



**UNDERGROUND STORAGE TANK SYSTEM
PIPING CLOSURE AND SITE
INVESTIGATION REPORT
BUILDING 750
NJDEPE UST FACILITY NO. 008153
UST NOS. 191 AND 192
TMS NO. S-91-2811
SPILL CASE NO. 92-05-07-1600**

31 May 1994

W.O. No.: 03886-088-001

Prepared For:

**UNITED STATES ARMY
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
FORT MONMOUTH, NEW JERSEY 07703**

Prepared by:

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EXECUTIVE SUMMARY

On 25 July 1991, the U.S. Army Fort Monmouth Directorate of Public Works (DPW) submitted a permit application to the New Jersey Department of Environmental Protection and Energy (NJDEPE) to substantially modify the piping system associated with two (2) Underground Storage Tanks (USTs) at Building 750 on the Main Post. The modification included removal of the existing single wall ^{STPL 04} fiberglass piping, approximately 150 feet in length and replacing it with double wall fiberglass piping and a piping leak detection system. The permit also indicated that the piping system would be precision tested in lieu of soil sampling and analysis.

On 18 November 1991 Substantial Modification permit, TMS #S-91-2811, was issued by the NJDEPE for UST Nos. 191 and 192, Facility UST Registration No. 0081533. UST No. 191, a single wall fiberglass, 15,000-gallon capacity, gasoline tank, and UST No. 192, a single wall fiberglass, 15,000-gallon capacity, diesel tank were modified with leak detection systems, new dispensers and double walled piping. The permit was for a period of one year and would expire on 18 November 1992.

On 26 December 1991, precision tightness testing of the piping system was attempted. Due to the piping configuration, the test could not be performed. Eleven (11) soil samples were collected from along the piping for visual inspection. Based on this evaluation the soil was believed to be contaminated and a program was established to remediate the stained soils.

On 7 May 1992, excavation commenced along the piping and around the dispenser islands. Contamination was confirmed using organic vapor analyzer (OVA) readings. A discharge was reported immediately to the NJDEPE by the Directorate of Public Works (DPW) (Case No. 92-05-07-1600).

On 11 May 1992, excavation of the contaminated soils continued. Approximately 1,140 cubic yards of contaminated soil was removed. No groundwater was present in the excavation.

On 2 June 1992, twenty soil samples were collected from the piping excavation and analyzed by Analytical Associates Laboratory for volatile organic compounds plus 15 tentatively identified compounds (VO+15), base neutral extractable compounds plus 15 tentatively identified compounds (BN+15) and lead. All samples contained either non-detectable concentrations of contaminants or concentrations of contaminants below proposed NJDEPE subsurface cleanup criteria (revision dated 3 February 1994).

Between 30 October and 3 November 1992, four monitoring wells were installed in the area surrounding UST Nos. 191 and 192. Monitoring Well No. 1 (MW-1) was placed southwest of the tank farm; Monitoring Well No. 2 (MW-2) was placed northeast of the tank farm; Monitoring Well No. 3 (MW-3) was installed near the piping runs and Monitoring Well No. 4 (MW-4) between the two fuel distribution areas.



On 21 April 1993, one groundwater samples was collected from each monitoring well and analyzed by 21st Century Environmental Laboratories for VO+15, BN+15 and lead. Benzene and total xylenes were detected in groundwater samples collected from MW-4 (12 ug/L and 64 ug/L, respectively). These concentrations of contaminants exceed the NJDEPE Class II-A Ground Water Quality Criteria. In addition, methylene chloride was detected in all samples, including the laboratory method blank. Methylene chloride present in the method blank indicates its presence in samples is due to laboratory induced contamination.

On 7 June 1993, UST Nos. 191 and 192 were substantially modified in accordance with NJDEPE requirements. Charles J. Hoffman, Inc. performed the substantial modification of the UST system and piping closure.

