93.2	
Benzo(b)fluoranthene	55	J	49	J	11000	U
Benzo(g,h,i)perylene	360	U	360	U	11000	UJ
Benzo(k)fluoranthene	54	J	47	J	11000	U
Bis(2-Chloroethoxy)methane	360	U	360	U	11000	U
Bis(2-Chloroethyl)ether	360	U	360	U	11000	U
bis(2-Ethylhexyl)phthalate	360	U	360	U	11000	U
Butylbenzylphthalate	360	U	360	U	11000	U
Caprolactam	360	U	360	U	11000	U
Carbazole	360	U	360	U	11000	U
Chrysene	72	J	67	J	11000	U
Di-n-Butylphthalate	41	J	17000	D	11000	U
Di-n-octylphthalate	360	U	360	U	11000	U
Dibenzo(a,h)anthracene	360	U	360	U	11000	U
Dibenzofuran	360	U	360	U	11000	U
Diethylphthalate	360	U	360	U	11000	U
Dimethylphthalate	360	U	360	U	11000	U
Fluoranthene	130	J	130		11000	U
Fluorene	360	U	360	U	11000	U
Hexachlorobenzene	360	U	360	U	11000	U
Hexachlorobutadiene	360	UJ	360	UJ	11000	UJ
Hexachlorocyclopentadiene	360	UJ	360	UJ	11000	UJ
Hexachloroethane	360	U	360	U	11000	U
Indeno(1,2,3-cd)pyrene	360	U	360	U	11000	UJ
Isophorone	360	U	360	U	11000	U
N-Nitroso-di-n-propylamine	360	U	360	U	11000	U
N-Nitroso-diphenylamine	360	U	56	J	11000	U
Naphthalene	360	U	360	U	11000	U
Nitrobenzene	360	U	360	U	11000	U
Pentachlorophenol		R		R	27000	U
Phenanthrene	88	J	85	J	11000	U
Phenol		R		R	11000	U
Pyrene	91	J	110	J	11000	U

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN	
Date Sampled	4/26/00		4/27/00		4/27/00	
QC Identifier	None		None		None	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	96.3		93.4		93.2	
Pesticide/PCB Analysis (UG/KG)						
4,4'-DDD	3.6	U	3.7	U	22	U
4,4'-DDE	3.6	U	3.7	U	22	U
4,4'-DDT	3.6	U	4.1		22	U
Aldrin	1.8	U	1.8	U	11	U
alpha-BHC	1.8	U	1.8	U	11	U
alpha-Chlordane	1.8	U	1.8	U	11	U
Aroclor-1016	36	U	37	U	220	U
Aroclor-1221	73	U	73	U	430	U
Aroclor-1232	36	U	37	U	220	U
Aroclor-1242	36	U	37	U	220	U
Aroclor-1248	36	U	37	U	220	U
Aroclor-1254	36	U	37	U	220	U
Aroclor-1260	36	U	37	U	220	U
beta-BHC	1.8	U	1.8	U	11	U
delta-BHC	1.8	U	1.8	U	11	U
Dieldrin	3.6	U	3.7	U	22	U
Endosulfan I	1.8	U	1.8	U	11	U
Endosulfan II	3.6	U	3.7	U	22	U
Endosulfan Sulfate	3.6	U	3.7	U	22	U
Endrin	3.6	U	3.7	U	22	U
Endrin Aldehyde	3.6	U	3.7	U	22	U
Endrin Ketone	3.6	U	3.7	U	22	U
gamma-BHC	1.8	U	1.8	U	11	U
gamma-Chlordane	1.8	U	1.8	U	11	U
Heptachlor	1.8	U	1.8	U	11	U
Heptachlor Epoxide	1.8	U	1.8	U	11	U
Methoxychlor	18	U	18	U	110	U
Toxaphene	180	U	180	U	1100	U
Gasoline Range Organic Analysis (MG/KG)						
Gasoline Range Organics	0.21	U	0.23	U	0.25	U
Diesel Range Organic Analysis (MG/KG)						
Diesel Range Organics	310		71.2		2420	

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN	
Date Sampled	4/26/00		4/27/00		4/27/00	
QC Identifier	None		None		None	
Matrix	Concrete Dust		Concrete Dust		Concrete Dust	
Percent Solids	96.3		93.4		93.2	
TAL Metal Analysis (MG/KG)						
TAL Metal Analysis (SU)						
Aluminum	6880		7860		3400	
Antimony		R	2.1	UJ	3.6	UJ
Arsenic	6.3	J	2.9	J	2.5	J
Barium	90.8	J	282		211	
Beryllium	0.44	U	0.46	U	0.25	U
Cadmium	20.2	J	2.9	UJ	4.9	J
Calcium	49400		69800		11300	
Chromium	15.8		20.2		16.8	
Cobalt	5.6	J	5.4	J	3.9	
Copper	1060	J	102	J	45.4	J
Cyanide	0.52	U	0.54	U	0.54	U
Iron	21000		16700		11200	
Lead	246	J	245	J	377	J
Magnesium	2850		3500		1650	
Manganese	301	J	279	J	196	J
Mercury	0.07	U	0.05	U	0.08	U
Nickel	22.9	J	12.6	J	15.3	J
pH	12.4		11.8		11.6	
Potassium	2230	J	1690	J	585	
Selenium	0.79	UJ	0.81	UJ	0.82	UJ
Silver	0.58		0.63		0.91	
Sodium	1340		426		177	U
Thallium	0.77	UJ	0.79	UJ	0.79	UJ
Vanadium	12.4	J	10.1	J	38.3	
Zinc	687	J	339	J	366	J

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-01		G32-DR-02		G32-DUP3		G32-DR-03		G32-DR-04		G32-DR-05		G32-DR-06		G32-DR-07	
Date Sampled	4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/25/00	
QC Identifier	None		Field Dup. G32-DR-02		Field Dup. G32-DR-02		None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain		Drain		Drain		Drain	
Percent Solids	66.5		59.5		65.3		58.6		81.9		62.2		75.9		21.1	
Volatile Organic Analysis (UG/KG)																
1,1,1-Trichloroethane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,1,2,2-Tetrachloroethane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,1,2-Trichloro-1,2,2-trifluoroethane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,1,2-Trichloroethane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,1-Dichloroethane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,1-Dichloroethene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,2,4-Trichlorobenzene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,2-Dibromo-3-chloropropane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,2-Dibromoethane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,2-Dichlorobenzene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,2-Dichloroethane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,2-Dichloropropane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,3-Dichlorobenzene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
1,4-Dichlorobenzene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
2-Butanone	14	U	70		79		33		37	J	26	J	11	U	70	UJ
2-Hexanone	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
4-Methyl-2-Pentanone	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Acetone	97	J	290	J	260	J	170	J	110	J	170	J	38	J	210	J
Benzene	14	U	18	U	17	U	3.0	J	6.0	J	16	U	11	U	70	U
Bromodichloromethane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Bromoform	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Bromomethane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Carbon Disulfide	14	U	18	U	17	U	18	U	11	UJ	3.0	J	11	U	150	
Carbon Tetrachloride	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Chlorobenzene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Chloroethane	14	U	6.0	J	7.0	J	18	U	11	UJ	4.0	J	11	U	70	U
Chloroform	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Chloromethane	14	U	21		25		18	U	11	UJ	7.0	J	11	U	70	U
cis-1,2-Dichloroethene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	11	J
cis-1,3-Dichloropropene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Cyclohexane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Dibromochloromethane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Dichlorodifluoromethane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-01		G32-DR-02		G32-DUP3		G32-DR-03		G32-DR-04		G32-DR-05		G32-DR-06		G32-DR-07	
Date Sampled	4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/25/00	
QC Identifier	None		Field Dup. G32-DR-02		Field Dup. G32-DR-02		None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain		Drain		Drain		Drain	
Percent Solids	66.5		59.5		65.3		58.6		81.9		62.2		75.9		21.1	
Ethylbenzene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Isopropylbenzene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Methyl Acetate	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Methyl tert-Butyl Ether	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Methylcyclohexane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Methylene Chloride	3.0	J	2.0	J	2.0	J	18	U	11	UJ	6.0	J	2.0	J	12	J
Styrene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Tetrachloroethene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Toluene	14	U	18	U	17	U	2.0	J	1.0	J	16	U	11	U	70	U
Total Xylenes	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
trans-1,2-Dichloroethene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
trans-1,3-Dichloropropene	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Trichloroethene	14	U	18	U	17	U	5.0	J	48	J	16	U	11	U	250	
Trichlorofluoromethane	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U
Vinyl Chloride	14	U	18	U	17	U	18	U	11	UJ	16	U	11	U	70	U

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-01		G32-DR-02		G32-DUP3		G32-DR-03		G32-DR-04		G32-DR-05		G32-DR-06		G32-DR-07	
Date Sampled	4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/25/00	
QC Identifier	None		Field Dup. G32-DR-02		Field Dup. G32-DR-02		None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain		Drain		Drain		Drain	
Percent Solids	66.5		59.5		65.3		58.6		81.9		62.2		75.9		21.1	
Semivolatile Organic Analysis (UG/KG)																
1,1'-Biphenyl	5100	U	5800	U	2700	U	6100	U	4100	U	820	J	4500	U	1500	UJ
2,2'-oxybis(1-Chloropropane)	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
2,4,5-Trichlorophenol	13000	U	15000	U	6800	UJ	15000	U	10000	UJ	13000	U	11000	UJ	3900	UJ
2,4,6-Trichlorophenol	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
2,4-Dichlorophenol	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
2,4-Dimethylphenol	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
2,4-Dinitrophenol	13000	U	15000	U	6800	U	15000	U	10000	U	13000	U	11000	U	3900	UJ
2,4-Dinitrotoluene	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
2,6-Dinitrotoluene	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
2-Chloronaphthalene	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
2-Chlorophenol	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
2-Methylnaphthalene	5100	U	5800	U	2700	U	1300	J	4100	U	2400	J	4500	U	1500	UJ
2-Methylphenol	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
2-Nitroaniline	13000	U	15000	U	6800	U	15000	U	10000	U	13000	U	11000	U	3900	UJ
2-Nitrophenol	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
3,3'-Dichlorobenzidine	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
3-Nitroaniline	13000	U	15000	U	6800	U	15000	U	10000	U	13000	U	33000	U	3900	UJ
4,6-Dinitro-2-methylphenol	13000	U	15000	U	6800	U	15000	U	10000	U	13000	U	11000	U	3900	UJ
4-Bromophenyl-phenylether	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
4-Chloro-3-methylphenol	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
4-Chloroaniline	5100	UJ	5800	UJ	2700	UJ	6100	UJ	4100	U	5300	UJ	4500	U	1500	UJ
4-Chlorophenyl-phenylether	5100	UJ	5800	UJ	2700	UJ	6100	UJ	4100	UJ	5300	UJ	4500	UJ	1500	UJ
4-Methylphenol	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
4-Nitroaniline	13000	U	15000	U	6800	U	15000	U	10000	U	13000	U	33000	U	3900	UJ
4-Nitrophenol	13000	U	15000	U	6800	U	15000	U	10000	U	13000	U	11000	U	3900	UJ
Acenaphthene	3100	J	5800	U	530	J	6200		750	J	9700		4500	U	1500	UJ
Acenaphthylene	5100	U	5800	U	2700	U	6100	U	4100	U	1800	J	4500	U	1500	UJ
Acetophenone	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Anthracene	6000		1000	J	1100	J	10000		2200	J	57000	*	4500	U	170	J
Atrazine	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Benzaldehyde	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	1700	J	1500	UJ
Benzo(a)anthracene	18000		2900	J	2600	J	19000		7600		220000	*	700	J	460	J
Benzo(a)pyrene	19000		3200	J	2600	J	17000		6200		150000	*	600	J	320	J

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-01		G32-DR-02		G32-DUP3		G32-DR-03		G32-DR-04		G32-DR-05		G32-DR-06		G32-DR-07	
Date Sampled	4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/25/00	
QC Identifier	None		Field Dup. G32-DR-02		Field Dup. G32-DR-02		None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain		Drain		Drain		Drain	
Percent Solids	66.5		59.5		65.3		58.6		81.9		62.2		75.9		21.1	
Benzo(b)fluoranthene	21000		4000	J	3500		17000		6200		150000	*	590	J	270	J
Benzo(g,h,i)perylene	9700		720	J	2700	U	5500	J	2300	J	27000		4500	U	1500	UJ
Benzo(k)fluoranthene	16000		3300	J	3800		16000		7000		140000	*	710	J	320	J
Bis(2-Chloroethoxy)methane	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Bis(2-Chloroethyl)ether	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
bis(2-Ethylhexyl)phthalate	7900		5800	U	2700	U	3900	*	520	J	5300	U	160000	*	1500	UJ
Butylbenzylphthalate	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Caprolactam	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Carbazole	5200		590	J	540	J	6100		1400	J	36000		4500	U	1500	UJ
Chrysene	20000		4100	J	3400		20000		8300		230000	*	1100	J	480	J
Di-n-Butylphthalate	1100	J	5800	U	520	J	6500		4100	U	5300	U	4500	U	1500	UJ
Di-n-octylphthalate	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Dibenzo(a,h)anthracene	4600	J	5800	U	2700	U	2900	J	1200	J	17000		4500	U	1500	UJ
Dibenzofuran	1400	J	5800	U	360	J	2800	J	540	J	9800		4500	U	1500	UJ
Diethylphthalate	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Dimethylphthalate	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Fluoranthene	51000	D	7600		7700		53000	*	22000		550000	*	1700	J	1200	J
Fluorene	2100	J	5800	U	530	J	4600	J	680	J	12000		4500	U	1500	UJ
Hexachlorobenzene	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Hexachlorobutadiene	5100	UJ	5800	UJ	2700	UJ	6100	UJ	4100	UJ	5300	UJ	4500	UJ	1500	UJ
Hexachlorocyclopentadiene	5100	UJ	5800	UJ	2700	UJ	6100	UJ	4100	UJ	5300	UJ	4500	UJ	1500	UJ
Hexachloroethane	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Indeno(1,2,3-cd)pyrene	10000		770	J	2700	U	5100	J	2400	J	32000		4500	U	1500	UJ
Isophorone	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
N-Nitroso-di-n-propylamine	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
N-Nitroso-diphenylamine	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Naphthalene	1000	J	5800	U	2700	U	2600	J	770	J	4100	J	4500	U	1500	UJ
Nitrobenzene	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Pentachlorophenol	13000	U	15000	U	6800	U	15000	U	10000	U	13000	U	11000	U	3900	UJ
Phenanthrene	34000		6000		5700		51000	*	12000		26000	*	810	J	780	J
Phenol	5100	U	5800	U	2700	U	6100	U	4100	U	5300	U	4500	U	1500	UJ
Pyrene	40000		6800		4700		45000	*	17000		470000	*	1400	J	1000	J

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-01		G32-DR-02		G32-DUP3		G32-DR-03		G32-DR-04		G32-DR-05		G32-DR-06		G32-DR-07	
Date Sampled	4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/25/00	
QC Identifier	None		Field Dup. G32-DR-02		Field Dup. G32-DR-02		None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain		Drain		Drain		Drain	
Percent Solids	*66.5*		*59.5*		*65.3*		*58.6*		*81.9*		*62.2*		*75.9*		*21.1*	
Pesticide/PCB Analysis (UG/KG)																
4,4'-DDD	4.9	U	5.9	U	5.4	U	5.7	U	8.9		5.5	U	18		17	UJ
4,4'-DDE	260	*	61	J	32	J	13		30		5.5	U	43		17	UJ
4,4'-DDT	200	*	230	*J	55	J	72		82	*	5.5	U	55		24	J
Aldrin	2.4	U	2.9	U	2.7	U	2.8	U	2.1	U	2.8	U	2.3	U	8.3	UJ
alpha-BHC	2.4	U	2.9	U	2.7	U	2.8	U	2.1	U	2.8	U	2.3	U	8.3	UJ
alpha-Chlordane	2.4	U	2.9	U	2.7	U	2.8	U	27	J	2.8	U	2.3	U	8.3	UJ
Aroclor-1016	49	U	59	U	54	U	57	U	43	U	55	U	46	U	170	UJ
Aroclor-1221	97	U	120	U	110	U	110	U	86	U	110	U	91	U	330	UJ
Aroclor-1232	49	U	59	U	54	U	57	U	43	U	55	U	46	U	170	UJ
Aroclor-1242	49	U	59	U	54	U	57	U	43	U	55	U	46	U	170	UJ
Aroclor-1248	1200	*	59	U	54	U	57	U	43	U	55	U	46	U	170	UJ
Aroclor-1254	49	U	1400	J	830	J	150		340		55	U	320		170	UJ
Aroclor-1260	49	U	1100	J	500	J	57	U	43	U	55	U	46	U	170	UJ
beta-BHC	2.4	U	2.9	U	2.7	U	2.8	U	2.1	U	2.8	U	2.3	U	8.3	UJ
delta-BHC	2.4	U	2.9	U	2.7	U	2.8	U	2.1	U	2.8	U	2.3	U	8.3	UJ
Dieldrin	28		17	J	8.3	J	5.7	U	4.3	U	5.5	U	8.7		17	UJ
Endosulfan I	2.4	U	2.9	U	2.7	U	2.8	U	2.1	U	2.8	U	2.3	U	8.3	UJ
Endosulfan II	4.9	U	5.9	U	5.4	U	6.0		4.3	U	5.5	U	4.6	U	17	UJ
Endosulfan Sulfate	4.9	U	5.9	U	5.4	U	5.7	U	4.3	U	5.5	U	4.6	U	17	UJ
Endrin	4.9	U	5.9	U	5.4	U	5.7	U	4.3	U	5.5	U	4.6	U	17	UJ
Endrin Aldehyde	4.9	U	5.9	U	5.4	U	5.7	U	4.3	U	5.5	U	4.6	U	17	UJ
Endrin Ketone	4.9	U	5.9	U	5.4	U	5.7	U	4.3	U	5.5	U	4.6	U	17	UJ
gamma-BHC	2.4	U	2.9	U	2.7	U	2.8	U	2.1	U	2.8	U	2.3	U	8.3	UJ
gamma-Chlordane	2.4	U	2.9	U	2.7	U	2.8	U	18	J	2.8	U	2.3	U	8.3	UJ
Heptachlor	2.4	U	2.9	U	2.7	U	2.8	U	2.1	U	2.8	U	2.3	U	8.3	UJ
Heptachlor Epoxide	2.4	U	2.9	U	2.7	U	2.8	U	2.1	UJ	2.8	U	2.3	U	8.3	UJ
Methoxychlor	24	U	30	U	27	U	28	U	21	U	28	U	23	U	84	UJ
Toxaphene	240	U	300	U	270	U	280	U	210	U	280	U	230	U	840	UJ
Gasoline Range Organic Analysis (MG/KG)																
Gasoline Range Organics	0.52		0.36	UJ	0.477	J	0.31	UJ	0.282	J	0.424		0.275		3.34	J
Diesel Range Organic Analysis (MG/KG)																
Diesel Range Organics	1490		17900	J	10600	J	1350	J	690		7720		320		35.1	J

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-01		G32-DR-02		G32-DUP3		G32-DR-03		G32-DR-04		G32-DR-05		G32-DR-06		G32-DR-07	
Date Sampled	4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/25/00	
QC Identifier	None		Field Dup. G32-DR-02		Field Dup. G32-DR-02		None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain		Drain		Drain		Drain	
Percent Solids	66.5		59.5		65.3		58.6		81.9		62.2		75.9		21.1	
TAL Metal Analysis (MG/KG)																
Aluminum	3230	J	3140	J	5970	J	1100	J	1070	J	1010	J	352	J	996	J
Antimony	95.8	J		R		R	541	J	103	J	2100		166	J	63.9	J
Arsenic	10.3	J	18.5	J	23.7	J	29.8	J	41.7	J	40.4	J	9.5	J	22.2	J
Barium	1250		1340		1130	J	1640	J	702	J	6090		419	J	1120	J
Beryllium	1.1		0.15	UJ	0.19	U	0.13	UJ	0.76	U	0.10	U	0.08	U		R
Cadmium	201		95.2	J	64.2	J	1140		4540		435	J	56900		230	J
Calcium	21500	J	15300	J	9090	J	8400	J	10200	J	7510	J	3480	J	8470	J
Chromium	149		219		222		1480		495		600		11800		149	J
Cobalt	16.9	J	17.4	J	25.6	J	36.6	J	35.6	J	48.7	J	22.5	J	17.7	J
Copper	1300		2320		2940		24700		1390	J	1050	J	9540		931	J
Cyanide	1.3	J	1.6		1.6		16.3		194		16.9		865			R
Iron	78600		199000		278000		331000		334000		377000		177000		314000	J
Lead	4180		7590		7720		28500		5270		24100		31600		7560	J
Magnesium	2340		1990		2010		1130		1530		991		328		673	J
Manganese	462		939		1250		1330		1300		1700		728		878	J
Mercury	1.1	J	0.84	J	1.8	J	2.5	J	0.56	J	0.33	J	6.7	J	0.95	J
Nickel	169	J	285	J	528	J	1420	J	276	J	607	J	14100	J	175	J
Potassium	1170	J	3060	J	2170	J		R	2270	J		R	4870	J		R
Selenium	1.1	UJ	1.3	UJ	1.8	J	2.0	J	1.9	UJ	3.1	J	1.0	UJ	5.3	J
Silver	3.3		5.7		2.8		22.1		10.4		3.4		104		3.3	J
Sodium	560	J	5840	J	3790	J	290	J	2360	J	160	UJ	7870	J	1070	J
Thallium	1.4	UJ	1.2	UJ	1.1	UJ	1.3	UJ	1.8	UJ	2.4	UJ	16.0	J		R
Vanadium	33.9	J	15.3	J	10.0	J	34.5	J	57.6		38.0	J	41.3		15.5	J
Zinc	3050		62900		93800		12100		2770		13700		2290		7420	J
pH (SU)	8.5		7.9		8.0		9.2		9.4		6.9		8.4		7.6	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-08		G32-DR-09		G32-DR-12		G32-DR-13		G32-DR-14	
Date Sampled	4/25/00		4/26/00		4/24/00		4/25/00		4/25/00	
QC Identifier	None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain	
Percent Solids	27.9		11.1		55.9		61.1		28.5	
Volatile Organic Analysis (UG/KG)										
1,1,1-Trichloroethane	34	U	140	U	19	U	13	U	47	U
1,1,2,2-Tetrachloroethane	34	U	140	U	19	U	13	U	47	U
1,1,2-Trichloro-1,2,2-trifluoroethane	34	U	140	U	19	U	13	U	47	U
1,1,2-Trichloroethane	34	U	140	U	19	U	13	U	47	U
1,1-Dichloroethane	34	U	140	U	19	U	13	U	47	U
1,1-Dichloroethene	34	U	140	U	19	U	13	U	47	U
1,2,4-Trichlorobenzene	34	U	140	U	19	U	13	U	47	U
1,2-Dibromo-3-chloropropane	34	U	140	U	19	U	13	U	47	U
1,2-Dibromoethane	34	U	140	U	19	U	13	U	47	U
1,2-Dichlorobenzene	34	U	140	U	19	U	13	U	47	U
1,2-Dichloroethane	34	U	140	U	19	U	13	U	47	U
1,2-Dichloropropane	34	U	140	U	19	U	13	U	47	U
1,3-Dichlorobenzene	34	U	140	U	19	U	13	U	47	U
1,4-Dichlorobenzene	34	U	140	U	19	U	13	U	47	U
2-Butanone	29	J	140	UJ	21		64	J	47	UJ
2-Hexanone	34	U	140	UJ	19	U	13	U	47	UJ
4-Methyl-2-Pentanone	34	U	140	U	19	U	13	U	47	U
Acetone	73	J	210	J	120	J	150	J	130	J
Benzene	34	U	140	U	19	U	13	U	47	U
Bromodichloromethane	34	U	140	U	19	U	13	U	47	U
Bromoform	34	U	140	U	19	U	13	U	47	U
Bromomethane	34	U	140	U	19	U	13	U	47	U
Carbon Disulfide	34	U	32	J	19	U	46	J	45	J
Carbon Tetrachloride	34	U	140	U	19	U	13	U	47	U
Chlorobenzene	34	U	140	U	19	U	13	U	47	U
Chloroethane	34	U	140	U	19	U	13	U	47	U
Chloroform	34	U	140	U	19	U	13	U	47	U
Chloromethane	34	U	140	U	19	U	13	U	47	U
cis-1,2-Dichloroethene	28	J	140	U	19	U	11	J	47	U
cis-1,3-Dichloropropene	34	U	140	U	19	U	13	U	47	U
Cyclohexane	34	U	140	U	19	U	13	U	47	U
Dibromochloromethane	34	U	140	U	19	U	13	U	47	U
Dichlorodifluoromethane	34	U	140	U	19	U	13	U	47	U

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-08		G32-DR-09		G32-DR-12		G32-DR-13		G32-DR-14	
Date Sampled	4/25/00		4/26/00		4/24/00		4/25/00		4/25/00	
QC Identifier	None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain	
Percent Solids	27.9		11.1		55.9		61.1		28.5	
Ethylbenzene	34	U	140	U	19	U	2.0	J	6.0	J
Isopropylbenzene	34	U	140	U	19	U	4.0	J	47	U
Methyl Acetate	35	U	140	U	19	U	13	U	47	U
Methyl tert-Butyl Ether	34	U	140	U	19	U	13	U	47	U
Methylcyclohexane	34	U	140	U	19	U	12	J	47	U
Methylene Chloride	7.0	J	150		3.0	J	2.0	J	9.0	J
Styrene	34	U	140	U	19	U	13	U	47	U
Tetrachloroethene	34	U	140	U	19	U	40	J	47	U
Toluene	34	U	140	U	19	U	7700	*	7.0	J
Total Xylenes	34	U	140	U	19	U	14	J	29	J
trans-1,2-Dichloroethene	34	J	140	U	19	U	13	U	47	U
trans-1,3-Dichloropropene	34	U	140	U	19	U	13	U	47	U
Trichloroethene	69		140	U	19	U	13	U	47	U
Trichlorofluoromethane	34	U	140	U	19	U	13	U	47	U
Vinyl Chloride	34	U	140	U	19	U	5.0	J	47	U

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-08		G32-DR-09		G32-DR-12		G32-DR-13		G32-DR-14	
Date Sampled	4/25/00		4/26/00		4/24/00		4/25/00		4/25/00	
QC Identifier	None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain	
Percent Solids	27.9		11.1		55.9		61.1		28.5	
Semivolatile Organic Analysis (UG/KG)										
1,1'-Biphenyl	1200	UJ	5200	J	6100	U	2800	U	1200	UJ
2,2'-oxybis(1-Chloropropane)	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
2,4,5-Trichlorophenol	2900	UJ	15000	UJ	15000	U	6900	UJ	2900	UJ
2,4,6-Trichlorophenol	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
2,4-Dichlorophenol	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
2,4-Dimethylphenol	1200	UJ	1300	J	6100	U	2800	U	1200	UJ
2,4-Dinitrophenol	2900	UJ	15000	UJ	15000	U	6900	U	2900	UJ
2,4-Dinitrotoluene	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
2,6-Dinitrotoluene	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
2-Chloronaphthalene	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
2-Chlorophenol	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
2-Methylnaphthalene	1200	UJ	18000	J	1000	J	16000		1200	UJ
2-Methylphenol	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
2-Nitroaniline	2900	UJ	15000	UJ	15000	U	6900	U	2900	UJ
2-Nitrophenol	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
3,3'-Dichlorobenzidine	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
3-Nitroaniline	2900	UJ	15000	UJ	15000	U	6900	U	2900	UJ
4,6-Dinitro-2-methylphenol	2900	UJ	15000	UJ	15000	U	6900	U	2900	UJ
4-Bromophenyl-phenylether	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
4-Chloro-3-methylphenol	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
4-Chloroaniline	1200	UJ	5800	UJ	6100	UJ	2800	U	1200	UJ
4-Chlorophenyl-phenylether	1200	UJ	5800	UJ	6100	UJ	2800	UJ	1200	UJ
4-Methylphenol	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
4-Nitroaniline	2900	UJ	15000	UJ	15000	U	6900	U	2900	UJ
4-Nitrophenol	2900	UJ	15000	UJ	15000	U	6900	U	2900	UJ
Acenaphthene	1200	UJ	71000	*J	4700	J	2800	U	1200	UJ
Acenaphthylene	1200	UJ	39000	J	6100	U	2800	U	1200	UJ
Acetophenone	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Anthracene	1200	UJ	220000	*J	11000		1600	J	240	J
Atrazine	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Benzaldehyde	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Benzo(a)anthracene	1200	UJ	620000	*J	16000		5200		580	J
Benzo(a)pyrene	1200	UJ	490000	*J	14000		6300		530	J

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-08		G32-DR-09		G32-DR-12		G32-DR-13		G32-DR-14	
Date Sampled	4/25/00		4/26/00		4/24/00		4/25/00		4/25/00	
QC Identifier	None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain	
Percent Solids	27.9		11.1		55.9		61.1		28.5	
Benzo(b)fluoranthene	1200	UJ	370000	*J	13000		7500		520	J
Benzo(g,h,i)perylene	1200	UJ	170000	*J	3700	J	3000		250	J
Benzo(k)fluoranthene	1200	UJ	400000	*J	13000		5100		480	J
Bis(2-Chloroethoxy)methane	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Bis(2-Chloroethyl)ether	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
bis(2-Ethylhexyl)phthalate	1200	UJ	51000	j	780	J	1100	J	1200	UJ
Butylbenzylphthalate	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Caprolactam	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Carbazole	1200	UJ	61000	*J	4900	J	2800	U	1200	UJ
Chrysene	1200	UJ	520000	*J	15000		6700		650	J
Di-n-Butylphthalate	1200	UJ	5800	UJ	6100	U	300	J	1200	UJ
Di-n-octylphthalate	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Dibenzo(a,h)anthracene	1200	UJ	38000	J	2300	J	1300	J	120	J
Dibenzofuran	1200	UJ	38000	*J	3400	J	2800	U	1200	UJ
Diethylphthalate	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Dimethylphthalate	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Fluoranthene	1200	UJ	1500000	*J	46000		12000		1400	J
Fluorene	1200	UJ	5800	UJ	5500	J	1400	J	1200	UJ
Hexachlorobenzene	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Hexachlorobutadiene	1200	UJ	5800	UJ	6100	UJ	2800	UJ	1200	UJ
Hexachlorocyclopentadiene	1200	UJ	5800	UJ	6100	UJ	2800	UJ	1200	UJ
Hexachloroethane	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Indeno(1,2,3-cd)pyrene	1200	UJ	190000	*J	4000	J	3000		240	J
Isophorone	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
N-Nitroso-di-n-propylamine	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
N-Nitroso-diphenylamine	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Naphthalene	1200	UJ	39000	*J	1200	J	2800	U	1200	UJ
Nitrobenzene	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Pentachlorophenol	2900	UJ	15000	UJ	15000	U	6900	U	2900	UJ
Phenanthrene	1200	UJ	600000	*J	44000		13000		1000	J
Phenol	1200	UJ	5800	UJ	6100	U	2800	U	1200	UJ
Pyrene	1200	UJ	1200000	*J	33000		12000		1200	J

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-08		G32-DR-09		G32-DR-12		G32-DR-13		G32-DR-14	
Date Sampled	4/25/00		4/26/00		4/24/00		4/25/00		4/25/00	
QC Identifier	None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain	
Percent Solids	27.9		11.1		55.9		61.1		28.5	
Pesticide/PCB Analysis (UG/KG)										
4,4'-DDD	12	UJ	32	UJ	5.9	U	5.3	U	12	UJ
4,4'-DDE	12	UJ	32	UJ	18		5.3	U	12	UJ
4,4'-DDT	12	UJ	32	UJ	34		5.3	U	24	J
Aldrin	5.9	UJ	16	UJ	3.0	U	2.6	U	5.9	UJ
alpha-BHC	5.9	UJ	16	UJ	3.0	U	2.6	U	5.9	UJ
alpha-Chlordane	5.9	UJ	16	UJ	3.0	U	2.6	U	5.9	UJ
Aroclor-1016	120	UJ	320	UJ	59	U	53	U	120	UJ
Aroclor-1221	240	UJ	640	UJ	120	U	110	U	240	UJ
Aroclor-1232	120	UJ	320	UJ	59	U	53	U	120	UJ
Aroclor-1242	120	UJ	320	UJ	59	U	53	U	120	UJ
Aroclor-1248	120	UJ	320	UJ	59	U	53	U	120	UJ
Aroclor-1254	120	UJ	320	UJ	270	J	2300		120	UJ
Aroclor-1260	120	UJ	320	UJ	59	U	53	U	260	J
beta-BHC	5.9	UJ	16	UJ	3.0	U	2.6	U	5.9	UJ
delta-BHC	5.9	UJ	16	UJ	3.0	U	2.6	U	5.9	UJ
Dieldrin	12	UJ	32	UJ	5.9	U	5.3	U	12	UJ
Endosulfan I	5.9	UJ	16	UJ	3.0	U	2.6	U	5.9	UJ
Endosulfan II	12	UJ	32	UJ	5.9	U	5.3	U	12	UJ
Endosulfan Sulfate	12	UJ	32	UJ	5.9	U	5.3	U	12	UJ
Endrin	12	UJ	32	UJ	5.9	U	5.3	U	12	UJ
Endrin Aldehyde	12	UJ	32	UJ	5.9	U	5.3	U	12	UJ
Endrin Ketone	12	UJ	32	UJ	5.9	U	5.3	U	12	UJ
gamma-BHC	5.9	UJ	16	UJ	3.0	U	2.6	U	5.9	UJ
gamma-Chlordane	5.9	UJ	16	UJ	3.0	U	2.6	U	5.9	UJ
Heptachlor	5.9	UJ	16	UJ	3.0	U	2.6	U	5.9	UJ
Heptachlor Epoxide	5.9	UJ	16	UJ	3.0	U	2.6	U	5.9	UJ
Methoxychlor	59	UJ	160	UJ	30	U	26	U	60	UJ
Toxaphene	590	UJ	1600	UJ	300	U	260	U	600	UJ
Gasoline Range Organic Analysis (MG/KG)										
Gasoline Range Organics	0.20	U	2.3	UJ	0.522		57		0.936	J
Diesel Range Organic Analysis (MG/KG)										
Diesel Range Organics	98.5	J	12900	J	3600		25900		277	J

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-08		G32-DR-09		G32-DR-12		G32-DR-13		G32-DR-14	
Date Sampled	4/25/00		4/26/00		4/24/00		4/25/00		4/25/00	
QC Identifier	None		None		None		None		None	
Matrix	Drain		Drain		Drain		Drain		Drain	
Percent Solids	27.9		11.1		55.9		61.1		28.5	
TAL Metal Analysis (MG/KG)										
Aluminum	1170	J	1710	J	1770	J	2510		1180	J
Antimony		R		R		R	26.5	J		R
Arsenic	29.8	J	10.5	J	21.1	J	11.0	J	14.3	J
Barium	1150	J	230	J	857	J	108	J	1340	J
Beryllium	0.22	UJ		R	0.11	U	0.21	U	0.32	UJ
Cadmium	106	J	73.6	J	46.0	J	16.6	J	73.4	J
Calcium	5190	J	15300	J	19400	J	12100	J	18700	J
Chromium	103	J	226	J	159		49.5	J	197	J
Cobalt	21.8	J	13.2	J	18.4	J	11.4	J	21.8	J
Copper	1680	J	2160	J	973	J	436	J	322	J
Cyanide		R		R	0.89	U	1.0	J		R
Iron	453000	J	146000	J	213000		102000	J	250000	J
Lead	2410	J	2500	J	4300		12700	J	2670	J
Magnesium	1010	J	1300	J	2310		1370		31200	J
Manganese	2010	J	641	J	1040		263	J	1360	J
Mercury	0.34	J	1.6	J	0.69	J	0.61		2.6	J
Nickel	142	J	980	J	167	J	76.1		228	J
Potassium	1020	J	645	J	826	J	590	J	1110	J
Selenium	8.2	J		R	1.4	UJ	1.4	J	3.7	J
Silver	1.2	J	10.3	J	2.4		2.6		7.6	J
Sodium	3780	J	561	J	737	J	367		1100	J
Thallium		R		R	1.3	J	1.2	U		R
Vanadium	13.2	J	19.3	J	11.4	J	8.5	J	13.9	J
Zinc	11600	J	1670	J	2790		1030	J	2200	J
pH (SU)	7.4		7.2		8.8		7.8		7.7	

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-10		G32-DR-11		G32-DUP4	
Date Sampled	4/26/00		4/26/00		4/26/00	
QC Identifier	Field Dup. G32-DR-10		None		Field Dup. G32-DR-10	
Matrix	Drain		Drain		Drain	
Percent Solids	0		0		0	
Volatile Organic Analysis (UG/L)						
1,1,1-Trichloroethane	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U	10	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U
1,2-Dibromoethane	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U
1,2-Dichloroethane	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U
2-Butanone	10	UJ	10	UJ	10	UJ
2-Hexanone	10	UJ	10	UJ	10	UJ
4-Methyl-2-Pentanone	10	U	10	U	10	U
Acetone	10	UJ	10	UJ	10	UJ
Benzene	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U
Carbon Disulfide	10	U	10	U	10	U
Carbon Tetrachloride	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U
Chloroform	10	U	10	U	10	U
Chloromethane	10	U	10	U	10	U
cis-1,2-Dichloroethene	10	U	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U	10	U
Cyclohexane	10	U	10	U	10	U
Dibromochloromethane	10	U	10	U	10	U
Dichlorodifluoromethane	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-10		G32-DR-11		G32-DUP4	
Date Sampled	4/26/00		4/26/00		4/26/00	
QC Identifier	Field Dup. G32-DR-10		None		Field Dup. G32-DR-10	
Matrix	Drain		Drain		Drain	
Percent Solids	0		0		0	
Ethylbenzene	10	U	10	U	10	U
Isopropylbenzene	10	U	10	U	10	U
Methyl Acetate	10	U	10	U	10	U
Methyl tert-Butyl Ether	10	U	10	U	10	U
Methylcyclohexane	10	U	10	U	10	U
Methylene Chloride	10	U	10	U	10	U
Styrene	10	U	10	U	10	U
Tetrachloroethene	10	U	10	U	10	U
Toluene	10	U	10	U	10	U
Total Xylenes	10	U	10	U	10	U
trans-1,2-Dichloroethene	10	U	10	U	10	U
trans-1,3-Dichloropropene	10	U	10	U	10	U
Trichloroethene	10	U	10	U	10	U
Trichlorofluoromethane	10	U	10	U	10	U
Vinyl Chloride	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-10		G32-DR-11		G32-DUP4	
Date Sampled	4/26/00		4/26/00		4/26/00	
QC Identifier	Field Dup. G32-DR-10		None		Field Dup. G32-DR-10	
Matrix	Drain		Drain		Drain	
Percent Solids	0		0		0	
Semivolatile Organic Analysis (UG/KG)						
1,1'-Biphenyl	1100	UJ	330	J	860	U
2,2'-oxybis(1-Chloropropane)	1100	UJ	1100	U	860	U
2,4,5-Trichlorophenol	2900	UJ	2700	U	2100	UJ
2,4,6-Trichlorophenol	1100	UJ	1100	U	860	U
2,4-Dichlorophenol	1100	UJ	1100	U	860	U
2,4-Dimethylphenol	1100	UJ	1100	U	860	U
2,4-Dinitrophenol	2900	UJ	2700	U	2100	U
2,4-Dinitrotoluene	1100	UJ	1100	U	860	U
2,6-Dinitrotoluene	1100	UJ	1100	U	860	U
2-Chloronaphthalene	1100	UJ	1100	U	860	U
2-Chlorophenol	1100	UJ	1100	U	860	U
2-Methylnaphthalene	1100	UJ	1200		860	U
2-Methylphenol	1100	UJ	1100	U	860	U
2-Nitroaniline	2900	UJ	2700	U	2100	U
2-Nitrophenol	1100	UJ	1100	U	860	U
3,3'-Dichlorobenzidine	1100	UJ	1100	U	860	U
3-Nitroaniline	2900	UJ	2700	U	2100	U
4,6-Dinitro-2-methylphenol	2900	UJ	2700	U	2100	U
4-Bromophenyl-phenylether	1100	UJ	1100	U	860	U
4-Chloro-3-methylphenol	1100	UJ	1100	U	860	U
4-Chloroaniline	1100	UJ	1100	UJ	860	U
4-Chlorophenyl-phenylether	1100	UJ	1100	U	860	U
4-Methylphenol	1100	UJ	1100	U	860	U
4-Nitroaniline	2900	UJ	2700	U	2100	U
4-Nitrophenol	2900	UJ	2700	U	2100	U
Acenaphthene	1100	UJ	1800		860	U
Acenaphthylene	1100	UJ	1100	U	190	J
Acetophenone	1100	UJ	1100	U	860	U
Anthracene	1100	UJ	6300		180	J
Atrazine	1100	UJ	1100	U	860	U
Benzaldehyde	1100	UJ	1100	U	860	U
Benzo(a)anthracene	1100	UJ	15000	*	1200	
Benzo(a)pyrene	1100	UJ	8500	*	1200	

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-10		G32-DR-11		G32-DUP4	
Date Sampled	4/26/00		4/26/00		4/26/00	
QC Identifier	Field Dup. G32-DR-10		None		Field Dup. G32-DR-10	
Matrix	Drain		Drain		Drain	
Percent Solids	0		0		0	
Benzo(b)fluoranthene	1100	UJ	7500	*	1300	
Benzo(g,h,i)perylene	1100	UJ	1900		630	J
Benzo(k)fluoranthene	1100	UJ	9000	*	1300	
Bis(2-Chloroethoxy)methane	1100	UJ	1100	U	860	U
Bis(2-Chloroethyl)ether	1100	UJ	1100	U	860	U
bis(2-Ethylhexyl)phthalate	1100	UJ	1100	U	860	U
Butylbenzylphthalate	1100	UJ	1100	U	860	U
Caprolactam	1100	UJ	1100	U	860	U
Carbazole	1100	UJ	3200		860	U
Chrysene	1100	UJ	15000	*	1300	
Di-n-Butylphthalate	1100	UJ	1100	U	860	U
Di-n-octylphthalate	1100	UJ	1100	U	860	U
Dibenzo(a,h)anthracene	1100	UJ	1300		310	J
Dibenzofuran	1100	UJ	2400		860	U
Diethylphthalate	1100	UJ	1100	U	860	U
Dimethylphthalate	1100	UJ	1100	U	860	U
Fluoranthene	120	J	43000	*	1400	
Fluorene	1100	UJ	1600		860	U
Hexachlorobenzene	1100	UJ	1100	U	860	U
Hexachlorobutadiene	1100	UJ	1100	UJ	860	U
Hexachlorocyclopentadiene	1100	UJ	1100	UJ	860	U
Hexachloroethane	1100	UJ	1100	U	860	U
Indeno(1,2,3-cd)pyrene	1100	UJ	2300		640	J
Isophorone	1100	UJ	1100	U	860	U
N-Nitroso-di-n-propylamine	1100	UJ	1100	U	860	U
N-Nitroso-diphenylamine	1100	UJ	1100	U	860	U
Naphthalene	1100	UJ	3600		860	U
Nitrobenzene	1100	UJ	1100	U	860	U
Pentachlorophenol	2900	UJ	2700	U	2100	U
Phenanthrene	1100	UJ	35000	*	490	J
Phenol	1100	UJ	1100	U	860	U
Pyrene	110	J	33000	*	1100	

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-10		G32-DR-11		G32-DUP4	
Date Sampled	4/26/00		4/26/00		4/26/00	
QC Identifier	Field Dup. G32-DR-10		None		Field Dup. G32-DR-10	
Matrix	Drain		Drain		Drain	
Percent Solids	0		0		0	
Pesticide/PCB Analysis (UG/KG)						
4,4'-DDD	11	UJ	11	U	8.7	U
4,4'-DDE	11	UJ	11	U	8.7	U
4,4'-DDT	11	UJ	11	U	8.7	U
Aldrin	5.7	UJ	5.3	U	4.3	U
alpha-BHC	5.7	UJ	5.3	U	4.3	U
alpha-Chlordane	5.7	UJ	5.3	U	4.3	U
Aroclor-1016	110	UJ	110	U	87	U
Aroclor-1221	230	UJ	210	U	170	U
Aroclor-1232	110	UJ	110	U	87	U
Aroclor-1242	110	UJ	110	U	87	U
Aroclor-1248	110	UJ	110	U	87	U
Aroclor-1254	110	UJ	110	U	87	U
Aroclor-1260	110	UJ	110	U	87	U
beta-BHC	5.7	UJ	5.3	U	4.3	U
delta-BHC	5.7	UJ	5.3	U	4.3	U
Dieldrin	11	UJ	11	U	8.7	U
Endosulfan I	5.7	UJ	5.3	U	4.3	U
Endosulfan II	11	UJ	11	U	8.7	U
Endosulfan Sulfate	11	UJ	11	U	8.7	U
Endrin	11	UJ	11	U	8.7	U
Endrin Aldehyde	11	UJ	11	U	8.7	U
Endrin Ketone	11	UJ	11	U	8.7	U
gamma-BHC	5.7	UJ	5.3	U	4.3	U
gamma-Chlordane	5.7	UJ	5.3	U	4.3	U
Heptachlor	5.7	UJ	5.3	U	4.3	U
Heptachlor Epoxide	5.7	UJ	5.3	U	4.3	U
Methoxychlor	57	UJ	53	U	43	U
Toxaphene	570	UJ	530	U	430	U
Gasoline Range Organic Analysis (MG/L)						
Gasoline Range Organics	0.20	U	0.20	U	0.20	U
Diesel Range Organic Analysis (MG/KG)						
Diesel Range Organics	123	J	1490		130	J

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-DR-10		G32-DR-11		G32-DUP4	
Date Sampled	4/26/00		4/26/00		4/26/00	
QC Identifier	Field Dup. G32-DR-10		None		Field Dup. G32-DR-10	
Matrix	Drain		Drain		Drain	
Percent Solids	0		0		0	
TAL Metal Analysis (MG/KG)						
Aluminum	5520	J	943		3540	
Antimony	13.7	J		R	1.2	UJ
Arsenic	24.9	J	36.0	J	3.2	J
Barium	194	J	120	J	64.5	
Beryllium	0.67	UJ	0.18	U	0.43	U
Cadmium	67.1	J	39.3	J	30.2	J
Calcium	106000	J	3970	J	52100	J
Chromium	133	J	206	J	23.8	J
Cobalt	50.1	J	30.3	J	20.4	
Copper	904	J	601	J	299	J
Cyanide		R	1.5	UJ	1.2	UJ
Iron	170000	J	605000	J	36900	J
Lead	911	J	1300	J	249	J
Magnesium	5520	J	3050		3430	
Manganese	1160	J	2100	J	582	J
Mercury	0.22	J	0.38		0.48	
Nickel	132	J	236		44.5	
Potassium	560	J		R	347	
Selenium		R	12.2		2.0	UJ
Silver	2.8	J	3.4		0.86	
Sodium	203	UJ	794		390	
Thallium		R	2.2	U	1.8	U
Vanadium	60.8	J	5.2	J	25.2	J
Zinc	8230	J	3610	J	4050	J
pH (SU)	7.9		7.0		7.7	

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
QC Identifier	None		None		None		None		None		None	
Matrix	Soil		Soil		Soil		Soil		Soil		Soil	
Percent Solids	53.1		73.4		29.8		84.6		92.1		83.5	
Volatile Organic Analysis (UG/KG)												
1,1,1-Trichloroethane	28	U	26	U	47	U	9.0	U	11	U	14	U
1,1,2,2-Tetrachloroethane	28	U	26	U	47	U	9.0	U	11	U	14	U
1,1,2-Trichloro-1,2,2-trifluoroethane	28	U	26	U	47	U	9.0	U	11	U	14	U
1,1,2-Trichloroethane	28	U	26	U	47	U	9.0	U	11	U	14	U
1,1-Dichloroethane	28	U	26	U	47	U	9.0	U	11	U	14	U
1,1-Dichloroethene	28	U	26	U	47	U	9.0	U	11	U	14	U
1,2,4-Trichlorobenzene	28	U	26	U	47	U	9.0	U	11	U	14	U
1,2-Dibromo-3-chloropropane	28	U	26	U	47	U	9.0	U	11	U	14	U
1,2-Dibromoethane	28	U	26	U	47	U	9.0	U	11	U	14	U
1,2-Dichlorobenzene	28	U	26	U	47	U	9.0	U	11	U	14	U
1,2-Dichloroethane	28	U	26	U	47	U	9.0	U	11	U	14	U
1,2-Dichloropropane	28	U	26	U	47	U	9.0	U	11	U	14	U
1,3-Dichlorobenzene	28	U	26	U	47	U	9.0	U	11	U	14	U
1,4-Dichlorobenzene	28	U	26	U	47	U	9.0	U	11	U	14	U
2-Butanone	28	U	26	U	47	U	9.0	U	11	U	12	J
2-Hexanone	28	U	26	U	47	U	9.0	U	11	U	14	U
4-Methyl-2-Pentanone	28	U	26	U	47	U	9.0	U	11	U	14	U
Acetone	150	J	140	J	140	J	34	J	40	J	74	J
Benzene	28	U	26	U	47	U	9.0	U	11	U	2.0	J
Bromodichloromethane	28	U	26	U	47	U	9.0	U	11	U	14	U
Bromoform	28	U	26	U	47	U	9.0	U	11	U	14	U
Bromomethane	28	U	26	U	47	U	9.0	U	11	U	14	U
Carbon Disulfide	28	U	26	U	47	U	9.0	U	11	U	14	U
Carbon Tetrachloride	28	U	26	U	47	U	9.0	U	11	U	14	U
Chlorobenzene	28	U	26	U	47	U	9.0	U	11	U	14	U
Chloroethane	28	U	26	U	47	U	9.0	U	11	U	14	U
Chloroform	28	U	26	U	47	U	9.0	U	11	U	14	U
Chloromethane	28	U	26	U	47	U	9.0	U	11	U	5.0	J
cis-1,2-Dichloroethene	28	U	26	U	47	U	9.0	U	11	U	14	U
cis-1,3-Dichloropropene	28	U	26	U	47	U	9.0	U	11	U	14	U
Cyclohexane	28	U	26	U	47	U	9.0	U	11	U	14	U
Dibromochloromethane	28	U	26	U	47	U	9.0	U	11	U	14	U
Dichlorodifluoromethane	28	U	26	U	47	U	9.0	U	11	U	14	U
Ethylbenzene	28	U	26	U	47	U	9.0	U	11	U	14	U
Isopropylbenzene	28	U	26	U	47	U	9.0	U	11	U	14	U
Methyl Acetate	20	J	14	J	47	U	9.0	U	11	U	14	U
Methyl tert-Butyl Ether	28	U	26	U	47	U	9.0	U	11	U	14	U
Methylcyclohexane	28	U	26	U	47	U	9.0	U	11	U	14	U
Methylene Chloride	28	U	26	U	47	U	9.0	U	11	U	14	U
Styrene	28	U	26	U	47	U	9.0	U	11	U	14	U
Tetrachloroethene	28	U	26	U	47	U	9.0	U	11	U	14	U
Toluene	28	U	26	U	47	U	9.0	U	11	U	14	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
QC Identifier	None		None		None		None		None		None	
Matrix	Soil		Soil		Soil		Soil		Soil		Soil	
Percent Solids	53.1		73.4		29.8		84.6		92.1		83.5	
Total Xylenes	28	U	26	U	47	U	9.0	U	11	U	14	U
trans-1,2-Dichloroethene	28	U	26	U	47	U	9.0	U	11	U	14	U
trans-1,3-Dichloropropene	28	U	26	U	47	U	9.0	U	11	U	14	U
Trichloroethene	28	U	26	U	47	U	9.0	U	11	U	14	U
Trichlorofluoromethane	28	U	26	U	47	U	9.0	U	11	U	14	U
Vinyl Chloride	28	U	26	U	47	U	9.0	U	11	U	14	U

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
QC Identifier	None		None		None		None		None		None	
Matrix	Soil		Soil		Soil		Soil		Soil		Soil	
Percent Solids	53.1		73.4		29.8		84.6		92.1		83.5	
Semivolatile Organic Analysis (UG/KG)												
1,1'-Biphenyl	680	U	460	U	1200	U	130	J	360	U	400	U
2,2'-oxybis(1-Chloropropane)	680	U	460	U	1200	U	400	U	360	U	400	U
2,4,5-Trichlorophenol	1700	U	1200	U	3000	U	1000	U	900	U	1000	U
2,4,6-Trichlorophenol	680	U	460	U	1200	U	400	U	360	U	400	U
2,4-Dichlorophenol	680	U	460	U	1200	U	400	U	360	U	400	U
2,4-Dimethylphenol	680	U	460	U	1200	U	400	U	360	U	400	U
2,4-Dinitrophenol	1700	U	1200	U	3000	U	1000	UJ	900	UJ	1000	U
2,4-Dinitrotoluene	680	U	460	U	1200	U	400	U	360	U	400	U
2,6-Dinitrotoluene	680	U	460	U	1200	U	400	U	360	U	400	U
2-Chloronaphthalene	680	U	460	U	1200	U	400	U	360	U	400	U
2-Chlorophenol	680	U	460	U	1200	U	400	U	360	U	400	U
2-Methylnaphthalene	680	U	460	U	100	J	390	J	360	U	400	U
2-Methylphenol	680	U	460	U	1200	U	400	U	360	U	400	U
2-Nitroaniline	1700	U	1200	U	3000	U	1000	U	900	U	1000	U
2-Nitrophenol	680	U	460	U	1200	U	400	U	360	U	400	U
3,3'-Dichlorobenzidine	680	U	460	U	1200	U	400	U	360	U	400	U
3-Nitroaniline	1700	U	1200	U	3000	U	1000	U	900	U	1000	U
4,6-Dinitro-2-methylphenol	1700	U	1200	U	3000	U	1000	UJ	900	UJ	1000	U
4-Bromophenyl-phenylether	680	U	460	U	1200	U	400	U	360	U	400	U
4-Chloro-3-methylphenol	680	U	460	U	1200	U	400	U	360	U	400	U
4-Chloroaniline	680	U	460	U	1200	U	400	U	360	U	400	U
4-Chlorophenyl-phenylether	680	U	460	U	1200	U	400	U	360	U	400	U
4-Methylphenol	680	U	460	U	1200	U	400	U	360	U	400	U
4-Nitroaniline	1700	U	1200	U	3000	U	1000	U	900	U	1000	U
4-Nitrophenol	1700	U	1200	U	3000	U	1000	U	900	U	1000	U
Acenaphthene	70	J	92	J	750	J	1700		360	U	32	J
Acenaphthylene	680	U	460	U	1200	U	60	J	360	U	34	J
Acetophenone	680	U	460	U	1200	U	400	U	360	U	400	U
Anthracene	130	J	200	J	1400		3400	*J	20	J	90	J
Atrazine	680	U	460	U	1200	U	400	U	360	U	400	U
Benzaldehyde	680	U	460	U	1200	U	400	U	360	U	400	U
Benzo(a)anthracene	410	J	690		4100		8500	*	88	J	600	
Benzo(a)pyrene	390	J	630		3500		8100	*	85	J	860	J
Benzo(b)fluoranthene	450	J	770		3700		6900	*	110	J	1500	J
Benzo(g,h,i)perylene	140	J	280	J	1100	J	2900	J	73	J	450	J
Benzo(k)fluoranthene	360	J	680		3400		6400	*	78	J	1200	J
Bis(2-Chloroethoxy)methane	680	U	460	U	1200	U	400	U	360	U	400	U
Bis(2-Chloroethyl)ether	680	U	460	U	1200	U	400	U	360	U	400	U
bis(2-Ethylhexyl)phthalate	680	U	460	U	1200	U	400	U	41	J	400	U
Butylbenzylphthalate	680	U	460	U	1200	U	400	U	360	U	400	U
Caprolactam	680	U	460	U	1200	U	400	U	360	U	400	U
Carbazole	81	J	130	J	870	J	1500		360	U	79	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
QC Identifier	None		None		None		None		None		None	
Matrix	Soil		Soil		Soil		Soil		Soil		Soil	
Percent Solids	53.1		73.4		29.8		84.6		92.1		83.5	
Chrysene	470	J	810		4400		9200	*	100	J	1000	
Di-n-Butylphthalate	680	U	460	U	1200	U	400	U	42	J	400	U
Di-n-octylphthalate	680	U	460	U	1200	U	400	U	360	U	400	UJ
Dibenzo(a,h)anthracene	88	J	130	J	720	J	1500		360	U	200	J
Dibenzofuran	680	U	35	J	410	J	630		360	U	400	U
Diethylphthalate	680	U	460	U	1200	U	400	U	360	U	400	U
Dimethylphthalate	680	U	460	U	1200	U	400	U	360	U	400	U
Fluoranthene	990		1600		9400	*	20000	*	180	J	560	
Fluorene	65	J	84	J	750	J	1200		360	U	400	U
Hexachlorobenzene	680	U	460	U	1200	U	400	U	360	U	400	U
Hexachlorobutadiene	680	UJ	460	UJ	1200	UJ	400	UJ	360	UJ	400	UJ
Hexachlorocyclopentadiene	680	U	460	U	1200	U	400	UJ	360	UJ	400	U
Hexachloroethane	680	U	460	U	1200	U	400	U	360	U	400	U
Indeno(1,2,3-cd)pyrene	140	J	270	J	1300		2700		56	J	410	J
Isophorone	680	U	460	U	1200	U	400	U	360	U	400	U
N-Nitroso-di-n-propylamine	680	U	460	U	1200	U	400	U	360	U	400	U
N-Nitroso-diphenylamine	680	U	460	U	1200	U	400	U	360	U	400	U
Naphthalene	680	U	35	J	220	J	1400		360	U	400	U
Nitrobenzene	680	U	460	U	1200	U	400	U	360	U	400	U
Pentachlorophenol	1700	UJ	1200	UJ	3000	UJ	1000	UJ	900	UJ	1000	UJ
Phenanthrene	680		930		7300		15000	*	83	J	260	J
Phenol	680	U	460	U	1200	U	400	U	360	U	400	U
Pyrene	830		1500		8400		19000	*	160	J	1300	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
QC Identifier	None		None		None		None		None		None	
Matrix	Soil		Soil		Soil		Soil		Soil		Soil	
Percent Solids	53.1		73.4		29.8		84.6		92.1		83.5	
Pesticide/PCB Analysis (UG/KG)												
4,4'-DDD	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
4,4'-DDE	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
4,4'-DDT	6.9	U	6.2	P	12	P	17		5.5		5.4	
Aldrin	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
alpha-BHC	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
alpha-Chlordane	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
Aroclor-1016	69	U	48	U	120	U	39	U	37	U	42	U
Aroclor-1221	140	U	96	U	240	U	79	U	73	U	84	U
Aroclor-1232	69	U	48	U	120	U	39	U	37	U	42	U
Aroclor-1242	69	U	48	U	120	U	39	U	37	U	42	U
Aroclor-1248	69	U	48	U	120	U	39	U	37	U	42	U
Aroclor-1254	69	U	110		120	U	39	U	37	U	42	U
Aroclor-1260	69	U	48	U	120	U	39	U	37	U	42	U
beta-BHC	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
delta-BHC	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
Dieldrin	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
Endosulfan I	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
Endosulfan II	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
Endosulfan Sulfate	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
Endrin	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
Endrin Aldehyde	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
Endrin Ketone	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
gamma-BHC	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
gamma-Chlordane	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
Heptachlor	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
Heptachlor Epoxide	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
Methoxychlor	34	U	24	U	61	U	20	U	18	U	21	U
Toxaphene	340	U	240	U	610	U	200	U	180	U	210	U
Gasoline Range Organic Analysis (MG/KG)												
Gasoline Range Organics	0.55	U	0.44	U	1.0	U	0.283		0.23	U	0.27	U
Diesel Range Organic Analysis (MG/KG)												
Diesel Range Organics	123		410		490		371		364		553	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
QC Identifier	None		None		None		None		None		None	
Matrix	Soil		Soil		Soil		Soil		Soil		Soil	
Percent Solids	53.1		73.4		29.8		84.6		92.1		83.5	
TAL Metal Analysis (MG/KG)												
Aluminum	3480		6920		3840	J	11400		5820		4880	
Antimony	0.94	UJ	0.68	UJ	1.8	J	0.59	UJ	1.7	J	8.7	J
Arsenic	1.9	UJ	5.9		6.6	J	16.8		3.5	U	9.6	
Barium	21.1		39.4		113	J	21.2		20.3		200	
Beryllium	0.19	UJ	0.60	U	0.36	UJ	0.47	UJ	0.27	UJ	0.32	UJ
Cadmium	2.3		9.9		511	J	1.4	J	2.6	J	8.1	J
Calcium	5420		642		16800	J	2440		1140		2010	
Chromium	7.4		67.3		86.8	J	21.3	J	14.1	J	48.2	J
Cobalt	3.0		9.0		7.8	J	12.5		6.0		11.4	
Copper	27.8		413		146	J	36.3	J	94.0	J	287	J
Cyanide	0.94	U	0.68	U	2.6	J	0.59	U	0.54	U	0.60	U
Iron	7790		20700		17000	J	33000		25000		97600	
Lead	35.8		225		337	J	106		292		1950	
Magnesium	1550		1890		1640	J	3800		2600		2490	
Manganese	240		142		475	J	399		193		494	
Mercury	0.08	UJ	0.04	UJ	0.45	J	0.02	U	0.04	UJ	0.17	
Nickel	9.2		23.5		64.3	J	24.6	J	13.4	J	47.8	J
Potassium	485	J	429	J	551	J	385	J	655	J	773	J
Selenium	2.8	J	1.7	J	3.4	J	0.90	U		R		R
Silver	0.24	UJ	0.26	UJ	0.82	J	0.12	UJ	0.11	UJ	0.75	J
Sodium	168	U	89.2	UJ		R		R	148	UJ		R
Thallium	1.4	U	1.0	U		R	0.87	U	0.95	UJ	3.1	U
Vanadium	11.5		25.8		41.3	J	18.0		14.7		25.7	
Zinc	60.2		129		2140	J	205		231		1310	
pH (SU)	5.5		4.3		6.1		7.1		6.5		6.6	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-SS-07-06IN		G32-DUP2		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00	
QC Identifier	Field Dup. G32-SS-07-06IN		Field Dup. G32-SS-07-06IN		None	
Matrix	Soil		Soil		Soil	
Percent Solids	61.7		68.9		80.5	
Volatile Organic Analysis (UG/KG)						
1,1,1-Trichloroethane	18	U	14	U	13	U
1,1,2,2-Tetrachloroethane	18	U	14	U	13	U
1,1,2-Trichloro-1,2,2-trifluoroethane	18	U	14	U	13	U
1,1,2-Trichloroethane	18	U	14	U	13	U
1,1-Dichloroethane	18	U	14	U	13	U
1,1-Dichloroethene	18	U	14	U	13	U
1,2,4-Trichlorobenzene	18	U	14	U	13	U
1,2-Dibromo-3-chloropropane	18	U	14	U	13	U
1,2-Dibromoethane	18	U	14	U	13	U
1,2-Dichlorobenzene	18	U	14	U	13	U
1,2-Dichloroethane	18	U	14	U	13	U
1,2-Dichloropropane	18	U	14	U	13	U
1,3-Dichlorobenzene	18	U	14	U	13	U
1,4-Dichlorobenzene	18	U	14	U	13	U
2-Butanone	18	U	14	U	13	U
2-Hexanone	18	U	14	U	13	U
4-Methyl-2-Pentanone	18	U	14	U	13	U
Acetone	100	J	75	J	120	J
Benzene	18	U	14	U	13	U
Bromodichloromethane	18	U	14	U	13	U
Bromoform	18	U	14	U	13	U
Bromomethane	18	U	14	U	13	U
Carbon Disulfide	18	U	14	U	13	U
Carbon Tetrachloride	18	U	14	U	13	U
Chlorobenzene	18	U	14	U	13	UJ
Chloroethane	18	U	14	U	13	U
Chloroform	18	U	14	U	13	U
Chloromethane	18	U	14	U	13	U
cis-1,2-Dichloroethene	18	U	14	U	13	U
cis-1,3-Dichloropropene	18	U	14	U	13	U
Cyclohexane	18	U	14	U	13	U
Dibromochloromethane	18	U	14	U	13	U
Dichlorodifluoromethane	18	U	14	U	13	U
Ethylbenzene	18	U	14	U	13	U
Isopropylbenzene	18	U	14	U	13	U
Methyl Acetate	18	U	14	U	13	U
Methyl tert-Butyl Ether	18	U	14	U	13	U
Methylcyclohexane	18	U	14	U	13	U
Methylene Chloride	18	U	14	U	13	U
Styrene	18	U	14	U	13	U
Tetrachloroethene	18	U	14	U	13	U
Toluene	18	U	14	U	13	UJ

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-SS-07-06IN		G32-DUP2		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00	
QC Identifier	Field Dup. G32-SS-07-06IN		Field Dup. G32-SS-07-06IN		None	
Matrix	Soil		Soil		Soil	
Percent Solids	61.7		68.9		80.5	
Total Xylenes	18	U	14	U	13	U
trans-1,2-Dichloroethene	18	U	14	U	13	U
trans-1,3-Dichloropropene	18	U	14	U	13	U
Trichloroethene	18	U	14	U	13	UJ
Trichlorofluoromethane	18	U	14	U	13	U
Vinyl Chloride	18	U	14	U	13	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-SS-07-06IN		G32-DUP2		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00	
QC Identifier	Field Dup. G32-SS-07-06IN		Field Dup. G32-SS-07-06IN		None	
Matrix	Soil		Soil		Soil	
Percent Solids	61.7		68.9		80.5	
Semivolatile Organic Analysis (UG/KG)						
1,1'-Biphenyl	320	J	65	J	130	J
2,2'-oxybis(1-Chloropropane)	600	U	530	U	410	U
2,4,5-Trichlorophenol	1500	U	1300	U	1000	U
2,4,6-Trichlorophenol	600	U	530	U	410	U
2,4-Dichlorophenol	600	U	530	U	410	U
2,4-Dimethylphenol	600	U	530	U	410	U
2,4-Dinitrophenol	1500	UJ	1300	UJ	1000	U
2,4-Dinitrotoluene	600	U	530	U	410	U
2,6-Dinitrotoluene	600	U	530	U	410	U
2-Chloronaphthalene	600	U	530	U	410	U
2-Chlorophenol	600	U	530	U	410	U
2-Methylnaphthalene	880	J	140	J	440	J
2-Methylphenol	600	U	530	U	410	U
2-Nitroaniline	1500	U	1300	U	1000	U
2-Nitrophenol	600	U	530	U	410	U
3,3'-Dichlorobenzidine	600	U	530	U	410	U
3-Nitroaniline	1500	U	1300	U	1000	U
4,6-Dinitro-2-methylphenol	1500	UJ	1300	UJ	1000	U
4-Bromophenyl-phenylether	600	U	530	U	410	U
4-Chloro-3-methylphenol	600	U	530	U	410	U
4-Chloroaniline	600	U	530	U	410	UJ
4-Chlorophenyl-phenylether	600	U	530	U	410	U
4-Methylphenol	600	U	530	U	52	J
4-Nitroaniline	1500	U	1300	U	1000	U
4-Nitrophenol	1500	U	1300	U	1000	U
Acenaphthene	6300	*J	1400		1400	J
Acenaphthylene	300	J	340	J	49	J
Acetophenone	600	U	530	U	410	U
Anthracene	10000	*J	3500	*J	2400	
Atrazine	600	U	530	U	410	U
Benzaldehyde	600	U	530	U	47	J
Benzo(a)anthracene	22000	*J	12000	*J	5300	*
Benzo(a)pyrene	19000	*J	9800	*J	4800	*
Benzo(b)fluoranthene	18000	*J	10000	*J	4000	*
Benzo(g,h,i)perylene	14000	*J	6200	*J	1300	
Benzo(k)fluoranthene	17000	*J	9300	*J	4500	*
Bis(2-Chloroethoxy)methane	600	U	530	U	410	U
Bis(2-Chloroethyl)ether	600	U	530	U	410	U
bis(2-Ethylhexyl)phthalate	280	J	310	J	52	J
Butylbenzylphthalate	600	U	530	U	410	U
Caprolactam	600	U	530	U	410	U
Carbazole	5800	*J	2600		1600	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-SS-07-06IN		G32-DUP2		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00	
QC Identifier	Field Dup. G32-SS-07-06IN		Field Dup. G32-SS-07-06IN		None	
Matrix	Soil		Soil		Soil	
Percent Solids	61.7		68.9		80.5	
Chrysene	23000	*	14000	*	5200	*
Di-n-Butylphthalate	600	U	530	U	410	U
Di-n-octylphthalate	15000	*U	13000	*U	410	U
Dibenzo(a,h)anthracene	6600	*J	2900	*J	810	
Dibenzofuran	3300	J	920		890	
Diethylphthalate	600	U	530	U	410	U
Dimethylphthalate	600	U	530	U	410	U
Fluoranthene	61000	*J	30000	*	12000	*
Fluorene	5400	*J	1800		1500	
Hexachlorobenzene	600	U	530	U	410	U
Hexachlorobutadiene	600	UJ	530	UJ	410	U
Hexachlorocyclopentadiene	600	UJ	530	UJ	410	U
Hexachloroethane	600	U	530	U	410	U
Indeno(1,2,3-cd)pyrene	12000	*J	5900	*J	1500	
Isophorone	600	U	530	U	410	U
N-Nitroso-di-n-propylamine	600	U	530	U	410	U
N-Nitroso-diphenylamine	600	U	530	U	410	U
Naphthalene	3500	J	190	J	990	J
Nitrobenzene	600	U	530	U	410	U
Pentachlorophenol	1500	UJ	1300	UJ	1000	U
Phenanthrene	50000	*J	20000	*	11000	*
Phenol	600	U	530	U	410	U
Pyrene	48000	*J	24000	*	10000	*J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-SS-07-06IN		G32-DUP2		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00	
QC Identifier	Field Dup. G32-SS-07-06IN		Field Dup. G32-SS-07-06IN		None	
Matrix	Soil		Soil		Soil	
Percent Solids	61.7		68.9		80.5	
Pesticide/PCB Analysis (UG/KG)						
4,4'-DDD	6.0	U	5.3	U	4.3	U
4,4'-DDE	6.0	U	5.3	U	4.3	U
4,4'-DDT	6.0	U	5.3	U	6.6	
Aldrin	3.0	U	2.7	U	2.2	U
alpha-BHC	3.0	U	2.7	U	2.2	U
alpha-Chlordane	3.0	U	2.7	U	2.2	U
Aroclor-1016	60	U	53	U	43	U
Aroclor-1221	120	U	110	U	87	U
Aroclor-1232	60	U	53	U	43	U
Aroclor-1242	60	U	53	U	43	U
Aroclor-1248	60	U	53	U	43	U
Aroclor-1254	5800	*	4000	*	43	U
Aroclor-1260	60	U	53	U	43	U
beta-BHC	3.0	U	2.7	U	2.2	U
delta-BHC	3.0	U	2.7	U	2.2	U
Dieldrin	6.0	U	5.3	U	4.3	U
Endosulfan I	3.0	U	2.7	U	2.2	U
Endosulfan II	6.0	U	5.3	U	4.3	U
Endosulfan Sulfate	6.0	U	5.3	U	4.3	U
Endrin	6.0	U	5.3	U	4.3	U
Endrin Aldehyde	6.0	U	5.3	U	4.3	U
Endrin Ketone	6.0	U	5.3	U	4.3	U
gamma-BHC	3.0	U	2.7	U	2.2	U
gamma-Chlordane	3.0	U	2.7	U	2.2	U
Heptachlor	3.0	U	2.7	U	2.2	U
Heptachlor Epoxide	3.0	U	2.7	U	2.2	U
Methoxychlor	30	U	27	U	22	U
Toxaphene	300	U	270	U	220	U
Gasoline Range Organic Analysis (MG/KG)						
Gasoline Range Organics	0.407		0.664		0.257	J
Diesel Range Organic Analysis (MG/KG)						
Diesel Range Organics	734		558		94.2	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	G32-SS-07-06IN		G32-DUP2		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00	
QC Identifier	Field Dup. G32-SS-07-06IN		Field Dup. G32-SS-07-06IN		None	
Matrix	Soil		Soil		Soil	
Percent Solids	61.7		68.9		80.5	
TAL Metal Analysis (MG/KG)						
Aluminum	1750		1950		6590	
Antimony	106	J	93.0	J	0.62	UJ
Arsenic	16.4		13.9		2.8	U
Barium	352		203		18.7	
Beryllium	0.15	UJ	0.19	UJ	0.28	U
Cadmium	51.8	J	38.1	J	1.7	
Calcium	12400		10500		1300	
Chromium	86.7	J	79.8	J	12.1	
Cobalt	7.6		6.8		4.5	
Copper	121	J	112	J	26.6	
Cyanide	0.81	U	1.6		0.62	U
Iron	113000		98200		14900	
Lead	2710		3140		112	
Magnesium	767		1010		2600	
Manganese	461		460		124	
Mercury	0.05	UJ	0.04	UJ	0.04	UJ
Nickel	44.7	J	33.3	J	13.1	
Potassium	236	J	305	J	928	J
Selenium		R		R	0.97	J
Silver	0.85	J	0.76	J	0.12	U
Sodium	56.8	U	50.8	U	121	U
Thallium	3.5	U	2.8	U	0.92	U
Vanadium	44.6		45.9		63.5	
Zinc	4990		4430		43.6	
pH (SU)	6.2		5.7		5.3	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	FB-042000		RB-042000		RB-042400		RB-042600		RB-042700		TB-042000		TB-042400		TB-042500	
Date Sampled	4/20/00		4/20/00		4/24/00		4/26/00		4/27/00		4/20/00		4/24/00		4/25/00	
QC Identifier	Field Blank		Rinsate Blank		Rinsate Blank		Rinsate Blank		Rinsate Blank		Trip Blank		Trip Blank		Trip Blank	
Matrix	Blank		Blank		Blank		Blank		Blank		Blank		Blank		Blank	
Percent Solids	0		0		0		0		0		0		0		0	
Volatile Organic Analysis (UG/L)																
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,2-Dibromoethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,2-Dichloroethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
2-Butanone	10	U	10	U	10	U	10	UJ		NA	10	U	10	U	10	U
2-Hexanone	10	U	10	U	10	U	10	UJ		NA	10	U	10	U	10	U
4-Methyl-2-Pentanone	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Acetone	10	UJ	10	UJ	10	UJ	10	UJ		NA	10	UJ	10	UJ	10	UJ
Benzene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Carbon Disulfide	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Carbon Tetrachloride	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Chloroform	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Chloromethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
cis-1,2-Dichloroethene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Cyclohexane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Dibromochloromethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Dichlorodifluoromethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	FB-042000		RB-042000		RB-042400		RB-042600		RB-042700		TB-042000		TB-042400		TB-042500	
Date Sampled	4/20/00		4/20/00		4/24/00		4/26/00		4/27/00		4/20/00		4/24/00		4/25/00	
QC Identifier	Field Blank		Rinsate Blank		Rinsate Blank		Rinsate Blank		Rinsate Blank		Trip Blank		Trip Blank		Trip Blank	
Matrix	Blank		Blank		Blank		Blank		Blank		Blank		Blank		Blank	
Percent Solids	0		0		0		0		0		0		0		0	
Ethylbenzene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Isopropylbenzene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Methyl Acetate	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Methyl tert-Butyl Ether	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Methylcyclohexane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Methylene Chloride	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Styrene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Tetrachloroethene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Toluene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Total Xylenes	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
trans-1,2-Dichloroethene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Trichloroethene	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Trichlorofluoromethane	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U
Vinyl Chloride	10	U	10	U	10	U	10	U		NA	10	U	10	U	10	U

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	FB-042000		RB-042000		RB-042400		RB-042600		RB-042700		TB-042000		TB-042400		TB-042500	
Date Sampled	4/20/00		4/20/00		4/24/00		4/26/00		4/27/00		4/20/00		4/24/00		4/25/00	
QC Identifier	Field Blank		Rinsate Blank		Rinsate Blank		Rinsate Blank		Rinsate Blank		Trip Blank		Trip Blank		Trip Blank	
Matrix	Blank		Blank		Blank		Blank		Blank		Blank		Blank		Blank	
Percent Solids	0		0		0		0		0		0		0		0	
Semivolatile Organic Analysis (UG/L)																
1,1'-Biphenyl		NA	10	U	10	U	10	U	10	U		NA		NA		NA
2,2'-oxybis(1-Chloropropane)		NA	10	U	10	U	10	U	10	U		NA		NA		NA
2,4,5-Trichlorophenol		NA	25	U	25	U	25	UJ	25	UJ		NA		NA		NA
2,4,6-Trichlorophenol		NA	10	U	10	U	10	U	10	U		NA		NA		NA
2,4-Dichlorophenol		NA	10	U	10	U	10	U	10	U		NA		NA		NA
2,4-Dimethylphenol		NA	10	U	10	U	10	U	10	U		NA		NA		NA
2,4-Dinitrophenol		NA	25	UJ	25	UJ	25	U	25	U		NA		NA		NA
2,4-Dinitrotoluene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
2,6-Dinitrotoluene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
2-Chloronaphthalene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
2-Chlorophenol		NA	10	U	10	U	10	U	10	U		NA		NA		NA
2-Methylnaphthalene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
2-Methylphenol		NA	10	U	10	U	10	U	10	U		NA		NA		NA
2-Nitroaniline		NA	25	U	25	U	25	U	25	U		NA		NA		NA
2-Nitrophenol		NA	10	U	10	U	10	U	10	U		NA		NA		NA
3,3'-Dichlorobenzidine		NA	10	U	10	U	10	U	10	U		NA		NA		NA
3-Nitroaniline		NA	25	U	25	U	25	U	25	U		NA		NA		NA
4,6-Dinitro-2-methylphenol		NA	25	U	25	U	25	U	25	U		NA		NA		NA
4-Bromophenyl-phenylether		NA	10	U	10	U	10	U	10	U		NA		NA		NA
4-Chloro-3-methylphenol		NA	10	U	10	U	10	U	10	U		NA		NA		NA
4-Chloroaniline		NA	10	U	10	U	10	U	10	U		NA		NA		NA
4-Chlorophenyl-phenylether		NA	10	U	10	U	10	UJ	10	UJ		NA		NA		NA
4-Methylphenol		NA	10	U	10	U	10	U	10	U		NA		NA		NA
4-Nitroaniline		NA	25	U	25	U	25	U	25	U		NA		NA		NA
4-Nitrophenol		NA	25	U	25	U	25	U	25	U		NA		NA		NA
Acenaphthene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Acenaphthylene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Acetophenone		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Anthracene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Atrazine		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Benzaldehyde		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Benzo(a)anthracene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Benzo(a)pyrene		NA	10	U	10	U	10	U	10	U		NA		NA		NA

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	FB-042000		RB-042000		RB-042400		RB-042600		RB-042700		TB-042000		TB-042400		TB-042500	
Date Sampled	4/20/00		4/20/00		4/24/00		4/26/00		4/27/00		4/20/00		4/24/00		4/25/00	
QC Identifier	Field Blank		Rinsate Blank		Rinsate Blank		Rinsate Blank		Rinsate Blank		Trip Blank		Trip Blank		Trip Blank	
Matrix	Blank		Blank		Blank		Blank		Blank		Blank		Blank		Blank	
Percent Solids	0		0		0		0		0		0		0		0	
Benzo(b)fluoranthene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Benzo(g,h,i)perylene		NA	10	U	10	UJ	10	U	10	U		NA		NA		NA
Benzo(k)fluoranthene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Bis(2-Chloroethoxy)methane		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Bis(2-Chloroethyl)ether		NA	10	U	10	U	10	U	10	U		NA		NA		NA
bis(2-Ethylhexyl)phthalate		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Butylbenzylphthalate		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Caprolactam		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Carbazole		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Chrysene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Di-n-Butylphthalate		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Di-n-octylphthalate		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Dibenzo(a,h)anthracene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Dibenzofuran		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Diethylphthalate		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Dimethylphthalate		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Fluoranthene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Fluorene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Hexachlorobenzene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Hexachlorobutadiene		NA	10	UJ	10	UJ	10	UJ	10	UJ		NA		NA		NA
Hexachlorocyclopentadiene		NA	10	U	10	UJ	10	UJ	10	UJ		NA		NA		NA
Hexachloroethane		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Indeno(1,2,3-cd)pyrene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Isophorone		NA	10	U	10	U	10	U	10	U		NA		NA		NA
N-Nitroso-di-n-propylamine		NA	10	U	10	U	10	U	10	U		NA		NA		NA
N-Nitroso-diphenylamine		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Naphthalene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Nitrobenzene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Pentachlorophenol		NA	25	UJ	25	UJ	25	U	25	U		NA		NA		NA
Phenanthrene		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Phenol		NA	10	U	10	U	10	U	10	U		NA		NA		NA
Pyrene		NA	10	U	10	U	10	U	10	U		NA		NA		NA

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Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	FB-042000		RB-042000		RB-042400		RB-042600		RB-042700		TB-042000		TB-042400		TB-042500	
Date Sampled	4/20/00		4/20/00		4/24/00		4/26/00		4/27/00		4/20/00		4/24/00		4/25/00	
QC Identifier	Field Blank		Rinsate Blank		Rinsate Blank		Rinsate Blank		Rinsate Blank		Trip Blank		Trip Blank		Trip Blank	
Matrix	Blank		Blank		Blank		Blank		Blank		Blank		Blank		Blank	
Percent Solids	0		0		0		0		0		0		0		0	
Pesticide/PCB Analysis (UG/L)																
4,4'-DDD		NA	0.10	U	0.10	U	0.10	U	0.10	U		NA		NA		NA
4,4'-DDE		NA	0.10	U	0.10	U	0.10	U	0.10	U		NA		NA		NA
4,4'-DDT		NA	0.10	U	0.10	U	0.10	U	0.10	U		NA		NA		NA
Aldrin		NA	0.05	U	0.05	U	0.05	U	0.05	U		NA		NA		NA
alpha-BHC		NA	0.05	U	0.05	U	0.05	U	0.05	U		NA		NA		NA
alpha-Chlordane		NA	0.05	U	0.05	U	0.05	U	0.05	U		NA		NA		NA
Aroclor-1016		NA	1.0	U	1.0	U	1.0	U	1.0	U		NA		NA		NA
Aroclor-1221		NA	2.0	U	2.0	U	2.0	U	2.0	U		NA		NA		NA
Aroclor-1232		NA	1.0	U	1.0	U	1.0	U	1.0	U		NA		NA		NA
Aroclor-1242		NA	1.0	U	1.0	U	1.0	U	1.0	U		NA		NA		NA
Aroclor-1248		NA	1.0	U	1.0	U	1.0	U	1.0	U		NA		NA		NA
Aroclor-1254		NA	1.0	U	1.0	U	1.0	U	1.0	U		NA		NA		NA
Aroclor-1260		NA	1.0	U	1.0	U	1.0	U	1.0	U		NA		NA		NA
beta-BHC		NA	0.05	U	0.05	U	0.05	U	0.05	U		NA		NA		NA
delta-BHC		NA	0.05	U	0.05	U	0.05	U	0.05	U		NA		NA		NA
Dieldrin		NA	0.10	U	0.10	U	0.10	U	0.10	U		NA		NA		NA
Endosulfan I		NA	0.05	U	0.05	U	0.05	U	0.05	U		NA		NA		NA
Endosulfan II		NA	0.10	U	0.10	U	0.10	U	0.10	U		NA		NA		NA
Endosulfan Sulfate		NA	0.10	U	0.10	U	0.10	U	0.10	U		NA		NA		NA
Endrin		NA	0.10	U	0.10	U	0.10	U	0.10	U		NA		NA		NA
Endrin Aldehyde		NA	0.10	U	0.10	U	0.10	U	0.10	U		NA		NA		NA
Endrin Ketone		NA	0.10	U	0.10	U	0.10	U	0.10	U		NA		NA		NA
gamma-BHC		NA	0.05	U	0.05	U	0.05	U	0.05	U		NA		NA		NA
gamma-Chlordane		NA	0.05	U	0.05	U	0.05	U	0.05	U		NA		NA		NA
Heptachlor		NA	0.05	U	0.05	U	0.05	U	0.05	U		NA		NA		NA
Heptachlor Epoxide		NA	0.05	U	0.05	U	0.05	U	0.05	U		NA		NA		NA
Methoxychlor		NA	0.50	U	0.50	U	0.50	U	0.50	U		NA		NA		NA
Toxaphene		NA	5.0	U	5.0	U	5.0	U	5.0	U		NA		NA		NA
Gasoline Range Organic Analysis (MG/L)																
Gasoline Range Organics	0.20	U	0.20	U	0.20	U	0.20	U		NA		NA		NA		NA
Diesel Range Organic Analysis (MG/L)																
Diesel Range Organics		NA	0.10	U	0.10	U	0.10	U	0.10	U		NA		NA		NA

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* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	FB-042000		RB-042000		RB-042400		RB-042600		RB-042700		TB-042000		TB-042400		TB-042500	
Date Sampled	4/20/00		4/20/00		4/24/00		4/26/00		4/27/00		4/20/00		4/24/00		4/25/00	
QC Identifier	Field Blank		Rinsate Blank		Rinsate Blank		Rinsate Blank		Rinsate Blank		Trip Blank		Trip Blank		Trip Blank	
Matrix	Blank		Blank		Blank		Blank		Blank		Blank		Blank		Blank	
Percent Solids	0		0		0		0		0		0		0		0	
TAL Metal Analysis (UG/L)																
Aluminum		NA	66.6	U	98.7	U	98.7	U	98.7	U		NA		NA		NA
Antimony		NA	2.5	U	2.5	U	2.5	U	2.5	U		NA		NA		NA
Arsenic		NA	3.5	U	2.3	U	2.3	U	2.3	U		NA		NA		NA
Barium		NA	4.6	U	5.1	U	5.1	U	5.1	U		NA		NA		NA
Beryllium		NA	0.30	U	0.10	U	0.10	U	0.10	U		NA		NA		NA
Cadmium		NA	0.30	U	0.20	U	0.89	U	0.20	U		NA		NA		NA
Calcium		NA	38.6	U	20.9	U	35.2	U	31.0	U		NA		NA		NA
Chromium		NA	0.70	U	0.80	U	1.2	U	0.80	U		NA		NA		NA
Cobalt		NA	0.60	U	0.70	U	0.70	U	0.70	U		NA		NA		NA
Copper		NA	1.0	UJ	2.8	U	22.8		1.9	U		NA		NA		NA
Cyanide		NA	10.0	U	10.0	U	10.0	U	10.0	U		NA		NA		NA
Iron		NA	12.1	U	52.2	U	71.7	U	52.2	U		NA		NA		NA
Lead		NA	1.8	U	2.1	U	2.8	J	2.1	U		NA		NA		NA
Magnesium		NA	15.8	U	10.9	U	22.0	U	34.5	U		NA		NA		NA
Manganese		NA	0.50	U	1.0	U	1.0	U	1.0	U		NA		NA		NA
Mercury		NA	0.10	U	0.10	U	0.10	U	0.10	U		NA		NA		NA
Nickel		NA	1.2	U	1.0	U	8.8		1.0	U		NA		NA		NA
Potassium		NA	56.1	U	80.9	U	80.9	U	80.9	U		NA		NA		NA
Selenium		NA	3.8	U	4.1	UJ	4.1	UJ	4.1	UJ		NA		NA		NA
Silver		NA	0.50	U	0.90	U	0.90	U	0.90	U		NA		NA		NA
Sodium		NA	175	U	170	U	170	U	251			NA		NA		NA
Thallium		NA	3.7	U	4.8	U	4.6	U	4.6	U		NA		NA		NA
Vanadium		NA	0.50	U	0.70	U	0.70	U	0.70	U		NA		NA		NA
Zinc		NA	23.2		17.4	U	61.5		8.2	U		NA		NA		NA

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	TB-042600		TB-042700	
Date Sampled	4/26/00		4/27/00	
QC Identifier	Trip Blank		Trip Blank	
Matrix	Blank		Blank	
Percent Solids	0		0	
Volatile Organic Analysis (UG/L)				
1,1,1-Trichloroethane	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U
1,1-Dichloroethane	10	U	10	U
1,1-Dichloroethene	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U
1,2-Dibromo-3-chloropropane	10	U	10	U
1,2-Dibromoethane	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U
1,2-Dichloroethane	10	U	10	U
1,2-Dichloropropane	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U
2-Butanone	10	UJ	10	UJ
2-Hexanone	10	UJ	10	UJ
4-Methyl-2-Pentanone	10	U	10	U
Acetone	10	UJ	10	UJ
Benzene	10	U	10	U
Bromodichloromethane	10	U	10	U
Bromoform	10	U	10	U
Bromomethane	10	U	10	U
Carbon Disulfide	10	U	10	U
Carbon Tetrachloride	10	U	10	U
Chlorobenzene	10	U	10	U
Chloroethane	10	U	10	U
Chloroform	10	U	10	U
Chloromethane	10	U	10	U
cis-1,2-Dichloroethene	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U
Cyclohexane	10	U	10	U
Dibromochloromethane	10	U	10	U
Dichlorodifluoromethane	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	TB-042600		TB-042700	
Date Sampled	4/26/00		4/27/00	
QC Identifier	Trip Blank		Trip Blank	
Matrix	Blank		Blank	
Percent Solids	0		0	
Ethylbenzene	10	U	10	U
Isopropylbenzene	10	U	10	U
Methyl Acetate	10	U	10	U
Methyl tert-Butyl Ether	10	U	10	U
Methylcyclohexane	10	U	10	U
Methylene Chloride	10	U	10	U
Styrene	10	U	10	U
Tetrachloroethene	10	U	10	U
Toluene	10	U	10	U
Total Xylenes	10	U	10	U
trans-1,2-Dichloroethene	10	U	10	U
trans-1,3-Dichloropropene	10	U	10	U
Trichloroethene	10	U	10	U
Trichlorofluoromethane	10	U	10	U
Vinyl Chloride	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	TB-042600		TB-042700	
Date Sampled	4/26/00		4/27/00	
QC Identifier	Trip Blank		Trip Blank	
Matrix	Blank		Blank	
Percent Solids	0		0	
Semivolatile Organic Analysis (UG/L)				
1,1'-Biphenyl		NA		NA
2,2'-oxybis(1-Chloropropane)		NA		NA
2,4,5-Trichlorophenol		NA		NA
2,4,6-Trichlorophenol		NA		NA
2,4-Dichlorophenol		NA		NA
2,4-Dimethylphenol		NA		NA
2,4-Dinitrophenol		NA		NA
2,4-Dinitrotoluene		NA		NA
2,6-Dinitrotoluene		NA		NA
2-Chloronaphthalene		NA		NA
2-Chlorophenol		NA		NA
2-Methylnaphthalene		NA		NA
2-Methylphenol		NA		NA
2-Nitroaniline		NA		NA
2-Nitrophenol		NA		NA
3,3'-Dichlorobenzidine		NA		NA
3-Nitroaniline		NA		NA
4,6-Dinitro-2-methylphenol		NA		NA
4-Bromophenyl-phenylether		NA		NA
4-Chloro-3-methylphenol		NA		NA
4-Chloroaniline		NA		NA
4-Chlorophenyl-phenylether		NA		NA
4-Methylphenol		NA		NA
4-Nitroaniline		NA		NA
4-Nitrophenol		NA		NA
Acenaphthene		NA		NA
Acenaphthylene		NA		NA
Acetophenone		NA		NA
Anthracene		NA		NA
Atrazine		NA		NA
Benzaldehyde		NA		NA
Benzo(a)anthracene		NA		NA
Benzo(a)pyrene		NA		NA

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	TB-042600		TB-042700	
Date Sampled	4/26/00		4/27/00	
QC Identifier	Trip Blank		Trip Blank	
Matrix	Blank		Blank	
Percent Solids	0		0	
Benzo(b)fluoranthene		NA		NA
Benzo(g,h,i)perylene		NA		NA
Benzo(k)fluoranthene		NA		NA
Bis(2-Chloroethoxy)methane		NA		NA
Bis(2-Chloroethyl)ether		NA		NA
bis(2-Ethylhexyl)phthalate		NA		NA
Butylbenzylphthalate		NA		NA
Caprolactam		NA		NA
Carbazole		NA		NA
Chrysene		NA		NA
Di-n-Butylphthalate		NA		NA
Di-n-octylphthalate		NA		NA
Dibenzo(a,h)anthracene		NA		NA
Dibenzofuran		NA		NA
Diethylphthalate		NA		NA
Dimethylphthalate		NA		NA
Fluoranthene		NA		NA
Fluorene		NA		NA
Hexachlorobenzene		NA		NA
Hexachlorobutadiene		NA		NA
Hexachlorocyclopentadiene		NA		NA
Hexachloroethane		NA		NA
Indeno(1,2,3-cd)pyrene		NA		NA
Isophorone		NA		NA
N-Nitroso-di-n-propylamine		NA		NA
N-Nitroso-diphenylamine		NA		NA
Naphthalene		NA		NA
Nitrobenzene		NA		NA
Pentachlorophenol		NA		NA
Phenanthrene		NA		NA
Phenol		NA		NA
Pyrene		NA		NA

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	TB-042600		TB-042700	
Date Sampled	4/26/00		4/27/00	
QC Identifier	Trip Blank		Trip Blank	
Matrix	Blank		Blank	
Percent Solids	0		0	
Pesticide/PCB Analysis (UG/L)				
4,4'-DDD		NA		NA
4,4'-DDE		NA		NA
4,4'-DDT		NA		NA
Aldrin		NA		NA
alpha-BHC		NA		NA
alpha-Chlordane		NA		NA
Aroclor-1016		NA		NA
Aroclor-1221		NA		NA
Aroclor-1232		NA		NA
Aroclor-1242		NA		NA
Aroclor-1248		NA		NA
Aroclor-1254		NA		NA
Aroclor-1260		NA		NA
beta-BHC		NA		NA
delta-BHC		NA		NA
Dieldrin		NA		NA
Endosulfan I		NA		NA
Endosulfan II		NA		NA
Endosulfan Sulfate		NA		NA
Endrin		NA		NA
Endrin Aldehyde		NA		NA
Endrin Ketone		NA		NA
gamma-BHC		NA		NA
gamma-Chlordane		NA		NA
Heptachlor		NA		NA
Heptachlor Epoxide		NA		NA
Methoxychlor		NA		NA
Toxaphene		NA		NA
Gasoline Range Organic Analysis (MG/L)				
Gasoline Range Organics		NA		NA
Diesel Range Organic Analysis (MG/L)				
Diesel Range Organics		NA		NA

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

Analytical Results
Gould Island
Newport, Rhode Island

Sample Number	TB-042600		TB-042700	
Date Sampled	4/26/00		4/27/00	
QC Identifier	Trip Blank		Trip Blank	
Matrix	Blank		Blank	
Percent Solids	0		0	
TAL Metal Analysis (UG/L)				
Aluminum		NA		NA
Antimony		NA		NA
Arsenic		NA		NA
Barium		NA		NA
Beryllium		NA		NA
Cadmium		NA		NA
Calcium		NA		NA
Chromium		NA		NA
Cobalt		NA		NA
Copper		NA		NA
Cyanide		NA		NA
Iron		NA		NA
Lead		NA		NA
Magnesium		NA		NA
Manganese		NA		NA
Mercury		NA		NA
Nickel		NA		NA
Potassium		NA		NA
Selenium		NA		NA
Silver		NA		NA
Sodium		NA		NA
Thallium		NA		NA
Vanadium		NA		NA
Zinc		NA		NA

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; NA - Not Analyzed

APPENDIX B

REPORT OF SOIL GAS INVESTIGATION
W.L. GORE AND ASSOCIATES

W. L. GORE & ASSOCIATES, INC.

Creative Technologies Worldwide

100 CHESAPEAKE BLVD., P.O. BOX 10 • ELKTON, MARYLAND 21922-0010 • PHONE: 410/392-7600
FAX: 410/506-4780

GORE-SORBER® EXPLORATION SURVEY
GORE-SORBER® SCREENING SURVEY

GORE-SORBER® Screening Survey
Final Report

Gould Island Building 32
Newport, RI

May 24, 2000

Gore Production Order No. 10380972

Prepared For:
Tetra Tech NUS, Inc.
55 Jonspin Road
Wilmington, MA 01887

W.L. Gore & Associates, Inc.

Written/Submitted by:
Jay W. Hodny, Ph.D., Project Manager

Reviewed/Approved by:
Ray F. Fenstermacher, P.G., Project Manager

Analytical Data Reviewed by:
Jim E. Whetzel, Chemist

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GORE-SORBER® Screening Survey
Final Report

REPORT DATE: May 24, 2000 **AUTHOR:** JWH

SITE INFORMATION

Site Reference: Gould Island Building 32, Newport, RI
Customer Purchase Order Number: 00-775
Gore Production Order Number: 10380972 **Gore Site Code:** BJM

FIELD PROCEDURES

 # Modules shipped: 76
Installation Date(s): 04/17/2000 **# Modules Installed:** 66
Field work performed by: Tetra Tech NUS, Inc.

Retrieval date(s): 05/01/2000 **Exposure Time:** 14 [days]
 # Modules Retrieved: 61 **# Trip Blanks Returned:** 2
 # Modules Lost in Field: 3 **# Unused Modules Returned:** 0

Date/Time Received by Gore: 05/03/2000 @ 01:15 PM **By:** TS
Chain of Custody Form attached: √
Chain of Custody discrepancies: None
Comments:
Two modules, #327762 and –738, were identified as trip blanks.
Nine modules, #327690-696, -767, and –768, were not returned to Gore.
Three modules, #327745, -753, and –758, were not returned to Gore and indicated as lost on the Chain of Custody.
One module, #327734, was listed as not installed.

GORE-SORBER® Screening Survey
Final Report

ANALYTICAL PROCEDURES

W.L. Gore & Associates´ Screening Module Laboratory operates under the guidelines of its Quality Assurance Manual, Operating Procedures and Methods. The quality assurance program is consistent with Good Laboratory Practices (GLP) and ISO Guide 25, "General Requirements for the Competence of Calibration and Testing Laboratories", third edition, 1990.

Instrumentation consists of state of the art gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation simply involves cutting the tip off the bottom of the sample module and transferring one or more exposed sorbent containers (sorbers, each containing 40mg of a suitable granular adsorbent) to a thermal desorption tube for analysis. Sorbers remain clean and protected from dirt, soil, and ground water by the insertion/retrieval cord, and require no further sample preparation.

Analytical Method Quality Assurance:
The analytical method employed is a modified EPA method 8260A/8270B. Before each run sequence, two instrument blanks, a sorber containing 5µg BFB (Bromofluorobenzene), and a method blank are analyzed. The BFB mass spectra must meet the criteria set forth in the method before samples can be analyzed. A method blank and a sorber containing BFB is also analyzed after every 30 samples and/or trip blanks. Standards containing the selected target compounds at three calibration levels of 5, 20, and 50µg are analyzed at the beginning of each run. The criterion for each target compound is less than 35% RSD (relative standard deviation). If this criterion is not met for any target compound, the analyst has the option of generating second- or third-order standard curves, as appropriate. A second-source reference standard, at a level of 10µg per target compound, is analyzed after every ten samples and/or trip blanks, and at the end of the run sequence. Positive identification of target compounds is determined by 1) the presence of the target ion and at least two secondary ions; 2) retention time versus reference standard; and, 3) the analyst's judgment.

NOTE: All data have been archived. Any replicate sorbers not used in the initial analysis will be discarded fifteen (15) days from the date of analysis.

Laboratory analysis: thermal desorption, gas chromatography, mass selective detection
Quality Assurance Level: 2 (ANA-4/A1)
Instrument ID: # 5 **Chemist:** JW **Data Subdirectory:** 10380972
Compounds/mixtures requested: Custom Target Compounds
Deviations from Standard Method: None
Comments: Soil vapor analytes and abbreviations are tabulated in the Data Table Key (page 6).

GORE-SORBER® Screening Survey
Final Report

DATA TABULATION

 # CONTOUR MAPS ENCLOSED: Three B-sized color contour maps
LIST OF MAPS ENCLOSED:

- Trichloroethene (TCE)
- Naphthalene
- Total Petroleum Hydrocarbons (TPH)

NOTE: All data values presented in Appendix A represent masses of compound(s) desorbed from the GORE-SORBER Screening Modules received and analyzed by W.L. Gore, as identified in the Chain of Custody (Appendix A). The measurement traceability and instrument performance are reproducible and accurate for the measurement process documented. Semi-quantitation of the compound mass is based on either a single-level (QA Level 1) or three-level (QA Level 2) standard calibration.

General Comments:

- This survey reports soil gas mass levels present in the vapor phase. Vapors are subject to a variety of attenuation factors during migration away from the source concentration to the module. Thus, mass levels reported from the module will often be less than concentrations reported in soil and groundwater matrix data. In most instances, the soil gas masses reported on the modules compare favorably with concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels relative to other sampled locations on the site, matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.
- Soil gas signals reported by this method cannot be identified to soil adsorbed, groundwater, and/or free-product contamination. The soil gas signal reported from each module can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).
- Currently, soil gas surveys are not designed to replace soil or groundwater matrix sampling. Following a soil gas survey, matrix sampling is recommended in select areas to establish the nature of the contamination (i.e., soil, groundwater, or both), and the relationship to the soil gas levels.

GORE-SORBER® Screening Survey
Final Report

- QA/QC trip blank modules were provided to document contamination occurring that was not part of the soil gas signal of interest (i.e., impact during module shipment, installation and retrieval, and storage). The trip blanks are identically manufactured and packaged soil gas modules to those modules placed in the subsurface. However, the trip blanks remain unopened during all phases of the soil gas survey. Levels reported on the trip blanks may indicate potential impact to modules other than the contaminant source of interest.
- Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central GC elution time in the total ion chromatogram. Typically, UPEs are indicative of complex fluid mixtures that are present in the subsurface. UPEs observed early in the chromatogram are considered to indicate the presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids. Attenuation of the VOC/SVOC soil gas components may suggest the presence of a less volatile fluid, when in fact, a more volatile fluid existed but the volatile components have weathered away.

Project Specific Comments:

- The minimum (gray) contour level for individually mapped target analytes is set at the maximum QA blank level observed or the method detection limit (MDL), whichever is greater. For summed compounds, e.g., BTEX, the minimum contour level is arbitrarily set at 0.02 μg or the maximum blank level observed, whichever is greater. No MDLs exist for summed data. The maximum contour level is set at the maximum value observed, by compound(s).
- Stacked total ion chromatograms (TICs) are included in Appendix A. The six digit serial number of each module is incorporated into the TIC identification (e.g.: 123456S.D represents module #123456).
- Nominal QA blank levels were reported for some target analytes. In our experience, TPH, GRPH, and DRPH, present in the blanks at these levels, can be considered "background." Thus, target analyte levels, reported for the field-installed modules, that exceed trip and method blank levels, and the method detection limits, have a high probability of originating from on-site sources.
- Moderate to high soil gas mass levels for petroleum-related and chlorinated compounds were observed. Naphthalene and 2-methylnaphthalene levels were the most abundant.
- Well-defined naphthalene soil gas plumes were observed encompassing modules installed within the building.
- The soil gas plumes appear to extend into areas of the site that were not sampled for soil gas. If the objective of the soil gas survey was to delineate the nature and extent of the contamination, then additional soil gas sampling is recommended in those areas. Subsequent soil gas sampling events can be combined onto one set of maps providing increased resolution of the subsurface impact.

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GORE-SORBER® Screening Survey
Final Report

KEY TO DATA TABLE
Gould Island Building 32, Newport, RI

UNITS

µg	micrograms (per sorber), reported for compounds
MDL	method detection limit
bdl	below detection limit
nd	non-detect

ANALYTES

TPH	total petroleum hydrocarbons
GRPH	gasoline-range petroleum hydrocarbons
DRPH	diesel-range petroleum hydrocarbons
2MePHENOL	2-methylphenol
BTEX	benzene, toluene, ethylbenzene and total xylenes combined
BENZ	benzene
TOL	toluene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
oXYL	o-xylene
C11, C13, & C15	undecane, tridecane, and pentadecane combined (Diesel Range Alkanes)
UNDEC	undecane
TRIDEC	tridecane
PENTADEC	pentadecane
TMBs	1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene combined
135TMB	1,3,5-trimethylbenzene
124TMB	1,2,4-trimethylbenzene
ct12DCE	cis- & trans-1,2-dichloroethene combined
t12DCE	trans-1,2-dichloroethene
c12DCE	cis-1,2-dichloroethene
NAPH&2-MN	naphthalene and 2-methyl naphthalene combined
NAPH	naphthalene
2MeNAPH	2-methyl naphthalene
MTBE	methyl t-butyl ether
11DCA	1,1-dichloroethane
$CHCl_3$	chloroform
111TCA	1,1,1-trichloroethane
12DCA	1,2-dichloroethane
CCl_4	carbon tetrachloride
TCE	trichloroethene
OCT	octane
PCE	tetrachloroethene
ClBENZ	chlorobenzene
14DCB	1,4-dichlorobenzene
112TCA	1,1,2-trichloroethane
1112TetCA	1,1,1,2-tetrachloroethane
1122TetCA	1,1,2,2-tetrachloroethane
13DCB	1,3-dichlorobenzene
14DCB	1,4-dichlorobenzene
12DCB	1,2-dichlorobenzene

BLANKS

TBn	unexposed modules (trip blanks), documents ambient impact during field activities
method blank	QA/QC module, documents ambient impact during analysis

APPENDIX A:

1. CHAIN OF CUSTODY
2. DATA TABLE
3. STACKED TOTAL ION CHROMATOGRAMS
4. COLOR CONTOUR MAPS

GORE-SORBER® Screening Survey Chain of Custody

For W.L. Gore & Associates use only
Production Order # 10380972

W. L. Gore & Associates, Inc., Environmental Products Group
100 Chesapeake Boulevard • Elkton, Maryland 21921 • Tel: (410) 392-7600 • Fax (410) 506-4780

Instructions: Customer must complete ALL shaded cells

Customer Name: tetra tech nus inc	Site Name: naval education and training center
Address: 55 jonspin road	Site Address: Newport, RI
wilmington ma	Gould Island Bldg 32
usa	Project Manager: steve parker
Phone: 978-658-7899	Customer Project No.: N7574
FAX: 978-658-7870	Customer P.O. #: 00-775 Quote #: 206557

Serial # of Modules Shipped						# of Modules for Installation 70 # of Trip Blanks 6		
# 327690	-	# 327758	#	-	#	Total Modules Shipped: 76 Pieces		
# 327762	-	# 327768	#	-	#	Total Modules Received: 76 Pieces		
#	-	#	#	-	#	Total Modules Installed: 66 (- 3 lost) Pieces		
#	-	#	#	-	#	Serial # of Trip Blanks (*Client Decides*)		#
#	-	#	#	-	#	# 327762	#	#
#	-	#	#	-	#	# 327738	#	#
#	-	#	#	-	#	#	#	#
#	-	#	#	-	#	#	#	#
#	-	#	#	-	#	#	#	#
#	-	#	#	-	#	#	#	#
GORE ANALYTICAL OPTION:						#	#	#
[A 7]						#	#	#

Installation Performed By:	Installation Method(s) (*circle those that apply*):
Name (*please print*): Steve Parker / Dave Masse	Slide Hammer (Hammer Drill) Auger
Company/Affiliation: Tetra Tech NUS	Other:

Installation Start Date and Time:	4 / 17 / 00	7 : 35	(AM) PM
Installation Complete Date and Time:	4 / 17 / 00	3 : 50	AM (PM)

Retrieval Performed By:	Total Modules Retrieved: 63 Pieces
Name (*please print*): Steve Parker / Dave Masse	Total Modules Lost in Field: 3 Pieces
Company/Affiliation: Tetra Tech NUS	Total Unused Modules Returned: 0 Pieces

Retrieval Start Date and Time:	5 / 1 / 00	6 : 55	(AM) PM
Retrieval Complete Date and Time:	5 / 1 / 00	9 : 30	(AM) PM

Relinquished By [signature] Affiliation: W.L. Gore & Associates, Inc.	Date 4-13-00	Time 12:50	Received By: Affiliation:	Date	Time
Relinquished By [signature] Affiliation: T+N US Inc	Date 5-2-00	Time 1600	Received By: Affiliation:	Date	Time
Relinquished By Affiliation	Date	Time	Received By: [signature] Affiliation: W.L. Gore & Associates, Inc.	Date 5/3/00	Time 11:15 pm

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FORM 8R.5

GORE-SORBER® Screening Survey
Installation and Retrieval Log

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SITE NAME & LOCATION
Gould Island Building 32
Newport, RI

LINE #	MODULE #	INSTALLATION DATE/TIME	RETRIEVAL DATE/TIME	EVIDENCE OF LIQUID HYDROCARBONS (LPH) or HYDROCARBON ODOR (Check as appropriate)			MODULE IN WATER (check one)		COMMENTS
				LPH	ODOR	NONE	YES	NO	
1.	327690								
2.	327691								
3.	327692								
4.	327693								
5.	327694								
6.	327695								
7.	327696								
8.	327697	4/17/00 / 1550	5/1/00 0930			✓		✓	
9.	327698	4/17/00 / 1550	5/1/00 0930			✓		✓	
10.	327699	4/17/00 / 1545	5/1/00 0928			✓		✓	
11.	327700	4/17/00 1535	5/1/00 0926			✓		✓	
12.	327701	4/17/00 1525	5/1/00 0924			✓		✓	
13.	327702	4/17/00 1525	5/1/00 0924			✓		✓	
14.	327703	4/17/00 1515	5/1/00 0935			✓		✓	
15.	327704	4/17/00 1455	5/1/00 0920			✓		✓	
16.	327705	4/17/00 1445	5/1/00 0918			✓		✓	
17.	327706	4/17/00 1445	5/1/00 0918			✓		✓	
18.	327707	4/17/00 1440	5/1/00 0917			✓		✓	
19.	327708	4/17/00 1429	5/1/00 0915			✓		✓	
20.	327709	4/17/00 1424	5/1/00 0914			✓		✓	
21.	327710	4/17/00 1418	5/1/00 0913			✓		✓	
22.	327711	4/17/00 1411	5/1/00 0912			✓		✓	
23.	327712	4/17/00 1405	5/1/00 0911			✓		✓	
24.	327713	4/17/00 1359	5/1/00 0910			✓		✓	
25.	327714	4/17/00 1340	5/1/00 0908			✓		✓	
26.	327715	4/17/00 1330	5/1/00 0906			✓		✓	
27.	327716	4/17/00 1310	5/1/00 0905			✓		✓	
28.	327717	4/17/00 1304	5/1/00 0902			✓		✓	
29.	327718	4/17/00 1259	5/1/00 0859			✓		✓	
30.	327719	4/17/00 1250	5/1/00 0858			✓		✓	
31.	327720	4/17/00 1242	5/1/00 0856			✓		✓	
32.	327721	4/17/00 1235	5/1/00 0854			✓		✓	
33.	327722	4/17/00 1228	5/1/00 0853			✓		✓	
34.	327723	4/17/00 1224	5/1/00 0851			✓		✓	
35.	327724	4/17/00 1214	5/1/00 0850			✓		✓	
36.	327725	4/17/00 1211	5/1/00 0849			✓		✓	
37.	327726	4/17/00 1118	5/1/00 0839			✓		✓	
38.	327727	4/17/00 1115	5/1/00 0842			✓		✓	
39.	327728	4/17/00 1107	5/1/00 0845			✓		✓	
40.	327729	4/17/00 1058	5/1/00 0836			✓		✓	
41.	327730	4/17/00 1055	5/1/00 0835			✓		✓	
42.	327731	4/17/00 1051	5/1/00 0832			✓		✓	

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GORE-SORBER® Screening Survey
Installation and Retrieval Log

Page 2 of 2

SITE NAME & LOCATION
Gould Island Building 32
Newport, RI

LINE #	MODULE #	INSTALLATION DATE/TIME	RETRIEVAL DATE/TIME	EVIDENCE OF LIQUID HYDROCARBONS (LPH) or HYDROCARBON ODOR (Check as appropriate)			MODULE IN WATER (check one)		COMMENTS
				LPH	ODOR	NONE	YES	NO	
43.	327732	4/17/00 1046	5/1/00 0829			✓		✓	
44.	327733	4/17/00 1041	5/1/00 0828			✓		✓	
45.	327734	NOT INSTALLED							
46.	327735	4/17/00 1028	5/1/00 0830			✓		✓	
47.	327736	4/17/00 1020	5/1/00 0825			✓		✓	
48.	327737	4/17/00 1010	5/1/00 0823			✓		✓	
49.	327738	4/17/00 1000	5/1/00 0823			✓		✓	
50.	327739	4/17/00 0953	5/1/00 0815			✓		✓	
51.	327740	4/17/00 0953	5/1/00 0815			✓		✓	
52.	327741	4/17/00 0948	5/1/00 0809			✓		✓	
53.	327742	4/17/00 0944	5/1/00 0808			✓		✓	
54.	327743	4/17/00 0942	5/1/00 0807			✓		✓	
55.	327744	4/17/00 0935	5/1/00 0805			✓		✓	
56.	327745	4/17/00 0929	— —						
57.	327746	4/17/00 0920	5/1/00 0751			✓		✓	
58.	327747	4/17/00 0910	5/1/00 0745			✓		✓	
59.	327748	4/17/00 0859	5/1/00 0740			✓		✓	
60.	327749	4/17/00 0855	5/1/00 0738			✓		✓	
61.	327750	4/17/00 0855	5/1/00 0738			✓		✓	
62.	327751	4/17/00 0850	5/1/00 0736			✓		✓	
63.	327752	4/17/00 0845	5/1/00 0734			✓		✓	
64.	327753	4/17/00 0819	~~5/1/00~~ —						
65.	327754	4/17/00 0815	5/1/00 0723			✓		✓	
66.	327755	4/17/00 0829	5/1/00 0711			✓		✓	
67.	327756	4/17/00 0834	5/1/00 0708			✓		✓	
68.	327757	4/17/00 0810	5/1/00 0718			✓		✓	
69.	327758	4/17/00 0805	— —						
70.	327762	4/17/00 0750	5/1/00 0710			✓		✓	
71.	327763	4/17/00 0748	5/1/00 0705			✓		✓	
72.	327764	4/17/00 0745	5/1/00 0704			✓		✓	
73.	327765	4/17/00 0742	5/1/00 0703			✓		✓	
74.	327766	4/17/00 0735	5/1/00 0655			✓		✓	
75.	327767								
76.	327768								
77.									
78.									
79.									
80.									
81.									
82.									
83.									
84.									

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GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
TETRA TECH NUS, INC., WILMINGTON, MA
CUSTOM TARGET LIST (A7)
NAVAL EDUCATION AND TRAINING CENTER, NEWPORT, RI
SITE BJM - PRODUCTION ORDER #10380972

DATE ANALYZED	SAMPLE NAME	TPH, ug	GRPH, ug	DRPH, ug	BTEX, ug	BENZ, ug	TOL, ug	EtBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	UNDEC, ug	TRIDEC, ug	PENTADEC, ug	TMBs, ug
	MDL=					0.05	0.03	0.03	0.04	0.02		0.03	0.04	0.01	
05/04/00	327697	4.96	0.07	4.92	0.00	nd	nd	nd	nd	nd	0.17	bdl	0.06	0.11	0.00
05/04/00	327698	3.73	0.07	3.69	0.00	nd	nd	nd	nd	nd	0.12	bdl	0.05	0.07	0.00
05/04/00	327699	24.28	1.90	23.27	0.00	nd	nd	nd	nd	nd	1.26	0.31	0.51	0.44	0.00
05/04/00	327700	19.37	15.78	10.93	41.95	nd	40.85	0.20	0.69	0.22	1.11	0.77	0.22	0.12	0.54
05/04/00	327701	28.34	9.73	23.13	0.18	nd	0.05	bdl	0.07	0.06	2.44	1.16	0.97	0.31	1.19
05/04/00	327702	42.93	13.60	35.65	0.03	nd	nd	bdl	bdl	0.03	4.35	2.35	1.51	0.49	1.39
05/04/00	327703	4.71	2.51	3.37	0.09	nd	nd	nd	0.05	0.04	0.42	0.25	0.11	0.05	0.27
05/04/00	327704	36.96	12.00	30.54	0.27	nd	0.08	bdl	0.10	0.10	6.33	3.46	2.37	0.49	2.59
05/04/00	327705	8.17	4.80	5.60	0.22	nd	0.06	0.04	0.07	0.06	0.60	0.48	0.08	0.04	0.37
05/04/00	327706	9.63	10.64	3.94	1.11	0.06	0.19	0.19	0.40	0.27	0.39	0.36	bdl	0.04	0.91
05/04/00	327707	25.49	21.04	14.24	0.33	nd	0.04	0.03	0.13	0.13	3.20	2.98	0.18	0.04	2.53
05/04/00	327708	41.98	33.30	24.16	0.46	nd	0.27	bdl	0.09	0.10	2.47	0.91	1.05	0.51	1.82
05/04/00	327709	52.29	22.71	40.14	0.43	bdl	0.11	0.06	0.15	0.12	4.33	1.95	1.50	0.89	2.87
05/04/00	327710	3.77	1.38	3.03	0.03	nd	nd	bdl	bdl	0.03	0.34	0.23	0.08	0.03	0.29
05/04/00	327711	6.92	0.62	6.58	0.00	nd	nd	nd	bdl	nd	0.85	0.12	0.56	0.17	0.12
05/04/00	327712	35.88	8.19	31.50	0.23	nd	0.10	bdl	0.07	0.05	4.01	1.47	1.86	0.68	0.76
05/04/00	327713	3.99	3.94	1.88	0.10	nd	nd	bdl	0.05	0.05	0.07	0.05	bdl	0.03	0.51
05/04/00	327714	4.19	3.22	2.47	2.29	nd	1.97	0.06	0.21	0.06	0.15	0.12	bdl	0.03	0.00
05/04/00	327715	5.67	3.87	3.60	0.16	nd	0.04	bdl	0.07	0.05	0.29	0.27	bdl	0.02	0.50
05/04/00	327716	2.28	1.55	1.45	0.00	nd	nd	nd	bdl	bdl	0.00	bdl	bdl	bdl	0.17
05/04/00	327717	2.39	0.24	2.26	0.04	nd	0.04	nd	nd	nd	0.04	bdl	bdl	0.04	0.00
05/04/00	327718	7.48	7.05	3.71	5.48	nd	5.48	nd	bdl	bdl	0.20	0.04	0.10	0.06	0.00
05/04/00	327719	3.22	1.69	2.32	0.03	nd	nd	bdl	bdl	0.03	0.14	0.12	bdl	0.02	0.29
05/04/00	327720	13.00	8.00	8.72	0.39	nd	0.13	0.06	0.11	0.08	2.26	2.15	0.07	0.04	0.86
05/04/00	327721	30.83	17.17	21.64	5.93	0.30	4.72	0.33	0.38	0.20	1.79	1.16	0.32	0.30	0.78
05/04/00	327722	14.40	0.13	14.34	0.00	nd	nd	nd	nd	nd	1.70	0.14	1.02	0.55	0.00
05/04/00	327723	5.50	0.27	5.35	0.06	nd	0.06	nd	bdl	nd	0.30	0.05	0.12	0.13	0.03
05/04/00	327724	2.63	1.39	1.89	1.29	nd	1.29	nd	bdl	bdl	0.10	0.06	bdl	0.04	0.05
05/04/00	327725	45.63	23.20	33.23	0.37	nd	0.27	bdl	0.06	0.04	13.20	12.94	0.22	0.03	3.00
05/04/00	327726	1.09	1.79	0.13	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd	0.00
05/05/00	327727	0.63	0.77	0.22	0.00	nd	nd	nd	nd	nd	0.02	nd	nd	0.02	0.00
05/05/00	327728	0.17	0.07	0.13	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd	0.00
05/05/00	327729	3.32	0.29	3.17	0.00	nd	nd	nd	nd	nd	0.19	0.07	0.06	0.06	0.00
05/05/00	327730	0.29	0.11	0.23	0.06	nd	0.06	nd	nd	nd	0.00	nd	nd	bdl	0.00
05/05/00	327731	3.27	0.64	2.92	0.00	nd	bdl	bdl	bdl	bdl	0.20	0.10	0.06	0.04	0.06
05/05/00	327732	0.06	0.07	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd	0.00
05/05/00	327733	11.60	0.65	11.25	0.00	nd	nd	nd	nd	nd	0.89	0.23	0.41	0.25	0.00
05/05/00	327735	0.48	0.13	0.42	0.00	nd	nd	nd	nd	nd	0.01	nd	bdl	0.01	0.00
05/05/00	327736	0.09	0.12	0.03	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd	0.00
05/05/00	327737	0.69	0.26	0.55	0.00	nd	nd	nd	bdl	bdl	0.03	bdl	bdl	0.03	0.00
05/05/00	327739	4.12	4.32	1.82	0.00	nd	nd	nd	nd	nd	0.03	bdl	bdl	0.03	0.00
05/05/00	327740	1.33	0.42	1.10	0.00	nd	nd	nd	nd	nd	0.01	nd	bdl	0.01	0.00
05/05/00	327741	62.82	36.44	43.32	0.00	nd	nd	nd	bdl	nd	0.59	0.25	0.18	0.15	0.05
05/05/00	327742	2354.89	2075.06	1244.91	23.41	nd	0.11	10.92	10.92	1.46	35.05	13.81	13.88	7.36	214.15

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
TETRA TECH NUS, INC., WILMINGTON, MA
CUSTOM TARGET LIST (A7)
NAVAL EDUCATION AND TRAINING CENTER, NEWPORT, RI
SITE BJM - PRODUCTION ORDER #10380972

DATE ANALYZED	SAMPLE NAME	TPH, ug	GRPH, ug	DRPH, ug	BTEX, ug	BENZ, ug	TOL, ug	EtBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	UNDEC, ug	TRIDEC, ug	PENTADEC, ug	TMBs, ug
	MDL=					0.05	0.03	0.03	0.04	0.02		0.03	0.04	0.01	
05/05/00	327743	20.43	7.07	16.65	0.00	nd	bdl	bdl	bdl	bdl	0.40	0.21	0.07	0.12	0.80
05/05/00	327744	2.74	1.41	1.99	0.00	nd	nd	nd	bdl	nd	0.06	0.04	bdl	0.02	0.19
05/05/00	327746	0.54	0.33	0.37	0.00	nd	nd	bdl	bdl	bdl	0.00	nd	nd	nd	0.08
05/05/00	327747	76.90	0.37	76.70	0.09	nd	0.09	nd	bdl	bdl	11.78	0.06	5.92	5.80	0.07
05/05/00	327748	4.45	1.07	3.88	0.07	nd	0.07	nd	bdl	nd	0.03	bdl	bdl	0.03	0.05
05/05/00	327749	0.50	0.24	0.38	0.00	nd	nd	nd	nd	nd	0.00	bdl	nd	nd	0.02
05/05/00	327750	0.36	0.14	0.29	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd	0.00
05/05/00	327751	42.75	34.96	24.06	0.00	nd	nd	nd	nd	nd	0.32	0.16	0.10	0.06	0.02
05/05/00	327752	270.76	55.42	241.11	0.00	nd	nd	bdl	bdl	nd	4.74	0.72	0.92	3.10	0.04
05/05/00	327754	0.46	0.26	0.31	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd	0.00
05/05/00	327755	0.37	0.12	0.31	0.00	nd	nd	nd	bdl	bdl	0.00	bdl	nd	nd	0.03
05/05/00	327756	9.23	9.17	4.33	0.00	nd	nd	nd	nd	nd	0.34	0.33	bdl	0.01	0.00
05/05/00	327757	0.24	0.11	0.19	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd	0.00
05/05/00	327763	0.28	0.08	0.23	0.00	nd	nd	nd	nd	nd	0.00	bdl	nd	nd	0.00
05/05/00	327764	2.82	0.39	2.61	0.00	nd	nd	nd	nd	nd	0.09	0.04	bdl	0.05	0.00
05/05/00	327765	0.53	0.03	0.52	0.00	nd	nd	nd	nd	nd	0.01	nd	nd	0.01	0.00
05/05/00	327766	0.53	0.23	0.41	0.05	nd	0.05	nd	nd	nd	0.00	bdl	nd	nd	0.00
05/05/00	327738	0.62	0.37	0.43	0.00	nd	nd	nd	nd	nd	0.00	bdl	nd	nd	0.00
05/05/00	327762	0.18	0.08	0.14	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd	0.00
05/04/00	method blank	0.02	0.00	0.02	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	bdl	0.00
05/04/00	method blank	0.07	0.00	0.07	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd	0.00
05/05/00	method blank	0.13	0.02	0.12	0.00	nd	nd	nd	nd	nd	0.00	nd	nd	nd	0.00
	Maximum	2354.89	2075.06	1244.91	41.95	0.30	40.85	10.92	10.92	1.46	35.05	13.81	13.88	7.36	214.15
	Standard Dev.	301.67	265.08	161.07	6.14	0.04	5.28	1.40	1.40	0.19	5.01	2.45	1.94	1.24	27.38
	Mean	55.24	40.37	33.64	1.40	0.01	0.92	0.20	0.23	0.05	1.76	0.82	0.57	0.38	3.89

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
TETRA TECH NUS, INC., WILMINGTON, MA
CUSTOM TARGET LIST (A7)
NAVAL EDUCATION AND TRAINING CENTER, NEWPORT, RI
SITE BJM - PRODUCTION ORDER #10380972

SAMPLE NAME	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	OCT, ug	PCE, ug
MDL=	0.02	0.03		0.03	0.02		0.02	0.02	0.36	0.06	0.04	0.03	0.03	0.10	0.04
327697	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd	nd	nd	0.04	nd	nd
327698	nd	nd	0.00	nd	nd	0.00	nd	bdl	nd	nd	nd	nd	bdl	nd	nd
327699	nd	nd	0.05	nd	0.05	0.03	0.03	bdl	nd	nd	nd	nd	1.03	nd	nd
327700	0.38	0.16	0.00	nd	nd	54.34	40.66	13.68	nd	nd	nd	nd	0.33	bdl	nd
327701	0.86	0.33	0.00	nd	nd	40.18	31.08	9.10	nd	nd	nd	nd	1.27	bdl	nd
327702	0.96	0.43	0.00	nd	nd	49.81	37.00	12.82	nd	nd	nd	nd	1.59	bdl	bdl
327703	0.19	0.08	0.00	nd	nd	8.48	7.11	1.37	nd	nd	nd	nd	0.44	bdl	nd
327704	1.78	0.81	0.00	nd	nd	61.08	46.53	14.55	nd	nd	nd	nd	0.39	bdl	0.13
327705	0.26	0.11	0.00	nd	nd	41.51	32.73	8.78	nd	nd	nd	nd	0.86	bdl	0.27
327706	0.60	0.32	0.00	nd	nd	20.13	17.10	3.03	nd	nd	nd	nd	1.54	0.16	0.48
327707	1.79	0.74	0.00	nd	nd	33.09	26.20	6.89	nd	nd	nd	nd	0.09	bdl	0.24
327708	1.17	0.64	0.00	nd	nd	31.29	26.36	4.92	nd	nd	nd	nd	bdl	0.16	0.06
327709	1.92	0.95	0.00	nd	nd	59.45	44.80	14.64	nd	nd	nd	nd	0.18	0.13	0.08
327710	0.22	0.08	0.00	nd	nd	34.89	28.35	6.54	nd	nd	nd	nd	bdl	nd	nd
327711	0.09	0.04	0.00	nd	nd	26.14	18.67	7.48	nd	nd	nd	nd	0.28	nd	nd
327712	0.49	0.27	0.00	nd	nd	72.07	53.97	18.09	nd	nd	nd	nd	0.15	bdl	nd
327713	0.35	0.16	0.00	nd	nd	26.96	22.62	4.34	nd	nd	nd	nd	0.08	bdl	nd
327714	bdl	nd	0.00	nd	nd	0.29	0.23	0.05	nd	nd	nd	nd	0.13	bdl	bdl
327715	0.37	0.14	0.00	nd	nd	39.45	32.62	6.83	nd	nd	nd	nd	0.67	bdl	nd
327716	0.12	0.06	0.00	nd	nd	24.55	18.61	5.95	nd	nd	nd	nd	nd	nd	nd
327717	nd	nd	0.00	nd	nd	0.03	0.03	bdl	nd	nd	nd	nd	bdl	nd	0.25
327718	nd	nd	0.00	nd	nd	0.04	0.04	bdl	nd	nd	nd	nd	nd	nd	bdl
327719	0.20	0.09	0.00	nd	nd	37.16	28.95	8.21	nd	nd	nd	nd	bdl	nd	nd
327720	0.63	0.23	0.00	nd	nd	40.25	31.56	8.69	nd	nd	0.85	nd	61.80	bdl	0.16
327721	0.51	0.27	0.00	nd	nd	67.53	48.99	18.54	nd	nd	nd	nd	0.15	0.18	0.07
327722	nd	nd	0.00	nd	nd	0.30	0.21	0.08	nd	nd	nd	nd	nd	nd	0.11
327723	0.03	bdl	0.00	nd	nd	0.27	0.21	0.06	nd	nd	nd	nd	bdl	nd	0.10
327724	0.05	bdl	0.00	nd	nd	5.03	3.92	1.11	nd	nd	nd	nd	bdl	nd	bdl
327725	2.09	0.92	0.00	nd	nd	45.55	36.48	9.07	nd	nd	nd	nd	nd	nd	nd
327726	nd	nd	0.00	nd	nd	0.10	0.10	bdl	nd	nd	0.04	nd	nd	bdl	1.05
327727	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
327728	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	bdl	nd	nd
327729	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	3.41	0.14	0.07	nd	5.73
327730	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	0.26	nd	nd	nd	0.26
327731	0.06	bdl	0.00	nd	nd	20.53	15.79	4.74	nd	nd	nd	nd	nd	bdl	nd
327732	nd	nd	0.00	nd	nd	0.02	0.02	bdl	nd	nd	nd	nd	nd	nd	bdl
327733	bdl	nd	0.00	nd	nd	0.02	0.02	bdl	nd	nd	0.27	nd	bdl	nd	6.88
327735	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
327736	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	0.10	nd	nd
327737	bdl	bdl	0.00	nd	nd	0.03	0.03	bdl	nd	nd	nd	nd	nd	bdl	nd
327739	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	0.25	nd
327740	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
327741	0.05	bdl	0.15	nd	0.15	0.02	0.02	bdl	nd	nd	nd	nd	0.88	nd	nd
327742	158.44	55.71	0.73	0.17	0.56	19.25	12.66	6.59	nd	nd	nd	nd	0.76	1.80	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
TETRA TECH NUS, INC., WILMINGTON, MA
CUSTOM TARGET LIST (A7)
NAVAL EDUCATION AND TRAINING CENTER, NEWPORT, RI
SITE BJM - PRODUCTION ORDER #10380972

SAMPLE NAME	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	OCT, ug	PCE, ug
MDL=	0.02	0.03		0.03	0.02		0.02	0.02	0.36	0.06	0.04	0.03	0.03	0.10	0.04
327743	0.61	0.19	0.00	nd	nd	0.06	0.04	0.02	nd	nd	nd	nd	0.10	nd	nd
327744	0.15	0.04	0.00	nd	nd	0.02	0.02	bdl	nd	nd	nd	nd	nd	nd	0.30
327746	0.08	bdl	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
327747	0.07	bdl	0.00	nd	nd	0.87	0.17	0.70	nd	nd	nd	nd	nd	nd	nd
327748	0.05	bdl	0.00	nd	nd	0.05	0.03	0.02	nd	nd	nd	nd	nd	nd	nd
327749	0.02	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
327750	bdl	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
327751	0.02	bdl	0.00	nd	nd	0.09	0.09	bdl	nd	nd	nd	nd	nd	nd	nd
327752	0.04	bdl	0.49	0.06	0.42	0.52	0.44	0.08	nd	nd	nd	nd	nd	nd	nd
327754	bdl	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	bdl	nd	nd
327755	0.03	bdl	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
327756	bdl	bdl	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
327757	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	0.09	nd	0.09
327763	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	bdl
327764	nd	nd	0.05	nd	0.05	0.05	0.05	bdl	nd	nd	nd	nd	bdl	nd	nd
327765	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	0.08	nd	nd
327766	nd	bdl	0.00	nd	nd	1.45	1.15	0.30	nd	nd	nd	nd	bdl	nd	nd
													0.03	nd	nd
327738	bdl	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
327762	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	0.00	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	158.44	55.71	0.73	0.17	0.56	72.07	53.97	18.54	0.00	0.00	3.41	0.14	61.80	1.80	6.88
Standard Dev.	20.26	7.12	0.11	0.02	0.09	21.14	16.16	5.07	0.00	0.00	0.45	0.02	7.90	0.23	1.14
Mean	2.86	1.03	0.02	0.00	0.02	14.15	10.91	3.24	0.00	0.00	0.08	0.00	1.20	0.06	0.27

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
TETRA TECH NUS, INC., WILMINGTON, MA
CUSTOM TARGET LIST (A7)
NAVAL EDUCATION AND TRAINING CENTER, NEWPORT, RI
SITE BJM - PRODUCTION ORDER #10380972

SAMPLE NAME	14DCB, ug	PHENOL, ug	2MePHENOL, ug	11DCE, ug	CHCl3, ug	CCl4, ug	112TCA, ug	ClBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.01	0.02	0.03	0.02	0.02	0.03	0.05	0.02	0.04	0.03	0.03	0.02
327697	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	bdl
327698	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327699	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327700	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327701	nd	0.09	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd
327702	nd	0.10	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd
327703	nd	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327704	nd	bdl	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd
327705	nd	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327706	nd	0.39	0.11	nd	nd	nd	nd	nd	nd	nd	nd	nd
327707	bdl	bdl	bdl	nd	nd	nd	nd	nd	nd	bdl	nd	nd
327708	nd	bdl	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd
327709	nd	bdl	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd
327710	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327711	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327712	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327713	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327714	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327715	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327716	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327717	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327718	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327719	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327720	nd	0.06	bdl	0.14	nd	nd	nd	nd	nd	nd	nd	nd
327721	nd	bdl	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd
327722	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327723	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327724	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327725	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327726	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327727	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327728	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327729	nd	nd	nd	0.29	nd	nd	nd	nd	nd	nd	nd	nd
327730	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327731	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327732	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327733	nd	nd	nd	0.04	nd	nd	nd	nd	nd	nd	nd	nd
327735	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327736	nd	nd	nd	nd	0.17	nd	nd	nd	nd	nd	nd	nd
327737	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327739	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327740	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327741	nd	0.02	nd	nd	nd	nd	nd	nd	nd	0.04	nd	nd
327742	nd	0.08	0.39	nd	nd	nd	nd	nd	nd	18.16	nd	nd

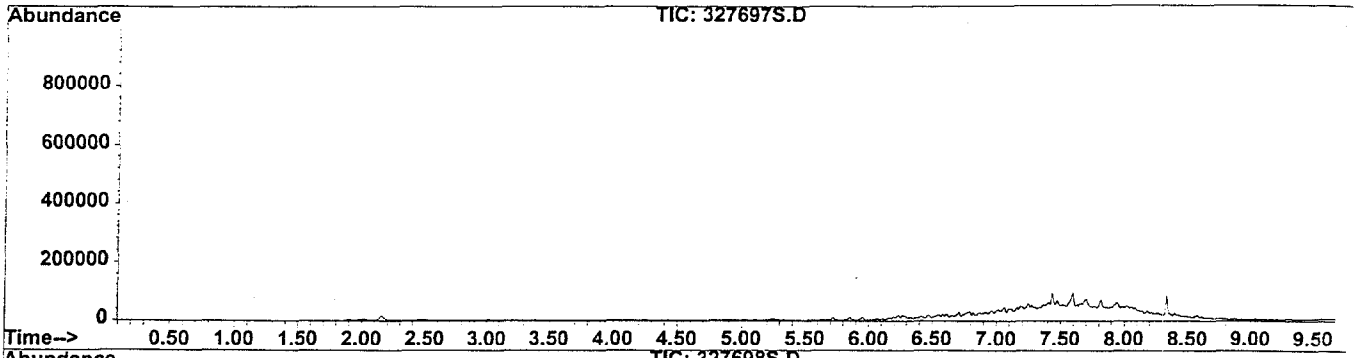
No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

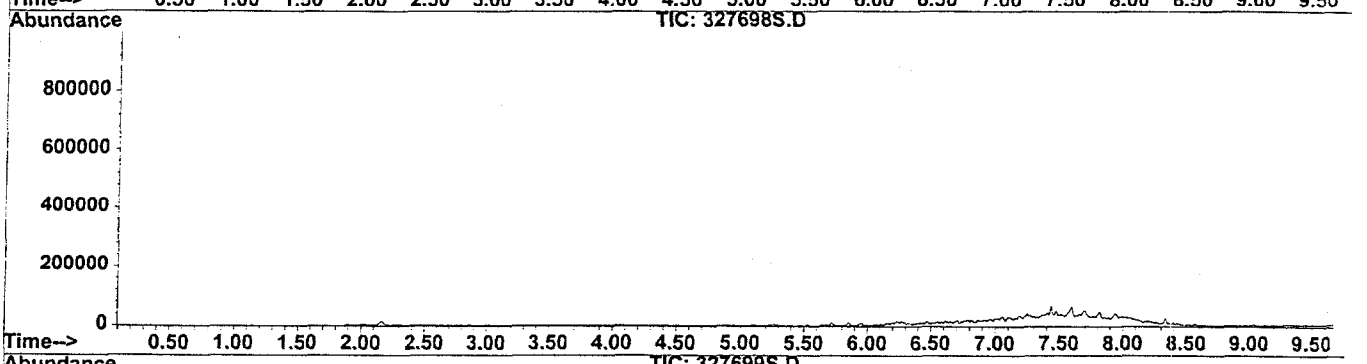
GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
TETRA TECH NUS, INC., WILMINGTON, MA
CUSTOM TARGET LIST (A7)
NAVAL EDUCATION AND TRAINING CENTER, NEWPORT, RI
SITE BJM - PRODUCTION ORDER #10380972

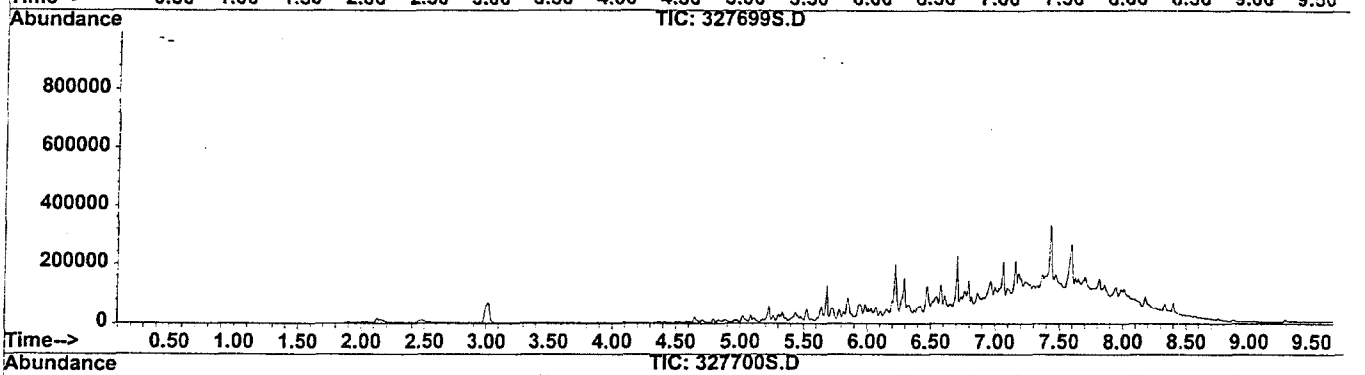
SAMPLE NAME	14DCB, ug	PHENOL, ug	2MePHENOL, ug	11DCE, ug	CHCl3, ug	CCl4, ug	112TCA, ug	ClBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.01	0.02	0.03	0.02	0.02	0.03	0.05	0.02	0.04	0.03	0.03	0.02
327743	nd	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd	nd
327744	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327746	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327747	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327748	nd	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327749	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327750	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327751	nd	bdl	nd	nd	nd	nd	nd	nd	nd	0.07	nd	nd
327752	nd	bdl	bdl	nd	nd	nd	nd	nd	nd	0.14	nd	nd
327754	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327755	bdl	bdl	nd	nd	nd	nd	nd	nd	nd	nd	bdl	nd
327756	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327757	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327763	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327764	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327765	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327766	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327738	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
327762	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	0.01	0.39	0.39	0.29	0.17	0.00	0.00	0.00	0.00	18.16	0.01	0.01
Standard Dev.	0.00	0.05	0.05	0.04	0.02	0.00	0.00	0.00	0.00	2.32	0.00	0.00
Mean	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00

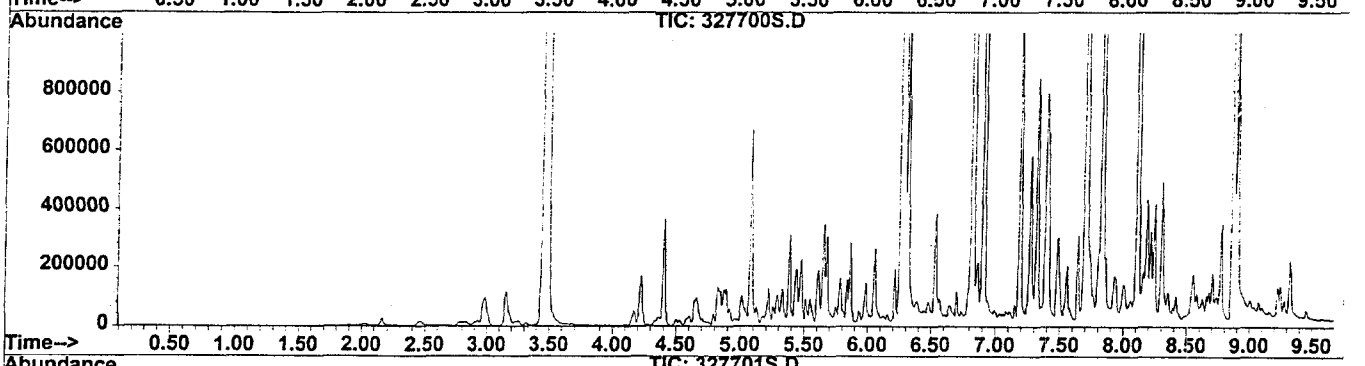
No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

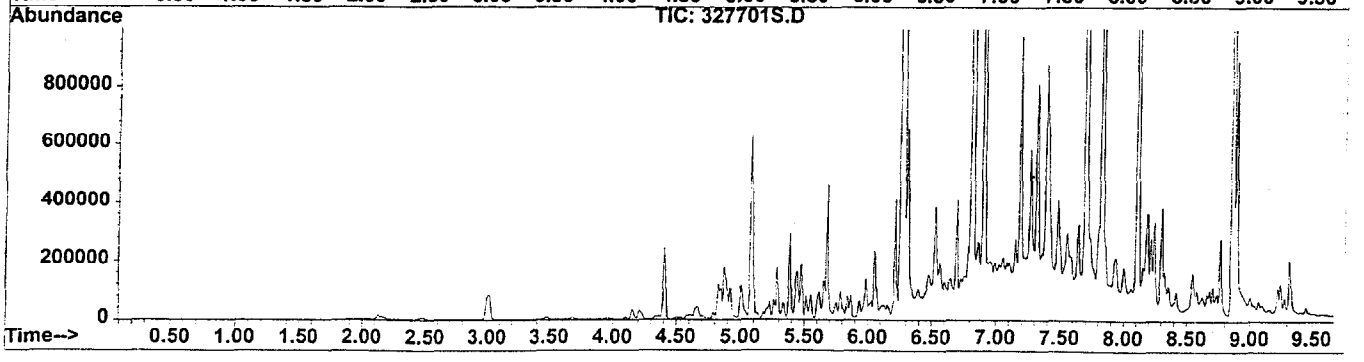
TIC - SITE BJM - PRODUCTION ORDER #10380972
In Numerical Order











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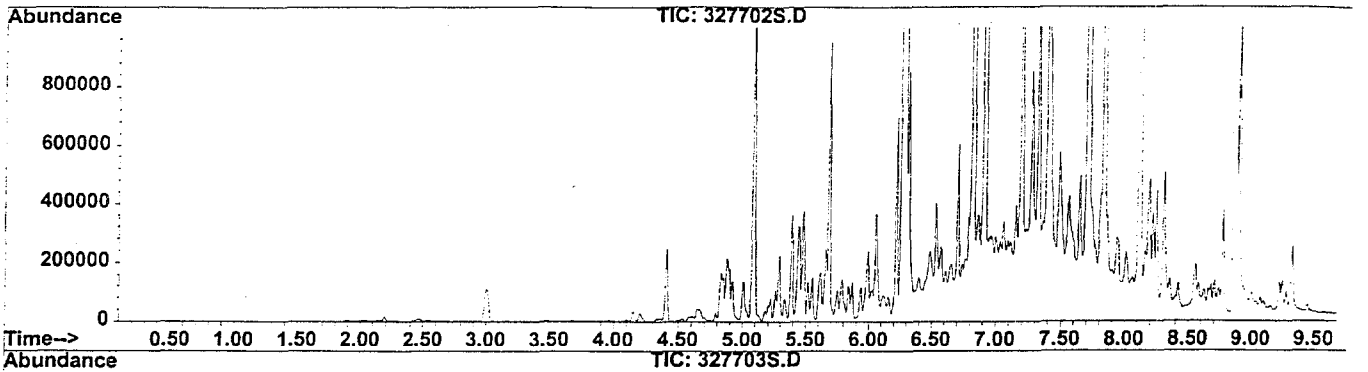
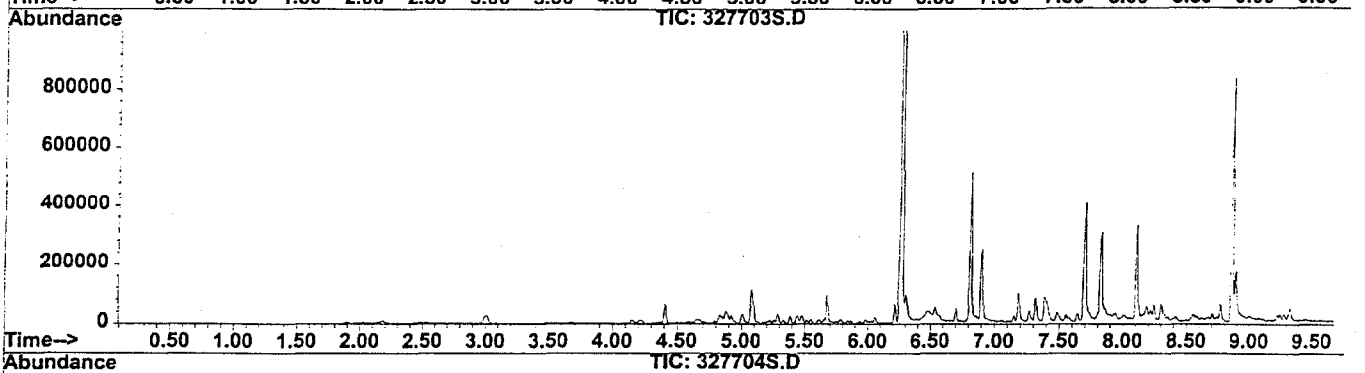
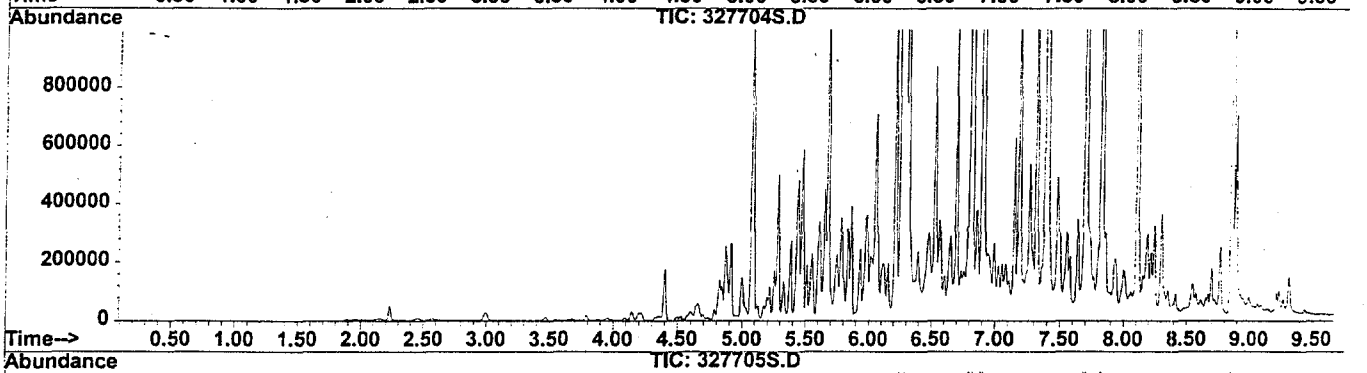
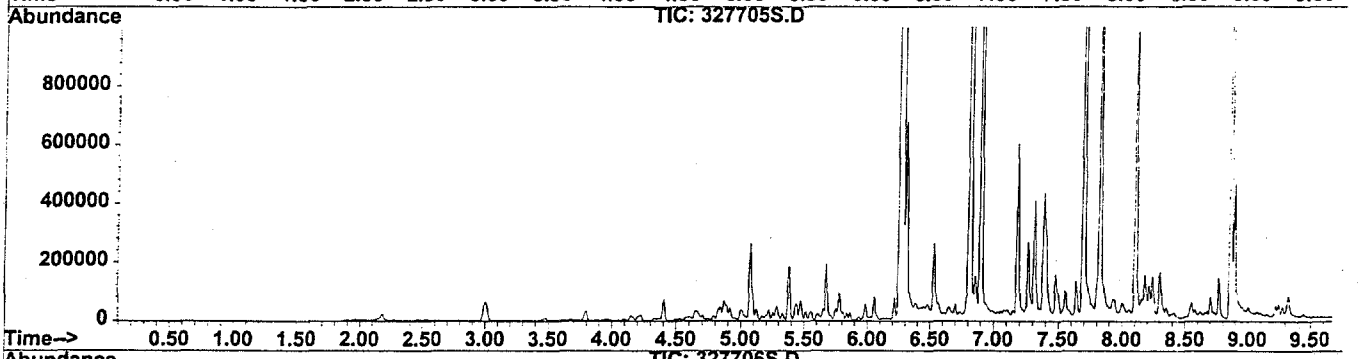
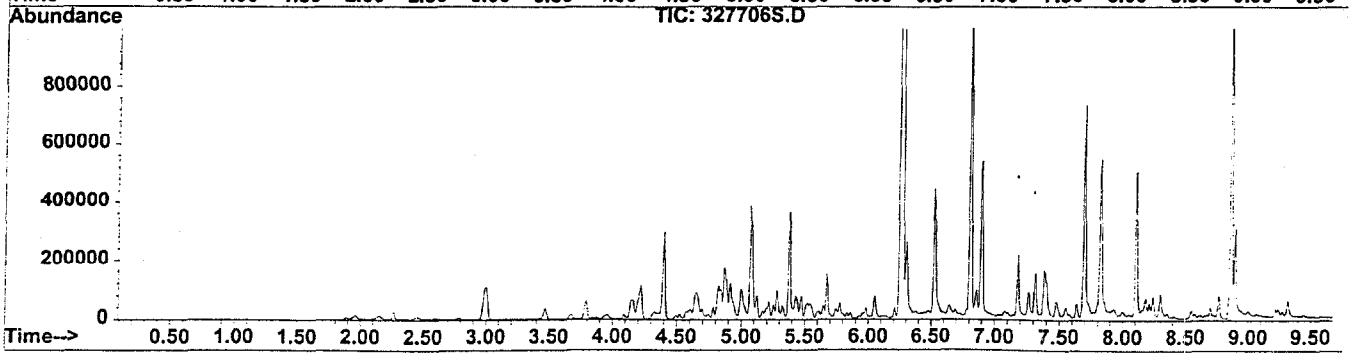
In Numerical Order



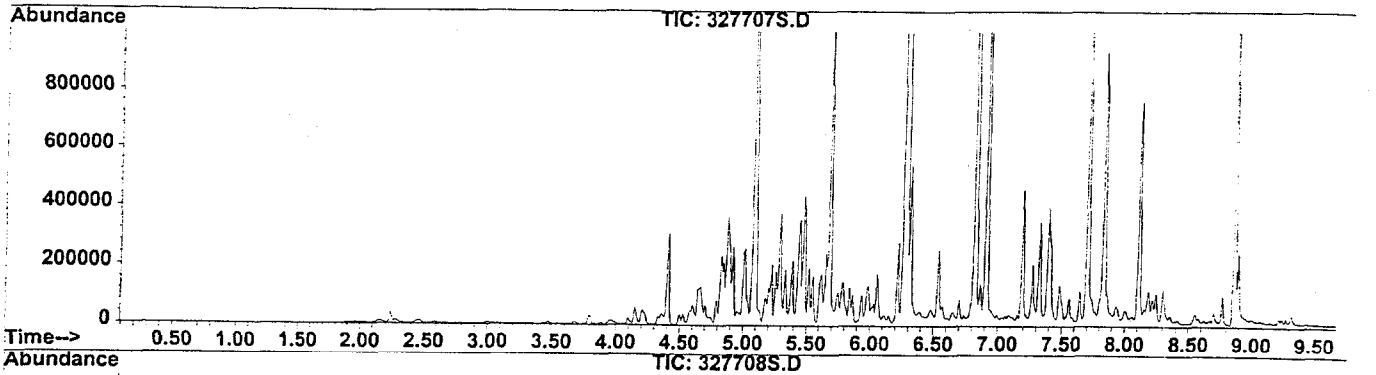


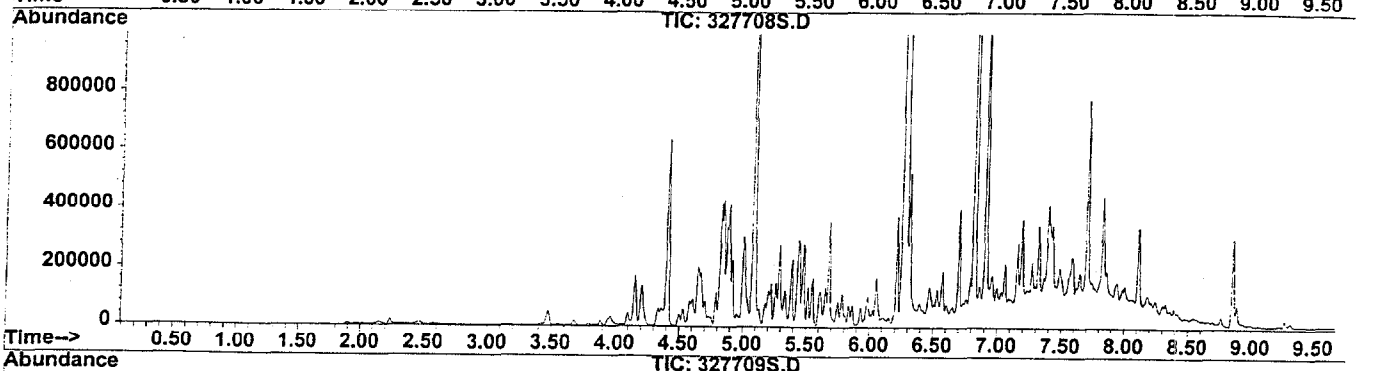


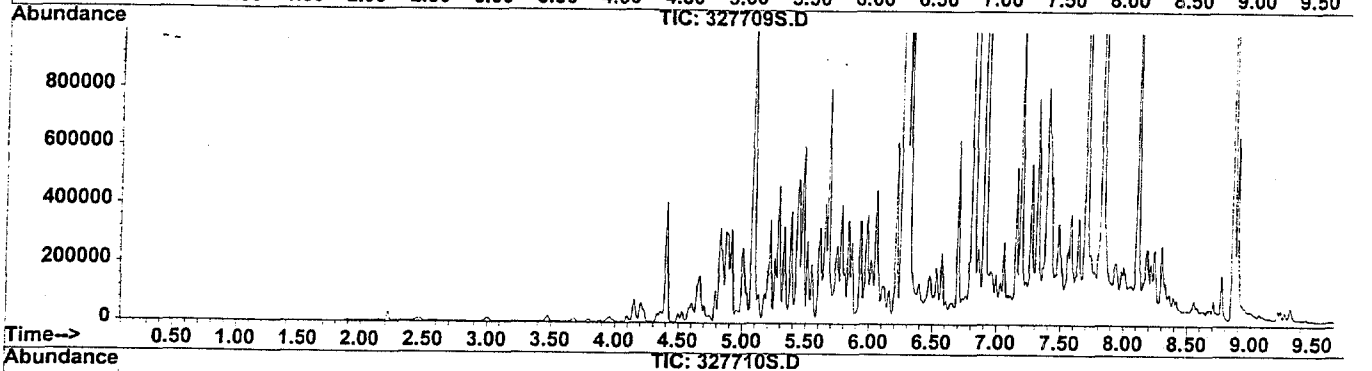


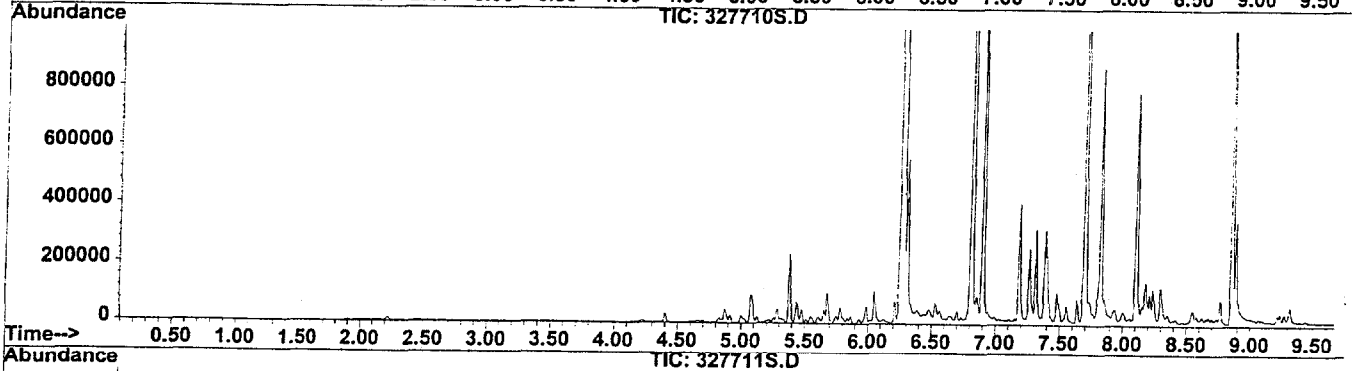


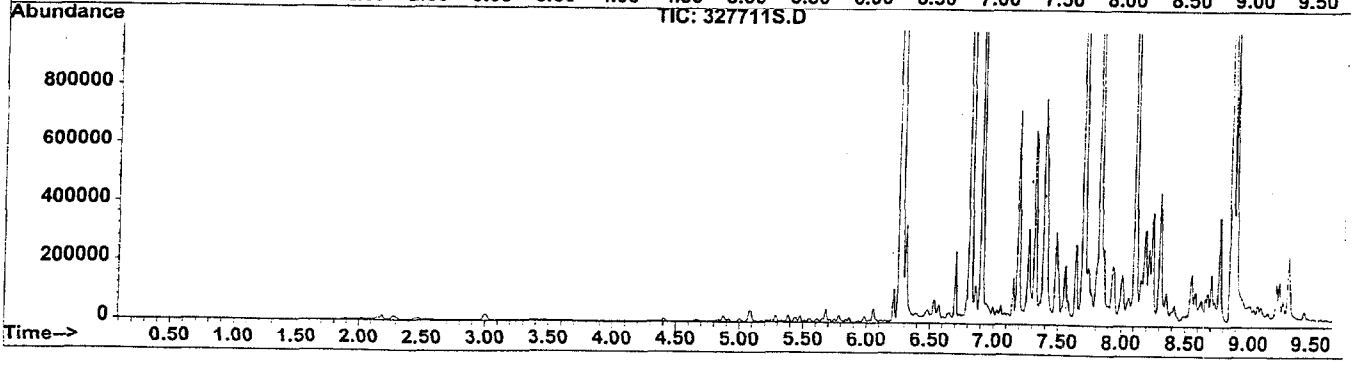
TIC - SITE BJM - PRODUCTION ORDER #10380972
In Numerical Order



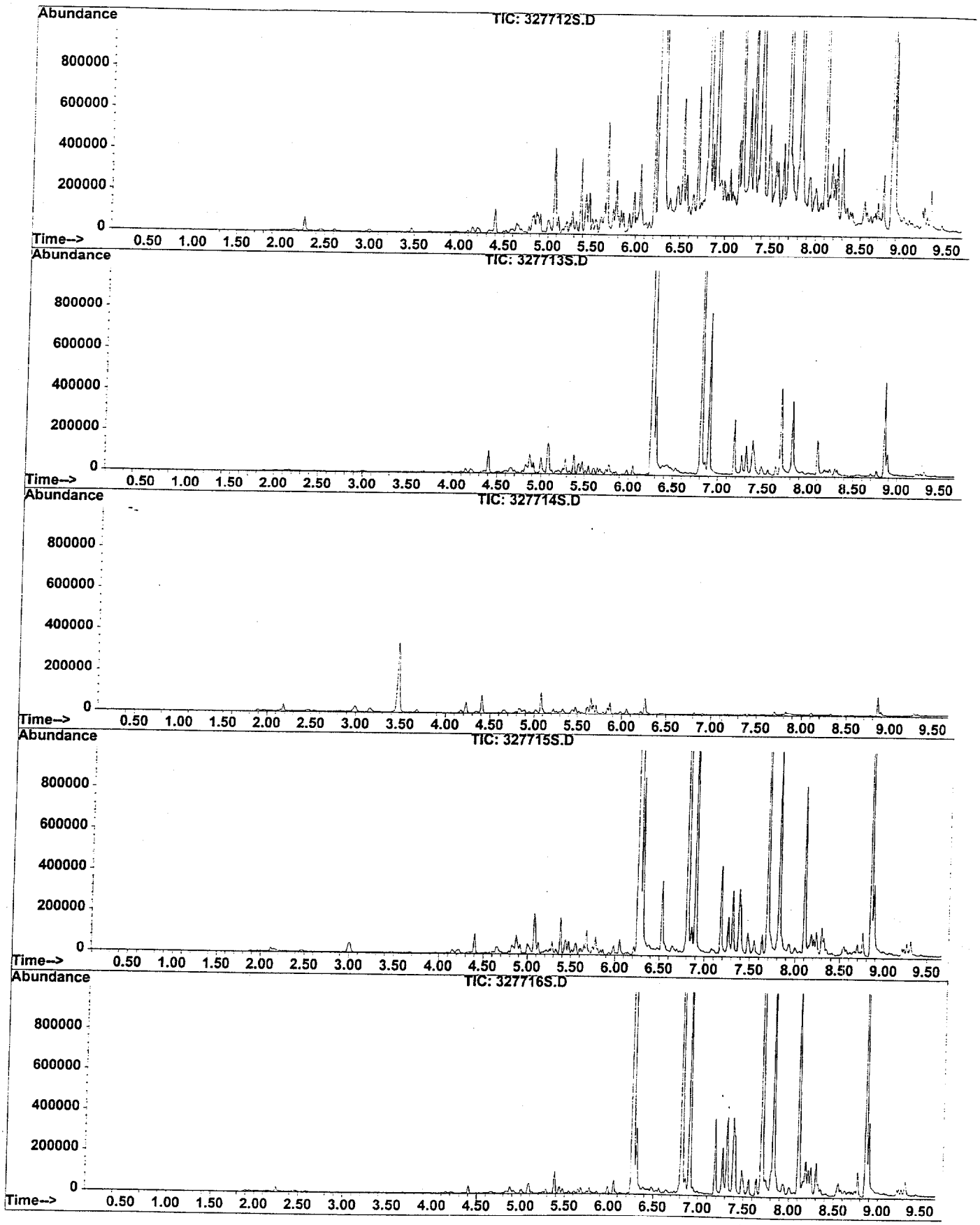




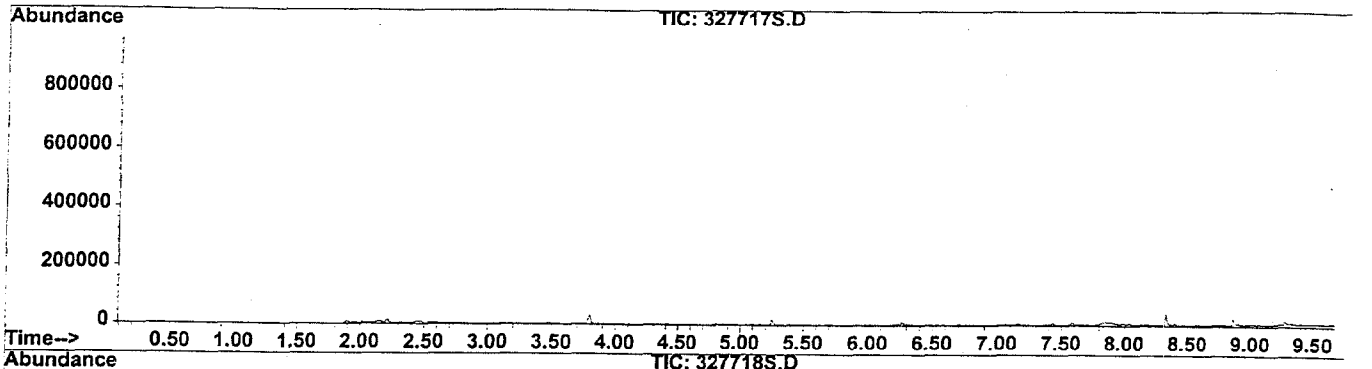


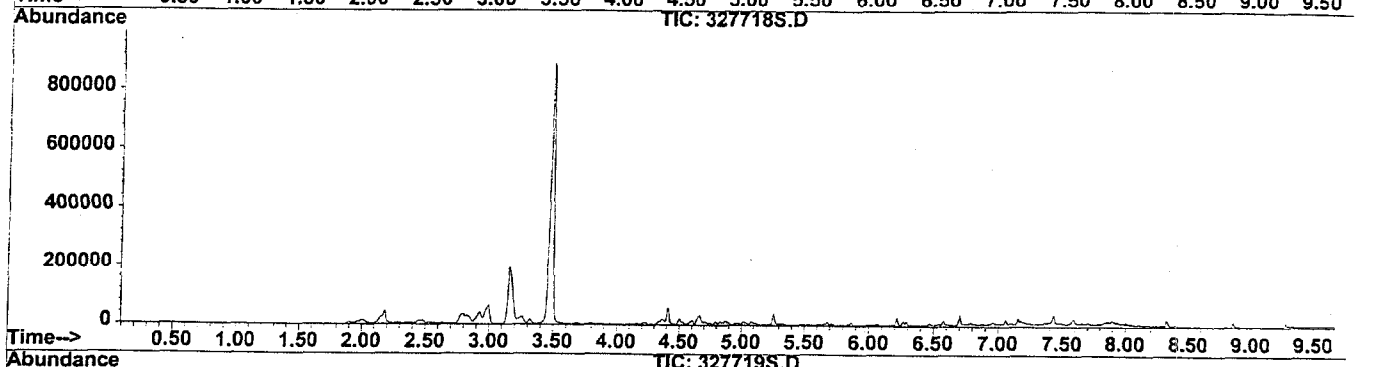


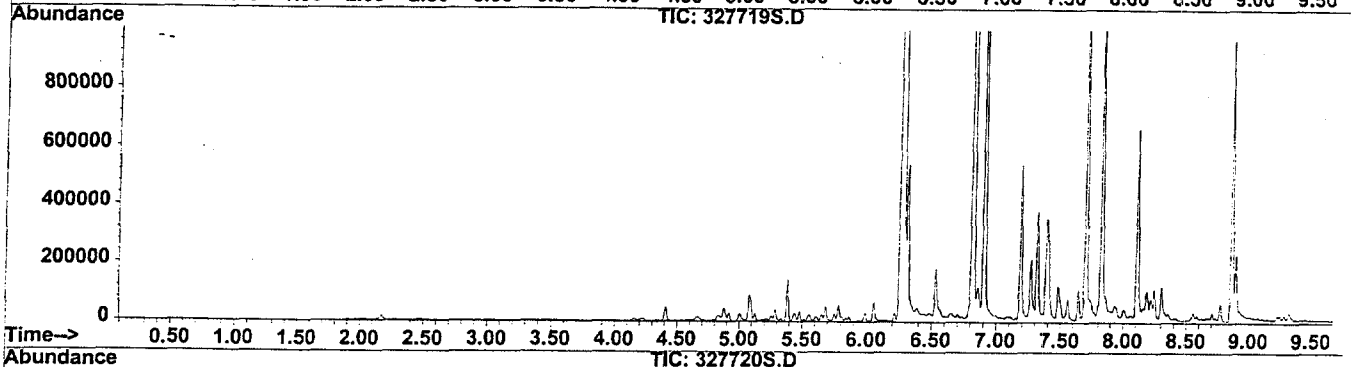
TIC - SITE BJM - PRODUCTION ORDER #10380972
In Numerical Order

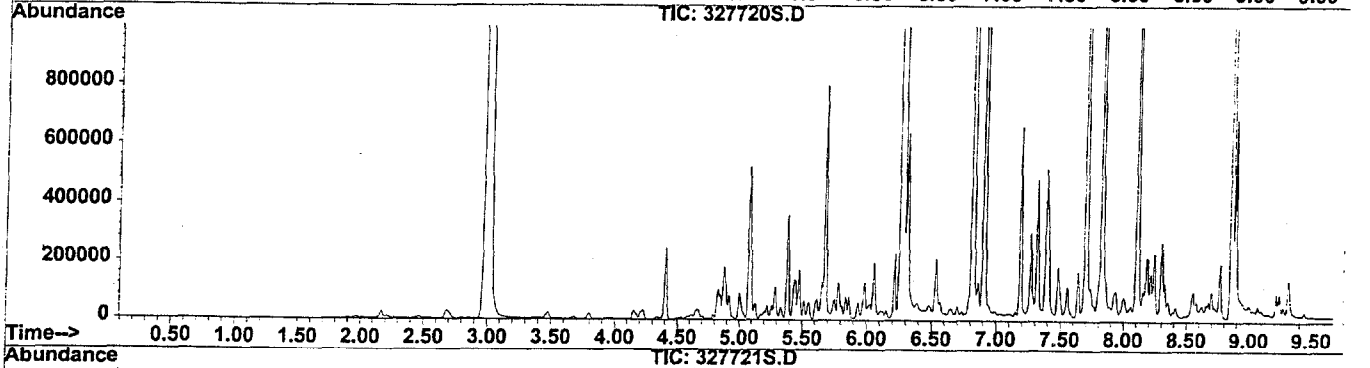


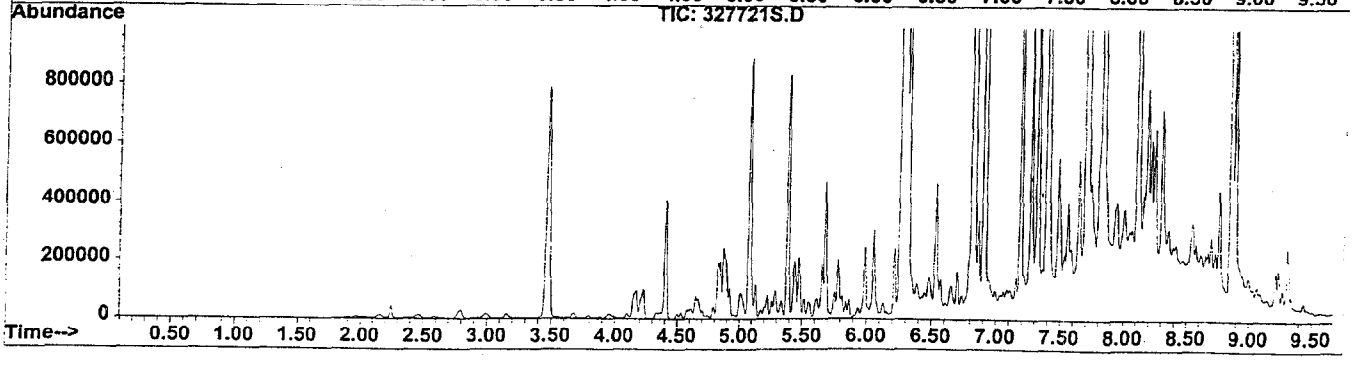
TIC - SITE BJM - PRODUCTION ORDER #10380972
In Numerical Order



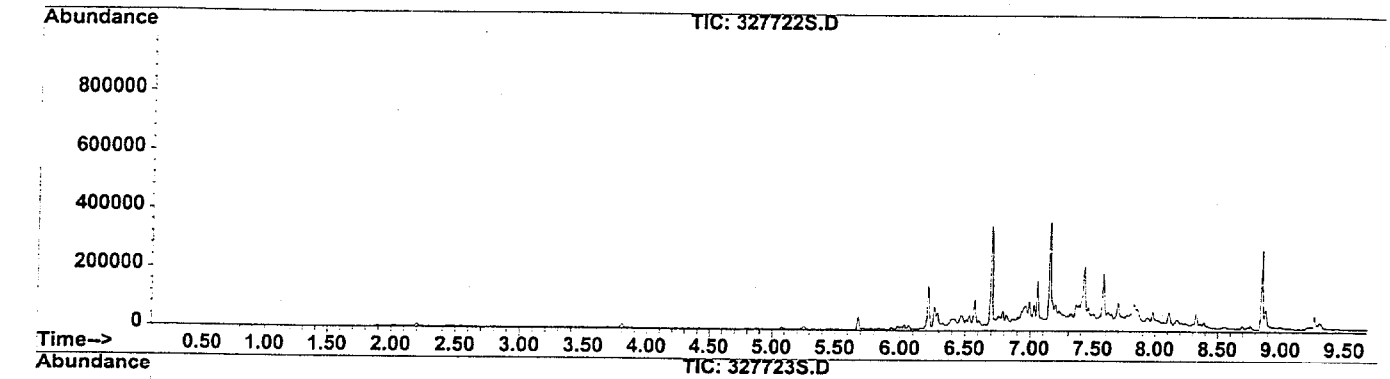


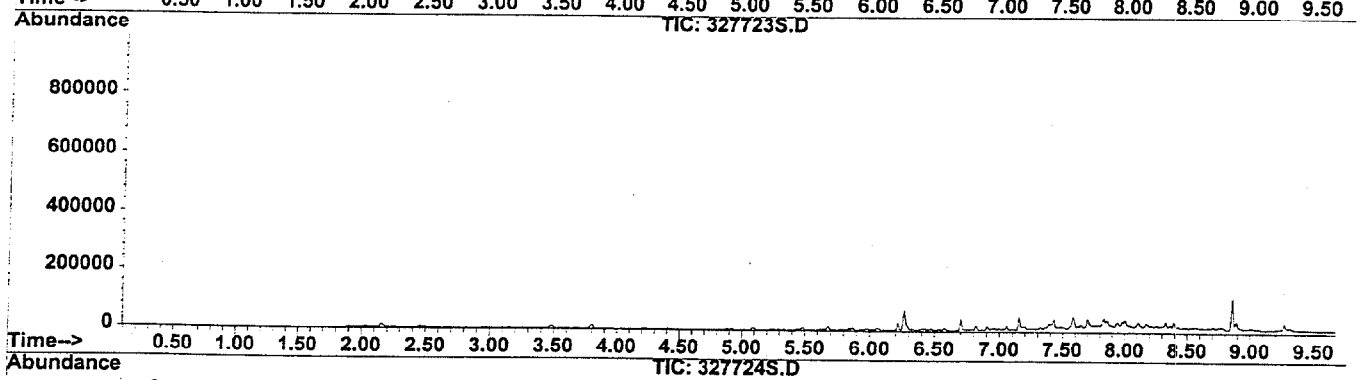


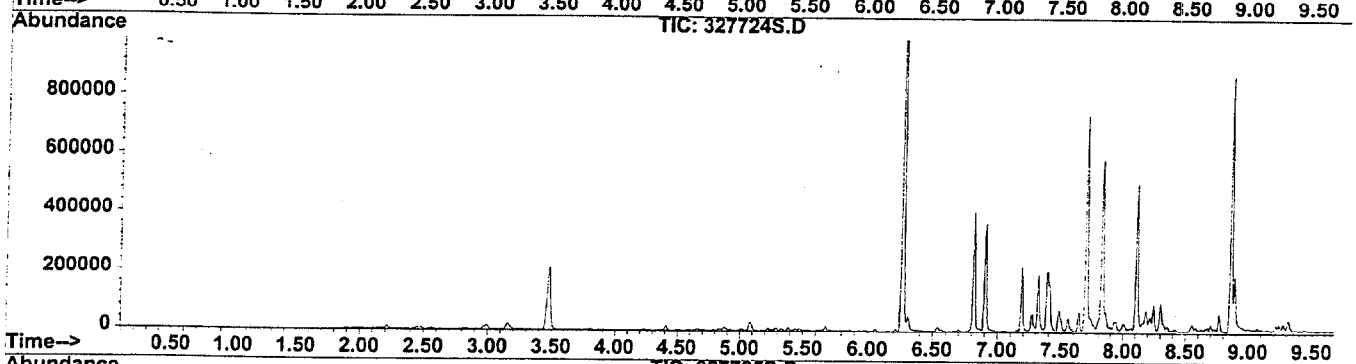


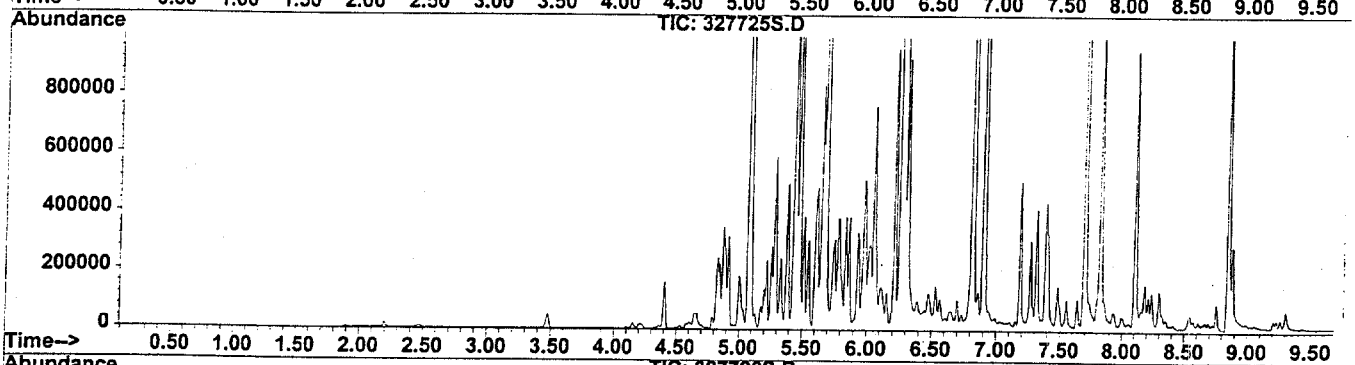


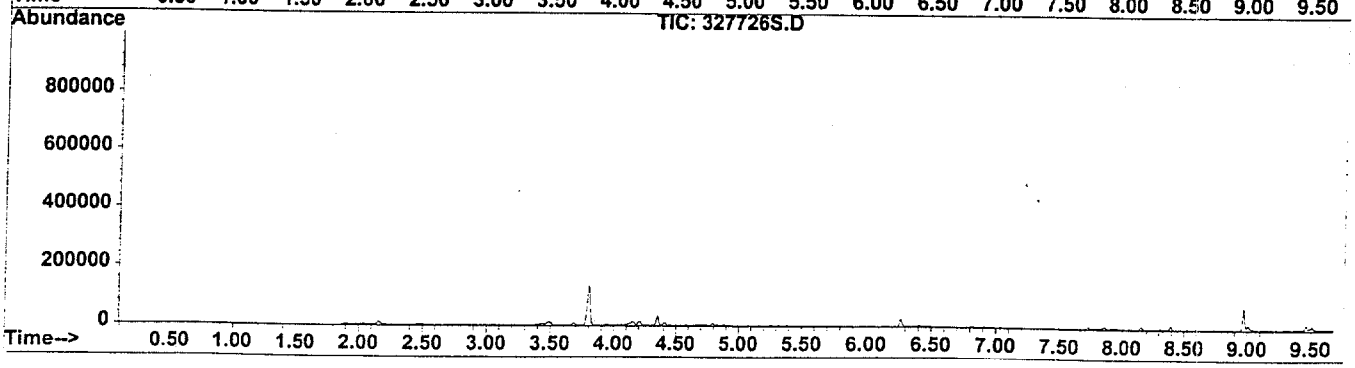
TIC - SITE BJM - PRODUCTION ORDER #10380972
In Numerical Order











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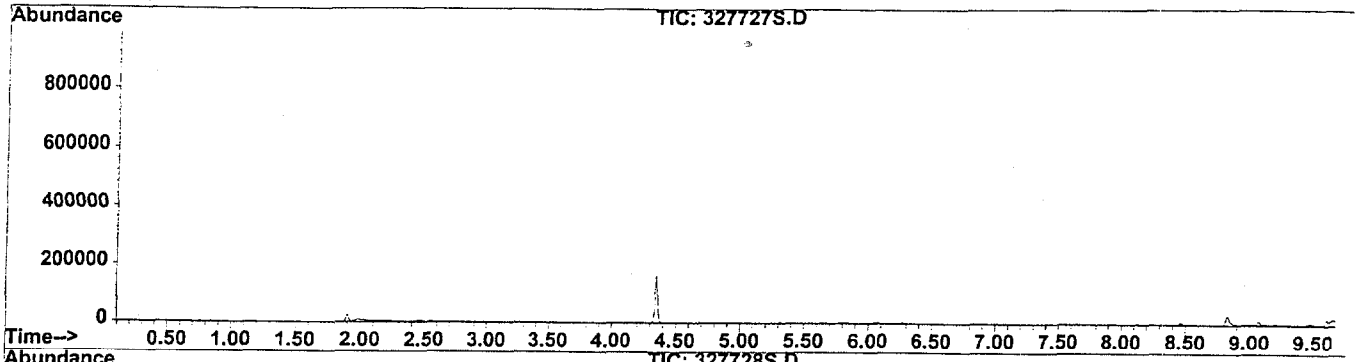
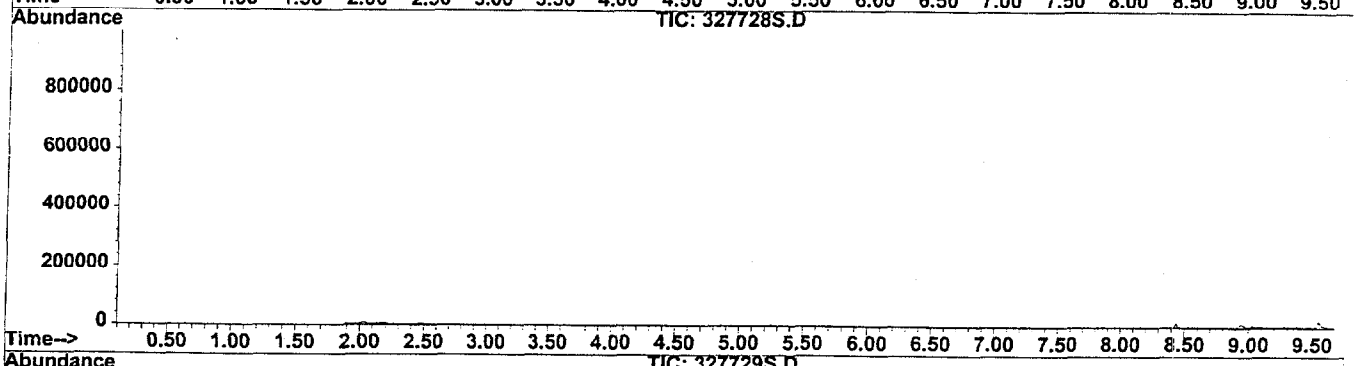
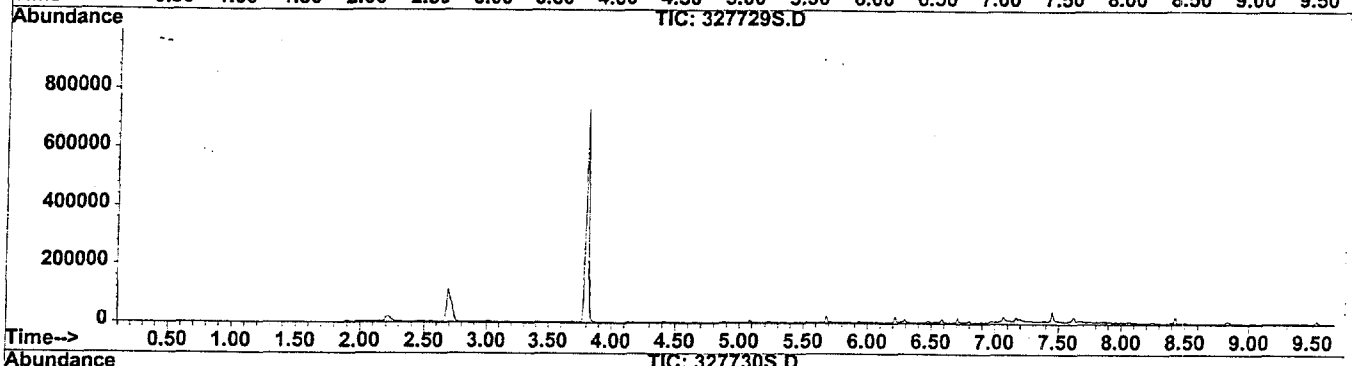
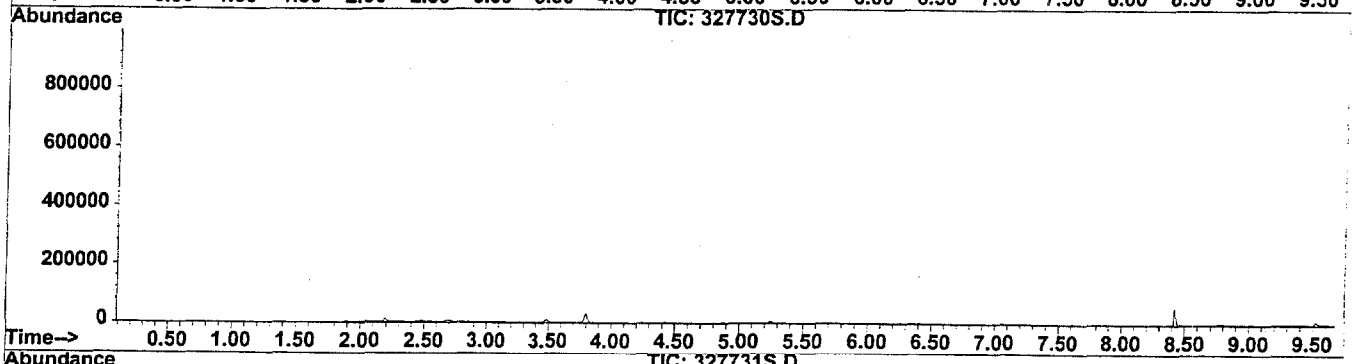
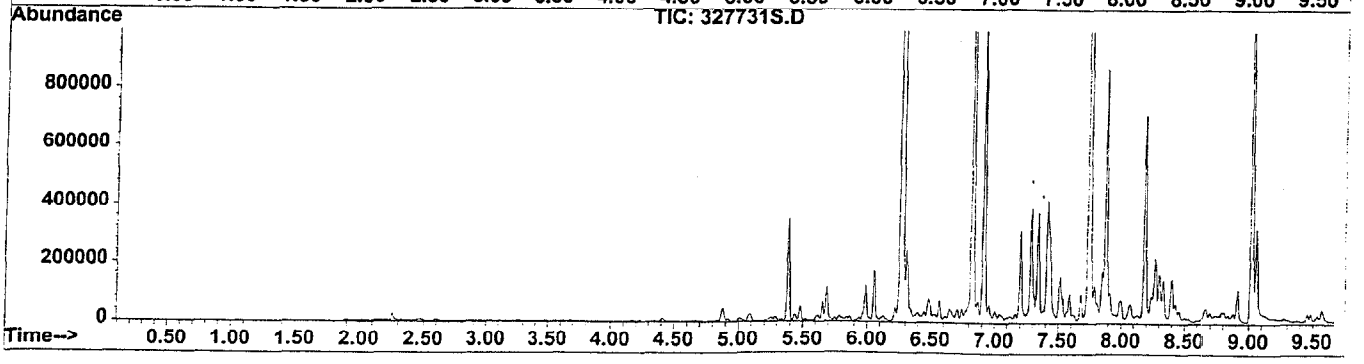
In Numerical Order











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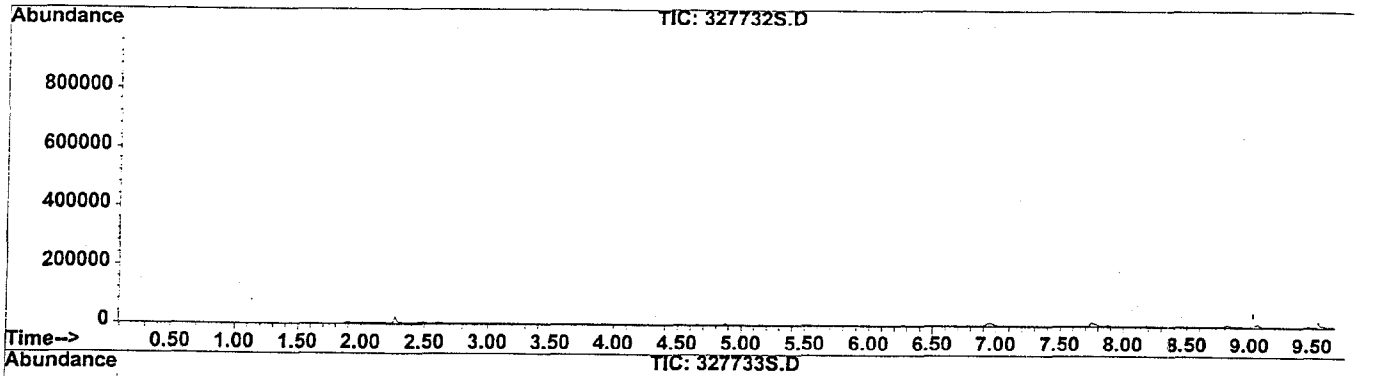

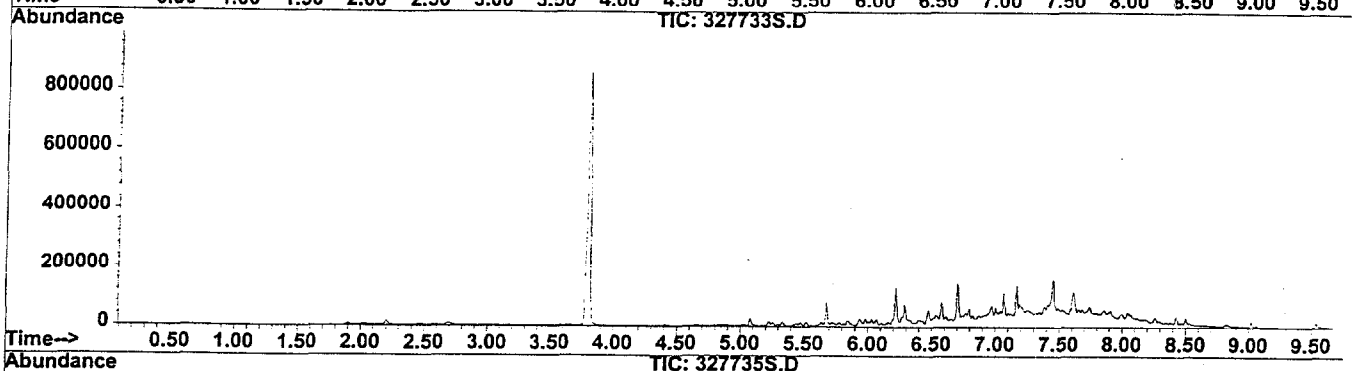

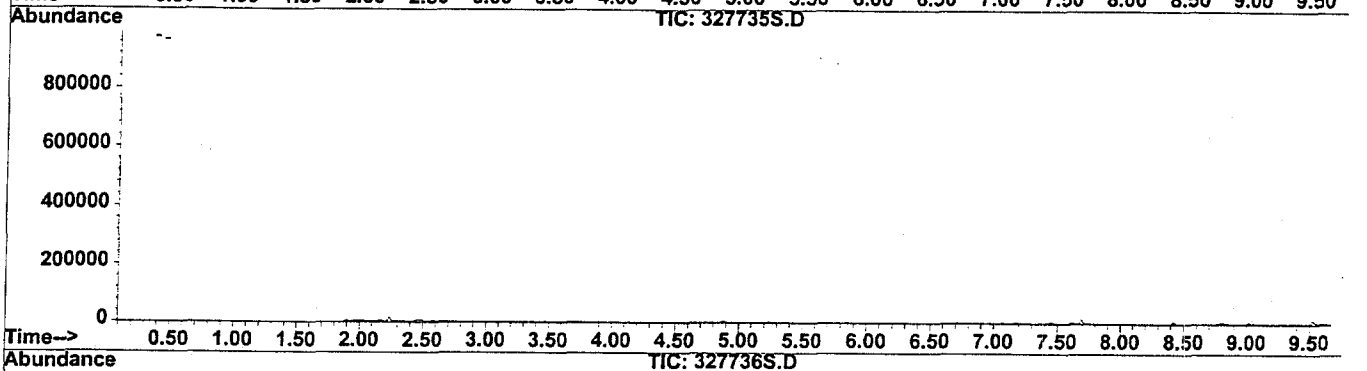

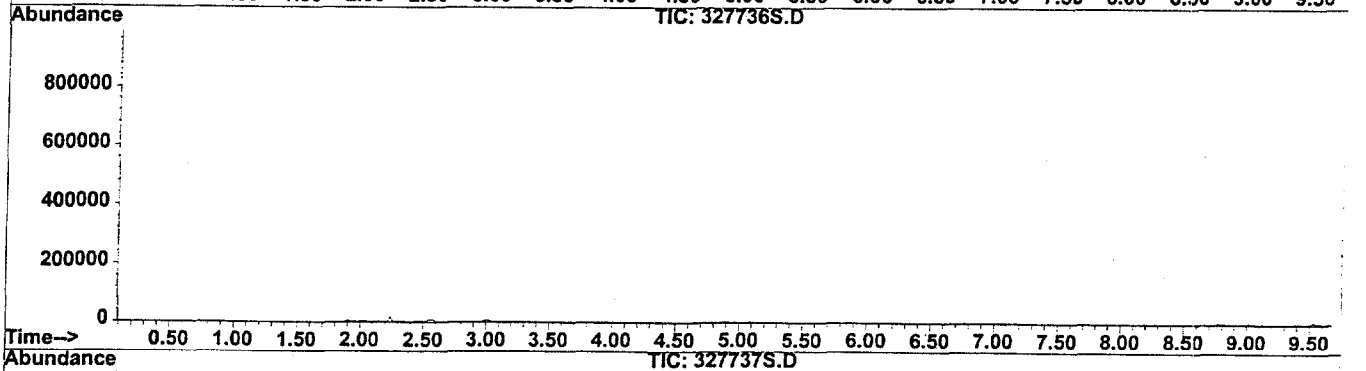

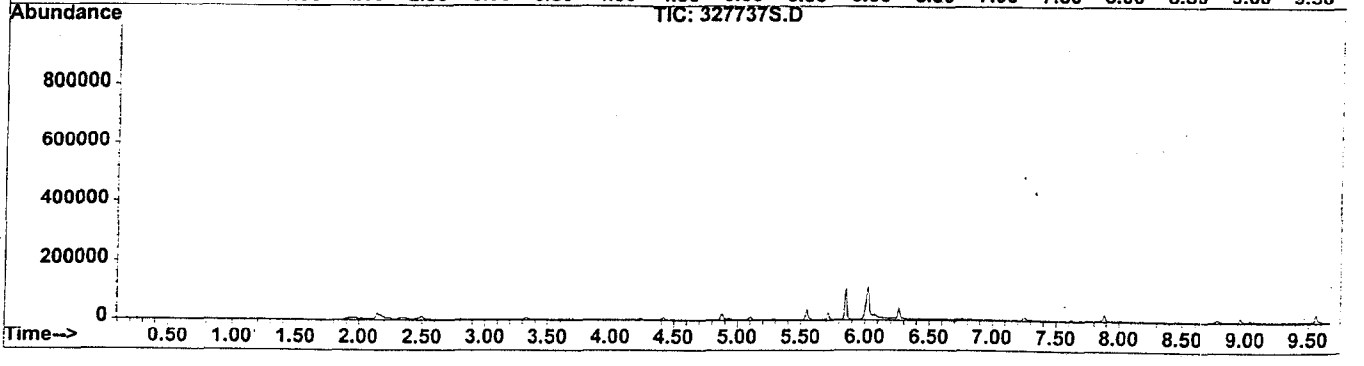

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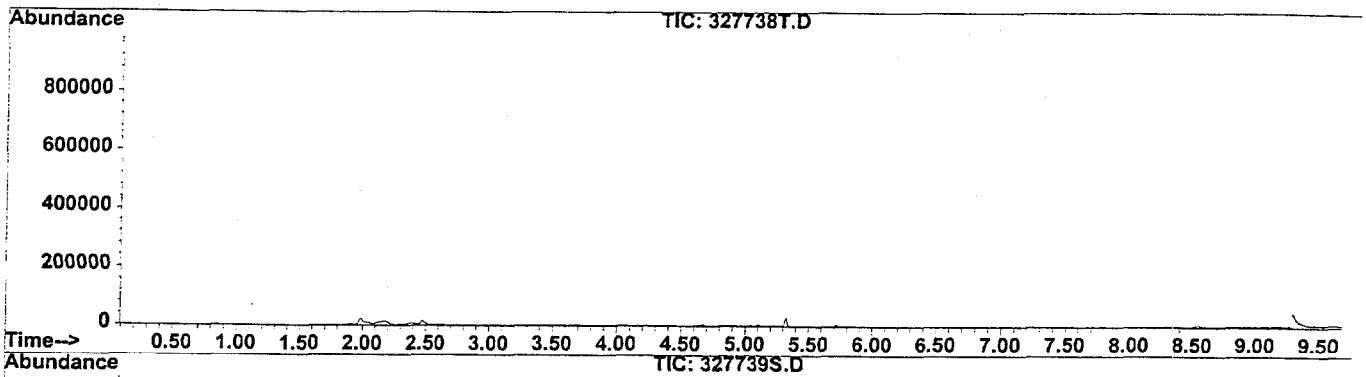

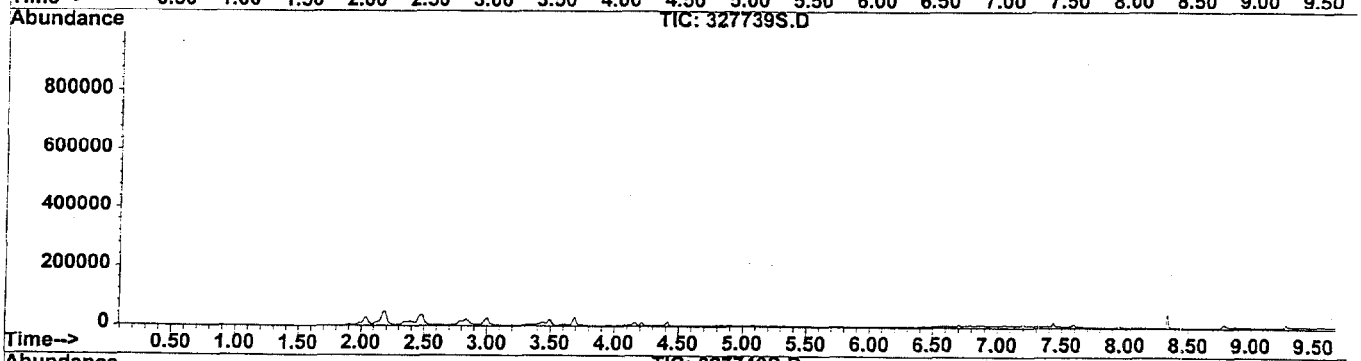

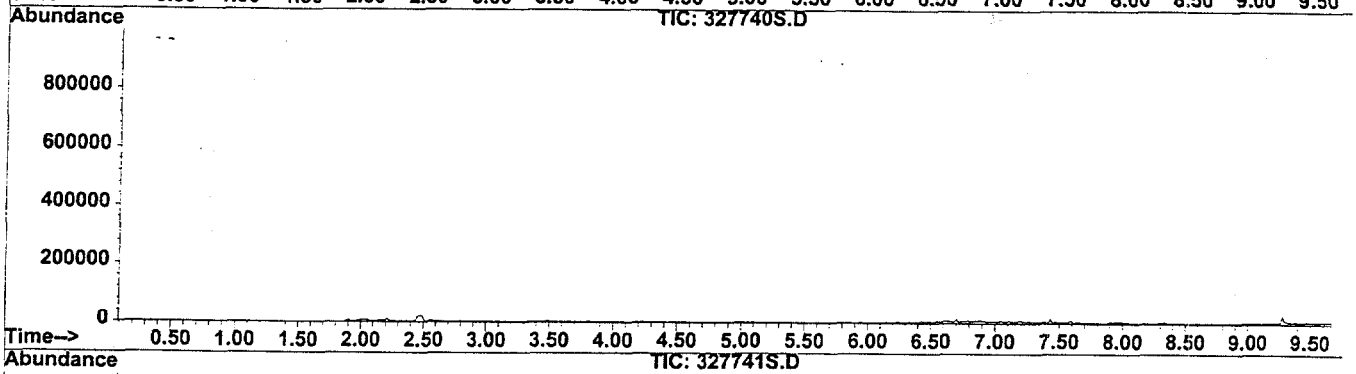

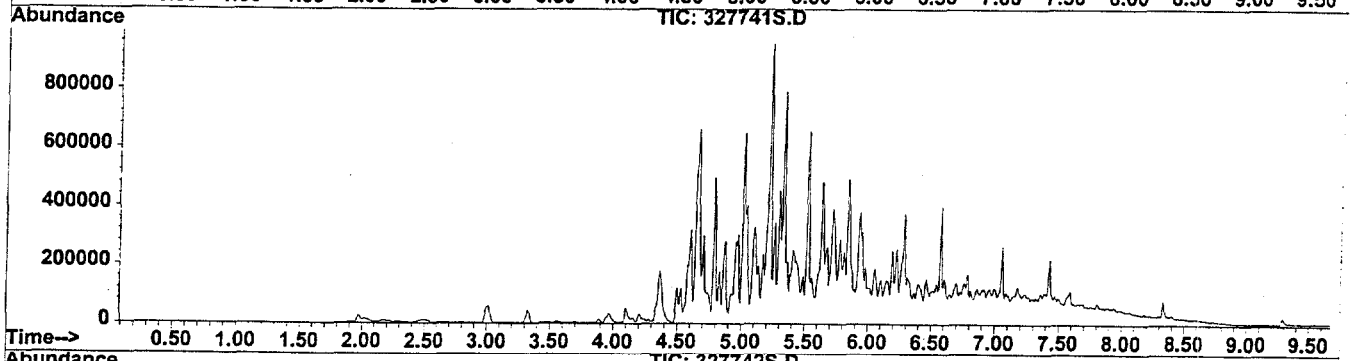

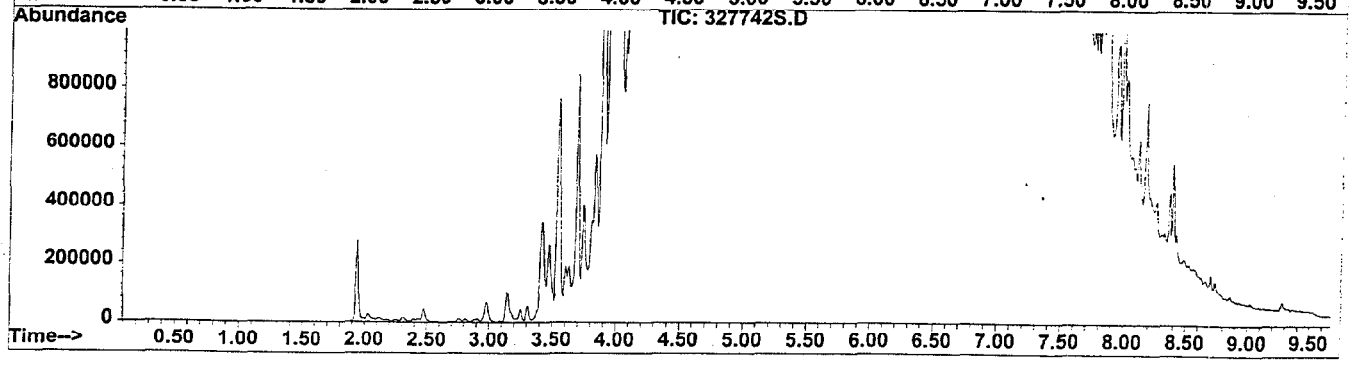

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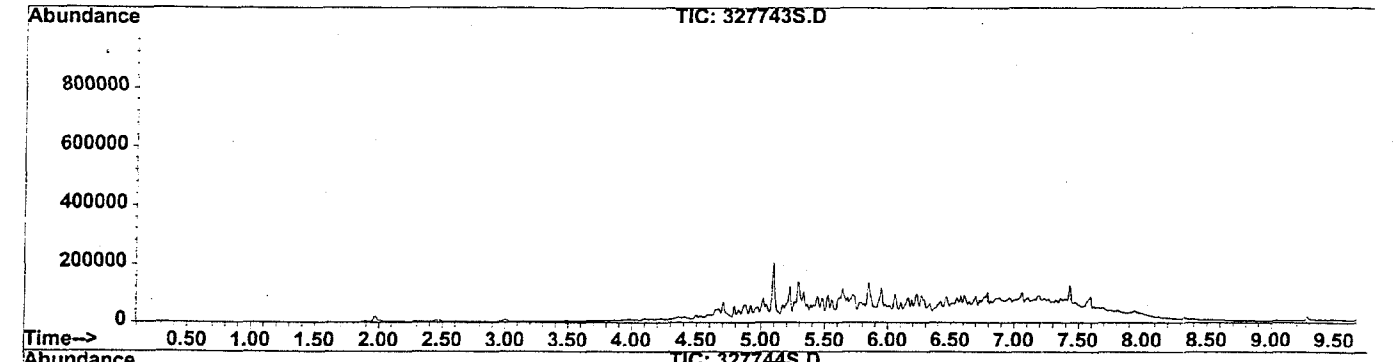

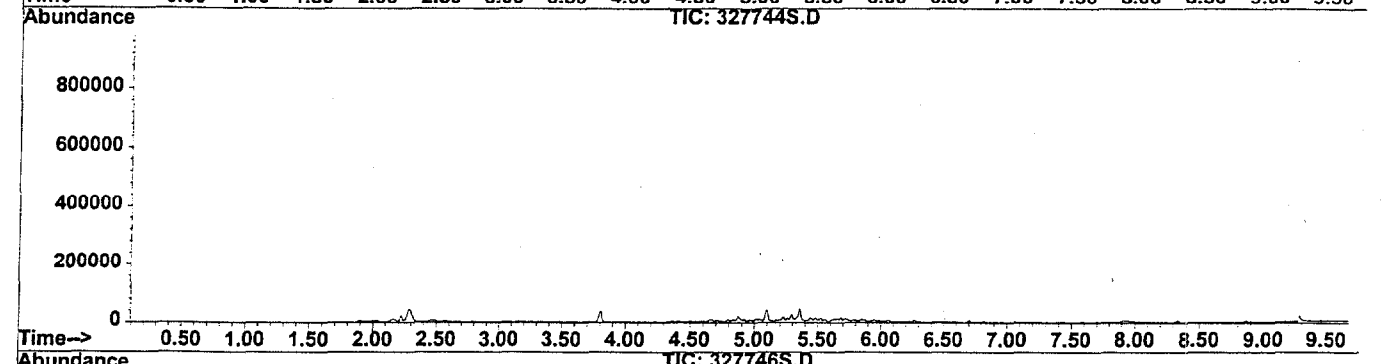

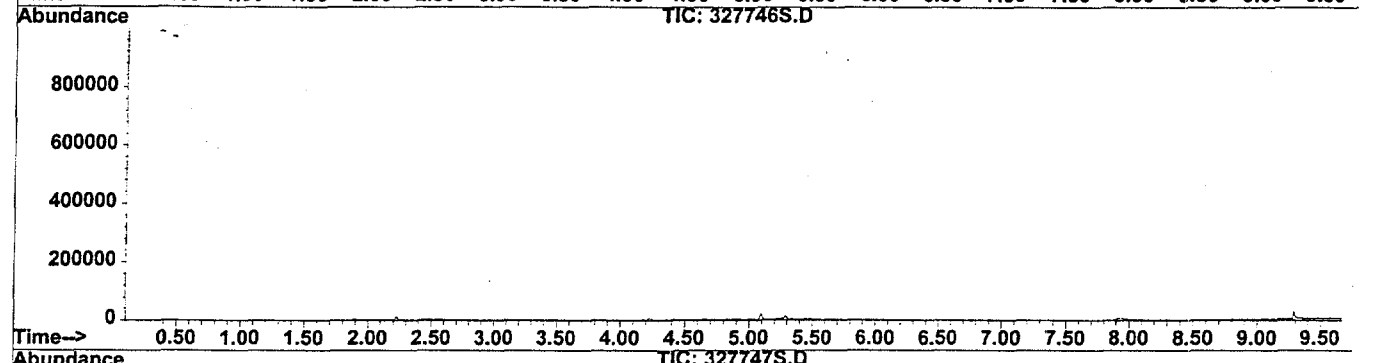

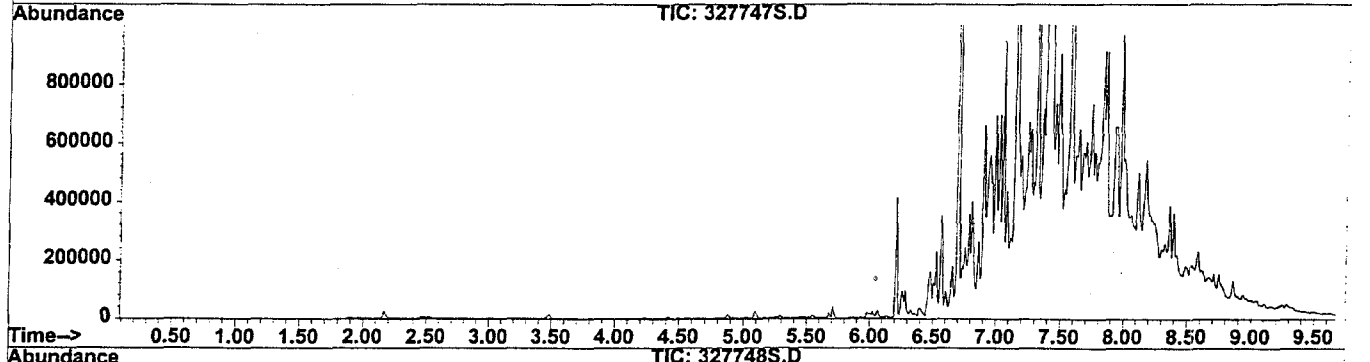

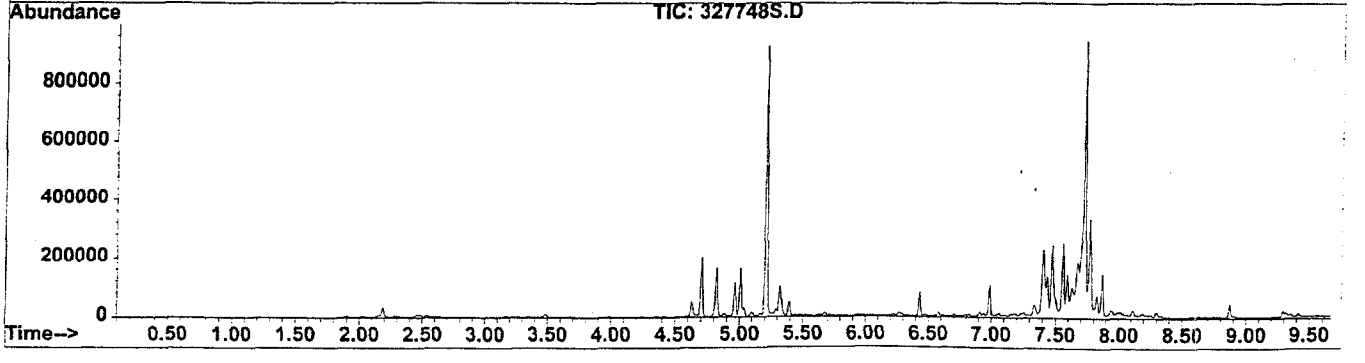

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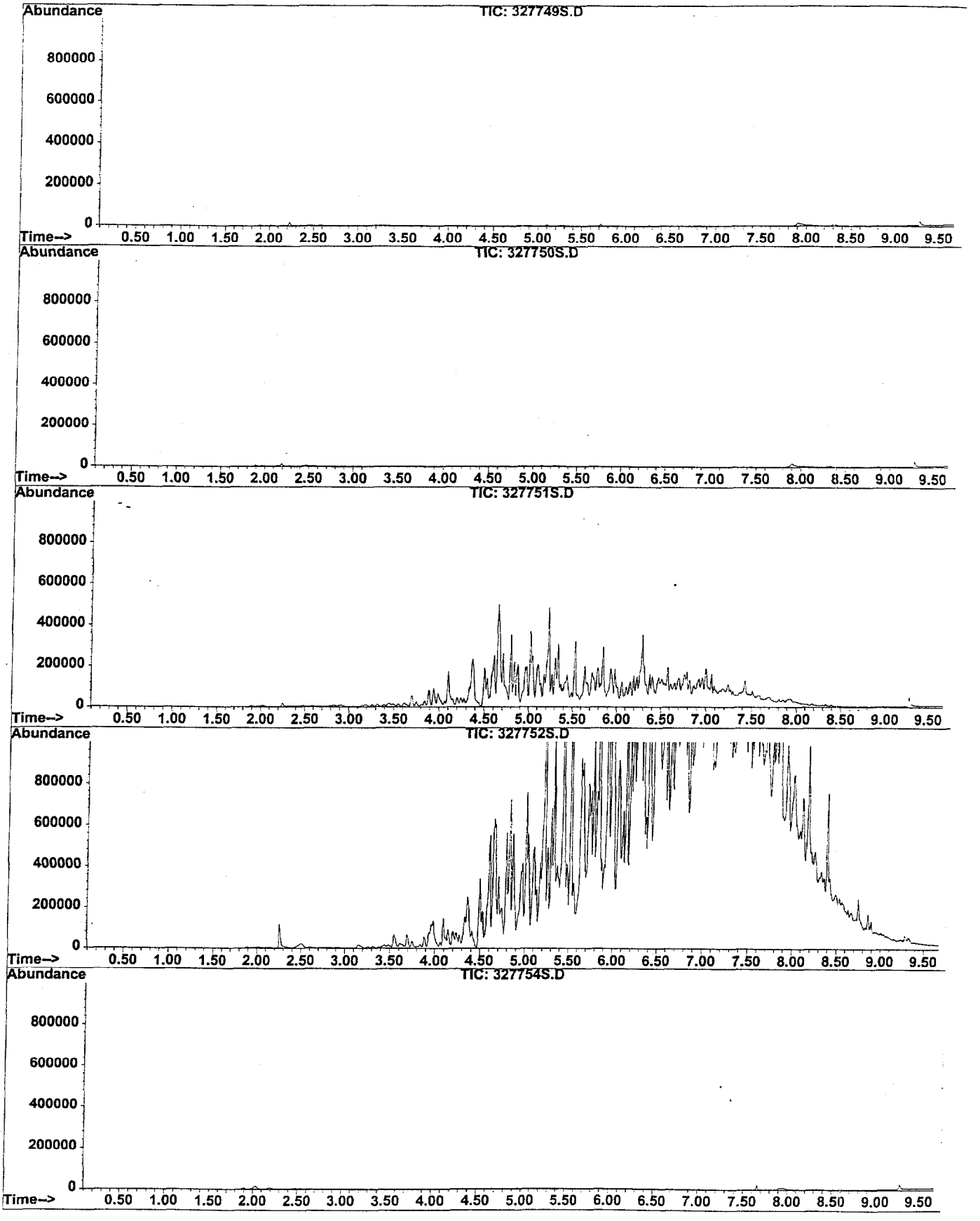

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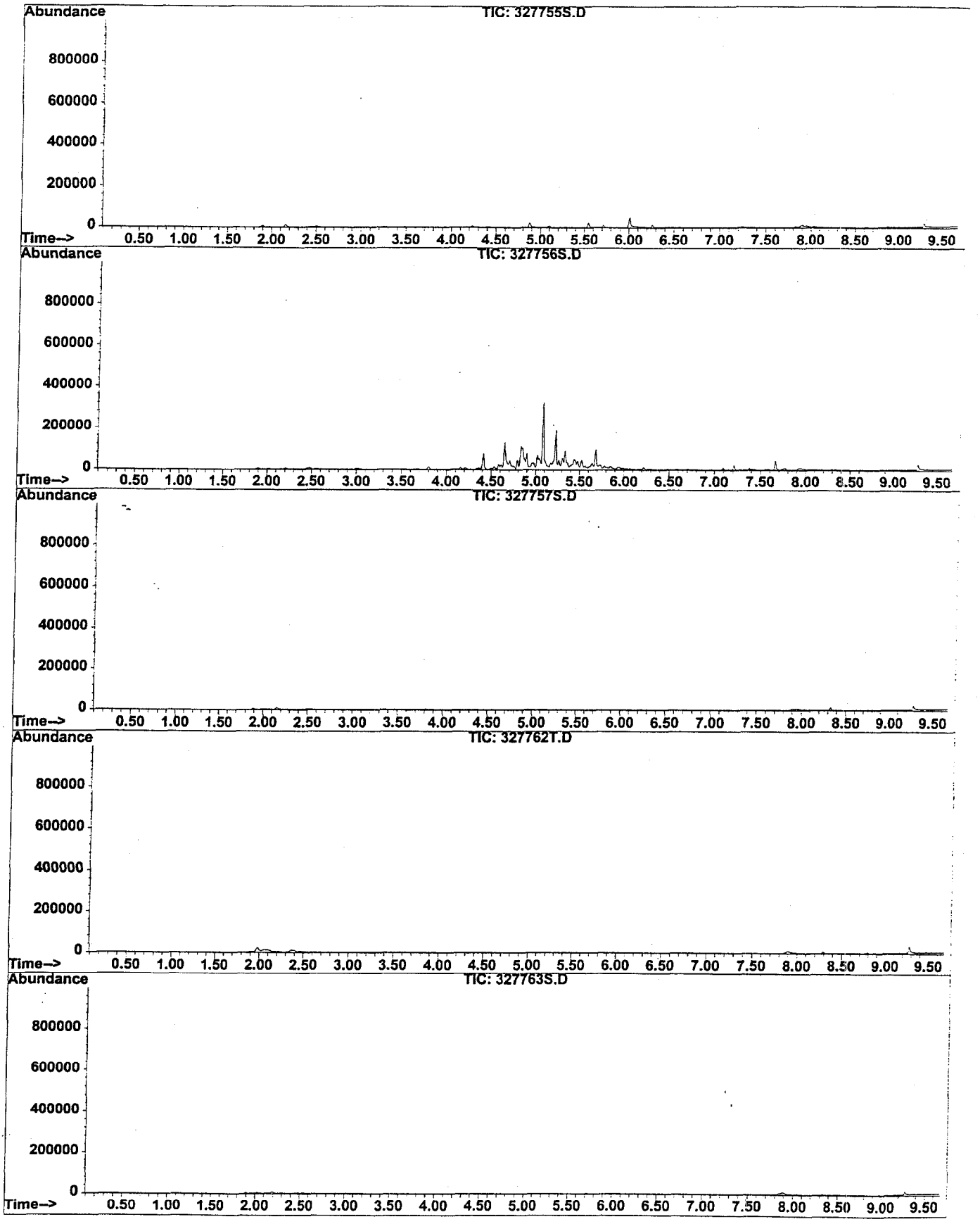

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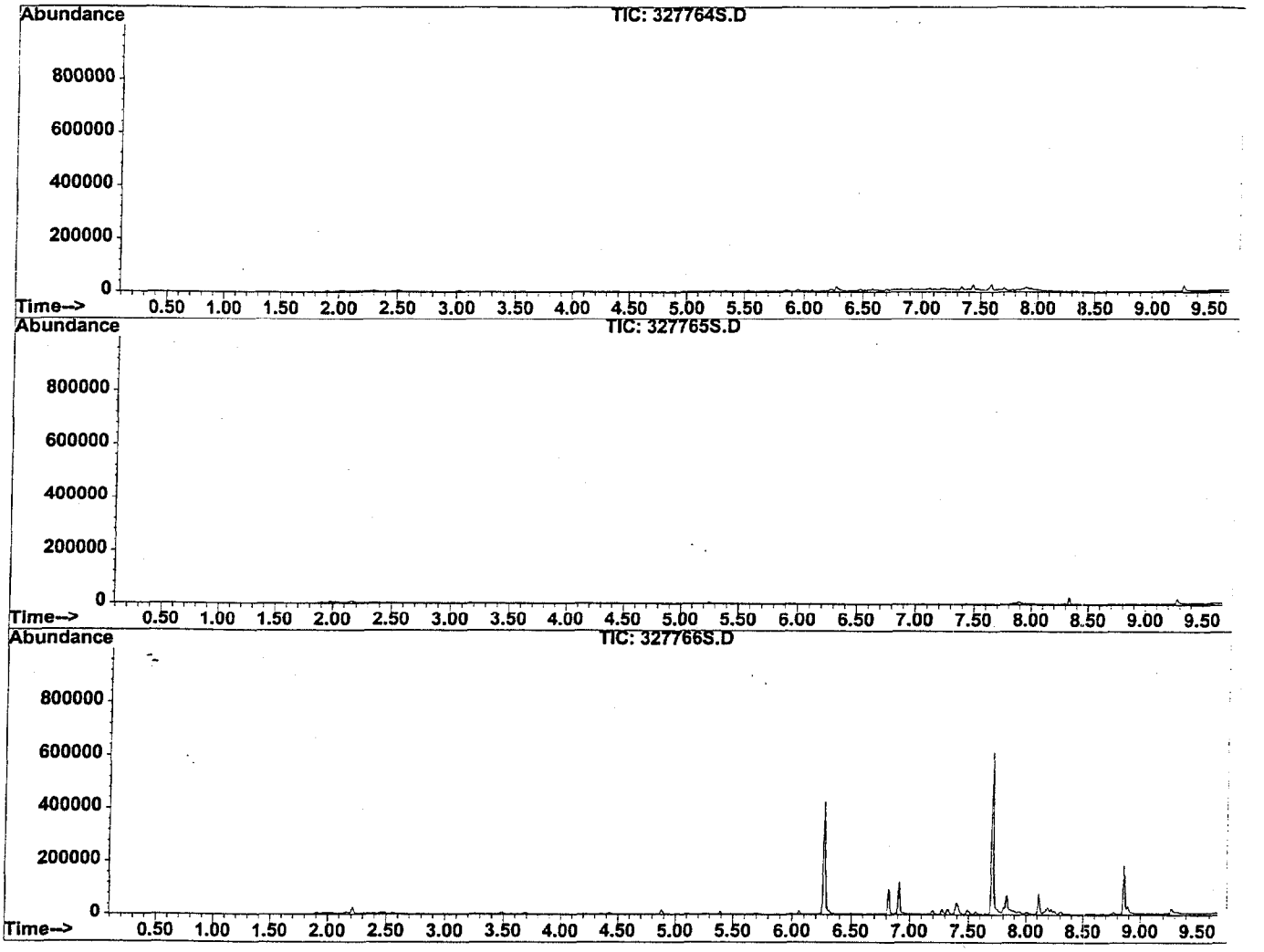

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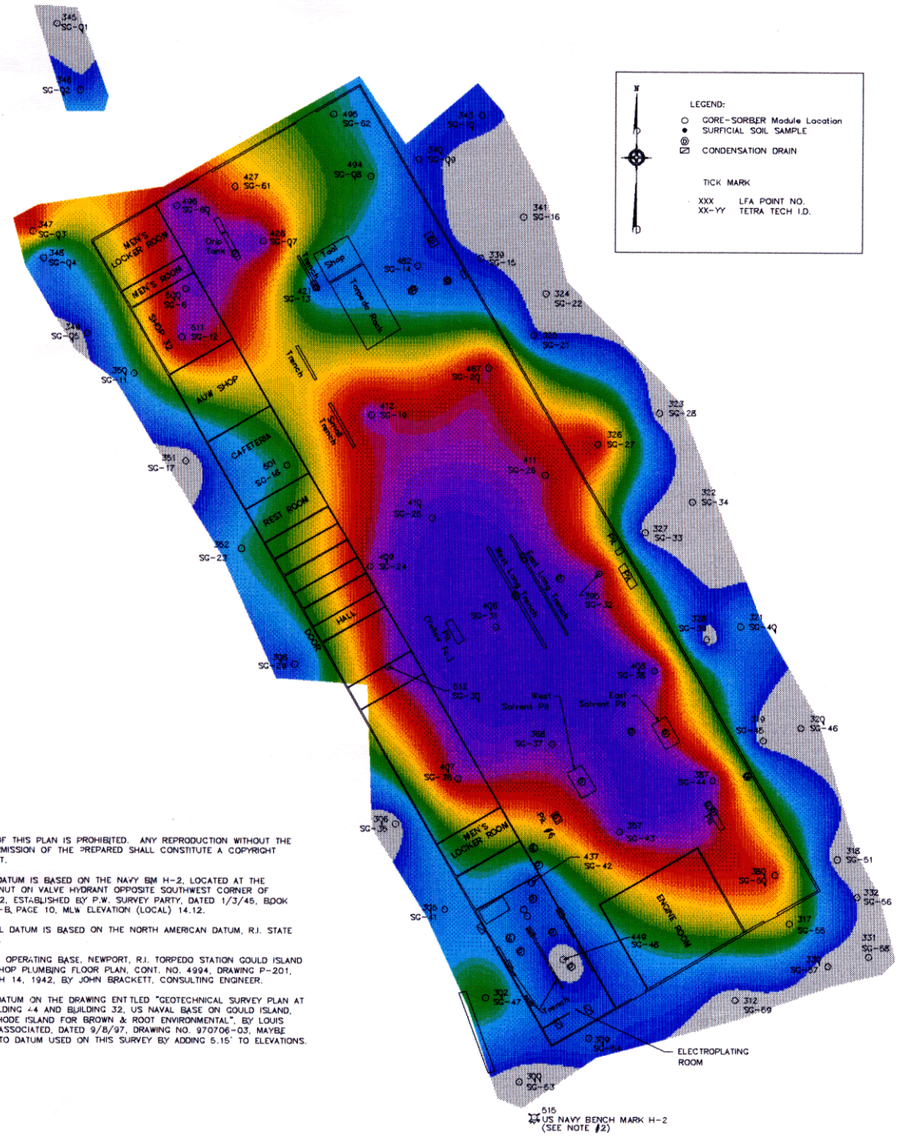

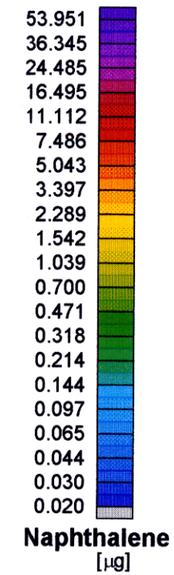

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3. HORIZONTAL DATUM IS BASED ON THE NORTH AMERICAN DATUM, R.I. STATE PLANE 1983.

4. U.S. NAVAL OPERATING BASE, NEWPORT, R.I. TORPEDO STATION GOULD ISLAND OVERHAUL SHOP PLUMBING FLOOR PLAN, CONT. NO. 4994, DRAWING P-201, DATED MARCH 14, 1942, BY JOHN BRACKETT, CONSULTING ENGINEER.

5. VERTICAL DATUM ON THE DRAWING ENTITLED "GEOTECHNICAL SURVEY PLAN AT FORMER BUILDING 44 AND BUILDING 32, US NAVAL BASE ON GOULD ISLAND, NEWPORT, RHODE ISLAND FOR BROWN & ROOT ENVIRONMENTAL", BY LOUIS FEDERICI & ASSOCIATED, DATED 9/8/97, DRAWING NO. 970706-03, MAYBE CONVERTED TO DATUM USED ON THIS SURVEY BY ADDING 5.15' TO ELEVATIONS.

Scale 1:1200

50 0 50 100 150 200 250

foot

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USA
(410) 392-7600

Tetra Tech NUS, Inc., Wilmington, MA
Gould Island Building 32, Newport, RI
Naphthalene

DATE DRAWN: 24 May 2000	DRAWN BY: JH	ORIG. CAD: SOILGAS.dwg	SITE CODE: BJM
REV. DATE:	REV. #:	PROJECT NUMBER: 10380972	

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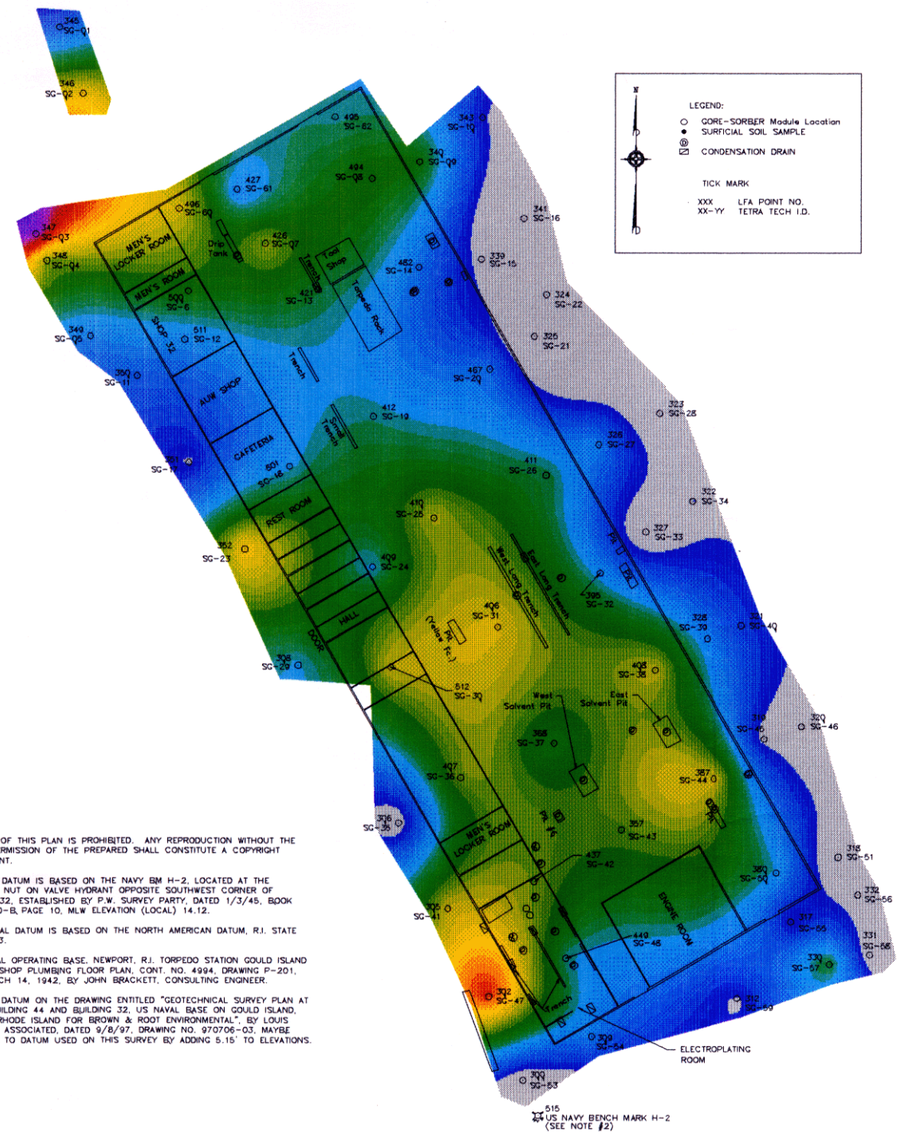

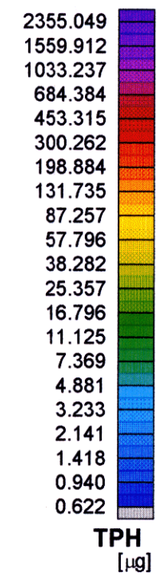

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Scale 1:1200

50 0 50 100 150 200 250

foot

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Tetra Tech NUS, Inc., Wilmington, MA
Gould Island Building 32, Newport, RI
Total Petroleum Hydrocarbons

DATE DRAWN: 24 May 2000	DRAWN BY: JH	ORIG. CAD: SOILGAS.dwg	SITE CODE: BJM
REV. DATE:	REV. #:	PROJECT NUMBER: 10380972	

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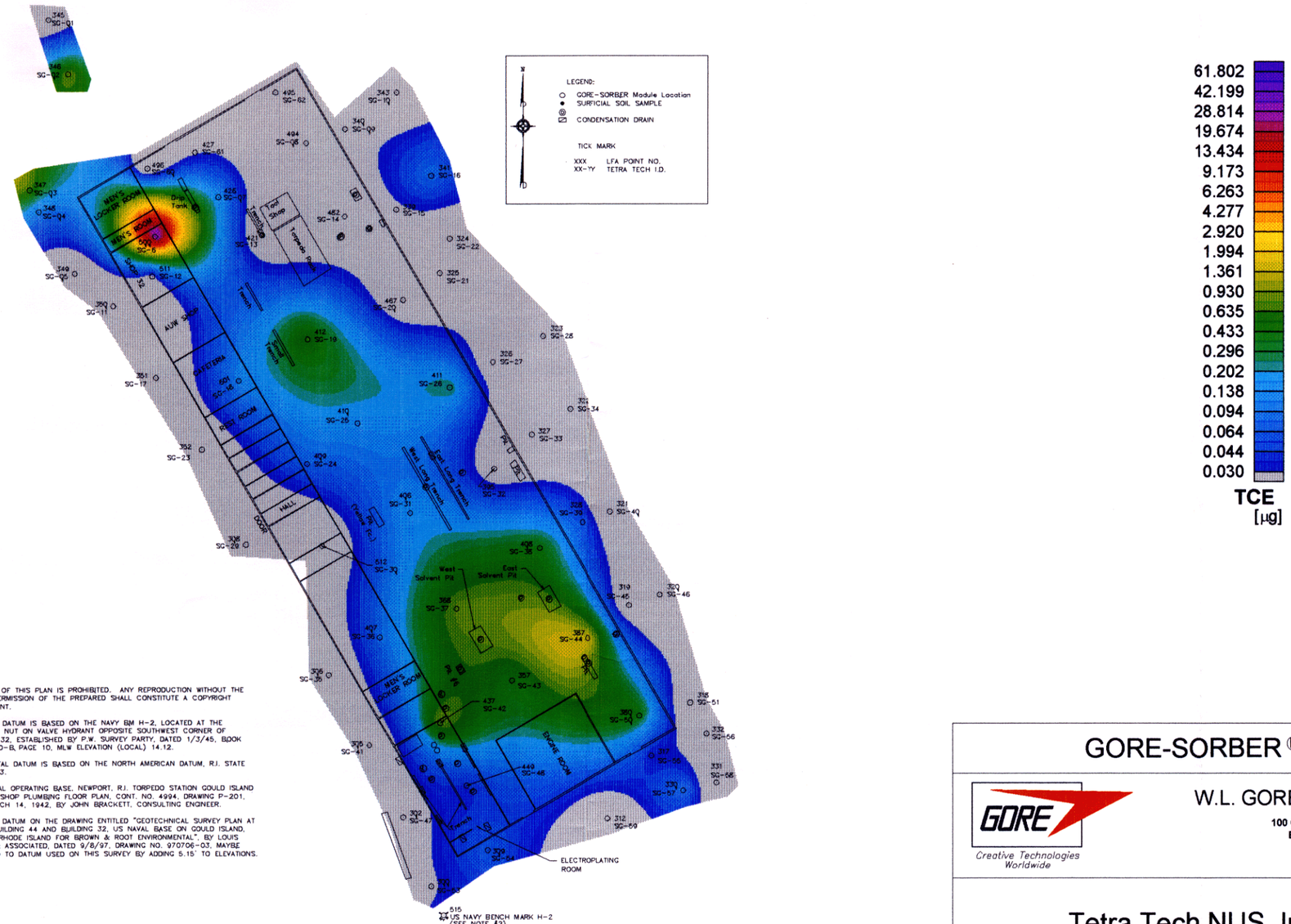

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Scale 1:1200

50 0 50 100 150 200 250

foot

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Gould Island Building 32, Newport, RI
Trichloroethene

DATE DRAWN: 24 May 2000	DRAWN BY: JH	ORIG. CAD: SOILGAS.dwg	SITE CODE: BJM
REV. DATE:	REV. #:	PROJECT NUMBER: 10380972	

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APPENDIX C

DATA VALIDATION MEMORANDA

TETRA TECH NUS, INC. **INTERNAL CORRESPONDENCE**

C-Navy-7-00-1457W

Date: July 17, 2000

To: Stephen Parker c: File N7574-4.10

From: Maureen Parker MP

Subject: Inorganic Tier II Data Validation, Project 7574, SDG G32-CO-06-03IN
Accutest Laboratories
Navy CLEAN, Gould Island Building 32 SI, NETC – CTO 286
Background Soils Investigation

TAL Metals/CN:

8/Soil/	G32-DR-01, G32-DR-02, G32-DR-03, G32-DR-04, G32-DR-05, G32-DR-06, G32-DR-12, G32-DUP3 (Field Duplicate Pair: G32-DR-02/G32-DUP3)
8/Sludge/	G32-DR-07, G32-DR-08, G32-DR-09, G32-DR-10, G32-DR-11, G32-DR-13, G32-DR-14, G32-DUP4 (Field Duplicate Pair: G32-DR-10/G32-DUP4)
3/Concrete Dust/	G32-CO-06-03IN, G32-CO-07-03IN, G32-CO-08-03IN
3/Rinsate Blanks/	RB-042400, RB-042600, RB-042700

Dear Mr. Parker:

TtNUS, Inc. (TtNUS) performed a Tier II data validation on the metals/cyanide analytical data for Case 7574, SDG G32-CO-06-03IN, from soil, sludge and concrete dust samples collected at the Gould Island Building 32 site. The samples were analyzed according to the CLP ILM04.0 Statement of Work. The data were validated according to the Region I, EPA-NE Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses, modified February 1989.

The data were evaluated based on the following parameters:

- Data Completeness
- * Holding Times
- Calibration Verification
- Field and Laboratory Blank Analyses
- ICP Interference Check Sample Results
- Matrix Spike Recoveries
- * Laboratory Control Sample Results
- Laboratory Duplicate Results

- Field Duplicate Precision
- ICP Serial Dilution Results
- Detection Limits
- * Sample Quantitation

* All quality control criteria were met for this parameter.

Data Completeness

The laboratory was contacted on June 20, 2000, regarding missing sodium results on the Form Is for samples G32-DR-02 and G32-DUP3. A correction of the sample name for G32-DUP3 was also requested. The completed Form Is with the corrected sample name were received at TtNUS on June 21, 2000. Corrected forms associated with sample G32-DUP3 were received at TtNUS on July 5, 2000. The laboratory was contacted on July 6, 2000, about a typographical error on one Form XIV for sample G32-DR10. The corrected Form XIV was received at TtNUS on July 7, 2000. The laboratory was contacted on July 11, 2000 regarding the reporting of the CRDL instead of the IDL for cyanide. The laboratory responded on July 14, 2000 that the lab was in the process of changing over to reporting the IDL for cyanide but these samples were analyzed before the transition was complete.

Calibration Verification

The percent recoveries for selenium were both above the 120% quality control criterion and below the 80% quality control criterion in the CRDL standard analysis. The positive results < 3 x CRDL and non-detected results for selenium are qualified as estimated (J and UJ), respectively in affected samples. The percent recoveries for arsenic, lead, and vanadium were above the 120% quality control criterion. Positive results less than 3 x CRDL for arsenic, lead and vanadium in affected samples are qualified as estimated (J). Data may be biased high.

Field and Laboratory Blank Analyses

Soil/Sludge/Concrete Dust:

The field blanks and laboratory blank analyses were used to calculate the maximum concentrations of the following contaminants affecting the soil, sludge, and concrete dust sample results.

Analyte	Maximum Concentration (ug/L)	Action Level (mg/Kg)
Antimony	4.5	4.5
Beryllium	1.0	1.0
Cadmium	3.6	3.6
Mercury	0.2	0.2
Sodium	251	251

Blank actions were applied to affected soil, sludge and concrete dust samples for antimony, beryllium, cadmium, mercury, and sodium.

Aqueous:

The laboratory blank analyses were used to calculate the maximum concentrations of the following contaminants affecting the aqueous field blank results.

Analyte	Maximum Concentration (ug/L)	Action Level (ug/L)
Cadmium	2.9	14.5
Calcium	66.8	334
Chromium	1.0	5.0
Copper	2.6	13
Iron	59.1	295.5
Magnesium	59.2	296
Nickel	1.5	7.4
Thallium	5.9	29.5
Zinc	6.7	33.5

Blank actions were applied to the field blank samples for cadmium, calcium, chromium, copper, iron, magnesium, nickel, thallium, and zinc.

The following actions apply for blank contamination:

- Accept values > Action Level.
- Report as (U) values > 2x IDL and < Action Level. The reporting limit is the associated value.
- Report as (UJ) values < 2x IDL and < Action Level. The reporting limit is the associated estimated value.

ICP Interference Check Sample Results

The following analytes were detected in the ICSA solution at absolute levels greater than 2x IDL when these analytes were not supposed to be present in the solution: antimony, arsenic, barium, cadmium, cobalt, copper, zinc, and potassium. Estimate (J) positive results for the analytes with levels of interferents of 50% or more of that in the ICS solution and reject (R) positive results if the reported concentration is due entirely (≥ 80%) to the interfering analyte. The samples listed in the table below had iron or calcium levels greater than 50% of their respective levels in the ICSA solution. Therefore, the following actions were taken:

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Fe (ug/L)	Estimated Interference (ug/L)	Action
G32-CO-06-03IN	Antimony	5.0	101115	5.5	Reject
	Arsenic	30	101115	3.3	J
	Barium	437	101115	6.1	J
	Cadmium	97	101115	1.7	J
	Cobalt	27	101115	1.1	J
	Copper	5104	101115	-5.0	Accept
	Zinc	3308	101115	3.9	Accept
	Potassium	10737	101115	156.5	J

(Continued)

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Fe (ug/L)	Estimated Interference (ug/L)	Action
G32-DR-01	Antimony	319	261345	14.3	J
	Arsenic	34	261345	8.6	J
	Barium	4156	261345	15.7	Accept
	Cadmium	668	261345	4.3	Accept
	Cobalt	56	261345	2.9	J
	Copper	4323	261345	-12.9	Accept
	Zinc	10141	261345	10.0	Accept
	Potassium	3890	261345	404.4	J
G32-DR-02	Antimony	25	592025	32.4	Reject
	Arsenic	55	592025	19.4	J
	Barium	3987	592025	35.6	Accept
	Cadmium	283	592025	9.7	J
	Cobalt	52	592025	6.5	J
	Copper	6902	592025	-29.1	Accept
	Zinc	187128	592025	22.7	Accept
	Potassium	9104	592025	916.1	J
G32-DR-03	Antimony	1585	969830	53	J
	Arsenic	87	969830	31.8	J
	Barium	4805	969830	58.3	J
	Cadmium	3340	969830	15.9	Accept
	Cobalt	107	969830	10.6	J
	Copper	72371	969830	-47.7	Accept
	Zinc	35453	969830	37.1	Accept
	Potassium	832	969830	1500.7	Reject
G32-DR-04	Antimony	422	1367730	74.8	J
	Arsenic	171	1367730	44.9	J
	Barium	2875	1367730	82.3	J
	Cadmium	18591	1367730	22.4	Accept
	Cobalt	146	1367730	15.0	J
	Copper	5692	1367730	-67.3	J
	Zinc	11343	1367730	52.3	Accept
	Potassium	9296	1367730	2116.4	J
G32-DR-05	Antimony	6531	1172470	64.1	Accept
	Arsenic	126	1172470	38.5	J
	Barium	18940	1172470	70.5	Accept
	Cadmium	1353	1172470	19.2	J
	Cobalt	151	1172470	12.8	J
	Copper	3266	1172470	-57.7	J
	Zinc	42607	1172470	44.9	Accept
	Potassium	824	1172470	1814.2	Reject

(Continued)

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Fe (ug/L)	Estimated Interference (ug/L)	Action
G32-DR-06	Antimony	630	671715	36.7	J
	Arsenic	36	671715	22.0	J
	Barium	1590	671715	40.4	J
	Cadmium	215936	671715	11.0	Accept
	Cobalt	85	671715	7.3	J
	Copper	36204	671715	-33.1	Accept
	Zinc	8691	671715	25.7	Accept
	Potassium	18482	671715	1039.4	J
G32-DR-07	Antimony	67	331270	18.1	J
	Arsenic	23	331270	10.9	J
	Barium	1182	331270	19.9	J
	Cadmium	243	331270	5.4	J
	Cobalt	19	331270	3.6	J
	Copper	982	331270	-16.3	J
	Zinc	7828	331270	12.7	Accept
	Potassium	600	331270	512.6	Reject
G32-DR-08	Antimony	18	631935	34.6	Reject
	Arsenic	42	631935	20.7	J
	Barium	1604	631935	38	J
	Cadmium	148	631935	10.4	J
	Cobalt	30	631935	6.9	J
	Copper	2344	631935	-31.1	J
	Zinc	16182	631935	24.2	Accept
	Potassium	1423	631935	977.8	J
G32-DR-10	Antimony	20	244800	13.4	J
	Arsenic	36	244800	8.0	J
	Barium	279	244800	14.7	J
	Cadmium	97	244800	4.0	J
	Cobalt	72	244800	2.7	J
	Copper	1302	244800	-12.0	Accept
	Zinc	11851	244800	9.4	Accept
	Potassium	806	244800	378.8	J
G32-DR-11	Antimony	4	995225	54.4	Reject
	Arsenic	59	995225	32.6	J
	Barium	197	995225	59.9	J
	Cadmium	65	995225	16.3	J
	Cobalt	50	995225	10.9	J
	Copper	989	995225	-49.0	J
	Zinc	5938	995225	38.1	Accept
	Potassium	572	995225	1540	Reject

(Continued)

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Fe (ug/L)	Estimated Interference (ug/L)	Action
G32-DR-12	Antimony	20	595335	32.6	Reject
	Arsenic	59	595335	19.5	J
	Barium	2395	595335	35.8	J
	Cadmium	129	595335	9.8	J
	Cobalt	51	595335	6.5	J
	Copper	2720	595335	-29.3	J
	Zinc	7798	595335	22.8	Accept
	Potassium	2309	595335	921.2	J
G32-DR-13	Antimony	81	311610	17	J
	Arsenic	34	311610	10.2	J
	Barium	330	311610	18.7	J
	Cadmium	51	311610	5.1	J
	Cobalt	35	311610	3.4	J
	Copper	1332	311610	-15.3	J
	Zinc	3147	311610	11.9	Accept
	Potassium	1802	311610	482.2	J
G32-DR-14	Antimony	15	356250	19.5	Reject
	Arsenic	20	356250	11.7	J
	Barium	1910	356250	21.4	J
	Cadmium	105	356250	5.8	J
	Cobalt	31	356250	3.9	J
	Copper	459	356250	-17.5	J
	Zinc	3135	356250	13.6	Accept
	Potassium	1582	356250	551.2	J
G32-Dup3	Antimony	38	907670	49.6	Reject
	Arsenic	77	907670	29.8	J
	Barium	3689	907670	54.6	J
	Cadmium	210	907670	14.9	J
	Cobalt	84	907670	9.9	J
	Copper	9599	907670	-44.7	Accept
	Zinc	306257	907670	34.7	Accept
	Potassium	7085	907670	1404.5	J

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Ca (ug/L)	Estimated Interference (ug/L)	Action
G32-CO-07-03	Antimony	10	325966	6.8	J
	Arsenic	14	325966	4.1	J
	Barium	1317	325966	7.5	Accept
	Cadmium	14	325966	2.0	J
	Cobalt	25	325966	1.4	J
	Copper	476	325966	-6.1	J
	Zinc	1583	325966	4.8	Accept
	Potassium	7892	325966	192.9	J

All of the positive results for arsenic and cobalt and many of the positive results for antimony, barium, cadmium and potassium are estimated (J) in the samples listed above due to positive interference attributed to iron. The results may be biased high. The positive results for copper are estimated (J) in the samples listed above due to negative interference attributed to iron. These results may be biased low. Several of the positive antimony and potassium results in the samples listed above are rejected (R) since the reported concentrations might be due entirely (≥ 80%) to the iron interference. The other positive results for barium, cadmium and copper, the result for antimony in sample G32-DR-05, and all of the positive results for zinc, in the samples listed above are accepted without qualification since the estimated interference accounted for less than 1% of the reported sample concentration.

The positive results for antimony, arsenic, cadmium, cobalt, and potassium are estimated (J) in sample G32-CO-07-03IN due to positive interference attributed to calcium. The results may be biased high. The positive result for copper is estimated (J) in sample G32-CO-07-03IN due to negative interference attributed to calcium. The result may be biased low. The positive results for barium and zinc in sample G32-CO-07-03IN are accepted without qualification since the estimated interference accounted for less than 1% of the reported sample concentration.

Matrix Spike Recoveries

A matrix spike analysis was not performed for the concrete dust samples in this SDG. The following results from the analysis of the matrix spike for the concrete dust samples in SDG G32-CO-01-03IN were used to validate the three concrete dust samples in this data package.

The results of the matrix spike analysis of sample G32-CO-05-03IN were below the 75% criterion for antimony, arsenic, manganese, nickel, and thallium. The positive and non-detected results for these analytes in the concrete dust samples are estimated (J, UJ); the results may be biased low. The result of the matrix spike analysis of sample G32-CO-05-03IN was above the 125% criterion for cadmium. The positive results for cadmium in the concrete dust samples are estimated (J); the results may be biased high.

The results of the matrix spike analysis of soil sample G32-DR-04S were above the 125% criterion for nickel and selenium and were below the 75% criterion for thallium and mercury. The positive results for nickel and selenium in the soil samples are estimated (J); the results may be biased high. The positive and non-detected results for thallium and mercury in the soil samples are estimated (J, UJ); the results may be biased low.

The results of the matrix spike analysis of sludge sample G32-DR-10S were above the 125% criterion for cadmium and were below the 75% criterion for antimony arsenic, manganese and cyanide. The positive results for cadmium in the sludge samples are estimated (J); the results may be biased high. The positive and non-detected results for antimony arsenic, manganese and cyanide in the sludge samples are estimated (J, UJ); the results may be biased low.

Laboratory Duplicate Results

The relative percent difference (RPD) for nickel was greater than the 35% quality control criterion for soil samples in the laboratory duplicate analysis of sample G32-DR-04. Positive results for nickel in the soil samples are estimated (J) due to poor laboratory duplicate precision.

The relative percent differences (RPDs) for chromium, iron, and lead were greater than the 35% quality control criterion for sludge samples in the laboratory duplicate analysis of sample G32-DR-10. Positive results for chromium, iron, and lead in the sludge samples are estimated (J) due to poor laboratory duplicate precision.

Field Duplicate Precision

The concrete dust sample field duplicate pair associated with the concrete dust samples in this SDG can be found in SDG G32-CO-01-03IN. The following results from the analysis of the field duplicate pair for the concrete dust samples in SDG G32-CO-01-03IN were used to validate the three concrete dust samples in this data package.

The relative percent differences (RPDs) for cadmium, copper, lead, and zinc were greater than the 50% quality control criterion for concrete dust samples in the field duplicate analysis of field duplicate pair G32-CO-05-03IN/G32-DUP1. The positive results for cadmium, copper, lead, and zinc in the concrete dust samples are estimated (J) due to poor field duplicate precision.

The relative percent differences (RPDs) for aluminum, calcium, mercury, and nickel were greater than the 50% quality control criterion for soil samples in the field duplicate analysis of field duplicate pair G32-DR-02/G32-DUP3. The positive results for aluminum, calcium, mercury, and nickel in the soil samples are estimated (J) due to poor field duplicate precision.

The relative percent differences (RPDs) for cadmium, calcium, chromium, copper, iron, lead, manganese, and zinc were greater than the 50% quality control criterion for sludge samples in the field duplicate analysis of field duplicate pair G32-DR-10/G32-DUP4. The positive results for cadmium, calcium, chromium, copper, iron, lead, manganese, and zinc in the sludge samples are estimated (J) due to poor field duplicate precision.

ICP Serial Dilution Results

The ICP serial dilution percent difference for sodium was above the 15% quality control criterion for analyte concentrations greater than 50x IDL before dilution. The positive results for sodium are qualified as estimated (J), in the soil samples. As the diluted result was greater than the sample result, the data may be biased low.

Detection Limits

The CRDL for cyanide (10.0 ug/L) was used to determine U flags for all the cyanide results of all the samples in this data package. The MDL was included for informational purposed only.

Sample Quantitation

The percent solids content in samples G32-DR-07, G32-DR-08, G32-DR-09, G32-DR-10, and G32-DR-14 were below 30%. Positive results for all analytes in these samples are qualified as estimated (J), and non-detected results for all analytes in these samples are rejected (R), due to the solids content less than the 30% quality control criterion.

Overall Assessment of the Data

The data are acceptable for use as qualified. The positive results less than 3x CRDL and the non-detected results for selenium are estimated (J, UJ), and the positive results < 3x CRDL for

arsenic, lead and vanadium are estimated (J), in affected samples due to poor linearity at low concentrations as identified by the analysis of the CRDL standard. Detection limits are raised for antimony, beryllium, cadmium, mercury, and sodium in the soil, sludge and concrete dust samples due to laboratory and/or field blank contamination. Detection limits are raised for cadmium, calcium, chromium, copper, iron, magnesium, nickel, thallium, and zinc in the field blank samples due to laboratory blank contamination. The positive results for arsenic and cobalt and many of the positive results for antimony, barium, cadmium and potassium are estimated (J) in affected samples due to positive interference attributed to iron. The results may be biased high. The positive results for copper are estimated (J) in affected samples due to negative interference attributed to iron. These results may be biased low. Several of the positive antimony and potassium results in affected samples are rejected (R) since the reported concentrations might be due entirely (≥ 80%) to the iron interference. The positive results for antimony, arsenic, cadmium, cobalt, and potassium are estimated (J) in sample G32-CO-07-03IN due to positive interference attributed to calcium. The results may be biased high. The positive result for copper is estimated (J) in sample G32-CO-07-03IN due to negative interference attributed to calcium. The result may be biased low. The positive and non-detected results for antimony, arsenic, manganese, nickel, and thallium are estimated (J, UJ), and positive results for cadmium are estimated (J) in the concrete dust samples due to poor or high matrix spike recoveries. The positive results for nickel and selenium in the soil samples are estimated (J) due to high matrix spike recoveries; the results may be biased high. The positive and non-detected results for thallium and mercury in the soil samples are estimated (J, UJ) due to poor matrix spike recoveries; the results may be biased low. The positive results for cadmium in the sludge samples are estimated (J) due to high matrix spike recoveries; the results may be biased high. The positive and non-detected results for antimony, arsenic, manganese and cyanide in the sludge samples are estimated (J, UJ) due to poor matrix spike recoveries; the results may be biased low. Positive results for nickel in the soil samples are estimated (J) due to poor laboratory duplicate precision. Positive results for chromium, iron, and lead in the sludge samples are estimated (J) due to poor laboratory duplicate precision. The positive results for cadmium, copper, lead, and zinc in the concrete dust samples are estimated (J) due to poor field duplicate precision. The positive results for aluminum, calcium, mercury, and nickel in the soil samples are estimated (J) due to poor field duplicate precision. The positive results for cadmium, calcium, chromium, copper, iron, lead, manganese and zinc in the sludge samples are estimated (J) due to poor field duplicate precision. The positive results for sodium are qualified as estimated (J), in the soil samples due to ICP serial dilution matrix interference. The percent solids content in samples G32-DR-07, G32-DR-08, G32-DR-09, G32-DR-10, and G32-DR-14 were below 30%. Positive results for all analytes in these samples are qualified as estimated (J), and non-detected results for all analytes in these samples are rejected (R), due to the solids content less than the 30% quality control criterion.

NOTE: Sample results less than 2x IDL and less than the CRDL are estimated (J) due to uncertainty in values near the instrument detection limit.

Attachments

c: **File N7574-4.10**

Soil, Sludge, and Concrete Dust TAL Metal Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05	
Station Location	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05	
Date Sampled	4/26/00		4/27/00		4/27/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Extracted																
Date Analyzed																
Dilution Factor	1		1		1		1		1		1		1		1	
Percent Solids	96.3		93.4		93.2		66.5		59.5		58.6		81.9		62.2	
QC Identifier	None		None		None		None		Field Dup. G32-DR-02		None		None		None	
Aluminum	6880		7860		3400		3230	J	3140	J	1100	J	1070	J	1010	J
Antimony		R	2.1	UJ	3.6	UJ	95.8	J		R	541	J	103	J	2100	
Arsenic	6.3	J	2.9	J	2.5	J	10.3	J	18.5	J	29.8	J	41.7	J	40.4	J
Barium	90.8	J	282		211		1250		1340		1640	J	702	J	6090	
Beryllium	0.44	U	0.46	U	0.25	U	1.1		0.15	UJ	0.13	UJ	0.76	U	0.10	U
Cadmium	20.2	J	2.9	UJ	4.9	J	201		95.2	J	1140		4540		435	J
Calcium	49400		69800		11300		21500	J	15300	J	8400	J	10200	J	7510	J
Chromium	15.8		20.2		16.8		149		219		1480		495		600	
Cobalt	5.6	J	5.4	J	3.9		16.9	J	17.4	J	36.6	J	35.6	J	48.7	J
Copper	1060	J	102	J	45.4	J	1300		2320		24700		1390	J	1050	J
Iron	21000		16700		11200		78600		199000		331000		334000		377000	
Lead	246	J	245	J	377	J	4180		7590		28500		5270		24100	
Magnesium	2850		3500		1650		2340		1990		1130		1530		991	
Manganese	301	J	279	J	196	J	462		939		1330		1300		1700	
Mercury	0.07	U	0.05	U	0.08	U	1.1	J	0.84	J	2.5	J	0.56	J	0.33	J
Nickel	22.9	J	12.6	J	15.3	J	169	J	285	J	1420	J	276	J	607	J
Potassium	2230	J	1690	J	585		1170	J	3060	J		R	2270	J		R
Selenium	0.79	UJ	0.81	UJ	0.82	UJ	1.1	UJ	1.3	UJ	2.0	J	1.9	UJ	3.1	J
Silver	0.58		0.63		0.91		3.3		5.7		22.1		10.4		3.4	
Sodium	1340		426		177	U	560	J	5840	J	290	J	2360	J	160	UJ
Thallium	0.77	UJ	0.79	UJ	0.79	UJ	1.4	UJ	1.2	UJ	1.3	UJ	1.8	UJ	2.4	UJ
Vanadium	12.4	J	10.1	J	38.3		33.9	J	15.3	J	34.5	J	57.6		38.0	J
Zinc	687	J	339	J	366	J	3050		62900		12100		2770		13700	
Cyanide	0.52	U	0.54	U	0.54	U	1.3	J	1.6		16.3		194		16.9	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Dust TAL Metal Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-10		G32-DR-11		G32-DR-12		G32-DR-13		G32-DR-14	
Station Location	G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-10		G32-DR-11		G32-DR-12		G32-DR-13		G32-DR-14	
Date Sampled	4/24/00		4/25/00		4/25/00		4/26/00		4/26/00		4/26/00		4/24/00		4/25/00		4/25/00	
Date Extracted																		
Date Analyzed																		
Dilution Factor	1		1		1		1		1		1		1		1		1	
Percent Solids	75.9		21.1		27.9		11.1		28.8		32.9		55.9		61.1		28.5	
QC Identifier	None		None		None		None		Field Dup. G32-DR-10		None		None		None		None	
Aluminum	352	J	996	J	1170	J	1710	J	5520	J	943		1770	J	2510		1180	J
Antimony	166	J	63.9	J		R		R	13.7	J		R		R	26.5	J		R
Arsenic	9.5	J	22.2	J	29.8	J	10.5	J	24.9	J	36.0	J	21.1	J	11.0	J	14.3	J
Barium	419	J	1120	J	1150	J	230	J	194	J	120	J	857	J	108	J	1340	J
Beryllium	0.08	U		R	0.22	UJ		R	0.67	UJ	0.18	U	0.11	U	0.21	U	0.32	UJ
Cadmium	56900		230	J	106	J	73.6	J	67.1	J	39.3	J	46.0	J	16.6	J	73.4	J
Calcium	3480	J	8470	J	5190	J	15300	J	106000	J	3970	J	19400	J	12100	J	18700	J
Chromium	11800		149	J	103	J	226	J	133	J	206	J	159		49.5	J	197	J
Cobalt	22.5	J	17.7	J	21.8	J	13.2	J	50.1	J	30.3	J	18.4	J	11.4	J	21.8	J
Copper	9540		931	J	1680	J	2160	J	904	J	601	J	973	J	436	J	322	J
Iron	177000		314000	J	453000	J	146000	J	170000	J	605000	J	213000		102000	J	250000	J
Lead	31600		7560	J	2410	J	2500	J	911	J	1300	J	4300		12700	J	2670	J
Magnesium	328		673	J	1010	J	1300	J	5520	J	3050		2310		1370		31200	J
Manganese	728		878	J	2010	J	641	J	1160	J	2100	J	1040		263	J	1360	J
Mercury	6.7	J	0.95	J	0.34	J	1.6	J	0.22	J	0.38		0.69	J	0.61		2.6	J
Nickel	14100	J	175	J	142	J	980	J	132	J	236		167	J	76.1		228	J
Potassium	4870	J		R	1020	J	645	J	560	J		R	826	J	590	J	1110	J
Selenium	1.0	UJ	5.3	J	8.2	J		R		R	12.2		1.4	UJ	1.4	J	3.7	J
Silver	104		3.3	J	1.2	J	10.3	J	2.8	J	3.4		2.4		2.6		7.6	J
Sodium	7870	J	1070	J	3780	J	561	J	203	UJ	794		737	J	367		1100	J
Thallium	16.0	J		R		R		R		R	2.2	U	1.3	J	1.2	U		R
Vanadium	41.3		15.5	J	13.2	J	19.3	J	60.8	J	5.2	J	11.4	J	8.5	J	13.9	J
Zinc	2290		7420	J	11600	J	1670	J	8230	J	3610	J	2790		1030	J	2200	J
Cyanide	865			R		R		R		R	1.5	UJ	0.89	U	1.0	J		R

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Dust TAL Metal Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DUP3		G32-DUP4	
Station Location	G32-DUP3		G32-DUP4	
Date Sampled	4/24/00		4/26/00	
Date Extracted				
Date Analyzed				
Dilution Factor	1		1	
Percent Solids	65.3		40.4	
QC Identifier	Field Dup. G32-DR-02		Field Dup. G32-DR-10	
Aluminum	5970	J	3540	
Antimony		R	1.2	UJ
Arsenic	23.7	J	3.2	J
Barium	1130	J	64.5	
Beryllium	0.19	U	0.43	U
Cadmium	64.2	J	30.2	J
Calcium	9090	J	52100	J
Chromium	222		23.8	J
Cobalt	25.6	J	20.4	
Copper	2940		299	J
Iron	278000		36900	J
Lead	7720		249	J
Magnesium	2010		3430	
Manganese	1250		582	J
Mercury	1.8	J	0.48	
Nickel	528	J	44.5	
Potassium	2170	J	347	
Selenium	1.8	J	2.0	UJ
Silver	2.8		0.86	
Sodium	3790	J	390	
Thallium	1.1	UJ	1.8	U
Vanadium	10.0	J	25.2	J
Zinc	93800		4050	J
Cyanide	1.6		1.2	UJ

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Aqueous TAL Metal Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	RB-042400		RB-042600		RB-042700	
Station Location	RB-042400		RB-042600		RB-042700	
Date Sampled	4/24/00		4/26/00		4/27/00	
Date Extracted						
Date Analyzed						
Dilution Factor	1		1		1	
Percent Solids						
QC Identifier	Rinsate Blank		Rinsate Blank		Rinsate Blank	
Aluminum	98.7	U	98.7	U	98.7	U
Antimony	2.5	U	2.5	U	2.5	U
Arsenic	2.3	U	2.3	U	2.3	U
Barium	5.1	U	5.1	U	5.1	U
Beryllium	0.10	U	0.10	U	0.10	U
Cadmium	0.20	U	0.89	U	0.20	U
Calcium	20.9	U	35.2	U	31.0	U
Chromium	0.80	U	1.2	U	0.80	U
Cobalt	0.70	U	0.70	U	0.70	U
Copper	2.8	U	22.8		1.9	U
Iron	52.2	U	71.7	U	52.2	U
Lead	2.1	U	2.8	J	2.1	U
Magnesium	10.9	U	22.0	U	34.5	U
Manganese	1.0	U	1.0	U	1.0	U
Mercury	0.10	U	0.10	U	0.10	U
Nickel	1.0	U	8.8		1.0	U
Potassium	80.9	U	80.9	U	80.9	U
Selenium	4.1	UJ	4.1	UJ	4.1	UJ
Silver	0.90	U	0.90	U	0.90	U
Sodium	170	U	170	U	251	
Thallium	4.8	U	4.6	U	4.6	U
Vanadium	0.70	U	0.70	U	0.70	U
Zinc	17.4	U	61.5		8.2	U
Cyanide	10.0	U	10.0	U	10.0	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip blank contamination

TETRA TECH NUS, INC. **INTERNAL CORRESPONDENCE**

C-NAVY-6-00-1450W

To: Stephen Parker cc: File N7574-4.1

From: Linda Terzis

Subject: Tier II Data Validation, Project 7574, SDG G32-CO-01-03IN
Accutest Laboratories
Navy CLEAN, Gould Island Building 32 SI, NETC – CTO 286

Gasoline Range Organics(GRO)/Diesel Range Organics (DRO):

6/Concrete Dust/	GC32-CO-01-03IN, GC32-CO-02-03IN, GC32-CO-03-03IN, GC32-CO-04-03IN, GC32-CO-05-03IN, GC32-DUP1 (Field Duplicate Pair GC32-CO-05-03IN/ GC32-DUP1)
9/Soils/	G32-SS-01-06IN, G32-SS-02-06IN, GS2-SS-03-06IN, G32-SS-04-06IN, G32-SS-05-06IN, G32-SS-06-06IN, G32-SS-07-06IN, G32-SS-08-06IN, G32-DUP2 (Field Duplicate Pair GC32-SS-07-06IN/ G32-DUP2)
1/Rinsate Blank/	RB-042000

GRO:

1/Field Blank/	FB-042000

Date: June 30, 2000

Tetra Tech NUS, Inc. (TtNUS) performed a Tier II data validation on the gasoline range organics (GRO) and diesel range organics (DRO) analytical data from Project 7574, SDG GS32-CO-01-03IN, from concrete dust and soil samples collected at the Gould Island Building 32-SI site. The GRO and DRO analyses were performed according to the EPA's SW-846 Method 8015, modified. The data were evaluated based on the following parameters:

- Data Completeness
- Preservation and Technical Holding Times
- * Initial and Continuing Calibrations
- * Laboratory and Field Blank Results
- * Surrogate Spike Recoveries
- Matrix Spike/Matrix Spike Duplicate Recoveries
- Field Duplicate Precision

* - All quality control criteria were met for this parameter.

Data Completeness

The retention time windows used for the GRO/DRO analyses were not reported in the data package. The laboratory was contacted on June 8, 2000. The laboratory provided the requested retention time information via telephone on June 15, 2000.

The GRO sample preservation information was not included in the data package. It was requested from the laboratory on June 21, 2000 and received at TtNUS on June 29, 2000.

Preservation and Technical Holding Times

The GRO analysis of sample G32-SS-08-06IN exceeded the holding time criteria by 22 days. The positive GRO result for this sample is estimated (J). The data may be biased low.

Matrix Spike/Matrix Spike Duplicate Recoveries

Matrix Spiking Sample G32-SS-08-06IN

The percent recoveries of the GRO matrix spike/matrix spike duplicate (MS/MSD) analyses of this sample were below criteria of 50 – 150%. The positive GRO result reported for this sample was previously estimated (J) due to exceeded holding times. The result may be biased low. Further action is not taken.

The percent recovery of the DRO matrix spike analysis of this sample was below criteria of 50 – 150%. The relative percent difference (RPD) also exceeded criteria (> 30%). The positive DRO result reported in this sample is estimated (J) due to poor duplicate precision.

Matrix Spiking Sample G32-CO-05-03IN

The percent recoveries of the GRO MS/MSD analyses of this sample were below criteria. The positive GRO result in this sample is estimated (J); the data may be biased low.

Field Duplicate Precision

The relative percent difference for the DRO results of the field duplicate pair G32-CO-05-03IN/G32-DUP1 exceeded the 50% criteria. The positive DRO result is estimated (J) in both samples due to poor field duplicate precision.

Overall Assessment

The data are acceptable for use as qualified. The positive GRO result in sample G32-SS-08-06IN is estimated (J) due to exceeded holding times. The data may be biased low. The positive DRO result in sample G32-SS-08-06IN and the positive GRO result in sample G32-CO-05-03IN are estimated (J) due to low MS/MSD recoveries and/or a high RPD value. The data may be biased low. The positive DRO results in field duplicate pair G32-CO-05-03IN/G32-DUP1 exceeded the RPD criteria. Both results are estimated (J) due to poor field duplicate precision. The potential bias is undetermined.

Soil and Concrete Gasoline Range Organic Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Station Location	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
Date Extracted												
Date Analyzed	4/27/00		4/27/00		4/27/00		4/27/00		4/27/00		4/27/00	
Dilution Factor	1		1		1		1		1		1	
Percent Solids	90.2		94.0		97.8		96.4		95.0		96.5	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
Gasoline Range Organics	0.354		0.28	U	0.528		0.22	U	0.27	UJ	0.27	U

U - Not detected; J - Estimated value below CRQL; E - Conc. > calib. range;
B - In lab blank; * - Result from dilution analysis; P - >25%D between columns

Soil and Concrete Gasoline Range Organic Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN	
Station Location	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
Date Extracted														
Date Analyzed	5/2/00		5/2/00		5/2/00		5/2/00		5/2/00		5/2/00		5/2/00	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids	68.9		53.1		73.4		29.8		84.6		92.1		83.5	
QC Identifier	Field Dup. G32-SS-07-06IN		None		None		None		None		None		None	
Gasoline Range Organics	0.664		0.55	U	0.44	U	1.0	U	0.283		0.23	U	0.27	U

U - Not detected; J - Estimated value below CRQL; E - Conc. > calib. range;
B - In lab blank; * - Result from dilution analysis; P - >25%D between columns

Soil and Concrete Gasoline Range Organic Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-SS-07-06IN		G32-SS-08-06IN	
Station Location	G32-SS-07-06IN		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00	
Date Extracted				
Date Analyzed	5/2/00		5/26/00	
Dilution Factor	1		1	
Percent Solids	61.7		80.5	
QC Identifier	Field Dup. G32-SS-07-06IN		None	
Gasoline Range Organics	0.407		0.257	J

U - Not detected; J - Estimated value below CRQL; E - Conc. > calib. range;
B - In lab blank; * - Result from dilution analysis; P - >25%D between columns

Aqueous Gasoline Range Organic Analysis (mg/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	FB-042000		RB-042000	
Station Location	FB-042000		RB-042000	
Date Sampled	4/20/00		4/20/00	
Date Extracted				
Date Analyzed	4/27/00		4/27/00	
Dilution Factor	1		1	
Percent Solids				
QC Identifier	Field Blank		Rinsate Blank	
Gasoline Range Organics	0.20	U	0.20	U

U - Not detected; J - Estimated value below CRQL; E - Conc. > calib. range;
B - In lab blank; * - Result from dilution analysis; P - >25%D between columns

Soil and Concrete Diesel Range Organic Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Station Location	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
Date Extracted	4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Analyzed	5/3/00		5/3/00		5/3/00		4/26/00		4/27/00		4/27/00	
Dilution Factor	5		5		5		1		1		1	
Percent Solids	90.2		94.0		97.8		96.4		95.0		96.5	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
Diesel Range Organics	17900		21800		13300		44.1		14.1	J	70.8	J

U - Not detected; J - Estimated value below CRQL; E - Conc. > calib. range;
B - In lab blank; * - Result from dilution analysis; P - >25%D between columns

Soil and Concrete Diesel Range Organic Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-DUP2	G32-SS-01-06IN	G32-SS-02-06IN	G32-SS-03-06IN	G32-SS-04-06IN	G32-SS-05-06IN	G32-SS-06-06IN
Station Location	G32-DUP2	G32-SS-01-06IN	G32-SS-02-06IN	G32-SS-03-06IN	G32-SS-04-06IN	G32-SS-05-06IN	G32-SS-06-06IN
Date Sampled	4/20/00	4/20/00	4/20/00	4/20/00	4/20/00	4/20/00	4/20/00
Date Extracted	4/26/00	4/26/00	4/26/00	4/26/00	4/26/00	4/26/00	4/26/00
Date Analyzed	5/6/00	5/3/00	5/5/00	5/3/00	5/6/00	5/6/00	5/6/00
Dilution Factor	5	1	5	1	5	2	5
Percent Solids	68.9	53.1	73.4	29.8	84.6	92.1	83.5
QC Identifier	Field Dup. G32-SS-07-06IN	None	None	None	None	None	None
Diesel Range Organics	558	123	410	490	371	364	553

U - Not detected; J - Estimated value below CRQL; E - Conc. > calib. range;
B - In lab blank; * - Result from dilution analysis; P - >25%D between columns

Soil and Concrete Diesel Range Organic Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-SS-07-06IN		G32-SS-08-06IN	
Station Location	G32-SS-07-06IN		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00	
Date Extracted	4/26/00		4/26/00	
Date Analyzed	5/6/00		5/4/00	
Dilution Factor	5		1	
Percent Solids	61.7		80.5	
QC Identifier	Field Dup. G32-SS-07-06IN		None	
Diesel Range Organics	734		94.2	J

U - Not detected; J - Estimated value below CRQL; E - Conc. > calib. range;
B - In lab blank; * - Result from dilution analysis; P - >25%D between columns

Aqueous Diesel Range Organic Analysis (mg/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	RB-042000	
Station Location	RB-042000	
Date Sampled	4/20/00	
Date Extracted	4/24/00	
Date Analyzed	4/25/00	
Dilution Factor	1	
Percent Solids		
QC Identifier	Rinsate Blank	
Diesel Range Organics	0.10	U

U - Not detected; J - Estimated value below CRQL; E - Conc. > calib. range;
B - In lab blank; * - Result from dilution analysis; P - >25%D between columns

TETRA TECH NUS, INC. **INTERNAL CORRESPONDENCE**

C-NAVY-6-00-1449W

To: Stephen Parker cc: File N7574-4.1

From: Linda Terzis LT

Subject: Tier II Data Validation, Project 7574, SDG G32-CO-06-03IN
Accutest Laboratories
Navy CLEAN, Gould Island Building 32 SI, NETC – CTO 286

Gasoline Range Organics(GRO)/Diesel Range Organics (DRO):

3/Concrete Dust/	G32-CO-06-03IN, G32-CO-07-03IN, G32-CO-08-03IN
8/Soils/	G32-DR-03, G32-DR-05, G32-DR-04, G32-DR-06, G32-DR-01, G32-DR-12, G32-DR-02, G32-DUP3 (Field Duplicate Pair G32-DR-02/ G32-DUP3)
9/Sludges/	G32-DR-13, G32-DR-14, G32-DR-08, G32-DR-07, G32-DR-09, G32-DR-10, G32-DR-11, G32-DUP4 (Field Duplicate Pair G32-DR-10/ G32-DUP4)
2/Rinsate Blanks/	RB-042400, RB-042600

DRO:

1/Rinsate Blank/	RB-042700

Date: June 30, 2000

Tetra Tech NUS, Inc. (TtNUS) performed a Tier II data validation on the gasoline range organics (GRO) and diesel range organics (DRO) analytical data from Project 7574, SDG GS32-CO-06-03IN, from concrete dust, soil and sludge samples collected at the Gould Island Building 32-SI site. The GRO and DRO analyses were performed according to the EPA's SW-846 Method 8015, modified. The data were evaluated based on the following parameters:

- Data Completeness
- Preservation and Technical Holding Times
- * Initial and Continuing Calibrations
- * Laboratory and Field Blank Results

- Surrogate Spike Recoveries
- Matrix Spike/Matrix Spike Duplicate Recoveries
- Field Duplicate Precision

* - All quality control criteria were met for this parameter.

Data Completeness

The retention time windows used for the GRO/DRO analyses were not reported in the data package. The laboratory was contacted on June 8, 2000. The laboratory provided the requested retention time information via telephone on June 15, 2000.

The GRO sample preservation information was not included in the data package. It was requested from the laboratory on June 21, 2000. The information was received at TtNUS on June 29, 2000.

Preservation and Technical Holding Times

The gasoline range organic (GRO) analyses of samples G32-DR-02 and G32-DR-03 slightly exceeded the holding time criteria. The non-detected GRO results for these samples are estimated (UJ). The data may be biased low.

The following sludge samples have percent solid values less than 30%:

G32-DR-07
G32-DR-08
G32-DR-09
G32-DR-10 (DRO only)
G32-DR-14

The positive and non-detected GRO/DRO results for these samples are estimated (J/UJ) due to high percent moisture content. An alternate sample extraction procedure may be required for these samples. Sample G32-DR10 was analyzed for GRO as an aqueous sample and is not affected.

Surrogate Spike Recoveries

The positive GRO result in sample G32-DUP3 is estimated (J) due to low surrogate recoveries. A matrix effect was confirmed. The data may be biased low.

The positive DRO results in samples G32-DUP4 and G32-DR03 are estimated (J) due to exceeded surrogate recovery criteria. The result for sample G32-DUP4 may be biased low. The result for sample G32-DR-03 may be biased high.

Matrix Spike/Matrix Spike (MS/MSD) Duplicate Recoveries

The positive GRO result in sample G32-DR-04 is estimated (J) due to low MS/MSD recoveries. The data may be biased low.

Field Duplicate Precision

The relative percent difference (RPD) for the DRO results of the field duplicate pair G32-DR-02/G32-DUP3 exceeded the 50% criteria. The positive DRO result is estimated (J) in both samples due to poor field duplicate precision.

Overall Assessment

The data are acceptable for use as qualified. The non-detected GRO results in samples G32-DR-03 and G32-DUP3 are estimated (UJ) due to exceeded holding times. The data may be biased low. The positive GRO result in sample G32-DUP3 and the positive DRO results in samples G32-DUP4 and G32-DR-03 are estimated (J) due to exceeded surrogate recovery criteria. The positive GRO result in sample G32-DR-04 is estimated (J) due to low MS/MSD recoveries. The data may be biased low. The positive DRO results in field duplicate pair G32-DR-02/G32-DUP3 slightly exceeded the 50% RPD criteria. Both results are estimated (J) due to poor field duplicate precision. The potential bias is undetermined. The GRO and DRO results in several samples were estimated (J/UJ) due to high percent moisture content. The data may be biased low. An alternative sample extraction procedure for the DRO analysis should be used for these sludge samples.

Soil, Sludge, and Concrete Gasoline Range Organic Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05	
Station Location	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05	
Date Sampled	4/26/00		4/27/00		4/27/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Extracted																
Date Analyzed	5/10/00		5/10/00		5/10/00		5/8/00		5/9/00		5/9/00		5/8/00		5/8/00	
Dilution Factor	1		1		1		1		1		1		1		1	
Percent Solids	96.3		93.4		93.2		66.5		59.5		58.6		81.9		62.2	
QC Identifier	None		None		None		None		Field Dup. G32-DR-02		None		None		None	
Gasoline Range Organics	0.21	U	0.23	U	0.25	U	0.52		0.36	UJ	0.31	UJ	0.282	J	0.424	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Gasoline Range Organic Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-12		G32-DR-13		G32-DR-14	
Station Location	G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-12		G32-DR-13		G32-DR-14	
Date Sampled	4/24/00		4/25/00		4/25/00		4/26/00		4/24/00		4/25/00		4/25/00	
Date Extracted														
Date Analyzed	5/8/00		5/8/00		5/9/00		5/10/00		5/8/00		5/8/00		5/8/00	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids	75.9		21.1		27.9		11.1		55.9		61.1		28.5	
QC Identifier	None		None		None		None		None		None		None	
Gasoline Range Organics	0.275		3.34	J	0.20	U	2.3	UJ	0.522		57		0.936	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Gasoline Range Organic Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DUP3	
Station Location	G32-DUP3	
Date Sampled	4/24/00	
Date Extracted		
Date Analyzed	5/8/00	
Dilution Factor	1	
Percent Solids	65.3	
QC Identifier	Field Dup. G32-DR-02	
Gasoline Range Organics	0.477	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Aqueous Gasoline Range Organic Analysis (mg/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	RB-042400		RB-042600		G32-DUP4		G32-DR-10		G32-DR-11	
Station Location	RB-042400		RB-042600		G32-DUP4		G32-DR-10		G32-DR-11	
Date Sampled	4/24/00		4/26/00		4/26/00		4/26/00		4/26/00	
Date Extracted										
Date Analyzed	5/2/00		5/4/00		5/4/00		5/4/00		5/3/00	
Dilution Factor	1		1		1		1		1	
Percent Solids										
QC Identifier	Rinsate Blank		Rinsate Blank		Field Dup. G32-DR-10		Field Dup. G32-DR-10		None	
Gasoline Range Organics	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Diesel Range Organic Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05	
Station Location	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05	
Date Sampled	4/26/00		4/27/00		4/27/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Extracted	5/3/00		5/3/00		5/3/00		4/27/00		4/27/00		4/27/00		4/27/00		4/27/00	
Date Analyzed	5/10/00		5/9/00		5/9/00		5/8/00		5/11/00		5/6/00		5/30/00		5/6/00	
Dilution Factor	5		1		5		2		20		5		5		10	
Percent Solids	96.3		93.4		93.2		66.5		59.5		58.6		81.9		62.2	
QC Identifier	None		None		None		None		Field Dup. G32-DR-02		None		None		None	
Diesel Range Organics	310		71.2		2420		1490		17900	J	1350	J	690		7720	

U - Not detected; J - Estimated value below CRQL; E - Conc. > calib. range;
B - In lab blank; * - Result from dilution analysis; P - >25%D between columns

Soil, Sludge, and Concrete Diesel Range Organic Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-10		G32-DR-11		G32-DR-12		G32-DR-13		G32-DR-14	
Station Location	G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-10		G32-DR-11		G32-DR-12		G32-DR-13		G32-DR-14	
Date Sampled	4/24/00		4/25/00		4/25/00		4/26/00		4/26/00		4/26/00		4/24/00		4/25/00		4/25/00	
Date Extracted	4/27/00		4/30/00		4/30/00		5/3/00		5/3/00		5/3/00		4/27/00		4/30/00		4/30/00	
Date Analyzed	5/8/00		5/11/00		5/11/00		5/9/00		5/9/00		5/9/00		5/10/00		5/17/00		5/16/00	
Dilution Factor	2		1		1		20		1		5		5		50		1	
Percent Solids	75.9		21.1		27.9		11.1		28.8		32.9		55.9		61.1		28.5	
QC Identifier	None		None		None		None		Field Dup. G32-DR-10		None		None		None		None	
Diesel Range Organics	320		35.1	J	98.5	J	12900	J	123	J	1490		3600		25900		277	J

U - Not detected; J - Estimated value below CRQL; E - Conc. > calib. range;
B - In lab blank; * - Result from dilution analysis; P - >25%D between columns

Soil, Sludge, and Concrete Diesel Range Organic Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DUP3		G32-DUP4	
Station Location	G32-DUP3		G32-DUP4	
Date Sampled	4/24/00		4/26/00	
Date Extracted	4/27/00		5/3/00	
Date Analyzed	5/8/00		5/9/00	
Dilution Factor	10		1	
Percent Solids	65.3		40.4	
QC Identifier	Field Dup. G32-DR-02		Field Dup. G32-DR-10	
Diesel Range Organics	10600	J	130	J

U - Not detected; J - Estimated value below CRQL; E - Conc. > calib. range;
B - In lab blank; * - Result from dilution analysis; P - >25%D between columns

Aqueous Diesel Range Organic Analysis (mg/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	RB-042400		RB-042600		RB-042700	
Station Location	RB-042400		RB-042600		RB-042700	
Date Sampled	4/24/00		4/26/00		4/27/00	
Date Extracted	4/25/00		5/1/00		5/1/00	
Date Analyzed	4/27/00		5/16/00		5/16/00	
Dilution Factor	1		1		1	
Percent Solids						
QC Identifier	Rinsate Blank		Rinsate Blank		Rinsate Blank	
Diesel Range Organics	0.10	U	0.10	U	0.10	U

U - Not detected; J - Estimated value below CRQL; E - Conc. > calib. range;
B - In lab blank; * - Result from dilution analysis; P - >25%D between columns

TETRA TECH NUS, INC. **INTERNAL CORRESPONDENCE**

C-NAVY-07-00-1454W

To: Stephen Parker c: File N7574-4.10

From: Ann Franke AF

Subject: Inorganic Tier II Data Validation, Project 7574, SDG G32-CO-01-03IN
Accutest Laboratories
Navy CLEAN, Gould Island Building 32 SI, NETC – CTO 286
Background Soils Investigation

TAL Metals/CN:

6/Concrete Dust/	G32-CO-01-03IN, G32-CO-02-03IN G32-CO-03-03IN, G32-CO-04-03IN, G32-CO-05-03IN, G32-DUP1 (Field Duplicate Pair: G32-CO-05-03IN/G32-DUP1)
9/Soils/	G32-SS-01-06IN, G32-SS-02-06IN, G32-SS-03-06IN, G32-SS-04-06IN, G32-SS-05-06IN, G32-SS-06-06IN, G32-SS-07-06IN, G32-SS-08-06IN, G32-DUP2 (Field Duplicate Pair: G32-SS-07-06IN/G32-DUP2)
1/Rinsate Blank/	RB-042000

Date: July 8, 2000

Dear Mr. Parker:

TtNUS, Inc. (TtNUS) performed a Tier II data validation on the metals/cyanide analytical data for Case 7574, SDG G32-CO-01-03IN, from concrete dust and soil samples collected at the Gould Island Building 32-SI site. The samples were analyzed according to the CLP ILM04.0 Statement of Work. The data were validated according to the Region I, EPA-NE Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses, modified February 1989.

The data were evaluated based on the following parameters:

- Data Completeness
- * Holding Times
- Calibration Verification
- Field and Laboratory Blank Analyses
- ICP Interference Check Sample Results
- Matrix Spike Recoveries
- * Laboratory Control Sample Results
- Laboratory Duplicate Results
- Field Duplicate Precision

NA • Furnace Atomic Absorption Results
• ICP Serial Dilution Results
• Detection Limits
• Sample Quantitation
NA • Performance Evaluation Results

* - All quality control criteria were met for this parameter.

Data Completeness

The laboratory was contacted on June 22, 2000, about a Run Log that indicated that an instrument calibration standard was not analyzed for several analytes. A corrected Run Log, showing that the standards were analyzed, was provided on June 23, 2000. The laboratory was contacted on June 24, 2000, about missing Form VII (Laboratory Control Sample) data for cyanide. The information was received on June 26, 2000.

Calibration Verification

The percent recoveries of mercury and selenium were above the 120% quality control criteria in the CRDL standard analysis. The following table summarizes the CRDL standard recovery results.

Analyte	% Recovery	Action		Samples Affected
		(+) < 3x CRDL	ND	
Mercury	125.0	J		G32-CO-01-03IN, -CO-03-03IN, -DUP1, -DUP2, -SS01-06IN, -SS-02-06IN, -SS-05-06IN, -SS-07-06IN, -SS-08-06IN
Selenium	145.7	J		G32-CO-04-03IN, -CO-05-03IN, -DUP1, -SS-01-06IN, -SS-02-06IN, -SS-03-06IN, -SS-08-06IN

The positive results < 3x CRDL for mercury and selenium are qualified as estimated (J) in the affected samples. The results may be biased high.

Field and Laboratory Blank Analyses

Concrete Dust/Soil:

The field blank (RB-04200) and laboratory blank analyses were used to calculate the maximum concentrations of the following contaminants affecting the concrete dust and soil sample results.

Analyte	Maximum Concentration (ug/L)	Action Level (mg/Kg)
Arsenic	3.5	3.5
Beryllium	2.1	2.1
Mercury	0.1	0.1
Silver	0.5	0.5

(continued)

Analyte	Maximum Concentration (ug/L)	Action Level (mg/Kg)
Sodium	-624	624
Thallium	4.2	4.2

Blank actions were applied to affected concrete dust and soil samples for arsenic, beryllium, mercury, silver, sodium, and thallium.

Aqueous:

The laboratory blank analyses were used to calculate the maximum concentrations of the following contaminants affecting the aqueous field blank results.

Analyte	Maximum Concentration (ug/L)	Action Level (ug/L)
Calcium	23.7	118
Copper	1.3	6.5

Blank actions were applied to the field blank sample for calcium and copper.

The following actions apply for blank contamination:

- Accept values > Action Level.
- Report as (U) values > 2x IDL and < Action Level. The reporting limit is the associated value.
- Report as (UJ) values < 2x IDL and < Action Level. The reporting limit is the associated estimated value.

ICP Interference Check Sample Results

The following analytes were detected in the ICSA solution at absolute levels greater than 2x IDL when these analytes were not supposed to be present in the solution: antimony, beryllium, cadmium, chromium, copper, lead, manganese, nickel, potassium, selenium, silver, sodium, and zinc. Estimate (J) positive results for the analytes with levels of interferents of 50% or more of that in the ICS solution and reject (R) positive results if the reported concentration is due entirely (≥ 80%) to the interfering analyte. The samples listed in the table below had iron levels greater than 50% of their respective levels in the ICSA solution. Therefore, the following actions were taken:

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Fe (ug/L)	Estimated Interference (ug/L)	Action
G32-CO-03-03IN	Antimony	55.7	310310	-21.9	J
	Beryllium	0.63	310310	-1.6	J
	Cadmium	2358	310310	4.7	Accept
	Chromium	343	310310	-4.7	J
	Copper	1345	310310	-12.5	Accept

(continued)

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Fe (ug/L)	Estimated Interference (ug/L)	Action
G32-CO-03-03IN	Lead	3180	310310	-6.3	Accept
	Manganese	2067	310310	-3.1	Accept
	Nickel	429	310310	-6.3	J
	Potassium	4239	310310	279	J
	Selenium	5.9	310310	14.1	Reject
	Silver	2.5	310310	-7.8	J
	Sodium	1927	310310	1349	J
	Zinc	2509	310310	6.3	Accept
G32-SS-04-06IN	Antimony	U	139520	-9.8	UJ
	Beryllium	2.0	139520	-0.7	J
	Cadmium	5.7	139520	2.1	J
	Chromium	90	139520	-2.1	J
	Copper	153.57	139520	-5.6	J
	Lead	449	139520	-2.8	Accept
	Manganese	1688	139520	-1.4	Accept
	Nickel	104	139520	-2.8	J
	Potassium	1630	139520	125	J
	Selenium	U	139520	6.3	Accept
	Silver	U	139520	-3.5	UJ
	Sodium	677	139520	606	Reject
	Zinc	867	139520	2.8	Accept
G32-SS-05-06IN	Antimony	8	115000	-8.1	J
	Beryllium	1.2	115000	-0.6	J
	Cadmium	12	115000	1.7	J
	Chromium	64.8	115000	-1.7	J
	Copper	433	115000	-4.6	J
	Lead	1346	115000	-2.3	Accept
	Manganese	889	115000	-1.2	Accept
	Nickel	61.8	115000	-2.3	J
	Potassium	3015	115000	103	J
	Selenium	4.8	115000	5.2	Reject
	Silver	U	115000	-2.9	UJ
	Sodium	683	115000	500	J
	Zinc	1062	115000	2.3	Accept
G32-SS-06-06IN	Antimony	36.4	407520	-28.8	J
	Beryllium	1.3	407520	-2.1	J
	Cadmium	33.9	407520	6.2	J
	Chromium	201	407520	-6.2	J
	Copper	1198	407520	-16.4	J
	Lead	8130	407520	-8.2	Accept
	Manganese	2062	407520	-4.1	Accept
	Nickel	199	407520	-8.2	J
	Potassium	3226	407520	32.26	J
	Selenium	7.1	407520	0.071	Reject

(Continued)

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Fe (ug/L)	Estimated Interference (ug/L)	Action
G32-SS-06-06IN	Silver	3.1	407520	0.031	J
	Sodium	505	407520	5.1	Reject
	Zinc	5476	407520	54.8	Accept
G32-SS-07-06IN	Antimony	328	348050	-24.6	J
	Beryllium	0.46	348050	-1.8	J
	Cadmium	160	348050	5.3	J
	Chromium	267	348050	-5.3	J
	Copper	372	348050	-14	J
	Lead	8371	348050	-7.0	Accept
	Manganese	1422	348050	-3.5	Accept
	Nickel	138	348050	-7.0	J
	Potassium	727	348050	312	J
	Selenium	8.4	348050	15.8	Reject
	Silver	2.6	348050	-8.8	J
	Sodium	U	348050	1513	Accept
	Zinc	15385	348050	7.0	Accept
G32-DUP2	Antimony	32	338420	-23.9	J
	Beryllium	0.66	338420	-1.7	J
	Cadmium	131	338420	5.1	J
	Chromium	27.5	338420	-5.1	J
	Copper	385	338420	-13.7	J
	Lead	10823	338420	-6.8	Accept
	Manganese	1586	338420	-3.4	Accept
	Nickel	115	338420	-6.8	J
	Potassium	1051	338420	303.7	J
	Selenium	11.4	338420	15.4	Reject
	Silver	2.6	338420	-8.5	J
	Sodium	U	338420	1471	Accept
	Zinc	15246	338420	6.8	Accept

The positive results for potassium, cadmium, and sodium are estimated (J) in the samples listed above due to positive interference attributed to iron. The results may be biased high. The positive results for antimony, beryllium, chromium, nickel, silver, and copper are estimated (J) in the samples listed above due to negative interference attributed to iron. These results may be biased low. The non-detected antimony and silver results in G32-SS-04-06IN, and the non-detected silver result in G32-SS-05-06IN, are estimated (UJ) due to negative iron interference; the results may be false negatives. The positive selenium results in the samples listed above, and the positive sodium results in G32-SS-04-06IN and G32-SS-06-06-IN, are rejected (R) since the reported concentrations might be due entirely (≥ 80%) to the iron interference. The non-detected selenium result in G32-SS-04-06IN, and the non-detected sodium results in the two samples listed above, are not affected by the positive interference and are therefore accepted without qualification. The other positive results for cadmium and copper, and the positive results for lead, manganese, and zinc, in the samples listed above are accepted without

qualification since the estimated interference accounted for less than 1% of the reported sample concentration.

Chromium was found in sample G32-CO-02-03IN at a concentration greater than 10000 ug/L. The estimated concentrations of antimony and arsenic due to the interference of chromium are > 2X CRDL and > 10% of their reported concentrations. Therefore, the positive results for antimony and arsenic in this sample are qualified as estimated (J). The results may be biased high.

Matrix Spike Recoveries

The result of the matrix spike analysis of sample G32-SS-08-6IN was below the 75% criterion for antimony. The positive and non-detected results for antimony in the soil samples are estimated (J, UJ); the results may be biased low.

The results of the matrix spike analysis of sample G32-CO-05-03IN were below the 75% criterion for antimony, arsenic, manganese, nickel, and thallium. The positive and non-detected results for these analytes in the concrete dust samples are estimated (J, UJ); the results may be biased low. The result of the matrix spike analysis of sample G32-CO-05-03IN was above the 125% criterion for cadmium. The positive results for cadmium in the concrete dust samples are estimated (J); the results may be biased high.

Laboratory Duplicate Results

The relative percent differences (RPDs) for lead and zinc were greater than the 35% quality control criterion for soil samples in the laboratory duplicate analysis of sample G32-CO-05-03IN. Positive results for lead and zinc in the concrete dust samples are estimated (J) due to poor laboratory duplicate precision.

Field Duplicate Precision

The relative percent differences (RPD) for cadmium, lead, and zinc were greater than the 50% quality control criterion for soil samples in the field duplicate analysis of field duplicate pair G32-CO-05-03IN/G32-DUP1. The absolute difference in results for copper in these two samples was greater than the 4x CRDL criterion for soil samples, which applies when the sample results are less than 5x CRDL, and the RPD was greater than 50%. The positive results for cadmium, copper, lead, and zinc in the concrete dust samples are estimated (J) due to poor field duplicate precision.

ICP Serial Dilution Results

The percent difference for potassium was above the 15% quality control criterion for analyte concentrations greater than 50x IDL before dilution in the ICP serial dilution analysis of sample G32-SS-08-06IN. The positive results for potassium in the soil samples are qualified as estimated (J). As the diluted result was less than the sample result, the data may be biased high.

Detection Limits

The CRDL for cyanide (10.0 ug/L) was used to determine U flags for all the cyanide results of all the samples in this data package. The MDL was included for informational purposed only.

Sample Quantitation

The percent solids content in sample G32-SS-03-06IN was 29.8%. Positive results for all analytes in this sample are qualified as estimated (J), and non-detected results for all analytes in the sample are rejected (R), due to the solids content less than the 30% quality control criterion.

Overall Assessment of the Data

The data are acceptable for use as qualified. The positive results less than 3x CRDL for mercury and selenium are estimated (J, UJ) in affected samples due to poor linearity at low concentrations as identified by the analysis of the CRDL standard. Detection limits are raised for arsenic, beryllium, mercury, silver, sodium, and thallium in the concrete dust and soils samples due to laboratory and/or field blank contamination. Detection limits are raised for calcium and copper in the field blank sample due to laboratory blank contamination. Positive results for potassium, cadmium, sodium, antimony, beryllium, chromium, nickel, silver, and copper are estimated (J) in numerous samples, and non-detected results for antimony and silver in two samples are estimated (UJ), due to positive or negative interference from iron. Positive selenium results in five samples and positive sodium results in two samples are rejected (R) due to positive iron interference. Positive results for antimony and arsenic in sample G32-CO-02-03IN are estimated (J) due to interference from chromium. The positive and non-detected results for antimony in the soil samples are estimated (J, UJ) due to a poor matrix spike recovery. The positive and non-detected results for antimony, arsenic, manganese, nickel, and thallium in the concrete dust samples are estimated (J, UJ), and positive results for cadmium in the concrete dust samples are estimated (J), due to poor or high matrix spike recoveries. Positive results for lead and zinc in the concrete dust samples are estimated (J) due to poor laboratory duplicate precision. The positive results for cadmium, copper, lead, and zinc in the concrete dust samples are estimated (J) due to poor field duplicate precision. The positive results for potassium in the soil samples are qualified as estimated (J) due to ICP serial dilution matrix interference. Positive results for all analytes in sample G32-SS-03-06IN are qualified as estimated (J), and non-detected results for all analytes in this sample are rejected (R), due to the solids content less than the 30% quality control criterion.

NOTE: Sample results less than 2x IDL and/or less than the CRDL are estimated (J) due to uncertainty in values near the instrument detection limit.

Attachments

c: **File N7574-4.10**

Soil and Concrete Dust TAL Metal Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Station Location	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
Date Extracted												
Date Analyzed												
Dilution Factor	1		1		1		1		1		1	
Percent Solids	90.2		94.0		97.8		96.4		95.0		96.5	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
Aluminum	3070		3310		3590		8580		9280		8250	
Antimony	7.7	J	6.4	J	11.4	J	0.52	UJ	0.53	UJ	0.52	UJ
Arsenic	1.6	UJ	3.3	UJ	7.6	J	3.5	UJ	3.8	J	3.3	UJ
Barium	225		76.0		326		181		96.4		202	
Beryllium	0.20	U	0.13	U	0.13	UJ	0.42	U	0.42	U	0.38	U
Cadmium	451	J	40.1	J	482	J	8.2	J	18.4	J	10.7	J
Calcium	4980		3680		13400		50000		52100		48700	
Chromium	48.1		2720		70.1	J	16.9		15.1		19.9	
Cobalt	4.0		3.7		7.5		5.7		5.9		6.2	
Copper	840	J	699	J	275	J	38.6	J	12.4	J	53.1	J
Iron	15900		15200		63500		17700		16300		19400	
Lead	598	J	526	J	650	J	183	J	40.5	J	275	J
Magnesium	1670		1630		1630		3870		3700		4040	
Manganese	198	J	192	J	423	J	305	J	301	J	288	J
Mercury	0.09	UJ	0.16		0.06	UJ	0.02	U	0.02	U	0.02	UJ
Nickel	369	J	44.4	J	87.8	J	11.2	J	12.0	J	12.8	J
Potassium	794		987		867	J	2470		1160		2520	
Selenium	0.84	U	0.81	U		R	1.2	J	1.6	J	1.8	J
Silver	1.9		2.1		0.51	J	4.1		0.62		1.5	
Sodium	650		878		394	UJ	1680		79.7	U	1800	
Thallium	0.82	UJ	0.79	UJ	1.4	UJ	0.77	UJ	2.5	UJ	0.77	UJ
Vanadium	40.4		54.3		50.0		11.1		12.3		10.6	
Zinc	521	J	293	J	513	J	83.7	J	810	J	115	J
Cyanide	23.8		0.53	U	2.9		0.52	U	0.53	U	0.52	U

U - Not detected; UJ - Detection limit approximate;
J - Quantitation approximate; R - Rejected

Soil and Concrete Dust TAL Metal Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN	
Station Location	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
Date Extracted														
Date Analyzed														
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids	68.9		53.1		73.4		29.8		84.6		92.1		83.5	
QC Identifier	Field Dup. G32-SS-07-06IN		None		None		None		None		None		None	
Aluminum	1950		3480		6920		3840	J	11400		5820		4880	
Antimony	93.0	J	0.94	UJ	0.68	UJ	1.8	J	0.59	UJ	1.7	J	8.7	J
Arsenic	13.9		1.9	UJ	5.9		6.6	J	16.8		3.5	U	9.6	
Barium	203		21.1		39.4		113	J	21.2		20.3		200	
Beryllium	0.19	UJ	0.19	UJ	0.60	U	0.36	UJ	0.47	UJ	0.27	UJ	0.32	UJ
Cadmium	38.1	J	2.3		9.9		511	J	1.4	J	2.6	J	8.1	J
Calcium	10500		5420		642		16800	J	2440		1140		2010	
Chromium	79.8	J	7.4		67.3		86.8	J	21.3	J	14.1	J	48.2	J
Cobalt	6.8		3.0		9.0		7.8	J	12.5		6.0		11.4	
Copper	112	J	27.8		413		146	J	36.3	J	94.0	J	287	J
Iron	98200		7790		20700		17000	J	33000		25000		97600	
Lead	3140		35.8		225		337	J	106		292		1950	
Magnesium	1010		1550		1890		1640	J	3800		2600		2490	
Manganese	460		240		142		475	J	399		193		494	
Mercury	0.04	UJ	0.08	UJ	0.04	UJ	0.45	J	0.02	U	0.04	UJ	0.17	
Nickel	33.3	J	9.2		23.5		64.3	J	24.6	J	13.4	J	47.8	J
Potassium	305	J	485	J	429	J	551	J	385	J	655	J	773	J
Selenium		R	2.8	J	1.7	J	3.4	J	0.90	U		R		R
Silver	0.76	J	0.24	UJ	0.26	UJ	0.82	J	0.12	UJ	0.11	UJ	0.75	J
Sodium	50.8	U	168	U	89.2	UJ		R		R	148	UJ		R
Thallium	2.8	U	1.4	U	1.0	U		R	0.87	U	0.95	UJ	3.1	U
Vanadium	45.9		11.5		25.8		41.3	J	18.0		14.7		25.7	
Zinc	4430		60.2		129		2140	J	205		231		1310	
Cyanide	1.6		0.94	U	0.68	U	2.6	J	0.59	U	0.54	U	0.60	U

U - Not detected; UJ - Detection limit approximate;
J - Quantitation approximate; R - Rejected

Soil and Concrete Dust TAL Metal Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-SS-07-06IN		G32-SS-08-06IN	
Station Location	G32-SS-07-06IN		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00	
Date Extracted				
Date Analyzed				
Dilution Factor	1		1	
Percent Solids	61.7		80.5	
QC Identifier	Field Dup. G32-SS-07-06IN		None	
Aluminum	1750		6590	
Antimony	106	J	0.62	UJ
Arsenic	16.4		2.8	U
Barium	352		18.7	
Beryllium	0.15	UJ	0.28	U
Cadmium	51.8	J	1.7	
Calcium	12400		1300	
Chromium	86.7	J	12.1	
Cobalt	7.6		4.5	
Copper	121	J	26.6	
Iron	113000		14900	
Lead	2710		112	
Magnesium	767		2600	
Manganese	461		124	
Mercury	0.05	UJ	0.04	UJ
Nickel	44.7	J	13.1	
Potassium	236	J	928	J
Selenium		R	0.97	J
Silver	0.85	J	0.12	U
Sodium	56.8	U	121	U
Thallium	3.5	U	0.92	U
Vanadium	44.6		63.5	
Zinc	4990		43.6	
Cyanide	0.81	U	0.62	U

U - Not detected; UJ - Detection limit approximate;
J - Quantitation approximate; R - Rejected

Aqueous TAL Metal Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	RB-042000	
Station Location	RB-042000	
Date Sampled	4/20/00	
Date Extracted		
Date Analyzed		
Dilution Factor	1	
Percent Solids		
QC Identifier	Rinsate Blank	
Aluminum	66.6	U
Antimony	2.5	U
Arsenic	3.5	U
Barium	4.6	U
Beryllium	0.30	U
Cadmium	0.30	U
Calcium	38.6	U
Chromium	0.70	U
Cobalt	0.60	U
Copper	1.0	UJ
Iron	12.1	U
Lead	1.8	U
Magnesium	15.8	U
Manganese	0.50	U
Mercury	0.10	U
Nickel	1.2	U
Potassium	56.1	U
Selenium	3.8	U
Silver	0.50	U
Sodium	175	U
Thallium	3.7	U
Vanadium	0.50	U
Zinc	23.2	
Cyanide	10.0	U

U - Not detected; UJ - Detection limit approximate;
J - Quantitation approximate; R - Rejected

TETRA TECH NUS, INC. **INTERNAL CORRESPONDENCE**

C-NAVY-7-00-1453W

To: Stephen Parker cc: File 7574-4.1

From: Linda Terzis

Subject: Tier II Modified Data Validation, Project 7574, SDG G32-CO-01-03IN
Accutest Laboratories
Navy CLEAN, Gould Island Building 32 SI, NETC – CTO 286

Volatiles/Semivolatiles/Pesticides/PCBs:

9/Soils/ G32-SS-01-06IN, G32-SS-02-06IN, G32-SS-03-06IN, G32-SS-04-06IN, G32-SS-05-06IN, G32-SS-06-06IN, G32-SS-07-06IN, G32-SS-08-06IN, G32-DUP2
(Field Duplicate Pair G32-SS-07-06IN/G32-DUP2)

6/Concrete Dust/ G32-CO-01-03IN, G32-CO-02-03IN, G32-CO-03-03IN, G32-CO-04-03IN, G32-CO-05-03IN, G32-DUP1
(Field Duplicate Pair G32-CO-05-03IN/G32-DUP1)

1/Rinsate Blank/ RB-042000

Volatiles:

1/Trip Blank/ TB-042000

1/Field Blank/ FB-042000

Date: July 7, 2000

Tetra Tech NUS, Inc. (TtNUS) performed a modified Tier II data validation on the volatile, semivolatile, and pesticide/PCB analytical data from Project 7574, SDG GS32-CO-01-03IN, from concrete dust and soil samples collected at the Gould Island Building 32-SI site. The samples were analyzed according to the CLP OLM04.2 Statement of Work. The data were evaluated based on the following parameters:

* • Data Completeness
* • Preservation and Technical Holding Times
* • GC/MS Instrument Performance check (Tuning)
• Initial and Continuing Calibrations
• Laboratory and Field Blank Results
• Surrogate Spike Recoveries
• Internal Standards
• Matrix Spike/Matrix Spike Duplicate Recoveries

- Field Duplicate Precision
- Compound Quantitation (Forms only)
- * Semivolatile and Pesticide/PCB Cleanup

* - All quality control criteria were met for this parameter.

Initial and Continuing Calibrations

The following tables summarize the volatile and semivolatile initial calibration (IC) and continuing calibration (CC) compounds that failed to meet the calibration criteria of %RSD < 30 and %D < 25:

Volatile

Instrument	MS5973	MS5973	Action		Affected Samples
Compound	IC 04/27/00	IC 04/27/00	(+)	NDs	
Acetone	%RSD 40.8	%RSD 34.6	J	UJ	TB-042000, FB-042000, RB-042000, G32-CO-01-03IN through G32-CO-05-03IN, G32-DUP1, G32-SS-01-06IN through G32-SS-08-06IN, G32-DUP2

Semivolatile

Instrument	5973/6890	5973/6890	5973/6890	Action		Affected Samples
Compound	IC 05/15/00	CC 04/25/00	CC 04/25/00	(+)	NDs	
4-Chloroaniline	%RSD 48.5				UJ	G32-SS-08-06IN
Hexachloro-butadiene		%D –26.9	%D –30.1		UJ	G32-CO-05-03IN, RB-042000, G32-CO-04-03IN, G32-DUP1, G32-SS-03-06IN, G32-SS-02-06IN, G32-SS-01-06IN, G32-SS-06-06IN

Instrument	5973/6890	5973/6890	Action		Affected Samples
Compound	CC 04/25/00	CC 04/25/00	(+)	NDs	
2,4-Dinitrophenol	%D 26.8			UJ	G32-CO-05-03IN, RB-042000
Pentachlorophenol	%D 27.4	%D 29.6		UJ	G32-CO-05-03IN, RB-042000, G32-CO-04-03IN, G32-DUP1, G32-SS-03-06IN, G32-SS-02-06IN, G32-SS-01-06IN, G32-SS-06-06IN

Initial and Continuing Calibrations, cont.

Instrument	5973/6890	5973/6890	Action		Affected Samples
Compound	CC 04/26/00	CC 04/28/00	(+)	NDs	
Hexachloro-butadiene	%D –26.9	%D –29.4		UJ	G32-CO-01-03IN, G32-CO-02-03IN, G32-CO-03-03IN, G32-SS-04-06IN, G32-SS-05-06IN, G32-SS-07-06IN, G32-DUP2
Hexachlorocyclo-pentadiene	%D 63.6	%D –40.4		UJ	G32-CO-01-03IN, G32-CO-02-03IN, G32-CO-03-03IN, G32-SS-04-06IN, G32-SS-05-06IN, G32-SS-07-06IN, G32-DUP2
2,4-Dinitrophenol	%D 82.7			UJ	G32-CO-01-03IN, G32-CO-03-03IN, G32-SS-04-06IN, G32-SS-07-06IN, G32-DUP2, G32-SS-05-06IN
4,6-Dinitro-2-methylphenol	%D 55.4			UJ	G32-CO-01-03IN, G32-CO-03-03IN, G32-SS-04-06IN, G32-SS-07-06IN, G32-DUP2, G32-SS-05-06IN
Pentachlorophenol	%D 27.6	%D 32.0		UJ	G32-CO-01-03IN, G32-CO-02-03IN, G32-CO-03-03IN, G32-SS-04-06IN, G32-SS-05-06IN, G32-SS-07-06IN, G32-DUP2
Benzo(g,h,i)-perylene	%D 35.8		J	UJ	G32-CO-01-03IN, G32-CO-03-03IN, G32-SS-04-06IN, G32-SS-07-06IN, G32-DUP2, G32-SS-05-06IN

Laboratory and Field Blank Results

Volatile

The following table summarizes the level of blank contamination detected in the trip, rinsate, and soil laboratory method blanks affecting the samples:

Compound	Blank Type	Maximum Concentration	Action Level (ug/kg)	CRQL (ug/kg)
Methylene Chloride	Method	1 ug/kg	10	10

Methylene chloride was detected in the laboratory method blank. Since methylene chloride is a common laboratory contaminant, the 10x rule applies. Sample results less than 10 times the blank contaminant concentration but greater than the CRQL are qualified (U). Sample contaminant results less than the CRQL are qualified CRQL (U). The results may be biased high or be false positive.

Surrogate Recoveries

Semivolatile

The non-detected acid compound results in samples G32-CO-04-03IN, G32-CO-05-03IN, and G32-DUP1 are rejected (R) due to extremely low acid surrogate recoveries. The acid compound results may be false-negative due to a matrix effect confirmed by the laboratory.

Internal Standard Performance

Semivolatile

The recovery of internal standard perylene-$_{d12}$ was below criteria in samples G32-SS-06-06IN, G32-SS-07-06IN, and G32-DUP2. The positive and non-detected results for compounds associated with perlene-$_{d12}$ are estimated (J/UJ) in sample G32-SS-06-06IN. The associated compound results in samples G32-SS-07-06IN and G32-DUP2 are reported from diluted analyses with compliant internal standard recoveries and action is not necessary.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

Volatile

Chlorobenzene, trichloroethene, and toluene were recovered below quality control limits in the MS and/or MSD analyses of sample G32-SS-08-06IN. Non-detected results for these compounds in the unspiked sample are estimated (UJ). The data may be biased low.

Semivolatile

Acenaphthene, 2,4-dinitrotoluene, and pyrene were recovered outside of quality control limits in the MS and/or MSD analyses of sample G32-SS-08-06IN. The positive acenaphthene and pyrene results are estimated (J) in the unspiked sample due to exceeded percent recovery and RPD values. The non-detected 2,4-dinitrotoluene result in the unspiked sample is accepted since the recovery was greater than quality control limits. The positive naphthalene and 2-methylnaphthalene results are estimated (J) in the unspiked sample due to poor triplicate precision (%RSD > 50).

Field Duplicate Precision

Semivolatile

The positive results for the following compounds are estimated (J) in samples G32-SS-07-06IN and G32-DUP2 due to poor field duplicate precision: naphthalene, 2-methylnaphthalene, acenaphthene, dibenzofuran, fluorene, phenanthrene, carbazole, fluoranthene, pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene. The potential bias is undetermined.

Pesticide/PCB

The positive and non-detected results for heptachlor epoxide and Aroclor 1254 are estimated (J/UJ) in samples G32-CO-05-03IN and G32-DUP1 due to poor field duplicate precision. The potential bias is undetermined.

Compound Quantitation

The positive Aroclor 1254 result in sample G32-CO-05-03IN exceeds the instrument calibration range and is estimated (J). The data may be biased low.

Overall Assessment

The data are acceptable for use as qualified. Several volatile and semivolatile results were estimated (J/UJ) due to instrument calibration variability. Blank actions were applied to the samples due to laboratory blank contamination with methylene chloride. The non-detected acid compound results in samples G32-CO-04-03IN, G32-CO-05-03IN, and G32-DUP1 are rejected (R) due to extremely low acid surrogate recoveries. The data may be biased low or be false-negative. The positive and non-detected results for compounds associated with the internal standard perylene-$_{d12}$ are estimated (J/UJ) in sample G32-SS-06-06IN due to poor internal standard recovery.

The non-detected results for chlorobenzene, trichloroethene, and toluene are estimated (UJ) in sample G32-SS-08-06IN due to poor matrix spike recovery. The data may be biased low. The positive results for acenaphthene and pyrene are estimated (J) in sample G32-SS-08-06IN due to exceeded MS/MSD criteria. In addition, the positive results for naphthalene and 2-methylnaphthalene are estimated (J) in this sample due to poor triplicate precision. The positive and non-detected results for heptachlor epoxide and Aroclor 1254 are estimated (J/UJ) in samples G32-CO-05-03IN and G32-DUP1 due to poor field duplicate precision. The positive results for the following compounds are estimated (J) in samples G32-SS-07-06IN and G32-DUP2 due to poor field duplicate precision: naphthalene, 2-methylnaphthalene, acenaphthene, dibenzofuran, fluorene, phenanthrene, carbazole, fluoranthene, pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene. The potential bias is undetermined. The positive Aroclor 1254 result in sample G32-CO-05-03IN exceeds the instrument calibration range and is estimated (J), biased low.

Soil and Concrete Dust Volatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Station Location	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
Date Extracted												
Date Analyzed	4/27/00		4/27/00		4/27/00		4/27/00		4/28/00		4/28/00	
Dilution Factor	1		1		1		1		1		1	
Percent Solids	90.2		94.0		97.8		96.4		95.0		96.5	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
Dichlorodifluoromethane	12	U	15	U	19	U	18	U	14	U	14	U
Chloromethane	12	U	15	U	19	U	18	U	14	U	14	U
Vinyl Chloride	12	U	15	U	19	U	18	U	14	U	14	U
Bromomethane	12	U	15	U	19	U	18	U	14	U	14	U
Chloroethane	12	U	15	U	19	U	18	U	14	U	14	U
Trichlorofluoromethane	12	U	15	U	19	U	18	U	14	U	14	U
1,1-Dichloroethene	12	U	15	U	19	U	18	U	14	U	14	U
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	15	U	19	U	18	U	14	U	14	U
Acetone	67	J	40	J	24	J	27	J	21	J	23	J
Carbon Disulfide	5	J	3	J	19	U	18	U	14	U	14	U
Methyl Acetate	12	U	15	U	19	U	18	U	14	U	14	U
Methylene Chloride	12	U	15	U	19	U	18	U	14	U	14	U
trans-1,2-Dichloroethene	12	U	15	U	19	U	18	U	14	U	14	U
Methyl tert-Butyl Ether	12	U	15	U	19	U	18	U	14	U	14	U
1,1-Dichloroethane	12	U	15	U	19	U	18	U	14	U	14	U
cis-1,2-Dichloroethene	12	U	15	U	19	U	18	U	14	U	14	U
2-Butanone	38		17		19	U	6	J	14	U	14	U
Chloroform	12	U	15	U	19	U	18	U	14	U	14	U
1,1,1-Trichloroethane	12	U	15	U	19	U	18	U	14	U	14	U
Cyclohexane	12	U	15	U	19	U	18	U	14	U	14	U
Carbon Tetrachloride	12	U	15	U	19	U	18	U	14	U	14	U
Benzene	2	J	15	U	19	U	18	U	14	U	14	U
1,2-Dichloroethane	12	U	15	U	19	U	18	U	14	U	14	U
Trichloroethene	3	J	15	U	19	U	18	U	14	U	14	U
Methylcyclohexane	12	U	15	U	19	U	18	U	14	U	14	U
1,2-Dichloropropane	12	U	15	U	19	U	18	U	14	U	14	U
Bromodichloromethane	12	U	15	U	19	U	18	U	14	U	14	U
cis-1,3-Dichloropropene	12	U	15	U	19	U	18	U	14	U	14	U
4-Methyl-2-Pentanone	9	J	15	U	19	U	5	J	14	U	14	U
Toluene	7	J	2	J	19	U	18	U	14	U	14	U
trans-1,3-Dichloropropene	12	U	15	U	19	U	18	U	14	U	14	U
1,1,2-Trichloroethane	12	U	15	U	19	U	18	U	14	U	14	U
Tetrachloroethene	12	U	15	U	19	U	18	U	14	U	14	U
2-Hexanone	14		15	U	19	U	18	U	14	U	14	U
Dibromochloromethane	12	U	15	U	19	U	18	U	14	U	14	U
1,2-Dibromoethane	12	U	15	U	19	U	18	U	14	U	14	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil and Concrete Dust Volatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Station Location	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
Date Extracted												
Date Analyzed	4/27/00		4/27/00		4/27/00		4/27/00		4/28/00		4/28/00	
Dilution Factor	1		1		1		1		1		1	
Percent Solids	90.2		94.0		97.8		96.4		95.0		96.5	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
Chlorobenzene	12	U	15	U	19	U	18	U	14	U	14	U
Ethylbenzene	2	J	15	U	19	U	18	U	14	U	14	U
Total Xylenes	11	J	4	J	9	J	18	U	14	U	14	U
Styrene	12	U	15	U	19	U	18	U	14	U	14	U
Bromoform	12	U	15	U	19	U	18	U	14	U	14	U
Isopropylbenzene	12	U	15	U	6	J	18	U	14	U	14	U
1,1,2,2-Tetrachloroethane	12	U	15	U	19	U	18	U	14	U	14	U
1,3-Dichlorobenzene	12	U	15	U	19	U	18	U	14	U	14	U
1,4-Dichlorobenzene	12	U	15	U	19	U	18	U	14	U	14	U
1,2-Dichlorobenzene	12	U	15	U	19	U	18	U	14	U	14	U
1,2-Dibromo-3-chloropropane	12	U	15	U	19	U	18	U	14	U	14	U
1,2,4-Trichlorobenzene	12	U	15	U	19	U	18	U	14	U	14	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil and Concrete Dust Volatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN	
Station Location	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
Date Extracted												
Date Analyzed	4/28/00		4/28/00		4/28/00		4/28/00		4/28/00		4/28/00	
Dilution Factor	1		1		1		1		1		1	
Percent Solids	68.9		53.1		73.4		29.8		84.6		92.1	
QC Identifier	Field Dup. G32-SS-07-06IN		None		None		None		None		None	
Dichlorodifluoromethane	14	U	28	U	26	U	47	U	9	U	11	U
Chloromethane	14	U	28	U	26	U	47	U	9	U	11	U
Vinyl Chloride	14	U	28	U	26	U	47	U	9	U	11	U
Bromomethane	14	U	28	U	26	U	47	U	9	U	11	U
Chloroethane	14	U	28	U	26	U	47	U	9	U	11	U
Trichlorofluoromethane	14	U	28	U	26	U	47	U	9	U	11	U
1,1-Dichloroethene	14	U	28	U	26	U	47	U	9	U	11	U
1,1,2-Trichloro-1,2,2-trifluoroethane	14	U	28	U	26	U	47	U	9	U	11	U
Acetone	75	J	150	J	140	J	140	J	34	J	40	J
Carbon Disulfide	14	U	28	U	26	U	47	U	9	U	11	U
Methyl Acetate	14	U	20	J	14	J	47	U	9	U	11	U
Methylene Chloride	14	U	28	U	26	U	47	U	9	U	11	U
trans-1,2-Dichloroethene	14	U	28	U	26	U	47	U	9	U	11	U
Methyl tert-Butyl Ether	14	U	28	U	26	U	47	U	9	U	11	U
1,1-Dichloroethane	14	U	28	U	26	U	47	U	9	U	11	U
cis-1,2-Dichloroethene	14	U	28	U	26	U	47	U	9	U	11	U
2-Butanone	14	U	28	U	26	U	47	U	9	U	11	U
Chloroform	14	U	28	U	26	U	47	U	9	U	11	U
1,1,1-Trichloroethane	14	U	28	U	26	U	47	U	9	U	11	U
Cyclohexane	14	U	28	U	26	U	47	U	9	U	11	U
Carbon Tetrachloride	14	U	28	U	26	U	47	U	9	U	11	U
Benzene	14	U	28	U	26	U	47	U	9	U	11	U
1,2-Dichloroethane	14	U	28	U	26	U	47	U	9	U	11	U
Trichloroethene	14	U	28	U	26	U	47	U	9	U	11	U
Methylcyclohexane	14	U	28	U	26	U	47	U	9	U	11	U
1,2-Dichloropropane	14	U	28	U	26	U	47	U	9	U	11	U
Bromodichloromethane	14	U	28	U	26	U	47	U	9	U	11	U
cis-1,3-Dichloropropene	14	U	28	U	26	U	47	U	9	U	11	U
4-Methyl-2-Pentanone	14	U	28	U	26	U	47	U	9	U	11	U
Toluene	14	U	28	U	26	U	47	U	9	U	11	U
trans-1,3-Dichloropropene	14	U	28	U	26	U	47	U	9	U	11	U
1,1,2-Trichloroethane	14	U	28	U	26	U	47	U	9	U	11	U
Tetrachloroethene	14	U	28	U	26	U	47	U	9	U	11	U
2-Hexanone	14	U	28	U	26	U	47	U	9	U	11	U
Dibromochloromethane	14	U	28	U	26	U	47	U	9	U	11	U
1,2-Dibromoethane	14	U	28	U	26	U	47	U	9	U	11	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil and Concrete Dust Volatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN	
Station Location	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
Date Extracted												
Date Analyzed	4/28/00		4/28/00		4/28/00		4/28/00		4/28/00		4/28/00	
Dilution Factor	1		1		1		1		1		1	
Percent Solids	68.9		53.1		73.4		29.8		84.6		92.1	
QC Identifier	Field Dup. G32-SS-07-06IN		None		None		None		None		None	
Chlorobenzene	14	U	28	U	26	U	47	U	9	U	11	U
Ethylbenzene	14	U	28	U	26	U	47	U	9	U	11	U
Total Xylenes	14	U	28	U	26	U	47	U	9	U	11	U
Styrene	14	U	28	U	26	U	47	U	9	U	11	U
Bromoform	14	U	28	U	26	U	47	U	9	U	11	U
Isopropylbenzene	14	U	28	U	26	U	47	U	9	U	11	U
1,1,2,2-Tetrachloroethane	14	U	28	U	26	U	47	U	9	U	11	U
1,3-Dichlorobenzene	14	U	28	U	26	U	47	U	9	U	11	U
1,4-Dichlorobenzene	14	U	28	U	26	U	47	U	9	U	11	U
1,2-Dichlorobenzene	14	U	28	U	26	U	47	U	9	U	11	U
1,2-Dibromo-3-chloropropane	14	U	28	U	26	U	47	U	9	U	11	U
1,2,4-Trichlorobenzene	14	U	28	U	26	U	47	U	9	U	11	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil and Concrete Dust Volatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-SS-06-06IN		G32-SS-07-06IN		G32-SS-08-06IN	
Station Location	G32-SS-06-06IN		G32-SS-07-06IN		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00	
Date Extracted						
Date Analyzed	4/28/00		4/28/00		4/28/00	
Dilution Factor	1		1		1	
Percent Solids	83.5		61.7		80.5	
QC Identifier	None		Field Dup. G32-SS-07-06IN		None	
Dichlorodifluoromethane	14	U	18	U	13	U
Chloromethane	5	J	18	U	13	U
Vinyl Chloride	14	U	18	U	13	U
Bromomethane	14	U	18	U	13	U
Chloroethane	14	U	18	U	13	U
Trichlorofluoromethane	14	U	18	U	13	U
1,1-Dichloroethene	14	U	18	U	13	U
1,1,2-Trichloro-1,2,2-trifluoroethane	14	U	18	U	13	U
Acetone	74	J	100	J	120	J
Carbon Disulfide	14	U	18	U	13	U
Methyl Acetate	14	U	18	U	13	U
Methylene Chloride	14	U	18	U	13	U
trans-1,2-Dichloroethene	14	U	18	U	13	U
Methyl tert-Butyl Ether	14	U	18	U	13	U
1,1-Dichloroethane	14	U	18	U	13	U
cis-1,2-Dichloroethene	14	U	18	U	13	U
2-Butanone	12	J	18	U	13	U
Chloroform	14	U	18	U	13	U
1,1,1-Trichloroethane	14	U	18	U	13	U
Cyclohexane	14	U	18	U	13	U
Carbon Tetrachloride	14	U	18	U	13	U
Benzene	2	J	18	U	13	U
1,2-Dichloroethane	14	U	18	U	13	U
Trichloroethene	14	U	18	U	13	UJ
Methylcyclohexane	14	U	18	U	13	U
1,2-Dichloropropane	14	U	18	U	13	U
Bromodichloromethane	14	U	18	U	13	U
cis-1,3-Dichloropropene	14	U	18	U	13	U
4-Methyl-2-Pentanone	14	U	18	U	13	U
Toluene	14	U	18	U	13	UJ
trans-1,3-Dichloropropene	14	U	18	U	13	U
1,1,2-Trichloroethane	14	U	18	U	13	U
Tetrachloroethene	14	U	18	U	13	U
2-Hexanone	14	U	18	U	13	U
Dibromochloromethane	14	U	18	U	13	U
1,2-Dibromoethane	14	U	18	U	13	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil and Concrete Dust Volatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-SS-06-06IN		G32-SS-07-06IN		G32-SS-08-06IN	
Station Location	G32-SS-06-06IN		G32-SS-07-06IN		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00	
Date Extracted						
Date Analyzed	4/28/00		4/28/00		4/28/00	
Dilution Factor	1		1		1	
Percent Solids	83.5		61.7		80.5	
QC Identifier	None		Field Dup. G32-SS-07-06IN		None	
Chlorobenzene	14	U	18	U	13	UJ
Ethylbenzene	14	U	18	U	13	U
Total Xylenes	14	U	18	U	13	U
Styrene	14	U	18	U	13	U
Bromoform	14	U	18	U	13	U
Isopropylbenzene	14	U	18	U	13	U
1,1,2,2-Tetrachloroethane	14	U	18	U	13	U
1,3-Dichlorobenzene	14	U	18	U	13	U
1,4-Dichlorobenzene	14	U	18	U	13	U
1,2-Dichlorobenzene	14	U	18	U	13	U
1,2-Dibromo-3-chloropropane	14	U	18	U	13	U
1,2,4-Trichlorobenzene	14	U	18	U	13	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Aqueous Volatile Organic Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	FB-042000		RB-042000		TB-042000	
Station Location	FB-042000		RB-042000		TB-042000	
Date Sampled	4/20/00		4/20/00		4/20/00	
Date Extracted						
Date Analyzed	4/27/00		4/27/00		4/27/00	
Dilution Factor	1		1		1	
Percent Solids						
QC Identifier	Field Blank		Rinsate Blank		Trip Blank	
Dichlorodifluoromethane	10	U	10	U	10	U
Chloromethane	10	U	10	U	10	U
Vinyl Chloride	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U
Trichlorofluoromethane	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	U
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	U	10	U
Acetone	10	UJ	10	UJ	10	UJ
Carbon Disulfide	10	U	10	U	10	U
Methyl Acetate	10	U	10	U	10	U
Methylene Chloride	10	U	10	U	10	U
trans-1,2-Dichloroethene	10	U	10	U	10	U
Methyl tert-Butyl Ether	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U
cis-1,2-Dichloroethene	10	U	10	U	10	U
2-Butanone	10	U	10	U	10	U
Chloroform	10	U	10	U	10	U
1,1,1-Trichloroethane	10	U	10	U	10	U
Cyclohexane	10	U	10	U	10	U
Carbon Tetrachloride	10	U	10	U	10	U
Benzene	10	U	10	U	10	U
1,2-Dichloroethane	10	U	10	U	10	U
Trichloroethene	10	U	10	U	10	U
Methylcyclohexane	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U	10	U
4-Methyl-2-Pentanone	10	U	10	U	10	U
Toluene	10	U	10	U	10	U
trans-1,3-Dichloropropene	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U
Tetrachloroethene	10	U	10	U	10	U
2-Hexanone	10	U	10	U	10	U
Dibromochloromethane	10	U	10	U	10	U
1,2-Dibromoethane	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Aqueous Volatile Organic Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	FB-042000		RB-042000		TB-042000	
Station Location	FB-042000		RB-042000		TB-042000	
Date Sampled	4/20/00		4/20/00		4/20/00	
Date Extracted						
Date Analyzed	4/27/00		4/27/00		4/27/00	
Dilution Factor	1		1		1	
Percent Solids						
QC Identifier	Field Blank		Rinsate Blank		Trip Blank	
Chlorobenzene	10	U	10	U	10	U
Ethylbenzene	10	U	10	U	10	U
Total Xylenes	10	U	10	U	10	U
Styrene	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U
Isopropylbenzene	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil and Concrete Dust Semivolatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Station Location	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
Date Extracted	4/24/00		4/26/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Analyzed	4/26/00		4/28/00		4/26/00		4/25/00		4/25/00		4/25/00	
Dilution Factor	1		1		1		1		1		1	
Percent Solids	90.2		94.0		97.8		96.4		95.0		96.5	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
Benzaldehyde	17000	U	11000	U	11000	U	370	U	370	U	370	U
Phenol	17000	U	11000	U	11000	U		R		R		R
Bis(2-Chloroethyl)ether	17000	U	11000	U	11000	U	370	U	370	U	370	U
2-Chlorophenol	17000	U	11000	U	11000	U		R		R		R
2-Methylphenol	17000	U	11000	U	11000	U		R		R		R
2,2'-oxybis(1-Chloropropane)	17000	U	11000	U	11000	U	370	U	370	U	370	U
Acetophenone	17000	U	11000	U	11000	U	370	U	370	U	370	U
4-Methylphenol	17000	U	11000	U	11000	U		R		R		R
N-Nitroso-di-n-propylamine	17000	U	11000	U	11000	U	370	U	370	U	370	U
Hexachloroethane	17000	U	11000	U	11000	U	370	U	370	U	370	U
Nitrobenzene	17000	U	11000	U	11000	U	370	U	370	U	370	U
Isophorone	17000	U	11000	U	11000	U	370	U	370	U	370	U
2-Nitrophenol	17000	U	11000	U	11000	U		R		R		R
2,4-Dimethylphenol	17000	U	11000	U	11000	U		R		R		R
Bis(2-Chloroethoxy)methane	17000	U	11000	U	11000	U	370	U	370	U	370	U
2,4-Dichlorophenol	17000	U	11000	U	11000	U		R		R		R
Naphthalene	17000	U	11000	U	11000	U	370	U	370	U	370	U
4-Chloroaniline	17000	U	11000	U	11000	U	370	U	370	U	370	U
Hexachlorobutadiene	17000	UJ	11000	UJ	11000	UJ	370	UJ	370	UJ	370	UJ
Caprolactam	17000	U	11000	U	11000	U	370	U	370	U	370	U
4-Chloro-3-methylphenol	17000	U	11000	U	11000	U		R		R		R
2-Methylnaphthalene	17000	U	11000	UJ	11000	U	370	U	370	U	370	U
Hexachlorocyclopentadiene	17000	UJ	11000	UJ	11000	UJ	370	U	370	U	370	U
2,4,6-Trichlorophenol	17000	U	11000	U	11000	U		R		R		R
2,4,5-Trichlorophenol	43000	U	27000	U	27000	U		R		R		R
1,1'-Biphenyl	17000	U	11000	U	11000	U	370	U	370	U	370	U
2-Chloronaphthalene	17000	U	11000	U	11000	U	370	U	370	U	370	U
2-Nitroaniline	43000	U	27000	U	27000	U	920	U	930	U	930	U
Dimethylphthalate	17000	U	11000	U	11000	U	370	U	370	U	370	U
2,6-Dinitrotoluene	17000	U	11000	U	11000	U	370	U	370	U	370	U
Acenaphthylene	17000	U	11000	U	11000	U	370	U	370	U	370	U
3-Nitroaniline	43000	U	27000	U	27000	U	920	U	930	U	930	U
Acenaphthene	17000	U	11000	U	11000	U	370	U	370	U	370	U
2,4-Dinitrophenol	43000	UJ	27000	U	27000	UJ		R		R		R
4-Nitrophenol	43000	U	27000	U	27000	U		R		R		R
Dibenzofuran	17000	U	11000	U	11000	U	370	U	370	U	370	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil and Concrete Dust Semivolatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Station Location	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
Date Extracted	4/24/00		4/26/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Analyzed	4/26/00		4/28/00		4/26/00		4/25/00		4/25/00		4/25/00	
Dilution Factor	1		1		1		1		1		1	
Percent Solids	90.2		94.0		97.8		96.4		95.0		96.5	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
2,4-Dinitrotoluene	17000	U	11000	U	11000	U	370	U	370	U	370	U
Diethylphthalate	17000	U	11000	U	11000	U	370	U	370	U	370	U
Fluorene	17000	U	11000	U	11000	U	370	U	370	U	370	U
4-Chlorophenyl-phenylether	17000	U	11000	U	11000	U	370	U	370	U	370	U
4-Nitroaniline	43000	U	27000	U	27000	U	920	U	930	U	930	U
4,6-Dinitro-2-methylphenol	43000	UJ	27000	U		R		R		R		R
N-Nitroso-diphenylamine	17000	U	11000	U	11000	U	370	U	370	U	370	U
4-Bromophenyl-phenylether	17000	U	11000	U	11000	U	370	U	370	U	370	U
Hexachlorobenzene	17000	U	11000	U	11000	U	370	U	370	U	370	U
Atrazine	17000	U	11000	U	11000	U	370	U	370	U	370	U
Pentachlorophenol	43000	UJ	27000	UJ		R		R		R		R
Phenanthrene	3700	J	11000	U	11000	U	98	J	56	J	160	J
Anthracene	17000	U	11000	U	11000	U	370	U	370	U	31	J
Carbazole	17000	U	11000	U	11000	U	370	U	370	U	370	U
Di-n-Butylphthalate	17000	U	11000	U	11000	U	34	J	370	U	54	J
Fluoranthene	9100	J	11000	U	920	J	130	J	100	J	210	J
Pyrene	7600	J	11000	U	1200	J	110	J	80	J	160	J
Butylbenzylphthalate	17000	U	11000	U	11000	U	370	U	370	U	370	U
3,3'-Dichlorobenzidine	17000	U	11000	U	11000	U	370	U	370	U	370	U
Benzo(a)anthracene	4000	J	11000	U	11000	U	56	J	39	J	80	J
Chrysene	4300	J	11000	U	11000	U	71	J	52	J	110	J
bis(2-Ethylhexyl)phthalate	17000	U	11000	U	11000	U	370	U	38	J	29	J
Di-n-octylphthalate	17000	U	11000	U	11000	U	370	U	370	U	370	U
Benzo(b)fluoranthene	3800	J	11000	U	11000	U	50	J	33	J	85	J
Benzo(k)fluoranthene	3600	J	11000	U	11000	U	54	J	37	J	81	J
Benzo(a)pyrene	3500	J	11000	U	11000	U	43	J	370	U	73	J
Indeno(1,2,3-cd)pyrene	17000	U	11000	U	11000	U	28	J	370	U	33	J
Dibenzo(a,h)anthracene	17000	U	11000	U	11000	U	370	U	370	U	370	U
Benzo(g,h,i)perylene	17000	UJ	11000	U	11000	UJ	31	J	16	J	36	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil and Concrete Dust Semivolatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN	
Station Location	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
Date Extracted	4/25/00		4/25/00		4/25/00		4/25/00		4/25/00		4/25/00	
Date Analyzed	4/26/00		4/25/00		4/25/00		4/25/00		4/26/00		4/26/00	
Dilution Factor	1		1		1		1		1		1	
Percent Solids	68.9		53.1		73.4		29.8		84.6		92.1	
QC Identifier	Field Dup. G32-SS-07-06IN		None		None		None		None		None	
Benzaldehyde	530	U	680	U	460	U	1200	U	400	U	360	U
Phenol	530	U	680	U	460	U	1200	U	400	U	360	U
Bis(2-Chloroethyl)ether	530	U	680	U	460	U	1200	U	400	U	360	U
2-Chlorophenol	530	U	680	U	460	U	1200	U	400	U	360	U
2-Methylphenol	530	U	680	U	460	U	1200	U	400	U	360	U
2,2'-oxybis(1-Chloropropane)	530	U	680	U	460	U	1200	U	400	U	360	U
Acetophenone	530	U	680	U	460	U	1200	U	400	U	360	U
4-Methylphenol	530	U	680	U	460	U	1200	U	400	U	360	U
N-Nitroso-di-n-propylamine	530	U	680	U	460	U	1200	U	400	U	360	U
Hexachloroethane	530	U	680	U	460	U	1200	U	400	U	360	U
Nitrobenzene	530	U	680	U	460	U	1200	U	400	U	360	U
Isophorone	530	U	680	U	460	U	1200	U	400	U	360	U
2-Nitrophenol	530	U	680	U	460	U	1200	U	400	U	360	U
2,4-Dimethylphenol	530	U	680	U	460	U	1200	U	400	U	360	U
Bis(2-Chloroethoxy)methane	530	U	680	U	460	U	1200	U	400	U	360	U
2,4-Dichlorophenol	530	U	680	U	460	U	1200	U	400	U	360	U
Naphthalene	190	J	680	U	35	J	220	J	1400		360	U
4-Chloroaniline	530	U	680	U	460	U	1200	U	400	U	360	U
Hexachlorobutadiene	530	UJ	680	UJ	460	UJ	1200	UJ	400	UJ	360	UJ
Caprolactam	530	U	680	U	460	U	1200	U	400	U	360	U
4-Chloro-3-methylphenol	530	U	680	U	460	U	1200	U	400	U	360	U
2-Methylnaphthalene	140	J	680	U	460	U	100	J	390	J	360	U
Hexachlorocyclopentadiene	530	UJ	680	U	460	U	1200	U	400	UJ	360	UJ
2,4,6-Trichlorophenol	530	U	680	U	460	U	1200	U	400	U	360	U
2,4,5-Trichlorophenol	1300	U	1700	U	1200	U	3000	U	1000	U	900	U
1,1'-Biphenyl	65	J	680	U	460	U	1200	U	130	J	360	U
2-Chloronaphthalene	530	U	680	U	460	U	1200	U	400	U	360	U
2-Nitroaniline	1300	U	1700	U	1200	U	3000	U	1000	U	900	U
Dimethylphthalate	530	U	680	U	460	U	1200	U	400	U	360	U
2,6-Dinitrotoluene	530	U	680	U	460	U	1200	U	400	U	360	U
Acenaphthylene	340	J	680	U	460	U	1200	U	60	J	360	U
3-Nitroaniline	1300	U	1700	U	1200	U	3000	U	1000	U	900	U
Acenaphthene	1400		70	J	92	J	750	J	1700		360	U
2,4-Dinitrophenol	1300	UJ	1700	U	1200	U	3000	U	1000	UJ	900	UJ
4-Nitrophenol	1300	U	1700	U	1200	U	3000	U	1000	U	900	U
Dibenzofuran	920		680	U	35	J	410	J	630		360	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil and Concrete Dust Semivolatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN	
Station Location	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
Date Extracted	4/25/00		4/25/00		4/25/00		4/25/00		4/25/00		4/25/00	
Date Analyzed	4/26/00		4/25/00		4/25/00		4/25/00		4/26/00		4/26/00	
Dilution Factor	1		1		1		1		1		1	
Percent Solids	68.9		53.1		73.4		29.8		84.6		92.1	
QC Identifier	Field Dup. G32-SS-07-06IN		None		None		None		None		None	
2,4-Dinitrotoluene	530	U	680	U	460	U	1200	U	400	U	360	U
Diethylphthalate	530	U	680	U	460	U	1200	U	400	U	360	U
Fluorene	1800		65	J	84	J	750	J	1200		360	U
4-Chlorophenyl-phenylether	530	U	680	U	460	U	1200	U	400	U	360	U
4-Nitroaniline	1300	U	1700	U	1200	U	3000	U	1000	U	900	U
4,6-Dinitro-2-methylphenol	1300	UJ	1700	U	1200	U	3000	U	1000	UJ	900	UJ
N-Nitroso-diphenylamine	530	U	680	U	460	U	1200	U	400	U	360	U
4-Bromophenyl-phenylether	530	U	680	U	460	U	1200	U	400	U	360	U
Hexachlorobenzene	530	U	680	U	460	U	1200	U	400	U	360	U
Atrazine	530	U	680	U	460	U	1200	U	400	U	360	U
Pentachlorophenol	1300	UJ	1700	UJ	1200	UJ	3000	UJ	1000	UJ	900	UJ
Phenanthrene	20000	*	680		930		7300		15000	*	83	J
Anthracene	3500	*J	130	J	200	J	1400		3400	*J	20	J
Carbazole	2600		81	J	130	J	870	J	1500		360	U
Di-n-Butylphthalate	530	U	680	U	460	U	1200	U	400	U	42	J
Fluoranthene	30000	*	990		1600		9400	*	20000	*	180	J
Pyrene	24000	*	830		1500		8400		19000	*	160	J
Butylbenzylphthalate	530	U	680	U	460	U	1200	U	400	U	360	U
3,3'-Dichlorobenzidine	530	U	680	U	460	U	1200	U	400	U	360	U
Benzo(a)anthracene	12000	*J	410	J	690		4100		8500	*	88	J
Chrysene	14000	*	470	J	810		4400		9200	*	100	J
bis(2-Ethylhexyl)phthalate	310	J	680	U	460	U	1200	U	400	U	41	J
Di-n-octylphthalate	13000	*U	680	U	460	U	1200	U	400	U	360	U
Benzo(b)fluoranthene	10000	*J	450	J	770		3700		6900	*	110	J
Benzo(k)fluoranthene	9300	*J	360	J	680		3400		6400	*	78	J
Benzo(a)pyrene	9800	*J	390	J	630		3500		8100	*	85	J
Indeno(1,2,3-cd)pyrene	5900	*J	140	J	270	J	1300		2700		56	J
Dibenzo(a,h)anthracene	2900	*J	88	J	130	J	720	J	1500		360	U
Benzo(g,h,i)perylene	6200	*J	140	J	280	J	1100	J	2900	J	73	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil and Concrete Dust Semivolatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-SS-06-06IN		G32-SS-07-06IN		G32-SS-08-06IN	
Station Location	G32-SS-06-06IN		G32-SS-07-06IN		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00	
Date Extracted	4/25/00		4/25/00		4/25/00	
Date Analyzed	4/26/00		4/26/00		5/15/00	
Dilution Factor	1		1		1	
Percent Solids	83.5		61.7		80.5	
QC Identifier	None		Field Dup. G32-SS-07-06IN		None	
Benzaldehyde	400	U	600	U	47	J
Phenol	400	U	600	U	410	U
Bis(2-Chloroethyl)ether	400	U	600	U	410	U
2-Chlorophenol	400	U	600	U	410	U
2-Methylphenol	400	U	600	U	410	U
2,2'-oxybis(1-Chloropropane)	400	U	600	U	410	U
Acetophenone	400	U	600	U	410	U
4-Methylphenol	400	U	600	U	52	J
N-Nitroso-di-n-propylamine	400	U	600	U	410	U
Hexachloroethane	400	U	600	U	410	U
Nitrobenzene	400	U	600	U	410	U
Isophorone	400	U	600	U	410	U
2-Nitrophenol	400	U	600	U	410	U
2,4-Dimethylphenol	400	U	600	U	410	U
Bis(2-Chloroethoxy)methane	400	U	600	U	410	U
2,4-Dichlorophenol	400	U	600	U	410	U
Naphthalene	400	U	3500	J	990	J
4-Chloroaniline	400	U	600	U	410	UJ
Hexachlorobutadiene	400	UJ	600	UJ	410	U
Caprolactam	400	U	600	U	410	U
4-Chloro-3-methylphenol	400	U	600	U	410	U
2-Methylnaphthalene	400	U	880	J	440	J
Hexachlorocyclopentadiene	400	U	600	UJ	410	U
2,4,6-Trichlorophenol	400	U	600	U	410	U
2,4,5-Trichlorophenol	1000	U	1500	U	1000	U
1,1'-Biphenyl	400	U	320	J	130	J
2-Chloronaphthalene	400	U	600	U	410	U
2-Nitroaniline	1000	U	1500	U	1000	U
Dimethylphthalate	400	U	600	U	410	U
2,6-Dinitrotoluene	400	U	600	U	410	U
Acenaphthylene	34	J	300	J	49	J
3-Nitroaniline	1000	U	1500	U	1000	U
Acenaphthene	32	J	6300	*J	1400	J
2,4-Dinitrophenol	1000	U	1500	UJ	1000	U
4-Nitrophenol	1000	U	1500	U	1000	U
Dibenzofuran	400	U	3300	J	890	

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Soil and Concrete Dust Semivolatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-SS-06-06IN		G32-SS-07-06IN		G32-SS-08-06IN	
Station Location	G32-SS-06-06IN		G32-SS-07-06IN		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00	
Date Extracted	4/25/00		4/25/00		4/25/00	
Date Analyzed	4/26/00		4/26/00		5/15/00	
Dilution Factor	1		1		1	
Percent Solids	83.5		61.7		80.5	
QC Identifier	None		Field Dup. G32-SS-07-06IN		None	
2,4-Dinitrotoluene	400	U	600	U	410	U
Diethylphthalate	400	U	600	U	410	U
Fluorene	400	U	5400	*J	1500	
4-Chlorophenyl-phenylether	400	U	600	U	410	U
4-Nitroaniline	1000	U	1500	U	1000	U
4,6-Dinitro-2-methylphenol	1000	U	1500	UJ	1000	U
N-Nitroso-diphenylamine	400	U	600	U	410	U
4-Bromophenyl-phenylether	400	U	600	U	410	U
Hexachlorobenzene	400	U	600	U	410	U
Atrazine	400	U	600	U	410	U
Pentachlorophenol	1000	UJ	1500	UJ	1000	U
Phenanthrene	260	J	50000	*J	11000	*
Anthracene	90	J	10000	*J	2400	
Carbazole	79	J	5800	*J	1600	
Di-n-Butylphthalate	400	U	600	U	410	U
Fluoranthene	560		61000	*J	12000	*
Pyrene	1300		48000	*J	10000	*J
Butylbenzylphthalate	400	U	600	U	410	U
3,3'-Dichlorobenzidine	400	U	600	U	410	U
Benzo(a)anthracene	600		22000	*J	5300	*
Chrysene	1000		23000	*	5200	*
bis(2-Ethylhexyl)phthalate	400	U	280	J	52	J
Di-n-octylphthalate	400	UJ	15000	*U	410	U
Benzo(b)fluoranthene	1500	J	18000	*J	4000	*
Benzo(k)fluoranthene	1200	J	17000	*J	4500	*
Benzo(a)pyrene	860	J	19000	*J	4800	*
Indeno(1,2,3-cd)pyrene	410	J	12000	*J	1500	
Dibenzo(a,h)anthracene	200	J	6600	*J	810	
Benzo(g,h,i)perylene	450	J	14000	*J	1300	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil and Concrete Dust Pesticide/PCB Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Station Location	G32-CO-01-03IN		G32-CO-02-03IN		G32-CO-03-03IN		G32-CO-04-03IN		G32-CO-05-03IN		G32-DUP1	
Date Sampled	4/18/00		4/18/00		4/18/00		4/18/00		4/18/00		4/18/00	
Date Extracted	4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Analyzed	5/11/00		5/11/00		5/11/00		5/11/00		5/6/00		5/11/00	
Dilution Factor	1		1		1		1		1		1	
Percent Solids	90.2		94.0		97.8		96.4		95.0		96.5	
QC Identifier	None		None		None		None		Field Dup. G32-CO-05-03IN		Field Dup. G32-CO-05-03IN	
alpha-BHC	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
beta-BHC	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
delta-BHC	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
gamma-BHC	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
Heptachlor	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
Aldrin	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
Heptachlor Epoxide	11	U	12	U	11	U	1.7	U	2.3	J	1.8	UJ
Endosulfan I	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
Dieldrin	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
4,4'-DDE	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
Endrin	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
Endosulfan II	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
4,4'-DDD	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
Endosulfan Sulfate	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
4,4'-DDT	22	U	24	U	22	U	5.4		7.2		4.9	
Methoxychlor	110	U	120	U	110	U	17	U	19	U	18	U
Endrin Ketone	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
Endrin Aldehyde	22	U	24	U	22	U	3.4	U	3.7	U	3.6	U
alpha-Chlordane	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
gamma-Chlordane	11	U	12	U	11	U	1.7	U	1.9	U	1.8	U
Toxaphene	1100	U	1200	U	1100	U	170	U	190	U	180	U
Aroclor-1016	220	U	240	U	220	U	34	U	37	U	36	U
Aroclor-1221	450	U	470	U	440	U	69	U	74	U	72	U
Aroclor-1232	220	U	240	U	220	U	34	U	37	U	36	U
Aroclor-1242	220	U	240	U	220	U	34	U	37	U	36	U
Aroclor-1248	220	U	240	U	220	U	34	U	37	U	36	U
Aroclor-1254	220	U	240	U	220	U	34	U	320	J	36	UJ
Aroclor-1260	220	U	240	U	220	U	34	U	37	U	36	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Soil and Concrete Dust Pesticide/PCB Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN	
Station Location	G32-DUP2		G32-SS-01-06IN		G32-SS-02-06IN		G32-SS-03-06IN		G32-SS-04-06IN		G32-SS-05-06IN		G32-SS-06-06IN	
Date Sampled	4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00		4/20/00	
Date Extracted	4/25/00		4/25/00		4/25/00		4/25/00		4/25/00		4/25/00		4/25/00	
Date Analyzed	5/7/00		5/7/00		5/7/00		5/7/00		5/7/00		5/7/00		5/7/00	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids	68.9		53.1		73.4		29.8		84.6		92.1		83.5	
QC Identifier	Field Dup. G32-SS-07-06IN		None		None		None		None		None		None	
alpha-BHC	2.7	U	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
beta-BHC	2.7	U	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
delta-BHC	2.7	U	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
gamma-BHC	2.7	U	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
Heptachlor	2.7	U	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
Aldrin	2.7	U	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
Heptachlor Epoxide	2.7	U	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
Endosulfan I	2.7	U	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
Dieldrin	5.3	U	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
4,4'-DDE	5.3	U	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
Endrin	5.3	U	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
Endosulfan II	5.3	U	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
4,4'-DDD	5.3	U	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
Endosulfan Sulfate	5.3	U	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
4,4'-DDT	5.3	U	6.9	U	6.2	P	12	P	17		5.5		5.4	
Methoxychlor	27	U	34	U	24	U	61	U	20	U	18	U	21	U
Endrin Ketone	5.3	U	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
Endrin Aldehyde	5.3	U	6.9	U	4.8	U	12	U	3.9	U	3.7	U	4.2	U
alpha-Chlordane	2.7	U	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
gamma-Chlordane	2.7	U	3.4	U	2.4	U	6.1	U	2.0	U	1.8	U	2.1	U
Toxaphene	270	U	340	U	240	U	610	U	200	U	180	U	210	U
Aroclor-1016	53	U	69	U	48	U	120	U	39	U	37	U	42	U
Aroclor-1221	110	U	140	U	96	U	240	U	79	U	73	U	84	U
Aroclor-1232	53	U	69	U	48	U	120	U	39	U	37	U	42	U
Aroclor-1242	53	U	69	U	48	U	120	U	39	U	37	U	42	U
Aroclor-1248	53	U	69	U	48	U	120	U	39	U	37	U	42	U
Aroclor-1254	4000	*	69	U	110		120	U	39	U	37	U	42	U
Aroclor-1260	53	U	69	U	48	U	120	U	39	U	37	U	42	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil and Concrete Dust Pesticide/PCB Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	G32-SS-07-06IN		G32-SS-08-06IN	
Station Location	G32-SS-07-06IN		G32-SS-08-06IN	
Date Sampled	4/20/00		4/20/00	
Date Extracted	4/25/00		4/25/00	
Date Analyzed	5/7/00		5/7/00	
Dilution Factor	1		1	
Percent Solids	61.7		80.5	
QC Identifier	Field Dup. G32-SS-07-06IN		None	
alpha-BHC	3.0	U	2.2	U
beta-BHC	3.0	U	2.2	U
delta-BHC	3.0	U	2.2	U
gamma-BHC	3.0	U	2.2	U
Heptachlor	3.0	U	2.2	U
Aldrin	3.0	U	2.2	U
Heptachlor Epoxide	3.0	U	2.2	U
Endosulfan I	3.0	U	2.2	U
Dieldrin	6.0	U	4.3	U
4,4'-DDE	6.0	U	4.3	U
Endrin	6.0	U	4.3	U
Endosulfan II	6.0	U	4.3	U
4,4'-DDD	6.0	U	4.3	U
Endosulfan Sulfate	6.0	U	4.3	U
4,4'-DDT	6.0	U	6.6	
Methoxychlor	30	U	22	U
Endrin Ketone	6.0	U	4.3	U
Endrin Aldehyde	6.0	U	4.3	U
alpha-Chlordane	3.0	U	2.2	U
gamma-Chlordane	3.0	U	2.2	U
Toxaphene	300	U	220	U
Aroclor-1016	60	U	43	U
Aroclor-1221	120	U	87	U
Aroclor-1232	60	U	43	U
Aroclor-1242	60	U	43	U
Aroclor-1248	60	U	43	U
Aroclor-1254	5800	*	43	U
Aroclor-1260	60	U	43	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Aqueous Pesticide/PCB Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-01-03IN

EPA Sample Number	RB-042000	
Station Location	RB-042000	
Date Sampled	4/20/00	
Date Extracted	4/25/00	
Date Analyzed	4/29/00	
Dilution Factor	1	
Percent Solids		
QC Identifier	Rinsate Blank	
alpha-BHC	0.05	U
beta-BHC	0.05	U
delta-BHC	0.05	U
gamma-BHC	0.05	U
Heptachlor	0.05	U
Aldrin	0.05	U
Heptachlor Epoxide	0.05	U
Endosulfan I	0.05	U
Dieldrin	0.10	U
4,4'-DDE	0.10	U
Endrin	0.10	U
Endosulfan II	0.10	U
4,4'-DDD	0.10	U
Endosulfan Sulfate	0.10	U
4,4'-DDT	0.10	U
Methoxychlor	0.50	U
Endrin Ketone	0.10	U
Endrin Aldehyde	0.10	U
alpha-Chlordane	0.05	U
gamma-Chlordane	0.05	U
Toxaphene	5.0	U
Aroclor-1016	1.0	U
Aroclor-1221	2.0	U
Aroclor-1232	1.0	U
Aroclor-1242	1.0	U
Aroclor-1248	1.0	U
Aroclor-1254	1.0	U
Aroclor-1260	1.0	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

TETRA TECH NUS, INC. **INTERNAL CORRESPONDENCE**

C-NAVY-7-00-1451W

To: Stephen Parker cc: File 7574-4.1

From: Linda Terzis

Subject: Tier II Modified Data Validation, Project 7574, SDG G32-CO-06-03IN
Accutest Laboratories
Navy CLEAN, Gould Island Building 32 SI, NETC – CTO 286

Volatiles/Semivolatiles/Pesticides/PCBs:

8/Soils/	G32-DR-03, G32-DR-05, G32-DR-04, G32-DR-06, G32-DR-01, G32-DR-12, G32-DR-02, G32-DUP3 (Field Duplicate Pair G32-DR-02/G32-DUP3)
8/Sludges/	G32-DR-13, G32-DR-14, G32-DR-08, G32-DR-07, G32-DR-09, G32-DR-10, G32-DR-11, G32-DUP4 (Field Duplicate Pair G32-DR-10/G32-DUP4)
3/Concrete Dust/	G32-CO-06-03IN, G32-CO-07-03IN, G32-CO-08-03IN
2/Rinsate Blanks/	RB-042400, RB-042600
4/Trip Blanks/	TB-042400, TB-042500, TB-042600, TB-042700

Semivolatiles/Pesticides/PCBs:

1/Rinsate Blank/	RB-042700

Date: July 5, 2000

Tetra Tech NUS, Inc. (TtNUS) performed a modified Tier II data validation on the volatile, semivolatile, and pesticide/PCB analytical data from Project 7574, SDG GS32-CO-06-03IN, from concrete dust, sludge, and soil samples collected at the Gould Island Building 32-SI site. The samples were analyzed according to the CLP OLM04.2 Statement of Work. The data were evaluated based on the following parameters:

- Data Completeness
- * Preservation and Technical Holding Times
- * GC/MS Instrument Performance check (Tuning)
- Initial and Continuing Calibrations
- * Laboratory and Field Blank Results
- Surrogate Spike Recoveries
- Internal Standards
- Matrix Spike/Matrix Spike Duplicate Recoveries

- Field Duplicate Precision
- Compound Quantitation
- * Semivolatile and Pesticide/PCB Cleanup

* - All quality control criteria were met for this parameter.

Data Completeness

The following items were requested from the laboratory on June 21, 2000:

- Volatile Form VII for the continuing calibration standard analyzed on 4/27/00 at 03:22.
- Semivolatile Form VIIs and chromatograms for several continuing calibration standards.
- Scaled pesticide/PCB chromatograms for samples G32-DR-05 and G32-DR-09 to replace the off-scale chromatograms in the data package.

The requested information was received at TtNUS on June 29, 2000.

Volatile analysis was not listed on the chain-of-custody for sample G32-DR-08, however the laboratory did perform a volatile analysis for the sample. The results are included in the data summary tables.

Initial and Continuing Calibrations

The following tables summarize the volatile and semivolatile initial calibration (IC) and continuing calibration (CC) compounds that failed to meet the calibration criteria of %RSD < 30 and %D < 25:

Volatile

Instrument	MS5973	MS5973	MS5973	Action		Affected Samples
Compound	IC 04/27/00	IC 04/27/00	CC 05/01/00	(+)	NDs	
Acetone	%RSD 40.8	%RSD 34.6		J	UJ	G32-DR-01 through G32-DR-14, TB-042400, RB-042400, TB-042500, TB-042600, RB-042600, TB-042700, G32-DUP3, G32-DUP4, G32-CO-06-03IN, G32-CO-07-03IN, G32-CO-08-03IN
2-Butanone			%D –37.0		UJ	G32-DR-10, G32-DR-11, TB-042600, RB-042600, TB-042700, G32-DUP4
2-Hexanone			%D –38.8		UJ	G32-DR-10, G32-DR-11, TB-042600, RB-042600, TB-042700, G32-DUP4

Initial and Continuing Calibrations, cont.

Instrument	MS5973	MS5973	Action		Affected Samples
Compound	CC 04/28/00	CC 05/01/00	(+)	NDs	
2-Butanone	%D –29.0	%D –59.0	J	UJ	G32-DR-05, G32-DR-07, G32-DR-08, G32-DR-09, G32-DR-13, G32-DR-14, G32-CO-06-03IN, G32-CO-07-03IN, G32-CO-08-03IN
2-Hexanone		%D –52.5		UJ	G32-DR-09, G32-DR-14, G32-CO-06-03IN, G32-CO-07-03IN, G32-CO-08-03IN

Semivolatile

Instrument	5973/6890	Action		Affected Samples
Compound	CC 04/26/00	(+)	NDs	
Hexachlorobutadiene	%D –26.9		UJ	RB-042400
Hexachlorocyclo-pentadiene	%D 63.6		UJ	RB-042400
2,4-Dinitrophenol	%D 82.7		UJ	RB-042400
4,6-Dinitro-2-methyl-phenol	%D 55.4		UJ	RB-042400
Pentachlorophenol	%D 27.6		UJ	RB-042400
Benzo(g,h,i)perylene	%D 35.8		UJ	RB-042400

Instrument	5973/6890	5973/6890	5973/6890	Action		Affected Samples
Compound	CC 05/03/00	CC 05/04/00	CC 05/05/00	(+)	NDs	
Hexachloro-butadiene	%D –44.4	%D –47.9	%D –54.7		UJ	G32-DR-01 through G32-DR-14, RB-042600, RB-042700, G32-CO-06-03IN, G32-CO-07-03IN, G32-CO-08-03IN, G32-DUP3, G32-DUP4
Hexachloro-cyclopentadiene	%D –36.1	%D –51.0	%D –45.3		UJ	G32-DR-01 through G32-DR-14, RB-042600, RB-042700, G32-CO-06-03IN, G32-CO-07-03IN, G32-CO-08-03IN, G32-DUP3, G32-DUP4
2,4,5-Trichloro-phenol	%D –32.2				UJ	G32-DR-04, G32-DR-06, G32-DR-07, G32-DR-08, G32-DR-10, G32-DR-13, G32-DR-14, G32-DUP4, G32-CO-06-03IN, G32-CO-07-03IN, RB-042600, RB-042700

Initial and Continuing Calibrations, cont.

Instrument	5973/6890	5973/6890	5973/6890	Action		Affected Samples
Compound	CC 05/03/00	CC 05/04/00	CC 05/05/00	(+)	NDs	
4-Chlorophenyl-phenylether	%D –30.0	%D –36.4	%D –34.1		UJ	G32-DR-01 through G32-DR-14, RB-042600, RB-042700, G32-CO-06-03IN, G32-CO-07-03IN, G32-CO-08-03IN, G32-DUP3, G32-DUP4
Indeno(1,2,3-cd)-pyrene			%D –27.3		UJ	G32-CO-08-03IN, G32-DR-09
4-Chloroaniline		%D 26.1	%D 48.8		UJ	G32-DR-01, G32-DR-02, G32-DR-03, G32-DR-05, G32-DR-09, G32-DR-11, G32-DR-12, G32-DUP3, G32-CO-08-03IN
Benzo(g,h,i)-perylene			%D –26.5		UJ	G32-CO-08-03IN, G32-DR-09

Surrogate Recoveries

Volatile

Positive results other than toluene are estimated (J) in sample G32-DR-13 due to a high percent surrogate recovery. The data may be biased high. Toluene was reported from a diluted analysis and does not require qualification due to surrogate recoveries.

Semivolatile

The non-detected acid compound results in samples G32-CO-06-03IN andG32-CO-07-03IN are rejected (R) due to extremely low acid surrogate recoveries. The acid compound results may be false-negative due to a matrix effect confirmed by the laboratory.

Internal Standard Performance

Semivolatile

The recovery of internal standard acenaphthene-$_{d10}$ exceeded criteria in sample G32-DR-13. Fluorene was the only positive result associated with this internal standard, but it was reported from a diluted analysis with acceptable internal standard recoveries. Non-detected results are accepted. Therefore, action was not required.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

Volatile

All matrix spike compounds were recovered below quality control limits in the MS analysis of sample G32-DR-04. The recoveries were acceptable in the MSD analysis and the low MS recoveries did not cause the relative percent difference (RPD) criteria to be exceeded (high precision). Professional judgement was used to estimate (J/UJ) all results in the unspiked sample due to the low recoveries of all spiking compounds in the MS analysis. The %RSD of the 2-butanone results in the MS, MSD, and unspiked samples exceeded criteria. The positive 2-butanone result in the unspiked sample is estimated (J) due to poor triplicate precision also.

Pesticide/PCB

The positive alpha- and gamma-chlordane results in sample G32-DR-04 are estimated (J) since they were identified as positive results in the MS and unspiked analyses, but were non-detected in the MSD analysis. The results may be effected by interference from the PCB Aroclor 1254 present in the sample. In addition, the non-detected heptachlor epoxide result in sample G32-DR-04 is estimated (UJ) since it was non-detected in the MS and unspiked samples, but detected in the MSD sample. The results may also be effected by interference from the Aroclor 1254 present in the sample.

Field Duplicate Precision

Semivolatile

Professional judgement was used to estimate (J) the positive results for fluoranthene and pyrene, and the positive and non-detected (J/UJ) results for benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene in the field duplicate pair G32-DR-10/G32-DUP4. The results for these compounds were either less than the reporting limit or non-detected in G32-DR-10, while present at levels well over the reporting limit in the duplicate sample. The matrix (sludge) and differing percent moisture values may be effecting field duplicate precision.

Pesticide/PCB

The positive results for dieldrin, 4,4'-DDE, 4,4'-DDT, Aroclor 1254, and Arolcor 1260 are estimated (J) in the field duplicate pair G32-DR-02/G32-DUP3 due to RPD values greater than 50%. The presence of high concentrations of PCBs in these samples may be causing interference in the quantitations.

Compound Quantitation

The following sludge samples have percent solid values less than 30%:

- G32-DR-07
- G32-DR-08
- G32-DR-09
- G32-DR-10
- G32-DR-14

The positive and non-detected semivolatile and pesticide/PCB results for these samples are estimated (J/UJ). The data may be biased low. An alternative extraction procedure should be used for these sludge samples. The laboratory analyzed volatile sludge samples G32-DR-10, G32-DR-11 and G32-DUP4 as aqueous samples. Action is not required.

The positive bis(2-ethylhexyl)phthalate result in sample G32-DR-09 exceeds the instrument calibration range and is estimated (J). The data may be biased low.

The positive Aroclor 1254 result in sample G32-DR-12 is estimated (J) due to co-elution with 4,4'-DDT. The laboratory quantitated both compounds using a peak in common. The Aroclor 1254 result may be biased high. The 4,4'-DDT result was reported from the second column, and was not quantitated with co-eluting peaks. Therefore, action is not applied to that result.

The positive Aroclor 1254 and 4,4'-DDT, and the positive dieldrin and Aroclor 1260 results in sample G32-DUP are estimated (J) due to co-elution, as above. The data are biased high.

Overall Assessment

The data are acceptable for use as qualified. Several volatile and semivolatile results were estimated (J/UJ) due to instrument calibration variability. Positive volatile results other than toluene are estimated (J) in sample G32-DR-13 due to a high percent surrogate recovery. The results may be biased high. The non-detected acid compound results in samples G32-CO-06-03IN and G32-CO-07-03IN are rejected (R) due to extremely low acid surrogate recoveries. The data may be biased low. The positive and non-detected volatile results in sample G32-DR-04 are estimated (J/UJ) due to poor matrix spike recovery. The data may be biased low. The positive alpha- and gamma-chlordane results, and the non-detected heptachlor epoxide results in sample G32-DR-04 are estimated (J/UJ) due to poor MS/MSD and unspiked sample triplicate precision. The positive results for dieldrin, 4,4'-DDE, 4,4'-DDT, Aroclor 1254, and Aroclor 1260 are estimated (J) in samples G32-DR-02 and G32-DUP3 due to poor field duplicate precision. The high concentration of PCBs in the samples may be interfering with quantitation. The positive results for fluoranthene and pyrene, and the non-detected

results for benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene are estimated (J/UJ) in samples G32-DR-10 and G32-DUP4 due to poor field duplicate precision resulting from sample heterogeneity. The positive Aroclor 1254 result in sample G32-DR-12, and the positive results for Aroclor 1254, 4,4'-DDT, Aroclor 1260, and dieldrin in sample G32-DUP3 are estimated due to co-elution. The data may be biased high. The positive and non-detected semivolatile and pesticide/PCB results in samples G32-DR-07, G32-DR-08, G32-DR-09, G32-DR-10, and G32-DR-14 are estimated (J/UJ) due to low percent solid content of the samples. The data may be biased low. An alternative extraction procedure may be necessary for these sludge samples. The positive bis(2-ethylhexyl)phthalate result in sample G32-DR-09 exceeds the instrument calibration range and is estimated (J). The data may be biased low.

Soil, Concrete Dust, and Sludge Volatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04	
Station Location	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04	
Date Sampled	4/26/00		4/27/00		4/27/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Extracted														
Date Analyzed	5/1/00		5/1/00		5/1/00		4/28/00		4/28/00		4/28/00		4/28/00	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids	96.3		93.4		93.2		66.5		59.5		58.6		81.9	
QC Identifier	None		None		None		None		Field Dup. G32-DR-02		None		None	
Dichlorodifluoromethane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Chloromethane	11	U	12	U	15	U	14	U	21		18	U	11	UJ
Vinyl Chloride	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Bromomethane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Chloroethane	11	U	12	U	15	U	14	U	6	J	18	U	11	UJ
Trichlorofluoromethane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
1,1-Dichloroethene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Acetone	31	J	24	J	53	J	97	J	290	J	170	J	110	J
Carbon Disulfide	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Methyl Acetate	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Methylene Chloride	8	J	4	J	6	J	3	J	2	J	18	U	11	UJ
trans-1,2-Dichloroethene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Methyl tert-Butyl Ether	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
1,1-Dichloroethane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
cis-1,2-Dichloroethene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
2-Butanone	11	UJ	12	UJ	20	J	14	U	70		33		37	J
Chloroform	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
1,1,1-Trichloroethane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Cyclohexane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Carbon Tetrachloride	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Benzene	11	U	12	U	15	U	14	U	18	U	3	J	6	J
1,2-Dichloroethane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Trichloroethene	11	U	12	U	15	U	14	U	18	U	5	J	48	J
Methylcyclohexane	11	U	12	U	2	J	14	U	18	U	18	U	11	UJ
1,2-Dichloropropane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Bromodichloromethane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
cis-1,3-Dichloropropene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
4-Methyl-2-Pentanone	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Toluene	11	U	12	U	7	J	14	U	18	U	2	J	1	J
trans-1,3-Dichloropropene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
1,1,2-Trichloroethane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Tetrachloroethene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
2-Hexanone	11	UJ	12	UJ	15	UJ	14	U	18	U	18	U	11	UJ
Dibromochloromethane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
1,2-Dibromoethane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Concrete Dust, and Sludge Volatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04	
Station Location	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04	
Date Sampled	4/26/00		4/27/00		4/27/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Extracted														
Date Analyzed	5/1/00		5/1/00		5/1/00		4/28/00		4/28/00		4/28/00		4/28/00	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids	96.3		93.4		93.2		66.5		59.5		58.6		81.9	
QC Identifier	None		None		None		None		Field Dup. G32-DR-02		None		None	
Chlorobenzene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Ethylbenzene	11	U	12	U	2	J	14	U	18	U	18	U	11	UJ
Total Xylenes	11	U	3	J	10	J	14	U	18	U	18	U	11	UJ
Styrene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Bromoform	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
Isopropylbenzene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
1,1,2,2-Tetrachloroethane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
1,3-Dichlorobenzene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
1,4-Dichlorobenzene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
1,2-Dichlorobenzene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
1,2-Dibromo-3-chloropropane	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ
1,2,4-Trichlorobenzene	11	U	12	U	15	U	14	U	18	U	18	U	11	UJ

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Concrete Dust, and Sludge Volatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DR-05		G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-12		G32-DR-13		G32-DR-14		G32-DUP3	
Station Location	G32-DR-05		G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-12		G32-DR-13		G32-DR-14		G32-DUP3	
Date Sampled	4/24/00		4/24/00		4/25/00		4/25/00		4/26/00		4/24/00		4/25/00		4/25/00		4/24/00	
Date Extracted																		
Date Analyzed	4/28/00		4/28/00		4/28/00		4/28/00		5/1/00		4/28/00		4/28/00		5/1/00		4/28/00	
Dilution Factor	1		1		1		1		1		1		1		1		1	
Percent Solids	62.2		75.9		21.1		27.9		11.1		55.9		61.1		28.5		65.3	
QC Identifier	None		None		None		None		None		None		None		None		Field Dup. G32-DR-02	
Dichlorodifluoromethane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Chloromethane	7	J	11	U	70	U	34	U	140	U	19	U	13	U	47	U	25	
Vinyl Chloride	16	U	11	U	70	U	34	U	140	U	19	U	5	J	47	U	17	U
Bromomethane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Chloroethane	4	J	11	U	70	U	34	U	140	U	19	U	13	U	47	U	7	J
Trichlorofluoromethane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
1,1-Dichloroethene	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
1,1,2-Trichloro-1,2,2-trifluoroethane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Acetone	170	J	38	J	210	J	73	J	210	J	120	J	150	J	130	J	260	J
Carbon Disulfide	3	J	11	U	150		34	U	32	J	19	U	46	J	45	J	17	U
Methyl Acetate	16	U	11	U	70	U	35	U	140	U	19	U	13	U	47	U	17	U
Methylene Chloride	6	J	2	J	12	J	7	J	150		3	J	2	J	9	J	2	J
trans-1,2-Dichloroethene	16	U	11	U	70	U	34	J	140	U	19	U	13	U	47	U	17	U
Methyl tert-Butyl Ether	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
1,1-Dichloroethane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
cis-1,2-Dichloroethene	16	U	11	U	11	J	28	J	140	U	19	U	11	J	47	U	17	U
2-Butanone	26	J	11	U	70	UJ	29	J	140	UJ	21		64	J	47	UJ	79	
Chloroform	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
1,1,1-Trichloroethane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Cyclohexane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Carbon Tetrachloride	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Benzene	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
1,2-Dichloroethane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Trichloroethene	16	U	11	U	250		69		140	U	19	U	13	U	47	U	17	U
Methylcyclohexane	16	U	11	U	70	U	34	U	140	U	19	U	12	J	47	U	17	U
1,2-Dichloropropane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Bromodichloromethane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
cis-1,3-Dichloropropene	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
4-Methyl-2-Pentanone	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Toluene	16	U	11	U	70	U	34	U	140	U	19	U	7700	*	7	J	17	U
trans-1,3-Dichloropropene	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
1,1,2-Trichloroethane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Tetrachloroethene	16	U	11	U	70	U	34	U	140	U	19	U	40	J	47	U	17	U
2-Hexanone	16	U	11	U	70	U	34	U	140	UJ	19	U	13	U	47	UJ	17	U
Dibromochloromethane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
1,2-Dibromoethane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Concrete Dust, and Sludge Volatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DR-05		G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-12		G32-DR-13		G32-DR-14		G32-DUP3	
Station Location	G32-DR-05		G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-12		G32-DR-13		G32-DR-14		G32-DUP3	
Date Sampled	4/24/00		4/24/00		4/25/00		4/25/00		4/26/00		4/24/00		4/25/00		4/25/00		4/24/00	
Date Extracted																		
Date Analyzed	4/28/00		4/28/00		4/28/00		4/28/00		5/1/00		4/28/00		4/28/00		5/1/00		4/28/00	
Dilution Factor	1		1		1		1		1		1		1		1		1	
Percent Solids	62.2		75.9		21.1		27.9		11.1		55.9		61.1		28.5		65.3	
QC Identifier	None		None		None		None		None		None		None		None		Field Dup. G32-DR-02	
Chlorobenzene	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Ethylbenzene	16	U	11	U	70	U	34	U	140	U	19	U	2	J	6	J	17	U
Total Xylenes	16	U	11	U	70	U	34	U	140	U	19	U	14	J	29	J	17	U
Styrene	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Bromoform	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
Isopropylbenzene	16	U	11	U	70	U	34	U	140	U	19	U	4	J	47	U	17	U
1,1,2,2-Tetrachloroethane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
1,3-Dichlorobenzene	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
1,4-Dichlorobenzene	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
1,2-Dichlorobenzene	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
1,2-Dibromo-3-chloropropane	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U
1,2,4-Trichlorobenzene	16	U	11	U	70	U	34	U	140	U	19	U	13	U	47	U	17	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Aqueous Volatile Organic Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DR-10		G32-DR-11		G32-DUP4		RB-042400		RB-042600		TB-042400		TB-042500	
Station Location	G32-DR-10		G32-DR-11		G32-DUP4		RB-042400		RB-042600		TB-042400		TB-042500	
Date Sampled	4/26/00		4/26/00		4/26/00		4/24/00		4/26/00		4/24/00		4/25/00	
Date Extracted														
Date Analyzed	5/1/00		5/1/00		5/1/00		4/27/00		5/1/00		4/27/00		4/29/00	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids														
QC Identifier	Field Dup. G32-DR-10		None		Field Dup. G32-DR-10		Rinsate Blank		Rinsate Blank		Trip Blank		Trip Blank	
Dichlorodifluoromethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Chloromethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Vinyl Chloride	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Trichlorofluoromethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acetone	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
Carbon Disulfide	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl Acetate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methylene Chloride	10	U	10	U	10	U	10	U	10	U	10	U	10	U
trans-1,2-Dichloroethene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methyl tert-Butyl Ether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
cis-1,2-Dichloroethene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Butanone	10	UJ	10	UJ	10	UJ	10	U	10	UJ	10	U	10	U
Chloroform	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Cyclohexane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon Tetrachloride	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Trichloroethene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Methylcyclohexane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Methyl-2-Pentanone	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Toluene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone	10	UJ	10	UJ	10	UJ	10	U	10	UJ	10	U	10	U
Dibromochloromethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromoethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Aqueous Volatile Organic Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DR-10		G32-DR-11		G32-DUP4		RB-042400		RB-042600		TB-042400		TB-042500	
Station Location	G32-DR-10		G32-DR-11		G32-DUP4		RB-042400		RB-042600		TB-042400		TB-042500	
Date Sampled	4/26/00		4/26/00		4/26/00		4/24/00		4/26/00		4/24/00		4/25/00	
Date Extracted														
Date Analyzed	5/1/00		5/1/00		5/1/00		4/27/00		5/1/00		4/27/00		4/29/00	
Dilution Factor	1		1		1		1		1		1		1	
Percent Solids														
QC Identifier	Field Dup. G32-DR-10		None		Field Dup. G32-DR-10		Rinsate Blank		Rinsate Blank		Trip Blank		Trip Blank	
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Ethylbenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Total Xylenes	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Styrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Isopropylbenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dibromo-3-chloropropane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Aqueous Volatile Organic Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	TB-042600		TB-042700	
Station Location	TB-042600		TB-042700	
Date Sampled	4/26/00		4/27/00	
Date Extracted				
Date Analyzed	5/1/00		5/1/00	
Dilution Factor	1		1	
Percent Solids				
QC Identifier	Trip Blank		Trip Blank	
Dichlorodifluoromethane	10	U	10	U
Chloromethane	10	U	10	U
Vinyl Chloride	10	U	10	U
Bromomethane	10	U	10	U
Chloroethane	10	U	10	U
Trichlorofluoromethane	10	U	10	U
1,1-Dichloroethene	10	U	10	U
1,1,2-Trichloro-1,2,2-trifluoroethane	10	U	10	U
Acetone	10	UJ	10	UJ
Carbon Disulfide	10	U	10	U
Methyl Acetate	10	U	10	U
Methylene Chloride	10	U	10	U
trans-1,2-Dichloroethene	10	U	10	U
Methyl tert-Butyl Ether	10	U	10	U
1,1-Dichloroethane	10	U	10	U
cis-1,2-Dichloroethene	10	U	10	U
2-Butanone	10	UJ	10	UJ
Chloroform	10	U	10	U
1,1,1-Trichloroethane	10	U	10	U
Cyclohexane	10	U	10	U
Carbon Tetrachloride	10	U	10	U
Benzene	10	U	10	U
1,2-Dichloroethane	10	U	10	U
Trichloroethene	10	U	10	U
Methylcyclohexane	10	U	10	U
1,2-Dichloropropane	10	U	10	U
Bromodichloromethane	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U
4-Methyl-2-Pentanone	10	U	10	U
Toluene	10	U	10	U
trans-1,3-Dichloropropene	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U
Tetrachloroethene	10	U	10	U
2-Hexanone	10	UJ	10	UJ
Dibromochloromethane	10	U	10	U
1,2-Dibromoethane	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Aqueous Volatile Organic Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	TB-042600		TB-042700	
Station Location	TB-042600		TB-042700	
Date Sampled	4/26/00		4/27/00	
Date Extracted				
Date Analyzed	5/1/00		5/1/00	
Dilution Factor	1		1	
Percent Solids				
QC Identifier	Trip Blank		Trip Blank	
Chlorobenzene	10	U	10	U
Ethylbenzene	10	U	10	U
Total Xylenes	10	U	10	U
Styrene	10	U	10	U
Bromoform	10	U	10	U
Isopropylbenzene	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U
1,2-Dibromo-3-chloropropane	10	U	10	U
1,2,4-Trichlorobenzene	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Dust Semivolatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05	
Station Location	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05	
Date Sampled	4/26/00		4/27/00		4/27/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Extracted	5/2/00		5/1/00		5/1/00		5/1/00		5/1/00		5/1/00		5/1/00		5/1/00	
Date Analyzed	5/3/00		5/3/00		5/5/00		5/4/00		5/4/00		5/4/00		5/4/00		5/4/00	
Dilution Factor	1		1		1		1		1		1		1		1	
Percent Solids	96.3		93.4		93.2		66.5		59.5		58.6		81.9		62.2	
QC Identifier	None		None		None		None		Field Dup. G32-DR-02		None		None		None	
Benzaldehyde	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Phenol		R		R	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Bis(2-Chloroethyl)ether	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
2-Chlorophenol		R		R	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
2-Methylphenol		R		R	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
2,2'-oxybis(1-Chloropropane)	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Acetophenone	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
4-Methylphenol		R		R	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
N-Nitroso-di-n-propylamine	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Hexachloroethane	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Nitrobenzene	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Isophorone	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
2-Nitrophenol		R		R	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
2,4-Dimethylphenol		R		R	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Bis(2-Chloroethoxy)methane	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
2,4-Dichlorophenol		R		R	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Naphthalene	360	U	360	U	11000	U	1000	J	5800	U	2600	J	770	J	4100	J
4-Chloroaniline	360	U	360	U	11000	UJ	5100	UJ	5800	UJ	6100	UJ	4100	U	5300	UJ
Hexachlorobutadiene	360	UJ	360	UJ	11000	UJ	5100	UJ	5800	UJ	6100	UJ	4100	UJ	5300	UJ
Caprolactam	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
4-Chloro-3-methylphenol		R		R	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
2-Methylnaphthalene	150	J	360	U	11000	U	5100	U	5800	U	1300	J	4100	U	2400	J
Hexachlorocyclopentadiene	360	UJ	360	UJ	11000	UJ	5100	UJ	5800	UJ	6100	UJ	4100	UJ	5300	UJ
2,4,6-Trichlorophenol		R		R	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
2,4,5-Trichlorophenol		R		R	27000	U	13000	U	15000	U	15000	U	10000	UJ	13000	U
1,1'-Biphenyl	43	J	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	820	J
2-Chloronaphthalene	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
2-Nitroaniline	900	U	900	U	27000	U	13000	U	15000	U	15000	U	10000	U	13000	U
Dimethylphthalate	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
2,6-Dinitrotoluene	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Acenaphthylene	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	1800	J
3-Nitroaniline	900	U	900	U	27000	U	13000	U	15000	U	15000	U	10000	U	13000	U
Acenaphthene	360	U	360	U	11000	U	3100	J	5800	U	6200		750	J	9700	
2,4-Dinitrophenol		R		R	27000	U	13000	U	15000	U	15000	U	10000	U	13000	U
4-Nitrophenol		R		R	27000	U	13000	U	15000	U	15000	U	10000	U	13000	U
Dibenzofuran	360	U	360	U	11000	U	1400	J	5800	U	2800	J	540	J	9800	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Dust Semivolatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05	
Station Location	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05	
Date Sampled	4/26/00		4/27/00		4/27/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Extracted	5/2/00		5/1/00		5/1/00		5/1/00		5/1/00		5/1/00		5/1/00		5/1/00	
Date Analyzed	5/3/00		5/3/00		5/5/00		5/4/00		5/4/00		5/4/00		5/4/00		5/4/00	
Dilution Factor	1		1		1		1		1		1		1		1	
Percent Solids	96.3		93.4		93.2		66.5		59.5		58.6		81.9		62.2	
QC Identifier	None		None		None		None		Field Dup. G32-DR-02		None		None		None	
2,4-Dinitrotoluene	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Diethylphthalate	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Fluorene	360	U	360	U	11000	U	2100	J	5800	U	4600	J	680	J	12000	
4-Chlorophenyl-phenylether	360	UJ	360	UJ	11000	UJ	5100	UJ	5800	UJ	6100	UJ	4100	UJ	5300	UJ
4-Nitroaniline	900	U	900	U	27000	U	13000	U	15000	U	15000	U	10000	U	13000	U
4,6-Dinitro-2-methylphenol		R		R	27000	U	13000	U	15000	U	15000	U	10000	U	13000	U
N-Nitroso-diphenylamine	360	U	56	J	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
4-Bromophenyl-phenylether	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Hexachlorobenzene	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Atrazine	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Pentachlorophenol		R		R	27000	U	13000	U	15000	U	15000	U	10000	U	13000	U
Phenanthrene	88	J	85	J	11000	U	34000		6000		51000	*	12000		260000	*
Anthracene	360	U	360	U	11000	U	6000		1000	J	10000		2200	J	85000	
Carbazole	360	U	360	U	11000	U	5200		590	J	6100		1400	J	36000	
Di-n-Butylphthalate	41	J	17000	*	11000	U	1100	J	5800	U	6500		4100	U	5300	U
Fluoranthene	130	J	130		11000	U	51000	*	7600		53000	*	22000		550000	*
Pyrene	91	J	110	J	11000	U	40000		6800		45000	*	17000		470000	*
Butylbenzylphthalate	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
3,3'-Dichlorobenzidine	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Benzo(a)anthracene	51	J	55	J	11000	U	18000		2900	J	19000		7600		220000	*
Chrysene	72	J	67	J	11000	U	20000		4100	J	20000		8300		230000	*
bis(2-Ethylhexyl)phthalate	360	U	360	U	11000	U	7900		5800	U	39000	*	520	J	5300	U
Di-n-octylphthalate	360	U	360	U	11000	U	5100	U	5800	U	6100	U	4100	U	5300	U
Benzo(b)fluoranthene	55	J	49	J	11000	U	21000		4000	J	17000		6200		150000	*
Benzo(k)fluoranthene	54	J	47	J	11000	U	16000		3300	J	16000		7000		140000	*
Benzo(a)pyrene	57	J	54	J	11000	U	19000		3200	J	17000		6200		150000	*
Indeno(1,2,3-cd)pyrene	360	U	360	U	11000	UJ	10000		770	J	5100	J	2400	J	32000	
Dibenzo(a,h)anthracene	360	U	360	U	11000	U	4600	J	5800	U	2900	J	1200	J	17000	
Benzo(g,h,i)perylene	360	U	360	U	11000	UJ	9700		720	J	5500	J	2300	J	27000	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Dust Semivolatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-10		G32-DR-11		G32-DR-12		G32-DR-13		G32-DR-14	
Station Location	G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-10		G32-DR-11		G32-DR-12		G32-DR-13		G32-DR-14	
Date Sampled	4/24/00		4/25/00		4/25/00		4/26/00		4/26/00		4/26/00		4/24/00		4/25/00		4/25/00	
Date Extracted	5/1/00		5/2/00		5/2/00		5/2/00		5/2/00		5/2/00		5/1/00		5/2/00		5/2/00	
Date Analyzed	5/3/00		5/3/00		5/3/00		5/5/00		5/3/00		5/4/00		5/4/00		5/4/00		5/3/00	
Dilution Factor	1		1		1		1		1		1		1		1		1	
Percent Solids	75.9		21.1		27.9		11.1		28.8		32.9		55.9		61.1		28.5	
QC Identifier	None		None		None		None		Field Dup. G32-DR-10		None		None		None		None	
Benzaldehyde	1700	J	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Phenol	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Bis(2-Chloroethyl)ether	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
2-Chlorophenol	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
2-Methylphenol	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
2,2'-oxybis(1-Chloropropane)	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Acetophenone	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
4-Methylphenol	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
N-Nitroso-di-n-propylamine	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Hexachloroethane	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Nitrobenzene	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Isophorone	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
2-Nitrophenol	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
2,4-Dimethylphenol	4500	U	1500	UJ	1200	UJ	1300	J	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Bis(2-Chloroethoxy)methane	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
2,4-Dichlorophenol	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Naphthalene	4500	U	1500	UJ	1200	UJ	39000	*J	1100	UJ	3600		1200	J	2800	U	1200	UJ
4-Chloroaniline	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	UJ	6100	UJ	2800	U	1200	UJ
Hexachlorobutadiene	4500	UJ	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	UJ	6100	UJ	2800	UJ	1200	UJ
Caprolactam	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
4-Chloro-3-methylphenol	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
2-Methylnaphthalene	4500	U	1500	UJ	1200	UJ	18000	J	1100	UJ	1200		1000	J	16000		1200	UJ
Hexachlorocyclopentadiene	4500	UJ	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	UJ	6100	UJ	2800	UJ	1200	UJ
2,4,6-Trichlorophenol	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
2,4,5-Trichlorophenol	11000	UJ	3900	UJ	2900	UJ	15000	UJ	2900	UJ	2700	U	15000	U	6900	UJ	2900	UJ
1,1'-Biphenyl	4500	U	1500	UJ	1200	UJ	5200	J	1100	UJ	330	J	6100	U	2800	U	1200	UJ
2-Chloronaphthalene	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
2-Nitroaniline	11000	U	3900	UJ	2900	UJ	15000	UJ	2900	UJ	2700	U	15000	U	6900	U	2900	UJ
Dimethylphthalate	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
2,6-Dinitrotoluene	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Acenaphthylene	4500	U	1500	UJ	1200	UJ	39000	J	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
3-Nitroaniline	11000	U	3900	UJ	2900	UJ	15000	UJ	2900	UJ	2700	U	15000	U	6900	U	2900	UJ
Acenaphthene	4500	U	1500	UJ	1200	UJ	71000	*J	1100	UJ	1800		4700	J	2800	U	1200	UJ
2,4-Dinitrophenol	11000	U	3900	UJ	2900	UJ	15000	UJ	2900	UJ	2700	U	15000	U	6900	U	2900	UJ
4-Nitrophenol	11000	U	3900	UJ	2900	UJ	15000	UJ	2900	UJ	2700	U	15000	U	6900	U	2900	UJ
Dibenzofuran	4500	U	1500	UJ	1200	UJ	38000	*J	1100	UJ	2400		3400	J	2800	U	1200	UJ

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Dust Semivolatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-10		G32-DR-11		G32-DR-12		G32-DR-13		G32-DR-14	
Station Location	G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-10		G32-DR-11		G32-DR-12		G32-DR-13		G32-DR-14	
Date Sampled	4/24/00		4/25/00		4/25/00		4/26/00		4/26/00		4/26/00		4/24/00		4/25/00		4/25/00	
Date Extracted	5/1/00		5/2/00		5/2/00		5/2/00		5/2/00		5/2/00		5/1/00		5/2/00		5/2/00	
Date Analyzed	5/3/00		5/3/00		5/3/00		5/5/00		5/3/00		5/4/00		5/4/00		5/4/00		5/3/00	
Dilution Factor	1		1		1		1		1		1		1		1		1	
Percent Solids	75.9		21.1		27.9		11.1		28.8		32.9		55.9		61.1		28.5	
QC Identifier	None		None		None		None		Field Dup. G32-DR-10		None		None		None		None	
2,4-Dinitrotoluene	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Diethylphthalate	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Fluorene	4500	U	1500	UJ	1200	UJ	64000	*J	1100	UJ	1600		5500	J	1400	J	1200	UJ
4-Chlorophenyl-phenylether	4500	UJ	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	UJ	6100	UJ	2800	UJ	1200	UJ
4-Nitroaniline	11000	U	3900	UJ	2900	UJ	15000	UJ	2900	UJ	2700	U	15000	U	6900	U	2900	UJ
4,6-Dinitro-2-methylphenol	11000	U	3900	UJ	2900	UJ	15000	UJ	2900	UJ	2700	U	15000	U	6900	U	2900	UJ
N-Nitroso-diphenylamine	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
4-Bromophenyl-phenylether	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Hexachlorobenzene	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Atrazine	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Pentachlorophenol	11000	U	3900	UJ	2900	UJ	15000	UJ	2900	UJ	2700	U	15000	U	6900	U	2900	UJ
Phenanthrene	810	J	780	J	1200	UJ	600000	*J	1100	UJ	35000	*	44000		13000		1000	J
Anthracene	4500	U	170	J	1200	UJ	220000	*J	1100	UJ	6300		11000		1600	J	240	J
Carbazole	4500	U	1500	UJ	1200	UJ	61000	*J	1100	UJ	3200		4900	J	2800	U	1200	UJ
Di-n-Butylphthalate	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	300	J	1200	UJ
Fluoranthene	1700	J	1200	J	1200	UJ	1500000	*J	120	J	43000	*	46000		12000		1400	J
Pyrene	1400	J	1000	J	1200	UJ	1200000	*J	110	J	33000	*	33000		12000		1200	J
Butylbenzylphthalate	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
3,3'-Dichlorobenzidine	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Benzo(a)anthracene	700	J	460	J	1200	UJ	620000	*J	1100	UJ	15000	*	16000		5200		580	J
Chrysene	1100	J	480	J	1200	UJ	520000	*J	1100	UJ	15000	*	15000		6700		650	J
bis(2-Ethylhexyl)phthalate	160000	*	1500	UJ	1200	UJ	51000	J	1100	UJ	1100	U	780	J	1100	J	1200	UJ
Di-n-octylphthalate	4500	U	1500	UJ	1200	UJ	5800	UJ	1100	UJ	1100	U	6100	U	2800	U	1200	UJ
Benzo(b)fluoranthene	590	J	270	J	1200	UJ	370000	*J	1100	UJ	7500	*	13000		7500		520	J
Benzo(k)fluoranthene	710	J	320	J	1200	UJ	400000	*J	1100	UJ	9000	*	13000		5100		480	J
Benzo(a)pyrene	600	J	320	J	1200	UJ	490000	*J	1100	UJ	8500	*	14000		6300		530	J
Indeno(1,2,3-cd)pyrene	4500	U	1500	UJ	1200	UJ	190000	*J	1100	UJ	2300		4000	J	3000		240	J
Dibenzo(a,h)anthracene	4500	U	1500	UJ	1200	UJ	38000	J	1100	UJ	1300		2300	J	1300	J	120	J
Benzo(g,h,i)perylene	4500	U	1500	UJ	1200	UJ	170000	*J	1100	UJ	1900		3700	J	3000		250	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Dust Semivolatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DUP3		G32-DUP4	
Station Location	G32-DUP3		G32-DUP4	
Date Sampled	4/24/00		4/26/00	
Date Extracted	5/1/00		5/2/00	
Date Analyzed	5/4/00		5/3/00	
Dilution Factor	1		1	
Percent Solids	65.3		40.4	
QC Identifier	Field Dup. G32-DR-02		Field Dup. G32-DR-10	
Benzaldehyde	2700	U	860	U
Phenol	2700	U	860	U
Bis(2-Chloroethyl)ether	2700	U	860	U
2-Chlorophenol	2700	U	860	U
2-Methylphenol	2700	U	860	U
2,2'-oxybis(1-Chloropropane)	2700	U	860	U
Acetophenone	2700	U	860	U
4-Methylphenol	2700	U	860	U
N-Nitroso-di-n-propylamine	2700	U	860	U
Hexachloroethane	2700	U	860	U
Nitrobenzene	2700	U	860	U
Isophorone	2700	U	860	U
2-Nitrophenol	2700	U	860	U
2,4-Dimethylphenol	2700	U	860	U
Bis(2-Chloroethoxy)methane	2700	U	860	U
2,4-Dichlorophenol	2700	U	860	U
Naphthalene	2700	U	860	U
4-Chloroaniline	2700	UJ	860	U
Hexachlorobutadiene	2700	UJ	860	UJ
Caprolactam	2700	U	860	U
4-Chloro-3-methylphenol	2700	U	860	U
2-Methylnaphthalene	2700	U	860	U
Hexachlorocyclopentadiene	2700	UJ	860	UJ
2,4,6-Trichlorophenol	2700	U	860	U
2,4,5-Trichlorophenol	6800	UJ	2100	UJ
1,1'-Biphenyl	2700	U	860	U
2-Chloronaphthalene	2700	U	860	U
2-Nitroaniline	6800	U	2100	U
Dimethylphthalate	2700	U	860	U
2,6-Dinitrotoluene	2700	U	860	U
Acenaphthylene	2700	U	190	J
3-Nitroaniline	6800	U	2100	U
Acenaphthene	530	J	860	U
2,4-Dinitrophenol	6800	U	2100	U
4-Nitrophenol	6800	U	2100	U
Dibenzofuran	360	J	860	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Soil, Sludge, and Concrete Dust Semivolatile Organic Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DUP3		G32-DUP4	
Station Location	G32-DUP3		G32-DUP4	
Date Sampled	4/24/00		4/26/00	
Date Extracted	5/1/00		5/2/00	
Date Analyzed	5/4/00		5/3/00	
Dilution Factor	1		1	
Percent Solids	65.3		40.4	
QC Identifier	Field Dup. G32-DR-02		Field Dup. G32-DR-10	
2,4-Dinitrotoluene	2700	U	860	U
Diethylphthalate	2700	U	860	U
Fluorene	530	J	860	U
4-Chlorophenyl-phenylether	2700	UJ	860	UJ
4-Nitroaniline	6800	U	2100	U
4,6-Dinitro-2-methylphenol	6800	U	2100	U
N-Nitroso-diphenylamine	2700	U	860	U
4-Bromophenyl-phenylether	2700	U	860	U
Hexachlorobenzene	2700	U	860	U
Atrazine	2700	U	860	U
Pentachlorophenol	6800	U	2100	U
Phenanthrene	5700		490	J
Anthracene	1100	J	180	J
Carbazole	540	J	860	U
Di-n-Butylphthalate	520	J	860	U
Fluoranthene	7700		1400	J
Pyrene	4700		1100	J
Butylbenzylphthalate	2700	U	860	U
3,3'-Dichlorobenzidine	2700	U	860	U
Benzo(a)anthracene	2600	J	1200	J
Chrysene	3400		1300	J
bis(2-Ethylhexyl)phthalate	2700	U	860	U
Di-n-octylphthalate	2700	U	860	U
Benzo(b)fluoranthene	3500		1300	J
Benzo(k)fluoranthene	3800		1300	J
Benzo(a)pyrene	2600	J	1200	J
Indeno(1,2,3-cd)pyrene	2700	U	640	J
Dibenzo(a,h)anthracene	2700	U	310	J
Benzo(g,h,i)perylene	2700	U	630	J

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Aqueous Semivolatile Organic Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	RB-042400		RB-042600		RB-042700	
Station Location	RB-042400		RB-042600		RB-042700	
Date Sampled	4/24/00		4/26/00		4/27/00	
Date Extracted	4/25/00		5/1/00		5/1/00	
Date Analyzed	4/26/00		5/3/00		5/3/00	
Dilution Factor	1		1		1	
Percent Solids						
QC Identifier	Rinsate Blank		Rinsate Blank		Rinsate Blank	
Benzaldehyde	10	U	10	U	10	U
Phenol	10	U	10	U	10	U
Bis(2-Chloroethyl)ether	10	U	10	U	10	U
2-Chlorophenol	10	U	10	U	10	U
2-Methylphenol	10	U	10	U	10	U
2,2'-oxybis(1-Chloropropane)	10	U	10	U	10	U
Acetophenone	10	U	10	U	10	U
4-Methylphenol	10	U	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	10	U	10	U
Hexachloroethane	10	U	10	U	10	U
Nitrobenzene	10	U	10	U	10	U
Isophorone	10	U	10	U	10	U
2-Nitrophenol	10	U	10	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U
Bis(2-Chloroethoxy)methane	10	U	10	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U
Naphthalene	10	U	10	U	10	U
4-Chloroaniline	10	U	10	U	10	U
Hexachlorobutadiene	10	UJ	10	UJ	10	UJ
Caprolactam	10	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U
2-Methylnaphthalene	10	U	10	U	10	U
Hexachlorocyclopentadiene	10	UJ	10	UJ	10	UJ
2,4,6-Trichlorophenol	10	U	10	U	10	U
2,4,5-Trichlorophenol	25	U	25	UJ	25	UJ
1,1'-Biphenyl	10	U	10	U	10	U
2-Chloronaphthalene	10	U	10	U	10	U
2-Nitroaniline	25	U	25	U	25	U
Dimethylphthalate	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U
3-Nitroaniline	25	U	25	U	25	U
Acenaphthene	10	U	10	U	10	U
2,4-Dinitrophenol	25	UJ	25	U	25	U
4-Nitrophenol	25	U	25	U	25	U
Dibenzofuran	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
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Aqueous Semivolatile Organic Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	RB-042400		RB-042600		RB-042700	
Station Location	RB-042400		RB-042600		RB-042700	
Date Sampled	4/24/00		4/26/00		4/27/00	
Date Extracted	4/25/00		5/1/00		5/1/00	
Date Analyzed	4/26/00		5/3/00		5/3/00	
Dilution Factor	1		1		1	
Percent Solids						
QC Identifier	Rinsate Blank		Rinsate Blank		Rinsate Blank	
2,4-Dinitrotoluene	10	U	10	U	10	U
Diethylphthalate	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U
4-Chlorophenyl-phenylether	10	U	10	UJ	10	UJ
4-Nitroaniline	25	U	25	U	25	U
4,6-Dinitro-2-methylphenol	25	U	25	U	25	U
N-Nitroso-diphenylamine	10	U	10	U	10	U
4-Bromophenyl-phenylether	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U
Atrazine	10	U	10	U	10	U
Pentachlorophenol	25	UJ	25	U	25	U
Phenanthrene	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U
Di-n-Butylphthalate	10	U	10	U	10	U
Fluoranthene	10	U	10	U	10	U
Pyrene	10	U	10	U	10	U
Butylbenzylphthalate	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	10	U	10	U
Benzo(a)anthracene	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U
Di-n-octylphthalate	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U
Dibenzo(a,h)anthracene	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	UJ	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Dust Pesticide/PCB Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05		G32-DR-06	
Station Location	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05		G32-DR-06	
Date Sampled	4/26/00		4/27/00		4/27/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Extracted	5/2/00		5/1/00		5/1/00		5/1/00		5/1/00		5/1/00		5/1/00		5/1/00		5/1/00	
Date Analyzed	5/17/00		5/17/00		5/17/00		5/11/00		5/17/00		5/11/00		5/17/00		5/11/00		5/11/00	
Dilution Factor	1		1		1		1		1		1		1		1		1	
Percent Solids	96.3		93.4		93.2		66.5		59.5		58.6		81.9		62.2		75.9	
QC Identifier	None		None		None		None		Field Dup. G32-DR-02		None		None		None		None	
alpha-BHC	1.8	U	1.8	U	11	U	2.4	U	2.9	U	2.8	U	2.1	U	2.8	U	2.3	U
beta-BHC	1.8	U	1.8	U	11	U	2.4	U	2.9	U	2.8	U	2.1	U	2.8	U	2.3	U
delta-BHC	1.8	U	1.8	U	11	U	2.4	U	2.9	U	2.8	U	2.1	U	2.8	U	2.3	U
gamma-BHC	1.8	U	1.8	U	11	U	2.4	U	2.9	U	2.8	U	2.1	U	2.8	U	2.3	U
Heptachlor	1.8	U	1.8	U	11	U	2.4	U	2.9	U	2.8	U	2.1	U	2.8	U	2.3	U
Aldrin	1.8	U	1.8	U	11	U	2.4	U	2.9	U	2.8	U	2.1	U	2.8	U	2.3	U
Heptachlor Epoxide	1.8	U	1.8	U	11	U	2.4	U	2.9	U	2.8	U	2.1	UJ	2.8	U	2.3	U
Endosulfan I	1.8	U	1.8	U	11	U	2.4	U	2.9	U	2.8	U	2.1	U	2.8	U	2.3	U
Dieldrin	3.6	U	3.7	U	22	U	28		17	J	5.7	U	4.3	U	5.5	U	8.7	
4,4'-DDE	3.6	U	3.7	U	22	U	260	*	61	J	13		30		5.5	U	43	
Endrin	3.6	U	3.7	U	22	U	4.9	U	5.9	U	5.7	U	4.3	U	5.5	U	4.6	U
Endosulfan II	3.6	U	3.7	U	22	U	4.9	U	5.9	U	6.0		4.3	U	5.5	U	4.6	U
4,4'-DDD	3.6	U	3.7	U	22	U	4.9	U	5.9	U	5.7	U	8.9		5.5	U	18	
Endosulfan Sulfate	3.6	U	3.7	U	22	U	4.9	U	5.9	U	5.7	U	4.3	U	5.5	U	4.6	U
4,4'-DDT	3.6	U	4.1		22	U	200	*	230	*J	72		82	*	5.5	U	55	
Methoxychlor	18	U	18	U	110	U	24	U	30	U	28	U	21	U	28	U	23	U
Endrin Ketone	3.6	U	3.7	U	22	U	4.9	U	5.9	U	5.7	U	4.3	U	5.5	U	4.6	U
Endrin Aldehyde	3.6	U	3.7	U	22	U	4.9	U	5.9	U	5.7	U	4.3	U	5.5	U	4.6	U
alpha-Chlordane	1.8	U	1.8	U	11	U	2.4	U	2.9	U	2.8	U	27	J	2.8	U	2.3	U
gamma-Chlordane	1.8	U	1.8	U	11	U	2.4	U	2.9	U	2.8	U	18	J	2.8	U	2.3	U
Toxaphene	180	U	180	U	1100	U	240	U	300	U	280	U	210	U	280	U	230	U
Aroclor-1016	36	U	37	U	220	U	49	U	59	U	57	U	43	U	55	U	46	U
Aroclor-1221	73	U	73	U	430	U	97	U	120	U	110	U	86	U	110	U	91	U
Aroclor-1232	36	U	37	U	220	U	49	U	59	U	57	U	43	U	55	U	46	U
Aroclor-1242	36	U	37	U	220	U	49	U	59	U	57	U	43	U	55	U	46	U
Aroclor-1248	36	U	37	U	220	U	1200	*	59	U	57	U	43	U	55	U	46	U
Aroclor-1254	36	U	37	U	220	U	49	U	1400	J	150		340		55	U	320	
Aroclor-1260	36	U	37	U	220	U	49	U	1100	J	57	U	43	U	55	U	46	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Dust Pesticide/PCB Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-10		G32-DR-11		G32-DR-12		G32-DR-13		G32-DR-14		G32-DUP3	
Station Location	G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-10		G32-DR-11		G32-DR-12		G32-DR-13		G32-DR-14		G32-DUP3	
Date Sampled	4/25/00		4/25/00		4/26/00		4/26/00		4/26/00		4/24/00		4/25/00		4/25/00		4/24/00	
Date Extracted	5/2/00		5/2/00		5/2/00		5/2/00		5/2/00		5/1/00		5/2/00		5/2/00		5/1/00	
Date Analyzed	5/17/00		5/17/00		5/17/00		5/17/00		5/17/00		5/17/00		5/17/00		5/17/00		5/17/00	
Dilution Factor	1		1		1		1		1		1		1		1		1	
Percent Solids	21.1		27.9		11.1		28.8		32.9		55.9		61.1		28.5		65.3	
QC Identifier	None		None		None		Field Dup. G32-DR-10		None		None		None		None		Field Dup. G32-DR-02	
alpha-BHC	8.3	UJ	5.9	UJ	16	UJ	5.7	UJ	5.3	U	3.0	U	2.6	U	5.9	UJ	2.7	U
beta-BHC	8.3	UJ	5.9	UJ	16	UJ	5.7	UJ	5.3	U	3.0	U	2.6	U	5.9	UJ	2.7	U
delta-BHC	8.3	UJ	5.9	UJ	16	UJ	5.7	UJ	5.3	U	3.0	U	2.6	U	5.9	UJ	2.7	U
gamma-BHC	8.3	UJ	5.9	UJ	16	UJ	5.7	UJ	5.3	U	3.0	U	2.6	U	5.9	UJ	2.7	U
Heptachlor	8.3	UJ	5.9	UJ	16	UJ	5.7	UJ	5.3	U	3.0	U	2.6	U	5.9	UJ	2.7	U
Aldrin	8.3	UJ	5.9	UJ	16	UJ	5.7	UJ	5.3	U	3.0	U	2.6	U	5.9	UJ	2.7	U
Heptachlor Epoxide	8.3	UJ	5.9	UJ	16	UJ	5.7	UJ	5.3	U	3.0	U	2.6	U	5.9	UJ	2.7	U
Endosulfan I	8.3	UJ	5.9	UJ	16	UJ	5.7	UJ	5.3	U	3.0	U	2.6	U	5.9	UJ	2.7	U
Dieldrin	17	UJ	12	UJ	32	UJ	11	UJ	11	U	5.9	U	5.3	U	12	UJ	8.3	J
4,4'-DDE	17	UJ	12	UJ	32	UJ	11	UJ	11	U	18		5.3	U	12	UJ	32	J
Endrin	17	UJ	12	UJ	32	UJ	11	UJ	11	U	5.9	U	5.3	U	12	UJ	5.4	U
Endosulfan II	17	UJ	12	UJ	32	UJ	11	UJ	11	U	5.9	U	5.3	U	12	UJ	5.4	U
4,4'-DDD	17	UJ	12	UJ	32	UJ	11	UJ	11	U	5.9	U	5.3	U	12	UJ	5.4	U
Endosulfan Sulfate	17	UJ	12	UJ	32	UJ	11	UJ	11	U	5.9	U	5.3	U	12	UJ	5.4	U
4,4'-DDT	24	J	12	UJ	32	UJ	11	UJ	11	U	34		5.3	U	24	J	55	J
Methoxychlor	84	UJ	59	UJ	160	UJ	57	UJ	53	U	30	U	26	U	60	UJ	27	U
Endrin Ketone	17	UJ	12	UJ	32	UJ	11	UJ	11	U	5.9	U	5.3	U	12	UJ	5.4	U
Endrin Aldehyde	17	UJ	12	UJ	32	UJ	11	UJ	11	U	5.9	U	5.3	U	12	UJ	5.4	U
alpha-Chlordane	8.3	UJ	5.9	UJ	16	UJ	5.7	UJ	5.3	U	3.0	U	2.6	U	5.9	UJ	2.7	U
gamma-Chlordane	8.3	UJ	5.9	UJ	16	UJ	5.7	UJ	5.3	U	3.0	U	2.6	U	5.9	UJ	2.7	U
Toxaphene	840	UJ	590	UJ	1600	UJ	570	UJ	530	U	300	U	260	U	600	UJ	270	U
Aroclor-1016	170	UJ	120	UJ	320	UJ	110	UJ	110	U	59	U	53	U	120	UJ	54	U
Aroclor-1221	330	UJ	240	UJ	640	UJ	230	UJ	210	U	120	U	110	U	240	UJ	110	U
Aroclor-1232	170	UJ	120	UJ	320	UJ	110	UJ	110	U	59	U	53	U	120	UJ	54	U
Aroclor-1242	170	UJ	120	UJ	320	UJ	110	UJ	110	U	59	U	53	U	120	UJ	54	U
Aroclor-1248	170	UJ	120	UJ	320	UJ	110	UJ	110	U	59	U	53	U	120	UJ	54	U
Aroclor-1254	170	UJ	120	UJ	320	UJ	110	UJ	110	U	270	J	2300		120	UJ	830	J
Aroclor-1260	170	UJ	120	UJ	320	UJ	110	UJ	110	U	59	U	53	U	260	J	500	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Soil, Sludge, and Concrete Dust Pesticide/PCB Analysis (ug/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DUP4	
Station Location	G32-DUP4	
Date Sampled	4/26/00	
Date Extracted	5/2/00	
Date Analyzed	5/17/00	
Dilution Factor	1	
Percent Solids	40.4	
QC Identifier	Field Dup. G32-DR-10	
alpha-BHC	4.3	U
beta-BHC	4.3	U
delta-BHC	4.3	U
gamma-BHC	4.3	U
Heptachlor	4.3	U
Aldrin	4.3	U
Heptachlor Epoxide	4.3	U
Endosulfan I	4.3	U
Dieldrin	8.7	U
4,4'-DDE	8.7	U
Endrin	8.7	U
Endosulfan II	8.7	U
4,4'-DDD	8.7	U
Endosulfan Sulfate	8.7	U
4,4'-DDT	8.7	U
Methoxychlor	43	U
Endrin Ketone	8.7	U
Endrin Aldehyde	8.7	U
alpha-Chlordane	4.3	U
gamma-Chlordane	4.3	U
Toxaphene	430	U
Aroclor-1016	87	U
Aroclor-1221	170	U
Aroclor-1232	87	U
Aroclor-1242	87	U
Aroclor-1248	87	U
Aroclor-1254	87	U
Aroclor-1260	87	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Aqueous Pesticide/PCB Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	RB-042400		RB-042600		RB-042700	
Station Location	RB-042400		RB-042600		RB-042700	
Date Sampled	4/24/00		4/26/00		4/27/00	
Date Extracted	4/25/00		5/1/00		5/1/00	
Date Analyzed	4/29/00		5/3/00		5/3/00	
Dilution Factor	1		1		1	
Percent Solids						
QC Identifier	Rinsate Blank		Rinsate Blank		Rinsate Blank	
alpha-BHC	0.05	U	0.05	U	0.05	U
beta-BHC	0.05	U	0.05	U	0.05	U
delta-BHC	0.05	U	0.05	U	0.05	U
gamma-BHC	0.05	U	0.05	U	0.05	U
Heptachlor	0.05	U	0.05	U	0.05	U
Aldrin	0.05	U	0.05	U	0.05	U
Heptachlor Epoxide	0.05	U	0.05	U	0.05	U
Endosulfan I	0.05	U	0.05	U	0.05	U
Dieldrin	0.10	U	0.10	U	0.10	U
4,4'-DDE	0.10	U	0.10	U	0.10	U
Endrin	0.10	U	0.10	U	0.10	U
Endosulfan II	0.10	U	0.10	U	0.10	U
4,4'-DDD	0.10	U	0.10	U	0.10	U
Endosulfan Sulfate	0.10	U	0.10	U	0.10	U
4,4'-DDT	0.10	U	0.10	U	0.10	U
Methoxychlor	0.50	U	0.50	U	0.50	U
Endrin Ketone	0.10	U	0.10	U	0.10	U
Endrin Aldehyde	0.10	U	0.10	U	0.10	U
alpha-Chlordane	0.05	U	0.05	U	0.05	U
gamma-Chlordane	0.05	U	0.05	U	0.05	U
Toxaphene	5.0	U	5.0	U	5.0	U
Aroclor-1016	1.0	U	1.0	U	1.0	U
Aroclor-1221	2.0	U	2.0	U	2.0	U
Aroclor-1232	1.0	U	1.0	U	1.0	U
Aroclor-1242	1.0	U	1.0	U	1.0	U
Aroclor-1248	1.0	U	1.0	U	1.0	U
Aroclor-1254	1.0	U	1.0	U	1.0	U
Aroclor-1260	1.0	U	1.0	U	1.0	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

TETRA TECH NUS, INC. **INTERNAL CORRESPONDENCE**

C-Navy-7-00-1457W

Date: July 17, 2000

To: Stephen Parker c: File N7574-4.10

From: Maureen Parker MP

Subject: Inorganic Tier II Data Validation, Project 7574, SDG G32-CO-06-03IN
Accutest Laboratories
Navy CLEAN, Gould Island Building 32 SI, NETC – CTO 286
Background Soils Investigation

TAL Metals/CN:

8/Soil/	G32-DR-01, G32-DR-02, G32-DR-03, G32-DR-04, G32-DR-05, G32-DR-06, G32-DR-12, G32-DUP3 (Field Duplicate Pair: G32-DR-02/G32-DUP3)
8/Sludge/	G32-DR-07, G32-DR-08, G32-DR-09, G32-DR-10, G32-DR-11, G32-DR-13, G32-DR-14, G32-DUP4 (Field Duplicate Pair: G32-DR-10/G32-DUP4)
3/Concrete Dust/	G32-CO-06-03IN, G32-CO-07-03IN, G32-CO-08-03IN
3/Rinsate Blanks/	RB-042400, RB-042600, RB-042700

Dear Mr. Parker:

TtNUS, Inc. (TtNUS) performed a Tier II data validation on the metals/cyanide analytical data for Case 7574, SDG G32-CO-06-03IN, from soil, sludge and concrete dust samples collected at the Gould Island Building 32 site. The samples were analyzed according to the CLP ILM04.0 Statement of Work. The data were validated according to the Region I, EPA-NE Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses, modified February 1989.

The data were evaluated based on the following parameters:

- Data Completeness
- * Holding Times
- Calibration Verification
- Field and Laboratory Blank Analyses
- ICP Interference Check Sample Results
- Matrix Spike Recoveries
- * Laboratory Control Sample Results
- Laboratory Duplicate Results

- Field Duplicate Precision
- ICP Serial Dilution Results
- Detection Limits
- * Sample Quantitation

* All quality control criteria were met for this parameter.

Data Completeness

The laboratory was contacted on June 20, 2000, regarding missing sodium results on the Form Is for samples G32-DR-02 and G32-DUP3. A correction of the sample name for G32-DUP3 was also requested. The completed Form Is with the corrected sample name were received at TtNUS on June 21, 2000. Corrected forms associated with sample G32-DUP3 were received at TtNUS on July 5, 2000. The laboratory was contacted on July 6, 2000, about a typographical error on one Form XIV for sample G32-DR10. The corrected Form XIV was received at TtNUS on July 7, 2000. The laboratory was contacted on July 11, 2000 regarding the reporting of the CRDL instead of the IDL for cyanide. The laboratory responded on July 14, 2000 that the lab was in the process of changing over to reporting the IDL for cyanide but these samples were analyzed before the transition was complete.

Calibration Verification

The percent recoveries for selenium were both above the 120% quality control criterion and below the 80% quality control criterion in the CRDL standard analysis. The positive results < 3 x CRDL and non-detected results for selenium are qualified as estimated (J and UJ), respectively in affected samples. The percent recoveries for arsenic, lead, and vanadium were above the 120% quality control criterion. Positive results less than 3 x CRDL for arsenic, lead and vanadium in affected samples are qualified as estimated (J). Data may be biased high.

Field and Laboratory Blank Analyses

Soil/Sludge/Concrete Dust:

The field blanks and laboratory blank analyses were used to calculate the maximum concentrations of the following contaminants affecting the soil, sludge, and concrete dust sample results.

Analyte	Maximum Concentration (ug/L)	Action Level (mg/Kg)
Antimony	4.5	4.5
Beryllium	1.0	1.0
Cadmium	3.6	3.6
Mercury	0.2	0.2
Sodium	251	251

Blank actions were applied to affected soil, sludge and concrete dust samples for antimony, beryllium, cadmium, mercury, and sodium.

Aqueous:

The laboratory blank analyses were used to calculate the maximum concentrations of the following contaminants affecting the aqueous field blank results.

Analyte	Maximum Concentration (ug/L)	Action Level (ug/L)
Cadmium	2.9	14.5
Calcium	66.8	334
Chromium	1.0	5.0
Copper	2.6	13
Iron	59.1	295.5
Magnesium	59.2	296
Nickel	1.5	7.4
Thallium	5.9	29.5
Zinc	6.7	33.5

Blank actions were applied to the field blank samples for cadmium, calcium, chromium, copper, iron, magnesium, nickel, thallium, and zinc.

The following actions apply for blank contamination:

- Accept values > Action Level.
- Report as (U) values > 2x IDL and < Action Level. The reporting limit is the associated value.
- Report as (UJ) values < 2x IDL and < Action Level. The reporting limit is the associated estimated value.

ICP Interference Check Sample Results

The following analytes were detected in the ICSA solution at absolute levels greater than 2x IDL when these analytes were not supposed to be present in the solution: antimony, arsenic, barium, cadmium, cobalt, copper, zinc, and potassium. Estimate (J) positive results for the analytes with levels of interferents of 50% or more of that in the ICS solution and reject (R) positive results if the reported concentration is due entirely (≥ 80%) to the interfering analyte. The samples listed in the table below had iron or calcium levels greater than 50% of their respective levels in the ICSA solution. Therefore, the following actions were taken:

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Fe (ug/L)	Estimated Interference (ug/L)	Action
G32-CO-06-03IN	Antimony	5.0	101115	5.5	Reject
	Arsenic	30	101115	3.3	J
	Barium	437	101115	6.1	J
	Cadmium	97	101115	1.7	J
	Cobalt	27	101115	1.1	J
	Copper	5104	101115	-5.0	Accept
	Zinc	3308	101115	3.9	Accept
	Potassium	10737	101115	156.5	J

(Continued)

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Fe (ug/L)	Estimated Interference (ug/L)	Action
G32-DR-01	Antimony	319	261345	14.3	J
	Arsenic	34	261345	8.6	J
	Barium	4156	261345	15.7	Accept
	Cadmium	668	261345	4.3	Accept
	Cobalt	56	261345	2.9	J
	Copper	4323	261345	-12.9	Accept
	Zinc	10141	261345	10.0	Accept
	Potassium	3890	261345	404.4	J
G32-DR-02	Antimony	25	592025	32.4	Reject
	Arsenic	55	592025	19.4	J
	Barium	3987	592025	35.6	Accept
	Cadmium	283	592025	9.7	J
	Cobalt	52	592025	6.5	J
	Copper	6902	592025	-29.1	Accept
	Zinc	187128	592025	22.7	Accept
	Potassium	9104	592025	916.1	J
G32-DR-03	Antimony	1585	969830	53	J
	Arsenic	87	969830	31.8	J
	Barium	4805	969830	58.3	J
	Cadmium	3340	969830	15.9	Accept
	Cobalt	107	969830	10.6	J
	Copper	72371	969830	-47.7	Accept
	Zinc	35453	969830	37.1	Accept
	Potassium	832	969830	1500.7	Reject
G32-DR-04	Antimony	422	1367730	74.8	J
	Arsenic	171	1367730	44.9	J
	Barium	2875	1367730	82.3	J
	Cadmium	18591	1367730	22.4	Accept
	Cobalt	146	1367730	15.0	J
	Copper	5692	1367730	-67.3	J
	Zinc	11343	1367730	52.3	Accept
	Potassium	9296	1367730	2116.4	J
G32-DR-05	Antimony	6531	1172470	64.1	Accept
	Arsenic	126	1172470	38.5	J
	Barium	18940	1172470	70.5	Accept
	Cadmium	1353	1172470	19.2	J
	Cobalt	151	1172470	12.8	J
	Copper	3266	1172470	-57.7	J
	Zinc	42607	1172470	44.9	Accept
	Potassium	824	1172470	1814.2	Reject

(Continued)

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Fe (ug/L)	Estimated Interference (ug/L)	Action
G32-DR-06	Antimony	630	671715	36.7	J
	Arsenic	36	671715	22.0	J
	Barium	1590	671715	40.4	J
	Cadmium	215936	671715	11.0	Accept
	Cobalt	85	671715	7.3	J
	Copper	36204	671715	-33.1	Accept
	Zinc	8691	671715	25.7	Accept
	Potassium	18482	671715	1039.4	J
G32-DR-07	Antimony	67	331270	18.1	J
	Arsenic	23	331270	10.9	J
	Barium	1182	331270	19.9	J
	Cadmium	243	331270	5.4	J
	Cobalt	19	331270	3.6	J
	Copper	982	331270	-16.3	J
	Zinc	7828	331270	12.7	Accept
	Potassium	600	331270	512.6	Reject
G32-DR-08	Antimony	18	631935	34.6	Reject
	Arsenic	42	631935	20.7	J
	Barium	1604	631935	38	J
	Cadmium	148	631935	10.4	J
	Cobalt	30	631935	6.9	J
	Copper	2344	631935	-31.1	J
	Zinc	16182	631935	24.2	Accept
	Potassium	1423	631935	977.8	J
G32-DR-10	Antimony	20	244800	13.4	J
	Arsenic	36	244800	8.0	J
	Barium	279	244800	14.7	J
	Cadmium	97	244800	4.0	J
	Cobalt	72	244800	2.7	J
	Copper	1302	244800	-12.0	Accept
	Zinc	11851	244800	9.4	Accept
	Potassium	806	244800	378.8	J
G32-DR-11	Antimony	4	995225	54.4	Reject
	Arsenic	59	995225	32.6	J
	Barium	197	995225	59.9	J
	Cadmium	65	995225	16.3	J
	Cobalt	50	995225	10.9	J
	Copper	989	995225	-49.0	J
	Zinc	5938	995225	38.1	Accept
	Potassium	572	995225	1540	Reject

(Continued)

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Fe (ug/L)	Estimated Interference (ug/L)	Action
G32-DR-12	Antimony	20	595335	32.6	Reject
	Arsenic	59	595335	19.5	J
	Barium	2395	595335	35.8	J
	Cadmium	129	595335	9.8	J
	Cobalt	51	595335	6.5	J
	Copper	2720	595335	-29.3	J
	Zinc	7798	595335	22.8	Accept
	Potassium	2309	595335	921.2	J
G32-DR-13	Antimony	81	311610	17	J
	Arsenic	34	311610	10.2	J
	Barium	330	311610	18.7	J
	Cadmium	51	311610	5.1	J
	Cobalt	35	311610	3.4	J
	Copper	1332	311610	-15.3	J
	Zinc	3147	311610	11.9	Accept
	Potassium	1802	311610	482.2	J
G32-DR-14	Antimony	15	356250	19.5	Reject
	Arsenic	20	356250	11.7	J
	Barium	1910	356250	21.4	J
	Cadmium	105	356250	5.8	J
	Cobalt	31	356250	3.9	J
	Copper	459	356250	-17.5	J
	Zinc	3135	356250	13.6	Accept
	Potassium	1582	356250	551.2	J
G32-Dup3	Antimony	38	907670	49.6	Reject
	Arsenic	77	907670	29.8	J
	Barium	3689	907670	54.6	J
	Cadmium	210	907670	14.9	J
	Cobalt	84	907670	9.9	J
	Copper	9599	907670	-44.7	Accept
	Zinc	306257	907670	34.7	Accept
	Potassium	7085	907670	1404.5	J

Sample	Analyte Affected	Sample Concentration (ug/L)	Sample Interferent Ca (ug/L)	Estimated Interference (ug/L)	Action
G32-CO-07-03	Antimony	10	325966	6.8	J
	Arsenic	14	325966	4.1	J
	Barium	1317	325966	7.5	Accept
	Cadmium	14	325966	2.0	J
	Cobalt	25	325966	1.4	J
	Copper	476	325966	-6.1	J
	Zinc	1583	325966	4.8	Accept
	Potassium	7892	325966	192.9	J

All of the positive results for arsenic and cobalt and many of the positive results for antimony, barium, cadmium and potassium are estimated (J) in the samples listed above due to positive interference attributed to iron. The results may be biased high. The positive results for copper are estimated (J) in the samples listed above due to negative interference attributed to iron. These results may be biased low. Several of the positive antimony and potassium results in the samples listed above are rejected (R) since the reported concentrations might be due entirely (≥ 80%) to the iron interference. The other positive results for barium, cadmium and copper, the result for antimony in sample G32-DR-05, and all of the positive results for zinc, in the samples listed above are accepted without qualification since the estimated interference accounted for less than 1% of the reported sample concentration.

The positive results for antimony, arsenic, cadmium, cobalt, and potassium are estimated (J) in sample G32-CO-07-03IN due to positive interference attributed to calcium. The results may be biased high. The positive result for copper is estimated (J) in sample G32-CO-07-03IN due to negative interference attributed to calcium. The result may be biased low. The positive results for barium and zinc in sample G32-CO-07-03IN are accepted without qualification since the estimated interference accounted for less than 1% of the reported sample concentration.

Matrix Spike Recoveries

A matrix spike analysis was not performed for the concrete dust samples in this SDG. The following results from the analysis of the matrix spike for the concrete dust samples in SDG G32-CO-01-03IN were used to validate the three concrete dust samples in this data package.

The results of the matrix spike analysis of sample G32-CO-05-03IN were below the 75% criterion for antimony, arsenic, manganese, nickel, and thallium. The positive and non-detected results for these analytes in the concrete dust samples are estimated (J, UJ); the results may be biased low. The result of the matrix spike analysis of sample G32-CO-05-03IN was above the 125% criterion for cadmium. The positive results for cadmium in the concrete dust samples are estimated (J); the results may be biased high.

The results of the matrix spike analysis of soil sample G32-DR-04S were above the 125% criterion for nickel and selenium and were below the 75% criterion for thallium and mercury. The positive results for nickel and selenium in the soil samples are estimated (J); the results may be biased high. The positive and non-detected results for thallium and mercury in the soil samples are estimated (J, UJ); the results may be biased low.

The results of the matrix spike analysis of sludge sample G32-DR-10S were above the 125% criterion for cadmium and were below the 75% criterion for antimony arsenic, manganese and cyanide. The positive results for cadmium in the sludge samples are estimated (J); the results may be biased high. The positive and non-detected results for antimony arsenic, manganese and cyanide in the sludge samples are estimated (J, UJ); the results may be biased low.

Laboratory Duplicate Results

The relative percent difference (RPD) for nickel was greater than the 35% quality control criterion for soil samples in the laboratory duplicate analysis of sample G32-DR-04. Positive results for nickel in the soil samples are estimated (J) due to poor laboratory duplicate precision.

The relative percent differences (RPDs) for chromium, iron, and lead were greater than the 35% quality control criterion for sludge samples in the laboratory duplicate analysis of sample G32-DR-10. Positive results for chromium, iron, and lead in the sludge samples are estimated (J) due to poor laboratory duplicate precision.

Field Duplicate Precision

The concrete dust sample field duplicate pair associated with the concrete dust samples in this SDG can be found in SDG G32-CO-01-03IN. The following results from the analysis of the field duplicate pair for the concrete dust samples in SDG G32-CO-01-03IN were used to validate the three concrete dust samples in this data package.

The relative percent differences (RPDs) for cadmium, copper, lead, and zinc were greater than the 50% quality control criterion for concrete dust samples in the field duplicate analysis of field duplicate pair G32-CO-05-03IN/G32-DUP1. The positive results for cadmium, copper, lead, and zinc in the concrete dust samples are estimated (J) due to poor field duplicate precision.

The relative percent differences (RPDs) for aluminum, calcium, mercury, and nickel were greater than the 50% quality control criterion for soil samples in the field duplicate analysis of field duplicate pair G32-DR-02/G32-DUP3. The positive results for aluminum, calcium, mercury, and nickel in the soil samples are estimated (J) due to poor field duplicate precision.

The relative percent differences (RPDs) for cadmium, calcium, chromium, copper, iron, lead, manganese, and zinc were greater than the 50% quality control criterion for sludge samples in the field duplicate analysis of field duplicate pair G32-DR-10/G32-DUP4. The positive results for cadmium, calcium, chromium, copper, iron, lead, manganese, and zinc in the sludge samples are estimated (J) due to poor field duplicate precision.

ICP Serial Dilution Results

The ICP serial dilution percent difference for sodium was above the 15% quality control criterion for analyte concentrations greater than 50x IDL before dilution. The positive results for sodium are qualified as estimated (J), in the soil samples. As the diluted result was greater than the sample result, the data may be biased low.

Detection Limits

The CRDL for cyanide (10.0 ug/L) was used to determine U flags for all the cyanide results of all the samples in this data package. The MDL was included for informational purposed only.

Sample Quantitation

The percent solids content in samples G32-DR-07, G32-DR-08, G32-DR-09, G32-DR-10, and G32-DR-14 were below 30%. Positive results for all analytes in these samples are qualified as estimated (J), and non-detected results for all analytes in these samples are rejected (R), due to the solids content less than the 30% quality control criterion.

Overall Assessment of the Data

The data are acceptable for use as qualified. The positive results less than 3x CRDL and the non-detected results for selenium are estimated (J, UJ), and the positive results < 3x CRDL for

arsenic, lead and vanadium are estimated (J), in affected samples due to poor linearity at low concentrations as identified by the analysis of the CRDL standard. Detection limits are raised for antimony, beryllium, cadmium, mercury, and sodium in the soil, sludge and concrete dust samples due to laboratory and/or field blank contamination. Detection limits are raised for cadmium, calcium, chromium, copper, iron, magnesium, nickel, thallium, and zinc in the field blank samples due to laboratory blank contamination. The positive results for arsenic and cobalt and many of the positive results for antimony, barium, cadmium and potassium are estimated (J) in affected samples due to positive interference attributed to iron. The results may be biased high. The positive results for copper are estimated (J) in affected samples due to negative interference attributed to iron. These results may be biased low. Several of the positive antimony and potassium results in affected samples are rejected (R) since the reported concentrations might be due entirely (≥ 80%) to the iron interference. The positive results for antimony, arsenic, cadmium, cobalt, and potassium are estimated (J) in sample G32-CO-07-03IN due to positive interference attributed to calcium. The results may be biased high. The positive result for copper is estimated (J) in sample G32-CO-07-03IN due to negative interference attributed to calcium. The result may be biased low. The positive and non-detected results for antimony, arsenic, manganese, nickel, and thallium are estimated (J, UJ), and positive results for cadmium are estimated (J) in the concrete dust samples due to poor or high matrix spike recoveries. The positive results for nickel and selenium in the soil samples are estimated (J) due to high matrix spike recoveries; the results may be biased high. The positive and non-detected results for thallium and mercury in the soil samples are estimated (J, UJ) due to poor matrix spike recoveries; the results may be biased low. The positive results for cadmium in the sludge samples are estimated (J) due to high matrix spike recoveries; the results may be biased high. The positive and non-detected results for antimony, arsenic, manganese and cyanide in the sludge samples are estimated (J, UJ) due to poor matrix spike recoveries; the results may be biased low. Positive results for nickel in the soil samples are estimated (J) due to poor laboratory duplicate precision. Positive results for chromium, iron, and lead in the sludge samples are estimated (J) due to poor laboratory duplicate precision. The positive results for cadmium, copper, lead, and zinc in the concrete dust samples are estimated (J) due to poor field duplicate precision. The positive results for aluminum, calcium, mercury, and nickel in the soil samples are estimated (J) due to poor field duplicate precision. The positive results for cadmium, calcium, chromium, copper, iron, lead, manganese and zinc in the sludge samples are estimated (J) due to poor field duplicate precision. The positive results for sodium are qualified as estimated (J), in the soil samples due to ICP serial dilution matrix interference. The percent solids content in samples G32-DR-07, G32-DR-08, G32-DR-09, G32-DR-10, and G32-DR-14 were below 30%. Positive results for all analytes in these samples are qualified as estimated (J), and non-detected results for all analytes in these samples are rejected (R), due to the solids content less than the 30% quality control criterion.

NOTE: Sample results less than 2x IDL and less than the CRDL are estimated (J) due to uncertainty in values near the instrument detection limit.

Attachments

c: **File N7574-4.10**

Sc ludge, and Concrete Dust TAL Metal Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05	
Station Location	G32-CO-06-03IN		G32-CO-07-03IN		G32-CO-08-03IN		G32-DR-01		G32-DR-02		G32-DR-03		G32-DR-04		G32-DR-05	
Date Sampled	4/26/00		4/27/00		4/27/00		4/24/00		4/24/00		4/24/00		4/24/00		4/24/00	
Date Extracted																
Date Analyzed																
Dilution Factor	1		1		1		1		1		1		1		1	
Percent Solids	96.3		93.4		93.2		66.5		59.5		58.6		81.9		62.2	
QC Identifier	None		None		None		None		Field Dup. G32-DR-02		None		None		None	
Aluminum	6880		7860		3400		3230	J	3140	J	1100	J	1070	J	1010	J
Antimony		R	2.1	UJ	3.6	UJ	95.8	J		R	541	J	103	J	2100	
Arsenic	6.3	J	2.9	J	2.5	J	10.3	J	18.5	J	29.8	J	41.7	J	40.4	J
Barium	90.8	J	282		211		1250		1340		1640	J	702	J	6090	
Beryllium	0.44	U	0.46	U	0.25	U	1.1		0.15	UJ	0.13	UJ	0.76	U	0.10	U
Cadmium	20.2	J	2.9	UJ	4.9	J	201		95.2	J	1140		4540		435	J
Calcium	49400		69800		11300		21500	J	15300	J	8400	J	10200	J	7510	J
Chromium	15.8		20.2		16.8		149		219		1480		495		600	
Cobalt	5.6	J	5.4	J	3.9		16.9	J	17.4	J	36.6	J	35.6	J	48.7	J
Copper	1060	J	102	J	45.4	J	1300		2320		24700		1390	J	1050	J
Iron	21000		16700		11200		78600		199000		331000		334000		377000	
Lead	246	J	245	J	377	J	4180		7590		28500		5270		24100	
Magnesium	2850		3500		1650		2340		1990		1130		1530		991	
Manganese	301	J	279	J	196	J	462		939		1330		1300		1700	
Mercury	0.07	U	0.05	U	0.08	U	1.1	J	0.84	J	2.5	J	0.56	J	0.33	J
Nickel	22.9	J	12.6	J	15.3	J	169	J	285	J	1420	J	276	J	607	J
Potassium	2230	J	1690	J	585		1170	J	3060	J		R	2270	J		R
Selenium	0.79	UJ	0.81	UJ	0.82	UJ	1.1	UJ	1.3	UJ	2.0	J	1.9	UJ	3.1	J
Silver	0.58		0.63		0.91		3.3		5.7		22.1		10.4		3.4	
Sodium	1340		426		177	U	560	J	5840	J	290	J	2360	J	160	UJ
Thallium	0.77	UJ	0.79	UJ	0.79	UJ	1.4	UJ	1.2	UJ	1.3	UJ	1.8	UJ	2.4	UJ
Vanadium	12.4	J	10.1	J	38.3		33.9	J	15.3	J	34.5	J	57.6		38.0	J
Zinc	687	J	339	J	366	J	3050		62900		12100		2770		13700	
Cyanide	0.52	U	0.54	U	0.54	U	1.3	J	1.6		16.3		194		16.9	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Sc Sludge, and Concrete Dust TAL Metal Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-10		G32-DR-11		G32-DR-12		G32-DR-13		G32-DR-14	
Station Location	G32-DR-06		G32-DR-07		G32-DR-08		G32-DR-09		G32-DR-10		G32-DR-11		G32-DR-12		G32-DR-13		G32-DR-14	
Date Sampled	4/24/00		4/25/00		4/25/00		4/26/00		4/26/00		4/26/00		4/24/00		4/25/00		4/25/00	
Date Extracted																		
Date Analyzed																		
Dilution Factor	1		1		1		1		1		1		1		1		1	
Percent Solids	75.9		21.1		27.9		11.1		28.8		32.9		55.9		61.1		28.5	
QC Identifier	None		None		None		None		Field Dup. G32-DR-10		None		None		None		None	
Aluminum	352	J	996	J	1170	J	1710	J	5520	J	943		1770	J	2510		1180	J
Antimony	166	J	63.9	J		R		R	13.7	J		R		R	26.5	J		R
Arsenic	9.5	J	22.2	J	29.8	J	10.5	J	24.9	J	36.0	J	21.1	J	11.0	J	14.3	J
Barium	419	J	1120	J	1150	J	230	J	194	J	120	J	857	J	108	J	1340	J
Beryllium	0.08	U		R	0.22	UJ		R	0.67	UJ	0.18	U	0.11	U	0.21	U	0.32	UJ
Cadmium	56900		230	J	106	J	73.6	J	67.1	J	39.3	J	46.0	J	16.6	J	73.4	J
Calcium	3480	J	8470	J	5190	J	15300	J	106000	J	3970	J	19400	J	12100	J	18700	J
Chromium	11800		149	J	103	J	226	J	133	J	206	J	159		49.5	J	197	J
Cobalt	22.5	J	17.7	J	21.8	J	13.2	J	50.1	J	30.3	J	18.4	J	11.4	J	21.8	J
Copper	9540		931	J	1680	J	2160	J	904	J	601	J	973	J	436	J	322	J
Iron	177000		314000	J	453000	J	146000	J	170000	J	605000	J	213000		102000	J	250000	J
Lead	31600		7560	J	2410	J	2500	J	911	J	1300	J	4300		12700	J	2670	J
Magnesium	328		673	J	1010	J	1300	J	5520	J	3050		2310		1370		31200	J
Manganese	728		878	J	2010	J	641	J	1160	J	2100	J	1040		263	J	1360	J
Mercury	6.7	J	0.95	J	0.34	J	1.6	J	0.22	J	0.38		0.69	J	0.61		2.6	J
Nickel	14100	J	175	J	142	J	980	J	132	J	236		167	J	76.1		228	J
Potassium	4870	J		R	1020	J	645	J	560	J		R	826	J	590	J	1110	J
Selenium	1.0	UJ	5.3	J	8.2	J		R		R	12.2		1.4	UJ	1.4	J	3.7	J
Silver	104		3.3	J	1.2	J	10.3	J	2.8	J	3.4		2.4		2.6		7.6	J
Sodium	7870	J	1070	J	3780	J	561	J	203	UJ	794		737	J	367		1100	J
Thallium	16.0	J		R		R		R		R	2.2	U	1.3	J	1.2	U		R
Vanadium	41.3		15.5	J	13.2	J	19.3	J	60.8	J	5.2	J	11.4	J	8.5	J	13.9	J
Zinc	2290		7420	J	11600	J	1670	J	8230	J	3610	J	2790		1030	J	2200	J
Cyanide	865			R		R		R		R	1.5	UJ	0.89	U	1.0	J		R

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Su Sludge, and Concrete Dust TAL Metal Analysis (mg/kg)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	G32-DUP3		G32-DUP4	
Station Location	G32-DUP3		G32-DUP4	
Date Sampled	4/24/00		4/26/00	
Date Extracted				
Date Analyzed				
Dilution Factor	1		1	
Percent Solids	65.3		40.4	
QC Identifier	Field Dup. G32-DR-02		Field Dup. G32-DR-10	
Aluminum	5970	J	3540	
Antimony		R	1.2	UJ
Arsenic	23.7	J	3.2	J
Barium	1130	J	64.5	
Beryllium	0.19	U	0.43	U
Cadmium	64.2	J	30.2	J
Calcium	9090	J	52100	J
Chromium	222		23.8	J
Cobalt	25.6	J	20.4	
Copper	2940		299	J
Iron	278000		36900	J
Lead	7720		249	J
Magnesium	2010		3430	
Manganese	1250		582	J
Mercury	1.8	J	0.48	
Nickel	528	J	44.5	
Potassium	2170	J	347	
Selenium	1.8	J	2.0	UJ
Silver	2.8		0.86	
Sodium	3790	J	390	
Thallium	1.1	UJ	1.8	U
Vanadium	10.0	J	25.2	J
Zinc	93800		4050	J
Cyanide	1.6		1.2	UJ

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip Blank contamination

Aq. ous TAL Metal Analysis (ug/l)
Site: Gould Island Building 32 SI
Case: 7574; SDG: G32-CO-06-03IN

EPA Sample Number	RB-042400		RB-042600		RB-042700	
Station Location	RB-042400		RB-042600		RB-042700	
Date Sampled	4/24/00		4/26/00		4/27/00	
Date Extracted						
Date Analyzed						
Dilution Factor	1		1		1	
Percent Solids						
QC Identifier	Rinsate Blank		Rinsate Blank		Rinsate Blank	
Aluminum	98.7	U	98.7	U	98.7	U
Antimony	2.5	U	2.5	U	2.5	U
Arsenic	2.3	U	2.3	U	2.3	U
Barium	5.1	U	5.1	U	5.1	U
Beryllium	0.10	U	0.10	U	0.10	U
Cadmium	0.20	U	0.89	U	0.20	U
Calcium	20.9	U	35.2	U	31.0	U
Chromium	0.80	U	1.2	U	0.80	U
Cobalt	0.70	U	0.70	U	0.70	U
Copper	2.8	U	22.8		1.9	U
Iron	52.2	U	71.7	U	52.2	U
Lead	2.1	U	2.8	J	2.1	U
Magnesium	10.9	U	22.0	U	34.5	U
Manganese	1.0	U	1.0	U	1.0	U
Mercury	0.10	U	0.10	U	0.10	U
Nickel	1.0	U	8.8		1.0	U
Potassium	80.9	U	80.9	U	80.9	U
Selenium	4.1	UJ	4.1	UJ	4.1	UJ
Silver	0.90	U	0.90	U	0.90	U
Sodium	170	U	170	U	251	
Thallium	4.8	U	4.6	U	4.6	U
Vanadium	0.70	U	0.70	U	0.70	U
Zinc	17.4	U	61.5		8.2	U
Cyanide	10.0	U	10.0	U	10.0	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate;
* - From dilution analysis; R - Rejected; EB/TB - Equipment/Trip blank contamination

APPENDIX D

PHOTOS OF SAMPLE LOCATIONS (COMPACT DISK, *.jpg files)

68

RCS-
102,
V

ACO
407

660
880

TRACKSIDE TOOL STOP
SOUND INGS

T-14

.mpg movie - Click on bookmark to play movie.

Pedro

DR-02

KODRIOZ
Ziploc

DR-ex

DR-08

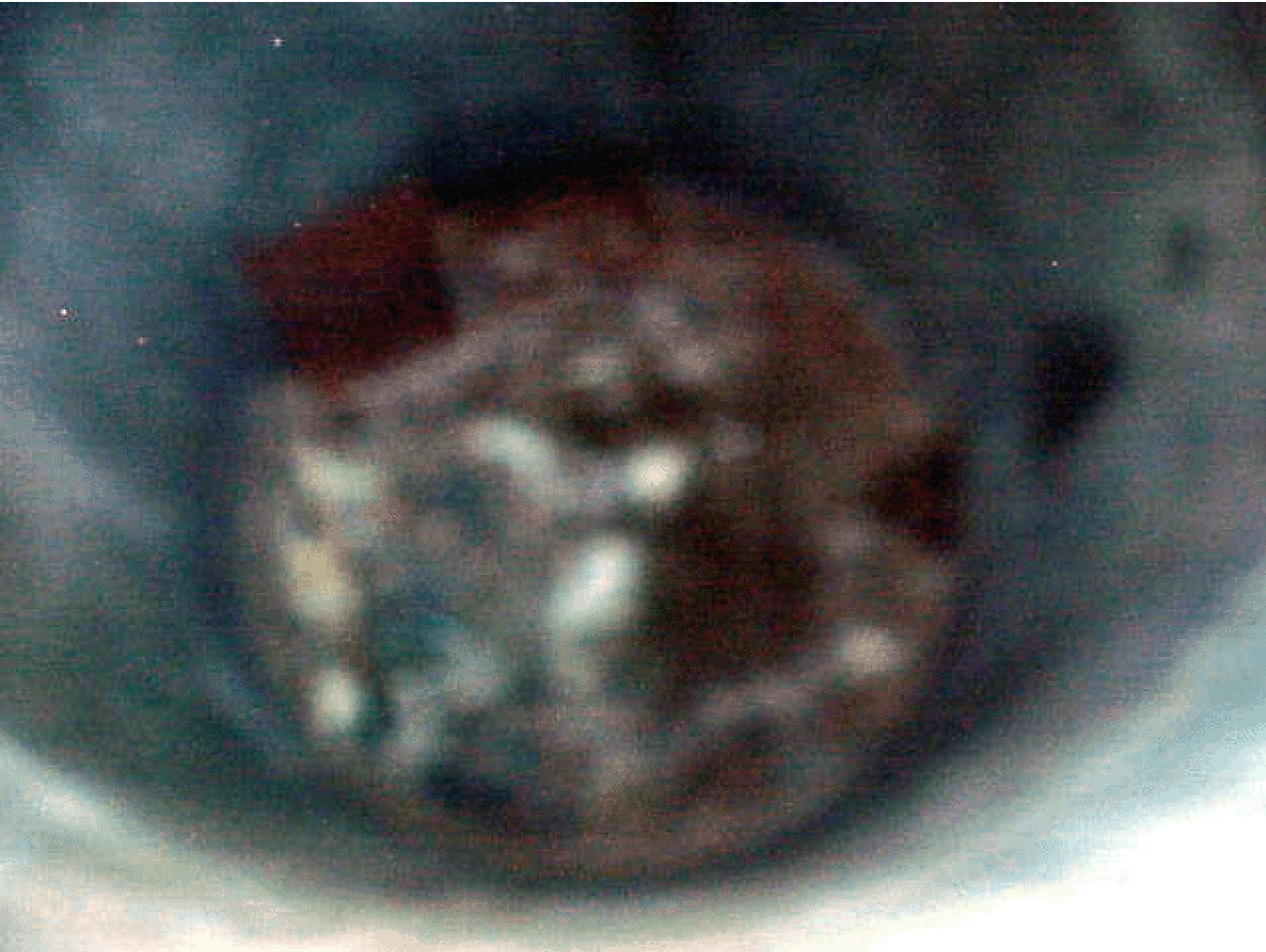
DIT
DR-09

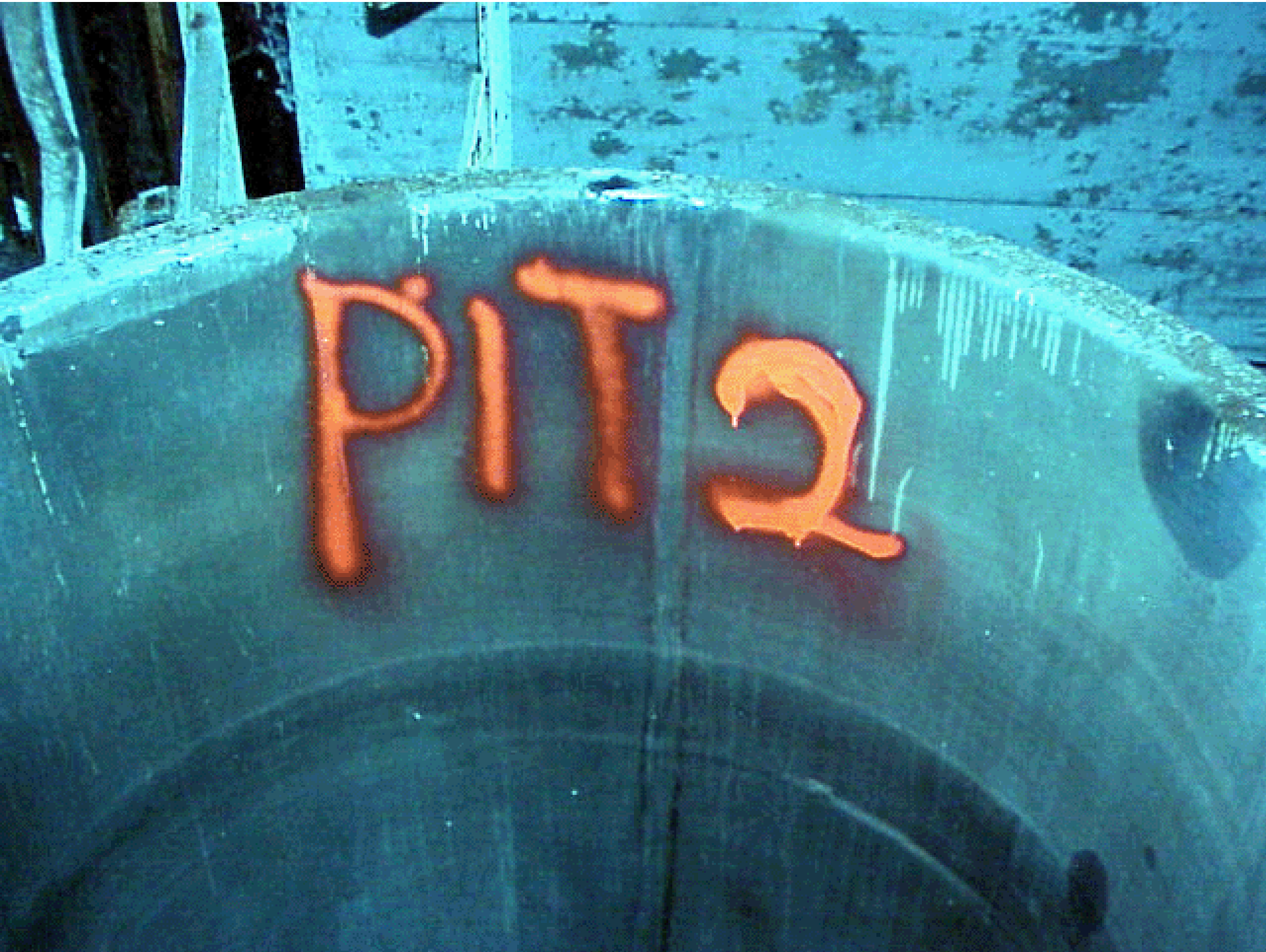
10
PT-SUMP
DR-10

DRR

DIPTANK

Fig. 1




PIT 2

SG-4

5366

SG8

SPECIAL

S8-14

0
SG
18

SG20
0

C 40 230

E 56
25

0 5630

OSG 31

SS
35
G

SG40

C36
42

0 55
43

CASE

A 37

SS-02

55-06

LONGSHOT
NIGGAZ

APPENDIX E

RIDEM DIRECT EXPOSURE CRITERIA FOR COMMERCIAL/INDUSTRIAL EXPOSURES

TABLE 1

DIRECT EXPOSURE CRITERIA		
Substance	**Residential (mg/kg)**	**Industrial/Commercial (mg/kg)**
Volatile Organics		
Acetone	7,800	10,000
Benzene	2.5	200
Bromodichloromethane	10	92
Bromoform	81	720
Bromomethane	0.8	2900
Carbon tetrachloride	1.5	44
Chlorobenzene	210	10,000
Chloroform	1.2	940
Dibromochloromethane	7.6	68
Dibromochloropropane (DBCP)	0.5	4.1
Dichloroethane (1,1-)	920	10,000
Dichloroethane (1,2-)	0.9	63
Dichloroethene (1,1-)	0.2	9.5
Dichloroethene (cis-1,2-)	630	10,000
Dichloroethene (trans-1,2-)	1,100	10,000
Dichloropropane (1,2)	1.9	84
Ethyl benzene	71	10,000
Ethylene dibromode (EDB)	0.01	0.07
Isopropyl benzene	12	10,000
Methyl ethyl ketone	10,000	10,000
Methyl isobutyl ketone	1200	10,000
Methyl-tert-butyl-ether (MTBE)	390	10,000
Methylene chloride	45	760
Styrene	21	190
Tetrachloroethane,1,1,1,2	2.4	220
Tetrachloroethane,1,1,2,2	1.4	29

TABLE 1

DIRECT EXPOSURE CRITERIA		
Substance	**Residential (mg/kg)**	**Industrial/Commercial (mg/kg)**
Tetrachloroethylene	12	110
Toluene	190	10,000
Trichloroethane, 1,1,1-	540	10,000
Trichloroethane, 1,1,2-	3.8	100
Trichloroethylene	13	520
Vinyl chloride	0.02	3.0
Xylenes (Total)	110	10,000
Semivolatiles		
Acenaphthene	43	10,000
Acenaphthylene	23	10,000
Anthracene	35	10,000
Benzo(a)anthracene	0.9	7.8
Benzo(a)pyrene	0.09	0.8
Benzo(b)fluoranthene	0.9	7.8
Benzo(g,h,i)perylene	0.8	10,000
Benzo(k)fluoranthene	0.9	78
Biphenyl, 1,1-	0.8	10,000
Bis(2-ethylhexyl)phthalate	46	410
Bis(2-chloroethyl)ether	0.6	5.2
Bis(2-chloroisipropyl)ether	9.1	82
Chloroaniline, 4- (p-)	310	8200
Chlorophenol, 2-	50	10,000
Chrysene	0.4	780
Dibenz(a,h)anthracene	0.09	0.8
Dichlorobenzene, 1,2- (o-DCB)	510	10,000

TABLE 1

DIRECT EXPOSURE CRITERIA		
Substance	**Residential (mg/kg)**	**Industrial/Commercial (mg/kg)**
Dichlorobenzene, 1,3- (m-DCB)	430	10,000
Dichlorobenzene, 1,4- (p-DCB)	27	240
Dichlorobenzidine, 3,3-	1.4	13
Dichlorophenol, 2,4-	30	6,100
Diethyl phthalate	340	10,000
Dimethyl phenol, 2,4-	1,400	10,000
Dimethyl phthalate	1900	10,000
Dinitrophenol, 2,4-	160	4,100
Dinitrotoluene, 2,4-	0.9	8.4
Fluoranthene	20	10,000
Fluorene	28	10,000
Hexachlorobenzene	0.4	3.6
Hexachlorobutadiene	8.2	73
Hexachloroethane	46	410
Indeno(1,2,3-cd)pyrene	0.9	7.8
Methyl napthalene, 2-	0.005	0.04
Naphthalene	54	10,000
Pentachlorophenol	5.3	48
Phenanthrene	40	10,000
Phenol	6,000	10,000
Pyrene	13	10,000
Trichlorobenzene, 1,2,4-	96	10,000
Trichlorophenol, 2,4,5-	330	10,000
Trichlorophenol, 2,4,6-	58	520

TABLE 1

DIRECT EXPOSURE CRITERIA		
Substance	**Residential (mg/kg)**	**Industrial/Commercial (mg/kg)**
Pesticides/PCBs		
Chlordane	0.5	4.4
Dieldrin	0.04	0.4
Polychlorinated biphenyls (PCBs) [a]	10	10
Inorganics		
Antimony	10	820
Arsenic[b]	1.2	3.8
Barium	5,500	10,000
Beryllium[b]	0.4	1.3
Cadmium	39	1,000
Chromium III (Trivalent)	1,400	10,000
Chromium VI (Hexavalent)	390	10,000
Copper	3,100	10,000
Cyanide	200	10,000
Lead [c]	150	500
Manganese	390	10,000
Mercury	8.5	610
Nickel	1,000	10,000
Selenium	390	10,000
Silver	200	10,000
Thallium	5.5	140
Vanadium	550	10,000
Zinc	6,000	10,000

a Direct exposure criteria for PCBs consistent with the Toxic Substance Control Act (TSCA)

b Background Levels of Priority Pollutant Metals In Rhode Island Soils, T. O'Connor, RIDEM

c Direct exposure criteria for Lead consistent with the Rhode Island Department of Health Rules and Regulations for Lead Poisoning Prevention [R23-24.6-PB], as amended

APPENDIX F

FIELD DOCUMENTATION

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg 32
Sample ID: TB-042600

Tetra Tech, NUS Job No./PMS 1574-1020
QC Information: _____ (if applicable)

Sample Method: _____
Depth Sampled: _____ feet
Sample Date & Time: 4/14/00 12Noon hours Dup ____ hours
Sampler(s): _____

Data Recorded By: _____
Signature

PID/OVA Monitor Reading: _____ ppm

TYPE OF SAMPLE: (Check all that apply)

- ____ Soil
- ____ Sediment
- ____ Lagoon/Pond
- ____ Grab
- X Trip Blank*
- ____ Rinsate Blank*
- ____ Field Duplicate collected
- ____ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) _____

SAMPLE DATA/REMARKS: _____

ANALYSIS	BOTTLE LOT NO.
VOC	(2) 40mL

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32.
Sample ID: RB-042600

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: _____
Depth Sampled: _____ feet
Sample Date & Time: 4/26/00 1:00 hours Dup ____ hours
Sampler(s): _____

Data Recorded By: _____
Signature

PID/OVA Monitor Reading: _____ ppm

TYPE OF SAMPLE: (Check all that apply)

- ____ Soil
- ____ Sediment
- ____ Lagoon/Pond
- ____ Grab
- ____ Trip Blank*
- X Rinsate Blank*
- ____ Field Duplicate collected
- ____ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) _____

SAMPLE DATA/REMARKS: _____

ANALYSIS	BOTTLE LOT NO.
Cyanide	(1) 250mL
DRO	(1) 1-L Amber
SVOC	(1) 1-L Amber
Pest/PCB	(1) 1-L Amber
VOC	(2) 40mL
GRO	(2) 40mL
TAL Metals	(1) 1-L Poly

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: RB-042400

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: ~~RB-04~~
Depth Sampled: _____ feet
Sample Date & Time: 4/24/00 1PM hours Dup ___ hours
Sampler(s): Masse / Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: _____ ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- X Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) _____

SAMPLE DATA/REMARKS: _____

ANALYSIS	BOTTLE LOT NO.
Cyanide	(1) 250mL
DRO	(1) 1 Liter Amber
SVOC	(1) 1 Liter Amber
Pest/PCB	(1) ~~1 Liter Amber~~
VOC	(3) 40mL VOA
GRO	(3) 40mL VOA
TAL Metals	(1) 1 Liter Poly

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: TB-042400

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: _____
Depth Sampled: _____ feet
Sample Date & Time: 4/24/00 1PM hours Dup ___ hours
Sampler(s): Meese/Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: ∅ ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- X Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) _____

SAMPLE DATA/REMARKS: _____

ANALYSIS	BOTTLE LOT NO.
VOC	3
[redacted]	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: TB-042000

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: _____
Depth Sampled: _____ feet
Sample Date & Time: 4/20/00 12 PM hours Dup ____ hours
Sampler(s): Masse / Mayer

Data Recorded By: _____
Signature

PID/OVA Monitor Reading: _____ ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- X Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) _____

SAMPLE DATA/REMARKS: _____

ANALYSIS	BOTTLE LOT NO.
VOC-(AQU)	40mL VOA

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: FB-042000

Tetra Tech, NUS Job No./PMS: 7574-1020
QC Information: _____ (if applicable)

Sample Method: _____
Depth Sampled: _____ feet
Sample Date & Time: 4/20/00 3:15 hours Dup ___ hours
Sampler(s): _____

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: _____ ppm

TYPE OF SAMPLE: (Check all that apply)

- [x] Soil
- [ ] Sediment
- [ ] Lagoon/Pond
- [ ] Grab
- [ ] Trip Blank*
- [ ] Rinsate Blank*
- [x] Field Duplicate collected
- [ ] Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) _____

SAMPLE DATA/REMARKS: Field Blank

ANALYSIS	BOTTLE LOT NO.
VOC	40 mL VOA
GRO	40 mL VOA

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: RB-042000

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: _____
Depth Sampled: _____ feet
Sample Date & Time: 4/20/00 3:30 hours Dup ___ hours
Sampler(s): Masse/Meyer

Data Recorded By: _____
Signature

PID/OVA Monitor Reading: _____ ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- x Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) _____

SAMPLE DATA/REMARKS: _____

ANALYSIS	BOTTLE LOT NO.
Cyanide	(1) 250mL Poly
DRO	(1) 1L Amber
SVOC	(1) 1L Amber
Pest/PCB	(1) 1L Amber
VOC	(3) 40mL VOC
GRO	(3) 40mL VOA
TAL Metals	(1) 1 Liter

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island
Sample ID: TB-042700

Tetra Tech, NUS Job No./PMS ___
QC Information: ___ (if applicable)

Sample Method: ___
Depth Sampled: ___ feet
Sample Date & Time: 4/27/00 ___ hours Dup ___ hours
Sampler(s): ___

Data Recorded By: ___
Signature

PID/OVA Monitor Reading: ___ ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- X Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) ___

SAMPLE DATA/REMARKS: ___

ANALYSIS	BOTTLE LOT NO.
VOC	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: RB-042700

Tetra Tech, NUS Job No./PMS ___
QC Information: ___ (if applicable)

Sample Method: ___
Depth Sampled: ___ feet
Sample Date & Time: 4/27/00 12 Noon hours Dup ___ hours
Sampler(s): ___

Data Recorded By: ___
Signature

PID/OVA Monitor Reading: ___ ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- X Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) ___

SAMPLE DATA/REMARKS: ___

ANALYSIS	BOTTLE LOT NO.
Cyanide	(Ta)
DRO	
SVOC	
Pest/PCB	
VOC	
GRO	
TAL Metals	

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg 32
Sample ID: GS-DR-01

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: _____ feet
Sample Date & Time: 04/24/00 10:45 hours Dup ____ hours
Sampler(s): Masse/Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

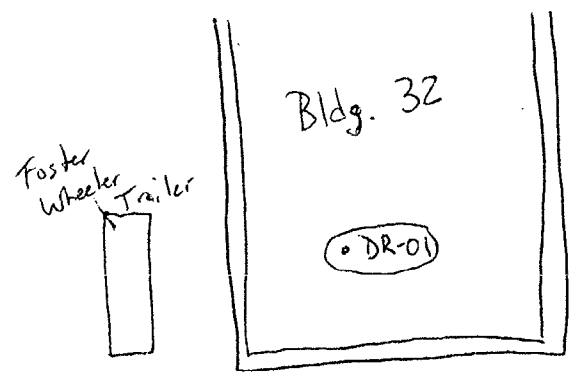
- [x] Soil
- [ ] Sediment
- [ ] Lagoon/Pond
- [ ] Grab
- [ ] Trip Blank*
- [ ] Rinsate Blank*
- [ ] Field Duplicate collected
- [ ] Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Brown, wet silty soil/sand with gravel

SAMPLE DATA/REMARKS: Photo Time 11AM

ANALYSIS	BOTTLE LOT NO.
VOC	3
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8-oz
Metals	(1) 8-oz
% Solids	(1) 2-oz

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: GS-DR-02

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: _____ feet
Sample Date & Time: 4/24/00 12:10 hours Dup ___ hours
Sampler(s): Masse / Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

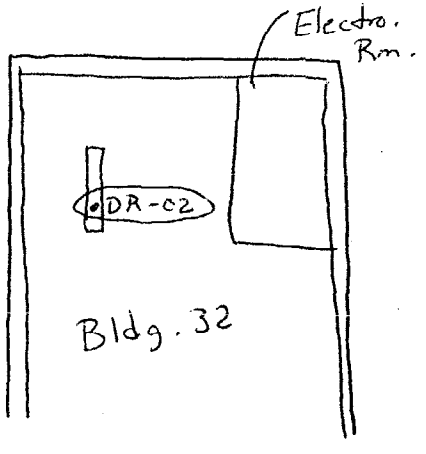
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- X Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.)

SAMPLE DATA/REMARKS: Dup. Collected DUP3 Photo Time 12:15

ANALYSIS	BOTTLE LOT NO.
VOC	3
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8-oz
Metals	(1) 8-oz
% Solids	(1) 8-oz

NOTES/SKETCH:



TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg 32
Sample ID: G32 - DR-03

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: _____ feet
Sample Date & Time: 4/24/00 9:30 hours Dup ____ hours
Sampler(s): Masse / Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: 0 ppm

TYPE OF SAMPLE: (Check all that apply)

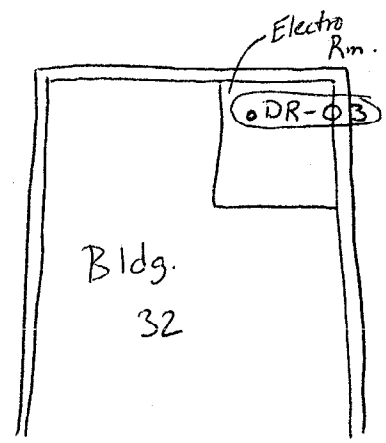
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Brown, Moist soil/sands (coarse grain) metal shavings, nails, rust chips, misc.

SAMPLE DATA/REMARKS: Photo Time: 9:45AM

ANALYSIS	BOTTLE LOT NO.
VOC	3
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8-oz Jar
Metals	(1) 8-oz Jar
% Solids	(1) 2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: GS-DR-04

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: _____ feet
Sample Date & Time: 4 / 24 / 00 10AM hours Dup ___ hours
Sampler(s): Masse / Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: ϕ ppm

TYPE OF SAMPLE: (Check all that apply)

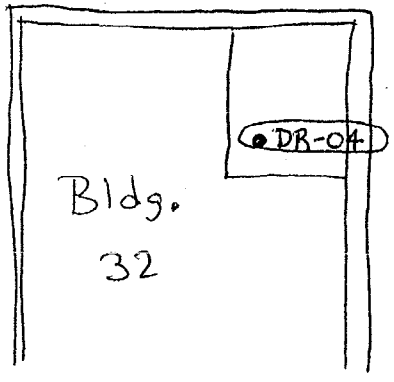
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Brown/Black, dry soils/coarse sand, metal shaving, nails, rust chips, misc.

SAMPLE DATA/REMARKS: Photo Time: 10AM
☆ MS/MSD Collected

ANALYSIS	BOTTLE LOT NO.
VOC	3
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8oz
Metals	(1) 8oz
% Solids	(1) 2oz

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: GS-DR-05

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: _____ feet
Sample Date & Time: 4/24/00 9:50 hours Dup ___ hours
Sampler(s): Masse/Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: ϕ ppm

TYPE OF SAMPLE: (Check all that apply)

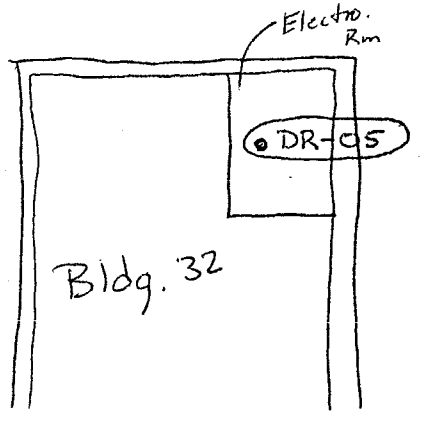
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Brown, moist soil/Sand (coarse grain), metal shavings, nails, rust chips, misc.

SAMPLE DATA/REMARKS: Photo Time: 10:05AM

ANALYSIS	BOTTLE LOT NO.
VOC	3 Encores
GRO	3
DRO/SVOC/PPCB	(1) 8oz
Metals	(1) 8oz
% Solids	(1) 2oz

NOTES/SKETCH:



TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: GS-DR-06

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: _____ feet
Sample Date & Time: 4-/24-/00 10:30 hours Dup ___ hours
Sampler(s): Masse/Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: ∅ ppm

TYPE OF SAMPLE: (Check all that apply)

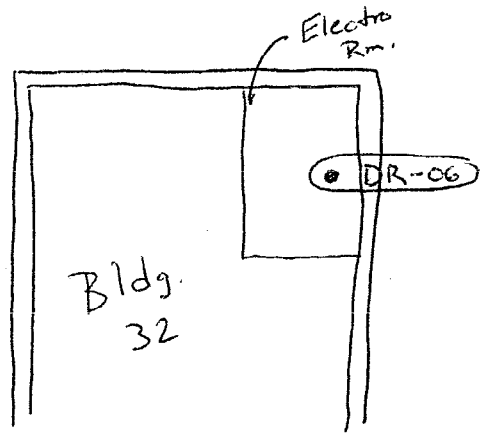
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Brown/Grey, wet, sand/soil, floor sweepings, rust chips, metal shavings, glass, plastic

SAMPLE DATA/REMARKS: Photo Time 10:45

ANALYSIS	BOTTLE LOT NO.
VOC	3
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8-oz
Metals	(1) 8-oz
% Solids	(1) 2-oz.

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: GS-DR-07

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: _____
Depth Sampled: _____ feet
Sample Date & Time: 4/25/00 10:15 hours Dup ___ hours
Sampler(s): Masse / Meyer

Data Recorded By: _____
Signature

PID/OVA Monitor Reading: _____ ppm

TYPE OF SAMPLE: (Check all that apply)

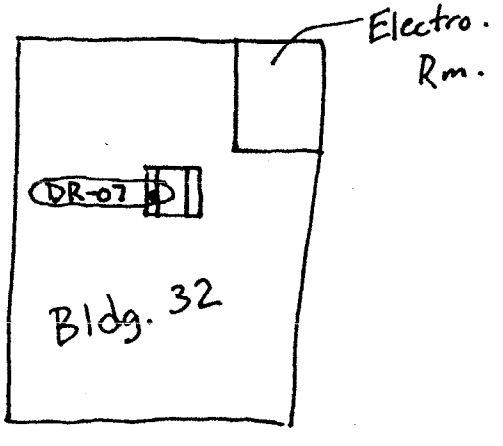
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- X Other (Specify): Bottom of Pit

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Black, wet muck.

SAMPLE DATA/REMARKS: Photo Time: 10:30

ANALYSIS	BOTTLE LOT NO.
VOC	Encores
GRO	
DRO/SVOC/PPCB	(1) 8-oz
Metals	(1) 8-oz
% Solids	(1) 2-oz

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: GS - DR - 08

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: _____
Depth Sampled: _____ feet
Sample Date & Time: 4 / 25 / 00 9:30 hours Dup ____ hours
Sampler(s): Masse / Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: _____ ppm

TYPE OF SAMPLE: (Check all that apply)

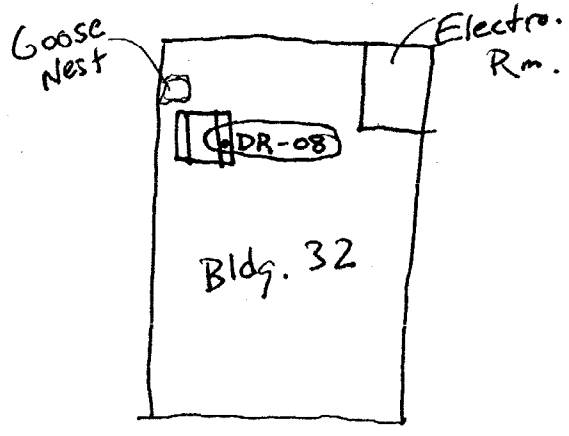
- x Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- x Other (Specify): Bottom of pit.

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Lt brown muck w/ bones

SAMPLE DATA/REMARKS: Photo Time: 9:45

ANALYSIS	BOTTLE LOT NO.
VOC	40mL (HCL) VOA
GRO	40mL (HCL) VOA
DRO/SVOC/PPCB	(1) 8-oz
Metals	(1) 8-oz
% Solids	(1) 2-oz

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: G32 - DR-09

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: _____ feet
Sample Date & Time: 4/26/00 7:30 hours Dup ____ hours
Sampler(s): Masse / Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

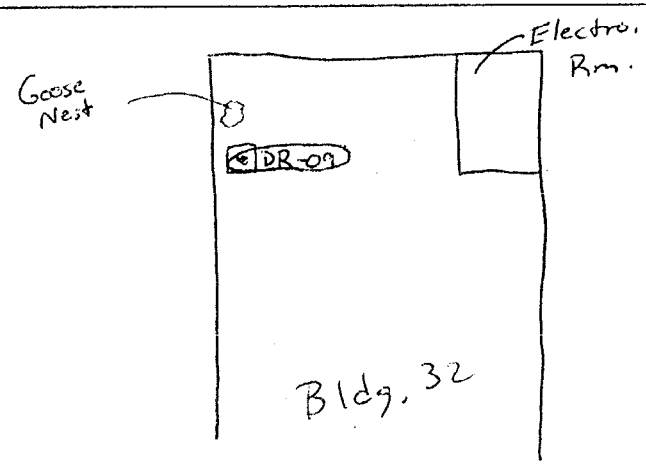
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- X Other (Specify): Bottom of Pit

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Brown muck with feathers, bones, etc

SAMPLE DATA/REMARKS: Photo Time = 7:45

ANALYSIS	BOTTLE LOT NO.
VOC	3
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8-oz
Metals	(1) 8-oz
% Solids	(1) 2-oz

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: G32-DR-10

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: _____ feet
Sample Date & Time: 4/26/ 9:00 hours Dup ___ hours
Sampler(s): Masse/Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

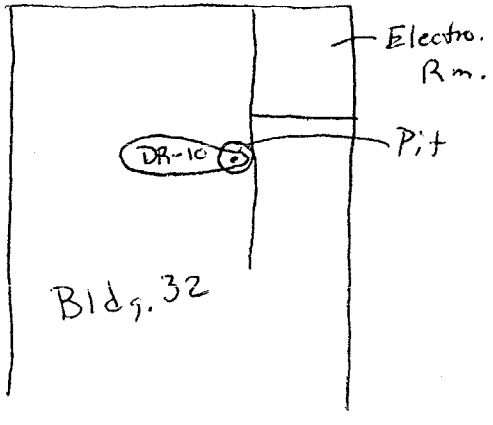
- [x] Soil
- [ ] Sediment
- [ ] Lagoon/Pond
- [ ] Grab
- [ ] Trip Blank*
- [ ] Rinsate Blank*
- [ ] Field Duplicate collected
- [x] Other (Specify): Bottom of Pit

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Black muck.

SAMPLE DATA/REMARKS: * MS/MSD * DUP 4 Photo Time: 9:15

ANALYSIS	BOTTLE LOT NO.
VOC	(4) 40mL
GRO	(4) 40mL
DRO/SVOC/PPCB	(2) 8-oz
Metals	(2) 8-oz
% Solids	(2) 2-oz

NOTES/SKETCH:



TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: G32 - DR - 11

Tetra Tech, NUS Job No./PMS 7574 - 1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: _____ feet
Sample Date & Time: 4/26/00 10:30 hours Dup ___ hours
Sampler(s): Masse / Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: ϕ ppm

TYPE OF SAMPLE: (Check all that apply)

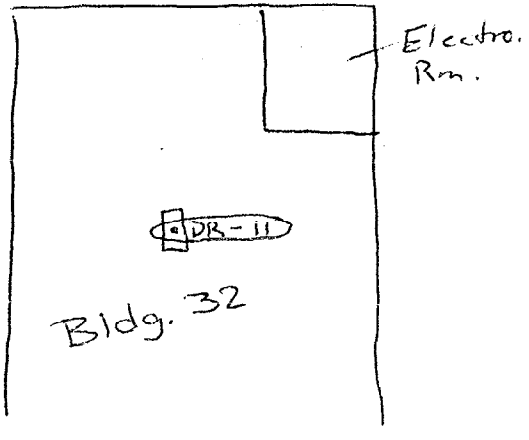
- x Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- x Other (Specify): Bottom of pit

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Olive green muck

SAMPLE DATA/REMARKS: Photo Time: 10:45

ANALYSIS	BOTTLE LOT NO.
VOC	(2) 40mL
GRO	(2) 40mL
DRO/SVOC/PPCB	(1) 8-oz
Metals	(1) 8-oz
% Solids	(1) 2-oz

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: GS-DR-12

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: _____ feet
Sample Date & Time: 4/24/00 12 Noon hours Dup ____ hours
Sampler(s): Masse / Meyer

Data Recorded By: _____ Signature

PID/OVA Monitor Reading: ∅ ppm

TYPE OF SAMPLE: (Check all that apply)

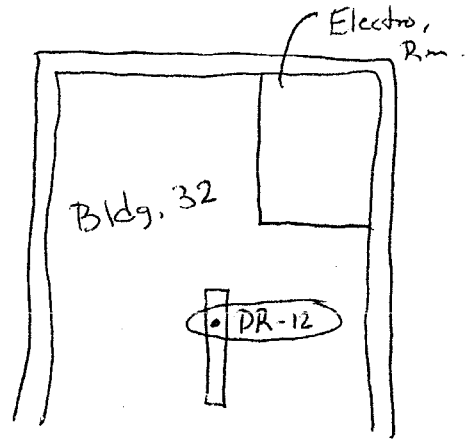
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Brown, wet, fine sand w/organic material and roots

SAMPLE DATA/REMARKS: Photo Time 12:15

ANALYSIS	BOTTLE LOT NO.
VOC	3
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8-oz
Metals	(1) 8-oz
% Solids	(1) 2-oz

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: GS-DR-13

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: _____
Depth Sampled: _____ feet
Sample Date & Time: 4/25/00 8:45 hours Dup ___ hours
Sampler(s): Masse / Meyer

Data Recorded By: _____
Signature

PID/OVA Monitor Reading: 15 ppm

TYPE OF SAMPLE: (Check all that apply)

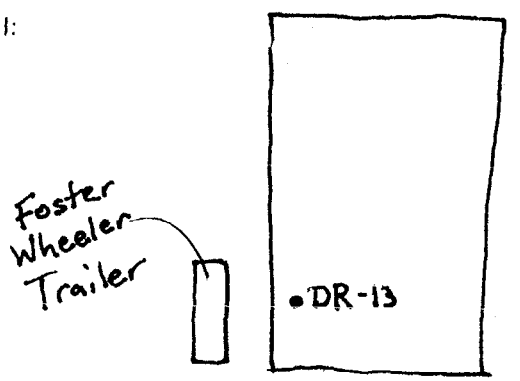
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- X Other (Specify): Bottom of Pit

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Black, wet, petrol. odor, muck

SAMPLE DATA/REMARKS: Photo Time: 9AM

ANALYSIS	BOTTLE LOT NO.
VOC	3
GRO	3 ENCORE
DRO/SVOC/PPCB	(1) 8-oz
Metals	(1) 8-oz
% Solid	(1) 2-oz

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: GS-DR-14

Tetra Tech, NUS Job No./PMS ___
QC Information: ___ (if applicable)

Sample Method: ___
Depth Sampled: ___ feet
Sample Date & Time: 4/25/00 9AM hours Dup ___ hours
Sampler(s): Mosse/Meyer

Data Recorded By: ___ Signature

PID/OVA Monitor Reading: ___ ppm

TYPE OF SAMPLE: (Check all that apply)

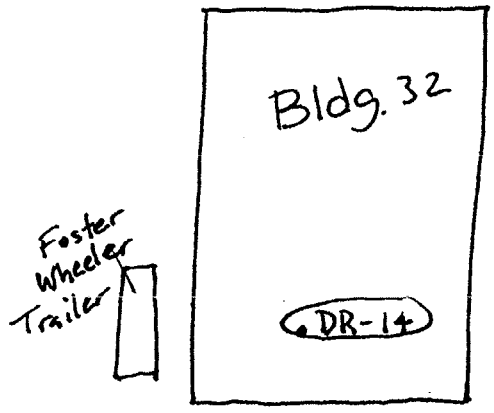
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- X Other (Specify): Bottom of Pit

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Brown, wet muck w/asbestos mixed in.

SAMPLE DATA/REMARKS: Photo Time: 9:15

ANALYSIS	BOTTLE LOT NO.
VOC	ENCORE
GRO	
DRO/SVOC/PPCB	(1) 8-oz
Metals	(1) 8-oz
% Solid	(1) 2-oz

NOTES/SKETCH:



TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: G32-SS-03-06IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.6 feet
Sample Date & Time: 4/20/00 9 AM hours Dup ____ hours
Sampler(s): Marse/Meyer

Data Recorded By: [signature] Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

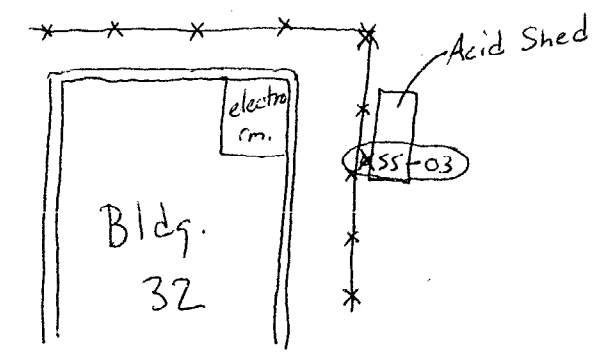
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.)
Wet, brown silty soil with organics

SAMPLE DATA/REMARKS:
Photo Time: 9:20AM
* Cut hole in fence.

ANALYSIS	BOTTLE LOT NO.
VOC	3 Encores
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8-oz Jar
Metals	(1) 8-oz Jar
% Solids	(1) 2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: G32 - SS - 04 - 06 IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.6 feet
Sample Date & Time: 4/20/00 8:30 AM hours Dup ____ hours
Sampler(s): Masse / Meyer

Data Recorded By: _____ Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

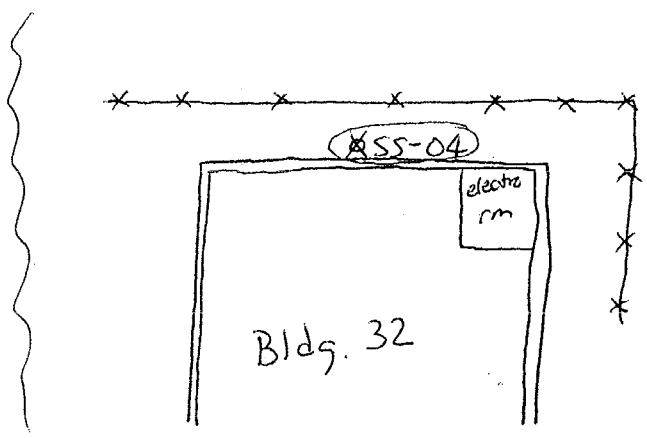
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): _____

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Dry, Brown / Grey, silty clay - trace sand w/ gravel.

SAMPLE DATA/REMARKS: Photo Time : 8:50 AM

ANALYSIS	BOTTLE LOT NO.
VOC	3 Encores
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8-oz Jar
Metals	(1) 8-oz Jar
% Solids	(1) 2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island, Bldg. 32
Sample ID: GS-SS-05-06IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.6 feet
Sample Date & Time: 4/20/00 11:15AM hours Dup ___ hours
Sampler(s): Masse / Meyer

Data Recorded By: _____ Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

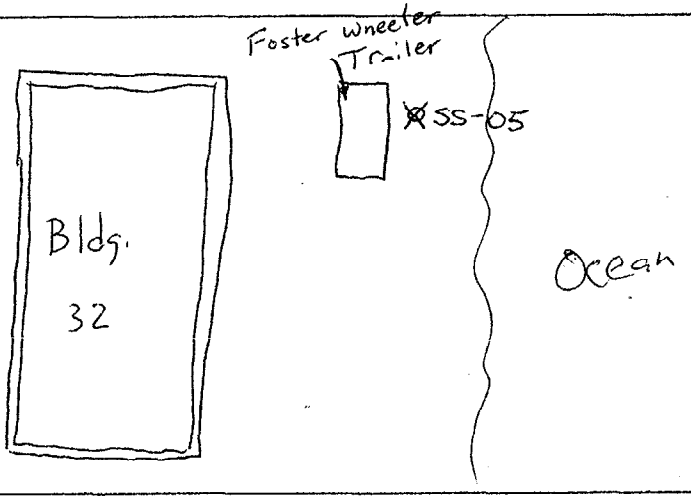
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.)
Brown, med. grain sand w/ organics

SAMPLE DATA/REMARKS:
Photo Time: 11:35AM

ANALYSIS	BOTTLE LOT NO.
VOC	3 Encores
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8-oz Jar
Metals	(1) 8-oz Jar
% Solids	(1) 2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: GS-SS-06-06 IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.6 feet
Sample Date & Time: 4/20/00 11:45 hours Dup ___ hours
Sampler(s): Masse/Meyer

Data Recorded By: [signature] Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

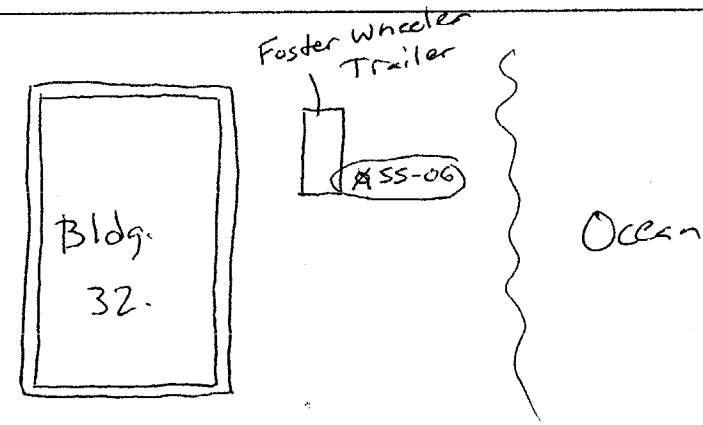
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Brown, med. grain sand w/ organics

SAMPLE DATA/REMARKS: Photo Time: 12:05 AM

ANALYSIS	BOTTLE LOT NO.
VOC	3 Encores
GRO	3 Encores
DRO/Sulfur/PPCB	(1) 8-oz Jar
Metals	(1) 8-oz Jar
% Solids	(1) 2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: GS-SS-07-06IN

Tetra Tech, NUS Job No./PMS: 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.6 feet
Sample Date & Time: 4/20/00 9AM hours Dup ___ hours
Sampler(s): Masse/Meyer

Data Recorded By: [signature] Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

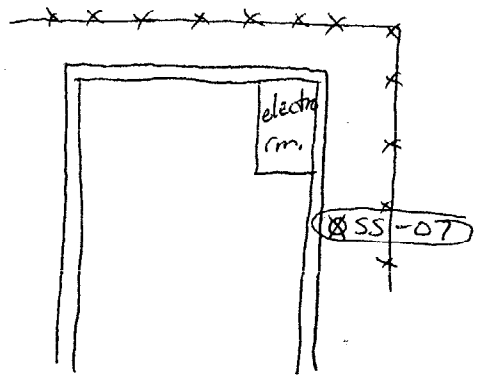
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- X Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Moist, Red/Brown silty sand with gravel + bricks

SAMPLE DATA/REMARKS: ☆ Field Dup. was taken here. Photo Time = 9:20AM

ANALYSIS	BOTTLE LOT NO.
VOC	3 (Encores)
GRO	3 (Encores)
DRO/SVOC/PPCB	(1) 8-oz Jar
Metals	(1) 8-oz Jar
% Solids	(1) 2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: GS-SS-08-06IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.6 feet
Sample Date & Time: 4/20/00 9:30 AM hours Dup ____ hours
Sampler(s): Mosse/Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

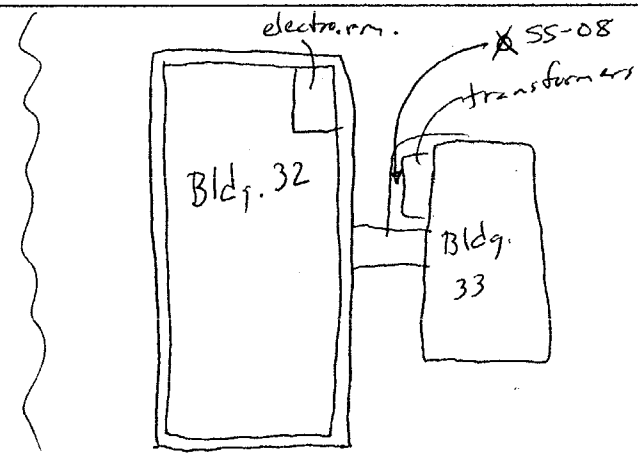
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Moist, dark grey silty clay with some sand & rocks

SAMPLE DATA/REMARKS: ⊕ MS/MSD was taken here
Photo Time: 9:50 AM

ANALYSIS	BOTTLE LOT NO.
VOC	3 (Encores)
GRO	3 (Encores)
DRO/SVOC/PPCB	(1) 8-oz Jar
Metals	(1) 8-oz Jar
% Solids	(1) 2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg 32
Sample ID: G32-SS-01-06IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.6 feet
Sample Date & Time: 4/20/00 10:30AM hours Dup ____ hours
Sampler(s): Marre / Meyer

Data Recorded By: _____ Signature

PID/OVA Monitor Reading: ∅ ppm

TYPE OF SAMPLE: (Check all that apply)

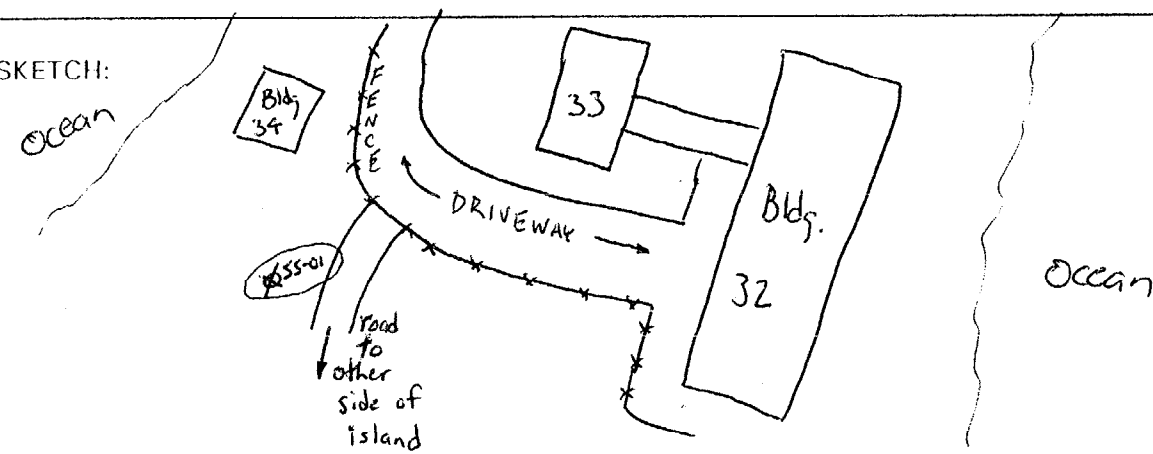
- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.)
Brown Silty Soil

SAMPLE DATA/REMARKS: Photo Time 10:50AM

ANALYSIS	BOTTLE LOT NO.
VOC	3 Encores
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8-oz Jar
Metals	(1) 8-oz Jar
% Solids	(1) 2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: G32-SS-02-06IN
Sample ID: Gould Island Bldg. 32

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.6 feet
Sample Date & Time: 4/20/00 8AM hours Dup ___ hours
Sampler(s): Masse/Meyer

Data Recorded By: _____ Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

- X Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- ___ Other (Specify): ___

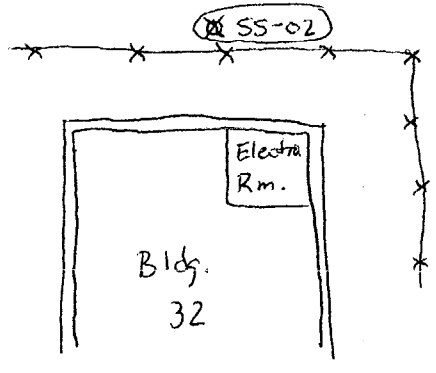
Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.)
Wet, brown/Grey soil/gravel with roots mixed in.

SAMPLE DATA/REMARKS: Photo Time: 8:20AM

* Cut hole in fence

ANALYSIS	BOTTLE LOT NO.
VOC	3 Encores
GRO	3 Encores
DRO/SVOC/PRCB	(1) 8-oz Jar
Metals	(1) 8-oz Jar
% Solids	(1) 2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Bldg. 32
Sample ID: G32-CO-01-03 IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.3 feet
Sample Date & Time: 4/18/00 9AM hours Dup ___ hours
Sampler(s): Masse/Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: ϕ ppm

TYPE OF SAMPLE: (Check all that apply)

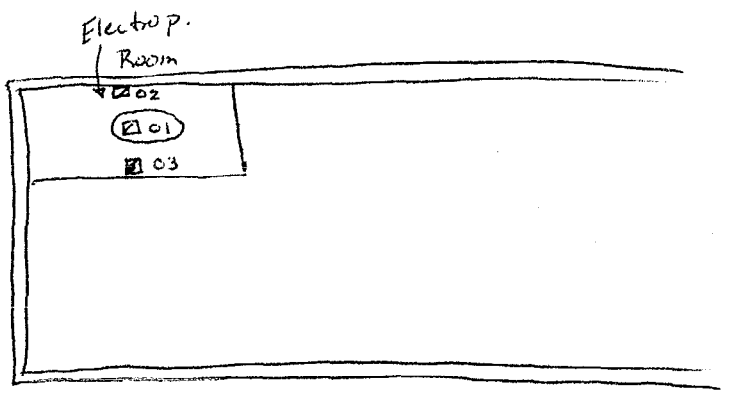
- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- x Other (Specify): Concrete

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Black/Brown

SAMPLE DATA/REMARKS: Photo Time: 8AM

ANALYSIS	BOTTLE LOT NO.
VOCs	3 Encores
GRO	3 Encores
DRO/SVOC/PPCB	1-8-oz Jar
Metals	1-8-oz Jar
% Solids	1-2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Bldg. 32
Sample ID: G32-CO-02-03IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.3 feet
Sample Date & Time: 4/18/00 9:15 AM hours Dup ___ hours
Sampler(s): Masse / Meyer

Data Recorded By: _____ Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

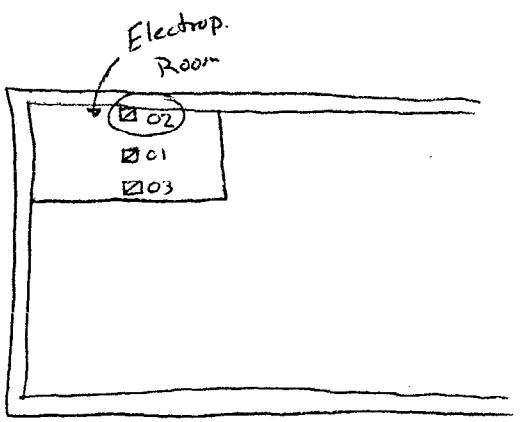
- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- X Other (Specify): Concrete

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Black / Brown

SAMPLE DATA/REMARKS: Photo Time 8AM

ANALYSIS	BOTTLE LOT NO.
VOCs	3 Encores
GRO	3 Encores
DRO/SVOC/PCB	1-8-oz Jar
Metals	1-8-oz Jar
% Solids	1-2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Bldg. 32
Sample ID: G32-CO-03-03 IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.3 feet
Sample Date & Time: 4/18/00 9:30AM hours Dup ____ hours
Sampler(s): Masse/Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

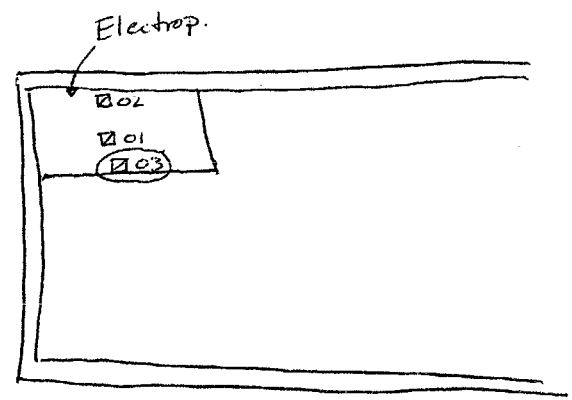
- ____ Soil
- ____ Sediment
- ____ Lagoon/Pond
- ____ Grab
- ____ Trip Blank*
- ____ Rinsate Blank*
- ____ Field Duplicate collected
- x Other (Specify): Concrete

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Black / Brown

SAMPLE DATA/REMARKS: Photo Time: 8AM

ANALYSIS	BOTTLE LOT NO.
VOC	3 Encores
GRO	3 Encores
DRO/SVOC/PPCB	1-8-oz Jar
Metals	1-8-oz Jar
% Solids	1-2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Bldg 32
Sample ID: G32-CO-04-03IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.3 feet
Sample Date & Time: 4/18/00 12PM hours Dup ____ hours
Sampler(s): Masse/Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

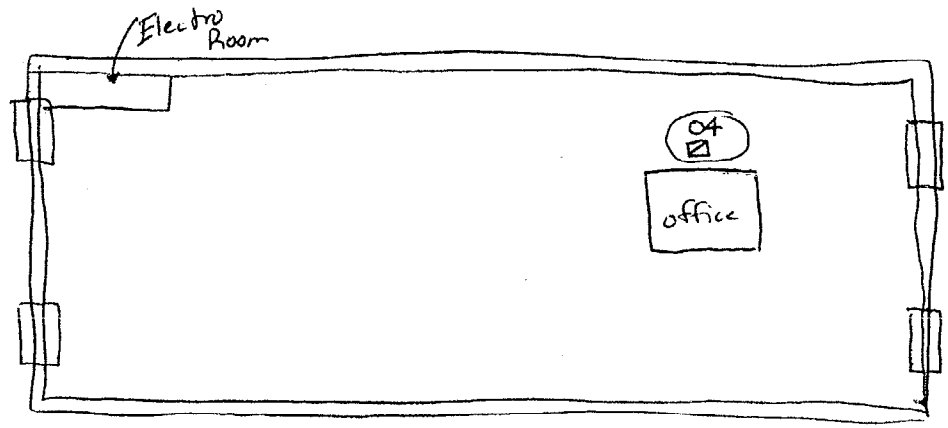
- ____ Soil
- ____ Sediment
- ____ Lagoon/Pond
- ____ Grab
- ____ Trip Blank*
- ____ Rinsate Blank*
- ____ Field Duplicate collected
- x Other (Specify): Concrete

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) ~~[illegible]~~ Light Grey

SAMPLE DATA/REMARKS: Photo Time: 12:30

ANALYSIS	BOTTLE LOT NO.
VOCs	3 Encores
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8-oz Jar
Metals	(1) 8-oz Jar
% Solids	(1) 2-oz Jar

NOTES/SKETCH:



TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Bldg. 32
Sample ID: G32-CO-05-03 IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.3 feet
Sample Date & Time: 4/18/00 1:30 PM hours Dup ___ hours
Sampler(s): Masse / Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: ϕ ppm

TYPE OF SAMPLE: (Check all that apply)

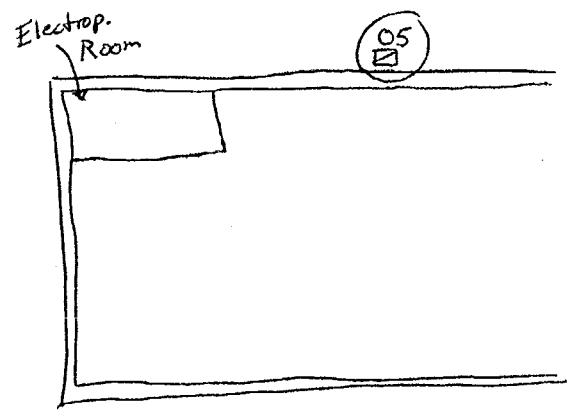
- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- x Other (Specify): Concrete

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Grey

SAMPLE DATA/REMARKS: Photo Time: 12PM

ANALYSIS	BOTTLE LOT NO.
VOCs	3 Encores
GBOs	3 Encores
DRO/SVOC/PPCB	(1) 8oz Jar
metals	(1) 8-oz Jar
% Solids	(1) 2-oz Jar

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Bldg. 32
Sample ID: G32-DUP1

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.3 feet
Sample Date & Time: 4/18/00 12PM hours Dup ___ hours
Sampler(s): Masse / Meyer

Data Recorded By: _____ Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- X Field Duplicate collected
- X Other (Specify): Concrete

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Grey

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
VOCs	3 Encores
GRO	3 Encores
DRO/SVOC/PPCB	(1) 8-oz Jar
Metals	(1) 8-oz Jar
% Solids	(1) 2-oz Jar

NOTES/SKETCH:

Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: G32-00-06-03 IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: Shovel
Depth Sampled: 0-0.3 feet
Sample Date & Time: 4/27/00 11:30 hours Dup ___ hours
Sampler(s): Masse / Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

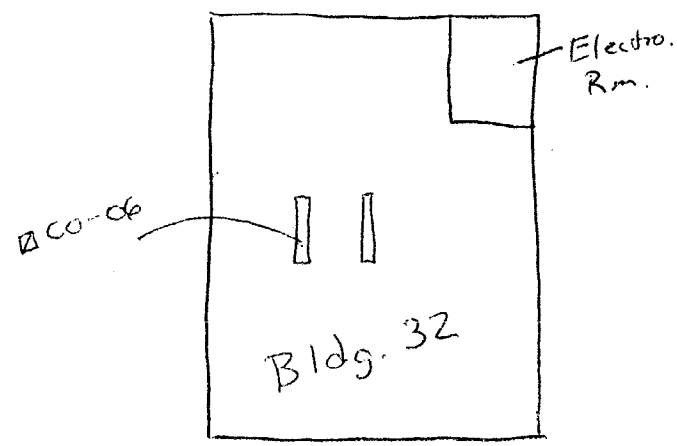
- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- x Other (Specify): Concrete

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.)
Grey concrete dust w/ large chunks

SAMPLE DATA/REMARKS: Photo Time: 11:45

ANALYSIS	BOTTLE LOT NO.
VOC	3
GRO	3 Encores
DRO/SVOC/PCB	(1) 8-oz
Metals	(1) 8-oz
% Solids	(1) 2-oz

NOTES/SKETCH:



Tt NUS Form 0005A

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: G32-CO-07-03 IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: _____
Depth Sampled: _____ feet
Sample Date & Time: 4/27/00 8:30 hours Dup ___ hours
Sampler(s): Messe/Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

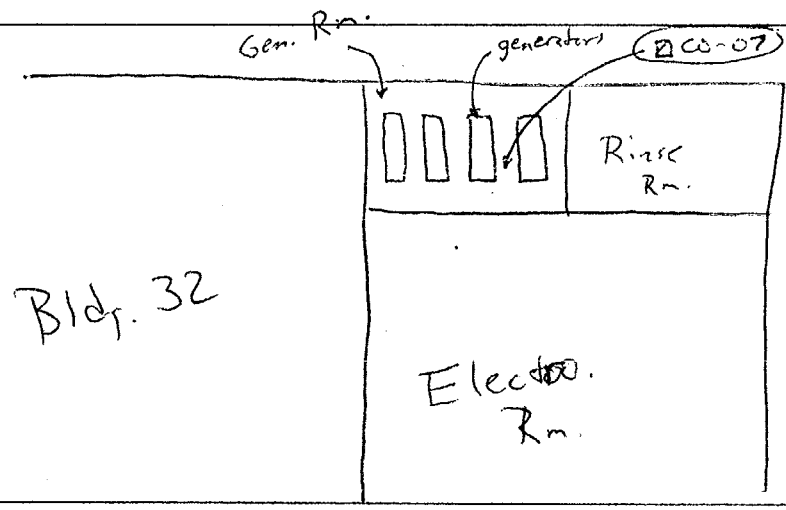
- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- X Other (Specify): Concrete

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Grey concrete dust w/ large concrete chunks

SAMPLE DATA/REMARKS: Photo Time: 8:45

ANALYSIS	BOTTLE LOT NO.
VOC	3 Encore
GRO	3
DRO/SVOC/PPCB	1 8-oz
metals	1 8-oz
% Solids	1 8-oz

NOTES/SKETCH:



TETRA TECH NUS, INC.

SAMPLE LOG SHEET - SOLID PHASE

Site Name: Gould Island Bldg. 32
Sample ID: 632-CO-08-03 IN

Tetra Tech, NUS Job No./PMS 7574-1020
QC Information: _____ (if applicable)

Sample Method: _____
Depth Sampled: _____ feet
Sample Date & Time: 4/27/00 9AM hours Dup ____ hours
Sampler(s): Masse/Meyer

Data Recorded By: [signature]
Signature

PID/OVA Monitor Reading: Ø ppm

TYPE OF SAMPLE: (Check all that apply)

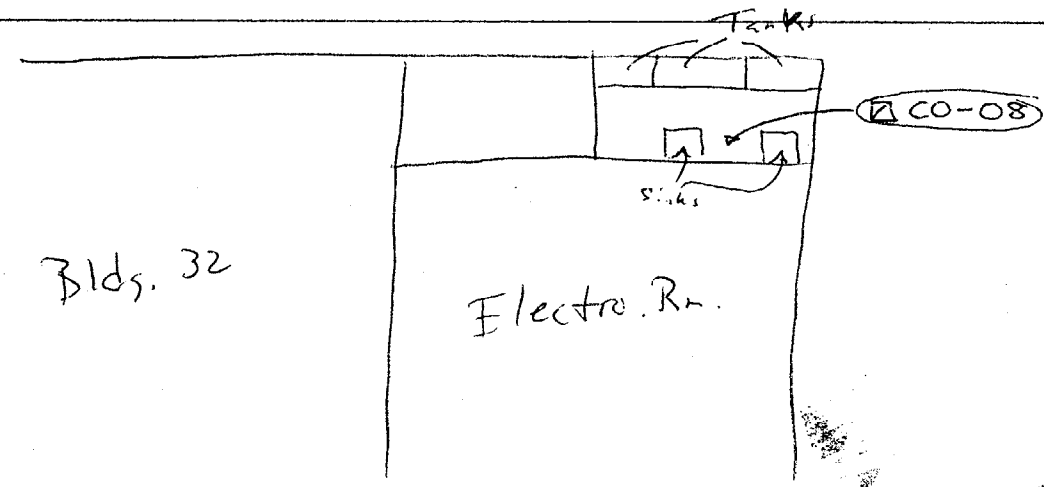
- ___ Soil
- ___ Sediment
- ___ Lagoon/Pond
- ___ Grab
- ___ Trip Blank*
- ___ Rinsate Blank*
- ___ Field Duplicate collected
- X Other (Specify): Concrete

Description: (Sand, Clay, Muck, Peat, Dry, Moist, Wet, Etc.) Grey/Black concrete, moist with stones.

SAMPLE DATA/REMARKS:

ANALYSIS	BOTTLE LOT NO.
VOC	3 Encore!
GRO	3
DRO/SVOC/PPCD	(1) 8-oz
Metals	(1) 8-oz
% Solids	(1) 2-oz

NOTES/SKETCH:



Tt NUS Form 0005A

#19076

ACCUTEST

CHAIN OF CUSTODY

FRESH PONDS CORPORATE VILLAGE, BUILDING B
2235 ROUTE 130, DAYTON, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

ACCUTEST JOB #:

ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: Tetra Tech NUS Inc.

ADDRESS: 55 Jonspin Rd.

CITY, STATE, ZIP: Wilmington, MA 01887

SEND REPORT TO: Steve Parker

PHONE #: 978-658-7870

FACILITY INFORMATION

PROJECT NAME: Gould Island Building 32 SI

LOCATION: Jamestown, RI

PROJECT NO.: 7574-1020

FAX #: 978-658-7870

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NaOH	HNO3	H2SO4	NONE	TCE	VOC (Encore)	GRO (Encore)	DRO/PCB/SVOC	Metals	% Solids						LAB USE ONLY
	G32-CO-01-03IN	4/18/00	9AM	DAM	SOL	9						X	3	3	1	1	1						
	G32-CO-02-03IN	4/18/00	9:15AM	DAM	SOL	9						X	3	3	1	1	1						
	G32-CO-03-03IN	4/18/00	9:30AM	DAM	SOL	9						X	3	3	1	1	1						
	G32-CO-04-03IN	4/18/00	12:30PM	DAM	SOL	9						X	3	3	1	1	1						
	G32-CO-05-03IN	4/18/00	1:30PM	DAM	SOL	17						X	6	6	2	2	1						
	G32-DUP 1	4/18/00	12PM	DAM	SOL	9						X	3	3	1	1	1						

DATA TURNAROUND INFORMATION

- [x] 21 DAYS STANDARD
- [ ] 14 DAYS *RUSH*
- [ ] 7 DAYS *EMERGENCY*
- [ ] OTHER

APPROVED BY:

21 DAY TURNAROUND HARDCOPY. EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- [ ] NJ REDUCED
- [ ] NJ Full
- [ ] FULL CLP
- [ ] DISK DELIVERABLE
- [x] OTHER (SPECIFY) See SOW
- [ ] COMMERCIAL "A"
- [ ] COMMERCIAL "B"
- [ ] STATE FORMS

COMMENTS/REMARKS

SOL = Concrete Dust

G32-CO-05-03IN Dup

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. [signature]	4/18/00 2:30 PM	1. FedEx AB# 809582050800	2.		2.
RELINQUISHED BY: 3.	DATE TIME:	RECEIVED BY: 3.	RELINQUISHED BY: 4.	DATE TIME:	RECEIVED BY: 4.
RELINQUISHED BY: 5.	DATE TIME:	RECEIVED BY: 5.	SEAL # 19076	PRESERVE WHERE APPLICABLE ☐	ON ICE Y/N

2 Coolers

ACCUTEST

CHAIN OF CUSTODY

FRESH PONDS CORPORATE VILLAGE, BUILDING B
2235 ROUTE 130, DAYTON, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

ACCUTEST JOB #:

ACCUTEST QUOTE #:

CLIENT INFORMATION

NUS Inc.
Bloomfield Rd.
Lexington, MA 01887
STATE ZIP
REPORT TO: Steve Parker
PHONE #: 978-658-7870

FACILITY INFORMATION

Gould Island Bldg 32 SI
PROJECT NAME
Jamestown, RI
LOCATION
7574-1020
PROJECT NO.
FAX # 978-658-7870

ANALYTICAL INFORMATION

MATRIX CO
DW - DRINK WATE
GW - GROU WATE
WW - WAS WATE
SO - SOIL
SL - SLUD
OI - OIL
LIQ - OTHE LIQU
SOL - OTHE SOLI

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	HCl	NaOH	HNO3	H2SO4	NONE	ICE	VOC (Encore)	GRO (Encore)	DRO/PCB/SVOC	Metals	% Solids	VOC (~~PCB~~) - AQU	GRO - AQU					LAB USE
	G32-SS-01-06IN	4/20/00	10:30AM	DAM	SO	9						X	3	3	1	1	1							
	G32-SS-02-06IN	4/20/00	8AM	DAM	SO	9						X	3	3	1	1	1							
	G32-SS-03-06IN	4/20/00	9AM	DAM	SO	9						X	3	3	1	1	1							
	G32-SS-04-06IN	4/20/00	8:30AM	DAM	SO	9						X	3	3	1	1	1							
	G32-SS-05-06IN	4/20/00	11:15	DAM	SO	9						X	3	3	1	1	1							
	G32-SS-06-06IN	4/20/00	11:45	DAM	SO	9						X	3	3	1	1	1							
	G32-SS-07-06IN	4/20/00	9 AM	DAM	SO	9						X	3	3	1	1	1							
	G32-SS-08-06IN	4/20/00	9:30	DAM	SO	17						X	6	6	2	2	1							
	G32-DUP2	4/20/00	9:15	DAM	SO	9						X	3	3	1	1	1							
	TB-042000	4/20/00	12:00	DAM	LIQ	2	X					X						2						
	PB-042000	4/20/00	1515	DAM	LIQ	4	X											2	2					

DATA TURNAROUND INFORMATION

- 21 DAYS STANDARD
- 14 DAYS RUSH
- 7 DAYS EMERGENCY
- OTHER:

APPROVED BY:

TURNAROUND HARDCOPY, EMERGENCY OR RUSH IS FAX ONLY UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- ☐ NJ REDUCED
- ☐ NJ Full
- ☐ FULL CLP
- ☐ DISK DELIVERABLE
- ☒ OTHER (SPECIFY) See SOW
- ☐ COMMERCIAL "A"
- ☐ COMMERCIAL "B"
- ☐ STATE FORMS

COMMENTS/REMARKS

G32-SS-08-06IN DOMS/MSD
TB-042000 was poured by Labo

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
SAMPLER:	4/20/00 2:30 PM	1. Fed. Ex. # 809582050795	2.		2.
	DATE TIME:	3. 809582050784	4.		4.
	DATE TIME:				

SEAL # 19172 & 19174 PRESERVE WHERE APPLICABLE ☐ ON ICE ☐ TEMPERAT

2 Coolers

ACCUTEST

CHAIN OF CUSTODY

FRESH PONDS CORPORATE VILLAGE, BUILDING B
2235 ROUTE 130, DAYTON, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

ACCUTEST JOB #:

ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: Tetra Tech NUS Inc.
ADDRESS: 55 Jonspin Rd.
CITY, STATE, ZIP: Wilmington, MA 01887
SEND REPORT TO: Steve Parker
PHONE #: 978-658-7870

FACILITY INFORMATION

PROJECT NAME: Gould Island Bldg. 32 SI
LOCATION: Jamestown, RI
PROJECT NO.: 7574-1020
FAX #: 978-658-7870

ANALYTICAL INFORMATION

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	DATE	TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	HCl	NaOH	HNO3	H2SO4	NONE	VOC (Encore)	GRO (Encore)	DRO/PCB/Pesticide	Metals	250 ml Poly NaOH Bottle Sulfide	1 Liter Amber Glass DRO	1 Liter Amber Glass SVOC	1 Liter Amber Glass Pesticide	40 ml VOA Vial HCl VOC	40 ml VOA Vial HCl GRO	1 Liter Poly HNO3 TAL Metals
	RB-042000	4/20/00	1530	DAM	L'g	11	X	X	X							1	1	1	1	3	3	1

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

LAB USE ONLY

DATA TURNAROUND INFORMATION

- [x] 21 DAYS STANDARD
- [ ] 14 DAYS *RUSH*
- [ ] 7 DAYS *EMERGENCY*
- [ ] OTHER _____

APPROVED BY: _____

21 DAY TURNAROUND HARDCOPY. EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- [ ] NJ REDUCED
- [ ] NJ Full
- [ ] FULL CLP
- [ ] DISK DELIVERABLE
- [x] OTHER (SPECIFY) See SOW
- [ ] COMMERCIAL "A"
- [ ] COMMERCIAL "B"
- [ ] STATE FORMS

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. [signature]	4/20/00 2:30 PM	1. Fed Ex. #809582050795	2.		2.
RELINQUISHED BY:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
3.		3. & 809 582050784	4.		4.
RELINQUISHED BY:	DATE TIME:	RECEIVED BY:	SEAL # 19172 & 19174	PRESERVE WHERE APPLICABLE ☐	ON ICE ☐ TEMPERAT
5.		5.			

2 Coolers

ACCUTEST®

CHAIN OF CUSTODY

FRESH PONDS CORPORATE VILLAGE, BUILDING B
2235 ROUTE 130, DAYTON, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

ACCUTEST JOB #:

ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: Tetra Tech NUS
ADDRESS: 55 Jonspin Rd.
CITY, STATE, ZIP: Wilmington MA 01887
SEND REPORT TO: Steve Parker
PHONE #: 978-658-7870

FACILITY INFORMATION

PROJECT NAME: Gould Island Bldg. 32 SI
LOCATION: Jamestown, RI
PROJECT NO.: 7574-1020
FAX #: 978-658-7870

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NaOH	HNO3	H2SO4	NONE	ICE	VOC	GRO	DRO/PPCB/SVOC	Metals	% Solids	VOC AQ	2,3,7,8 TCDD Pesticides	Pesticides Amber Glass	Herbicides Amber Glass	Cyanide Glass SVOC	Cyanide Plastic Plastic/PCB	Phenols Amber Glass VOC	Phenols Plastic Plastic/VOA Vial HCl	Phenols Plastic Plastic/VOA Vial HCl GRO	Phenols Plastic Plastic/VOA Vial HCl	HNO3 TAL Metals	LAB USE ONLY
	G32-DR-03	4/24/00	9:30AM	DAM	SO	9						X	3	3	1	1	1											
	G32-DR-05	4/24/00	9:50AM	DAM	SO	9						X	3	3	1	1	1											
	G32-DR-04	4/24/00	10AM	DAM	SO	17						X	6	6	2	2	1											
	G32-DR-06	4/24/00	10:30	DAM	SO	9						X	3	3	1	1	1											
	G32-DR-01	4/24/00	10:45	DAM	SO	9						X	3	3	1	1	1											
	G32-DR-12	4/24/00	12 Noon	DAM	SO	9						X	3	3	1	1	1											
	G32-DR-02	4/24/00	12:10	DAM	SO	9						X	3	3	1	1	1											
	G32-DUP3	4/24/00	11:00	DAM	SO	9						X	3	3	1	1	1											
	TB-042400	4/24/00	12PM	DAM	~~SO~~													2										
	RB-042400	4/24/00	3:00PM	DAM	~~SO~~		X	X	X											1	1	1	1	1	1	1		

DATA TURNAROUND INFORMATION

- ☒ 21 DAYS STANDARD
- ☐ 14 DAYS RUSH
- ☐ 7 DAYS EMERGENCY
- ☐ OTHER

APPROVED BY:

21 DAY TURNAROUND HARDCOPY. EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- ☐ NJ REDUCED
- ☐ NJ Full
- ☐ FULL CLP
- ☐ DISK DELIVERABLE
- ☒ OTHER (SPECIFY) See SOW
- ☐ COMMERCIAL "A"
- ☐ COMMERCIAL "B"
- ☐ STATE FORMS

COMMENTS/REMARKS

G32-DR-04 DO MS/MSD

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY: SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. [signature]	4/24/00 2:30PM	1. Fed Ex # 809582050773 809582050762	2.		2.
RELINQUISHED BY: 3.	DATE TIME:	RECEIVED BY: 3.	RELINQUISHED BY: 4.	DATE TIME:	RECEIVED BY: 4.
RELINQUISHED BY: 5.	DATE TIME:	RECEIVED BY: 5.	SEAL # 19074 & 19072	PRESERVE WHERE APPLICABLE ☐	ON ICE ☒ TEMPERATURE ____ C

1 Cooler

CHAIN OF CUSTODY

ACCUTEST

FRESH PONDS CORPORATE VILLAGE, BUILDING B
2235 ROUTE 130, DAYTON, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

ACCUTEST JOB #:

ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: Tetra Tech NUS

ADDRESS: 55 Jonspin Rd.

CITY, STATE, ZIP: Wilmington MA 01887

SEND REPORT TO: Steve Parker

PHONE #: 978-658-7870

FACILITY INFORMATION

PROJECT NAME: Gould Island Bldg. 32 SI

LOCATION: Jamestown, RI

PROJECT NO.: 7574-1020

FAX #: 978-658-7870

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NaOH	HNO3	H2SO4	NONE	TCE	VOC	GRO	DRO/PPCB/SVOC	Metals	% Solids	VOC AQ 250 mL Poly Cyanide	1L Amber Glass SVOC	1L Amber Glass Pest/PCB	40 mL VOA Vial HCL VOC	40 mL VOA Vial HCL GRO	1L Poly HNO3 TAL Metals	LAB USE ONLY
	G32-DR-13	4/25/00	8:45	DAM	SL	9						X	3	3	1	1	1							
	G32-DR-14	4/25/00	9AM	DAM	SL	9						X	3	3	1	1	1							
	G32-DR-08	4/25/00	9:30	DAM	SL	7	X								1	1	1					2	2	
	G32-DR-07	4/25/00	10:15	DAM	SL	9							3	3	1	1	1							
	TB-042500	4/14/00	12 Noon	DAM	LIQ	2												2						

DATA TURNAROUND INFORMATION

- [x] 21 DAYS STANDARD
- [ ] 14 DAYS *RUSH*
- [ ] 7 DAYS *EMERGENCY*
- [ ] OTHER

APPROVED BY:

21 DAY TURNAROUND HARDCOPY. EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- [ ] NJ REDUCED
- [ ] NJ Full
- [ ] FULL CLP
- [ ] DISK DELIVERABLE
- [x] OTHER (SPECIFY)
- [ ] COMMERCIAL "A"
- [ ] COMMERCIAL "B"
- [ ] STATE FORMS

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. [signature]	4/25/00 2:30PM	1. Fed Ex #: 809582050751	2.		2.
RELINQUISHED BY: 3.	DATE TIME:	RECEIVED BY: 3.	RELINQUISHED BY: 4.	DATE TIME:	RECEIVED BY: 4.
RELINQUISHED BY: 5.	DATE TIME:	RECEIVED BY: 5.	SEAL # 19070	PRESERVE WHERE APPLICABLE ☐	ON ICE ☐ TEMPERATURE ____ C

2 coolers

ACCUTEST

CHAIN OF CUSTODY

FRESH PONDS CORPORATE VILLAGE, BUILDING B
2235 ROUTE 130, DAYTON, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

ACCUTEST JOB #:

ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: Tetra Tech NUS
ADDRESS: 55 Jonspin Rd.
CITY: Wilmington STATE: MA ZIP: 01887
SEND REPORT TO: Steve Parker
PHONE #: 978-658-7899

FACILITY INFORMATION

PROJECT NAME: Gould Island Bldg. 32 SI
LOCATION: Jamestown, RI
PROJECT NO.: 7574-1020
FAX #: 978-658-7870

ANALYTICAL INFORMATION

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	DATE	TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	HCl	NaOH	HNO3	H2SO4	NONE	ICE	VOC	GRO	DRO/PCB/SVOC	Metals	% Solids	VOC - AQU	250mL Poly Cyanide	1L Amber Glass DRO	1L Amber Glass SVOC	40mL VOA VIAL HCL VOC	40mL VOA VIAL HCL GRO	1L Poly HNO3 TAL Metals	LAB USE ONLY
	G32-CO-06-03IN	4/26/00	11:30	DAM	SOL	9						X	3	3	1	1	1								
	G32-DR-09	4/26/00	7:30	DAM	SOL	9						X	3	3	1	1	1								
	G32-DR-10	4/26/00	9AM	DAM	SOL	14	X					X	4	4	2	2	2					4	4		
	G32-DR-11	4/26/00	10:30	DAM	SOL	7	X					X			1	1	1					2	2		
	G32-DUP4	4/26/00	12 Noon	DAM	SL	7	X					X			1	1	1					2	2		
	TB-042600	4/24/00	12 Noon	DAM	LIQ	2	X					X										2			
	RB-042600	4/26/00	1:00	DAM	LIQ	9	X	X	X			X							1	1	1	1	2	2	1	

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

DATA TURNAROUND INFORMATION

- [x] 21 DAYS STANDARD
- [ ] 14 DAYS *RUSH*
- [ ] 7 DAYS *EMERGENCY*
- [ ] OTHER

APPROVED BY:

21 DAY TURNAROUND HARDCOPY. EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- [ ] NJ REDUCED
- [ ] NJ Full
- [ ] FULL CLP
- [ ] DISK DELIVERABLE
- [x] OTHER (SPECIFY) See SOW
- [ ] COMMERCIAL "A"
- [ ] COMMERCIAL "B"
- [ ] STATE FORMS

COMMENTS/REMARKS

SOL = Concrete Dust
G32-DR-10 DO MS/MSD

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. [signature]	4/26/00 3PM	1. Fed-Ex # 809582058740 809582050730	2.		2.
RELINQUISHED BY: 3.	DATE TIME:	RECEIVED BY: 3.	RELINQUISHED BY: 4.	DATE TIME:	RECEIVED BY: 4.
RELINQUISHED BY: 5.	DATE TIME:	RECEIVED BY: 5.	SEAL # 19066 & 19064	PRESERVE WHERE APPLICABLE [ ]	ON ICE [x] TEMPERATURE ____ C

CHAIN OF CUSTODY

ACCUTEST

FRESH PONDS CORPORATE VILLAGE, BUILDING B
2235 ROUTE 130, DAYTON, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

ACCUTEST JOB #:

ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: Tetra Tech NUS
ADDRESS: 55 Jonspin Rd.
CITY: Wilmington STATE: MA ZIP: 01887
SEND REPORT TO: Steve Parker
PHONE #: 978-658-7899

FACILITY INFORMATION

PROJECT NAME: Gould Island Bldg. 32 SI
LOCATION: Jamestown, RI
PROJECT NO.: 7574-1020
FAX #: 978-658-7870

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NaOH	HNO3	H2SO4	NONE	ICE	VOC	GRO	DRO/PPCB/SVOC	Metals	% Solids	VOC-AQU	250mL Poly Cyanide	1L Amber DRO	1L Amber SVOC	1L Amber Pest/PCB	40 mL VOA VOC	40 mL VOA GRO	1L Poly TAL Metals	LAB USE ONLY
	G32-CO-07-03 IN	4/27/00	8:30	DAM	SOL	9						X	3	3	1	1	1									
	G32-CO-08-03 IN	4/27/00	9 AM	DAM	SOL	9						X	3	3	1	1	1									
	TB-042700	4/14/00	12 Noon	DAM	LIQ	2	X					X						2								
	RB-042700	4/27/00	12 NOON	DAM	LIQ	5		X	X			X							1	1	1	1			1	

DATA TURNAROUND INFORMATION

- [x] 21 DAYS STANDARD
- [ ] 14 DAYS *RUSH*
- [ ] 7 DAYS *EMERGENCY*
- [ ] OTHER

APPROVED BY:

21 DAY TURNAROUND HARDCOPY. EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- [ ] NJ REDUCED
- [ ] NJ Full
- [ ] FULL CLP
- [ ] DISK DELIVERABLE
- [x] OTHER (SPECIFY) See SOW
- [ ] COMMERCIAL "A"
- [ ] COMMERCIAL "B"
- [ ] STATE FORMS

COMMENTS/REMARKS

SOL = Concrete Dust

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. [signature]	4/27/00 3PM	1. Fed Ex #809582050729	2.		2.
3.		3.	4.		4.
5.		5.			

SEAL # 19062

PRESERVE WHERE APPLICABLE ☐ ON ICE ☐ TEMPERATURE _____ C