Due to the concentrations of contaminants detected in MW-4 collected 21 April 1993 which exceeded the NJDEPE Class II-A Ground Water Quality Criteria, it is proposed that each monitoring well be analyzed quarterly for a one year period. Each sample will be analyzed for VO+15. The analytical results will be compared to Class II-A Ground Water Quality Criteria. Analytical results and recommendations for further action will be presented in an addendum to this report.

Based on remedial measures performed and the absence of contamination in the post excavation samples, it is recommended that no further action be required for soil surrounding the piping and dispenser areas.

SECTION 1.0

UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

On 7 June 1993, two underground storage tank (UST) systems were substantially modified in accordance with New Jersey Department of Environmental Protection and Energy (NJDEPE) requirements at U.S. Army Fort Monmouth, New Jersey. UST Nos. 191 and 192, were located adjacent to Building 750 in the Main Post area of Fort Monmouth. UST No. 191, a single walled 15,000-gallon capacity fiberglass tank which stored gasoline and UST No. 192, a single walled 15,000-gallon capacity fiberglass tank which stored diesel were modified by installation of leak detection, new dispensers and double walled piping. This report presents the results of the DPW's implementation of the UST Substantial Modification and Piping Closure Plan submitted to the NJDEPE-DHWM on 12 July 1991, and approved 18 November 1991. UST permit (TMS No. S-91-2811) was assigned to the U.S. Army for this modification.

All activities associated with the UST substantial modification and piping closure complied with all applicable Federal, State and Local laws and ordinances in effect at the date of decommissioning. These laws included but were not limited to: N.J.A.C. 7:14B-1 et seq., N.J.A.C. 7:26E-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 29 CFR 1910.146 & 29 CFR 1910.120. All permits including but not limited to the NJDEPE-approved UST Substantial Modification and Piping Closure Plan were posted onsite for inspection. At the time the work was performed, Charles J. Hoffman, Inc., the contractors that conducted the UST modification activities, were registered and certified by the NJDEPE for performing UST substantial modification activities. The UST substantial modification permit and the UST Site Assessment Summary Form have been included in Appendices A and B, respectively. The UST Site Assessment Summary Form has been signed and sealed by Mr. James Ott, P.E., Director of DPW.

This UST Piping System Closure and Site Investigation Report was prepared by Roy F. Weston Inc. (WESTON®), to assist the United States Army Directorate of Public Works (DPW) in complying with the NJDEPE Bureau of Underground Storage Tanks (NJDEPE-BUST) regulations. The applicable NJDEPE-BUST regulations at the date of closure were the "Technical Requirements for Site Remediation - Proposed New Rules" (N.J.A.C. 7:26E-1 et seq. May 1992). Section 1.0 of this UST System Piping Closure and Site Investigation Report provides a summary of the UST piping system decommissioning activities. Section 2.0 of this report describes the site investigation activities. Conclusions and recommendations, including the results of the soil and groundwater sampling investigation, are presented in the Section 3.0 of this report.

1.2 SITE DESCRIPTION AND UST HISTORY

Building 750 is located on Alexander Avenue within the northeastern portion of the Main Post of Fort Monmouth. A site location map is provided in Figure 1-1. A site map detailing the tank farm and former piping locations is provided in Figure 1-2. Building 750 is an active military vehicle repair and maintenance facility which was constructed in 1986. Two (2) USTs, identified as UST Nos. 191 and 192, are located approximately 150 feet east of Building 750. A piping chase, approximately 150 feet long, runs northwest and connects the diesel and gasoline dispenser area.

1.3 GEOLOGICAL/HYDROGEOLOGICAL SETTING

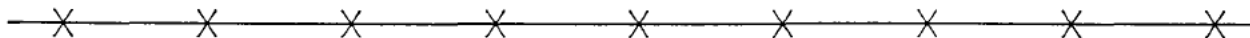
The following is a description of the geological/hydrogeological setting of the area surrounding Building 750. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

1.3.1 Geological Setting

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The Main Post, Charles Wood, and the Evans areas are located in what may be referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands.

In general, New Jersey, Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, sand, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapeczka, 1989). These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units which are generally thicker to the southeast and reflect a deeper water environment. Over 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward-coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations). The individual thicknesses for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapeczka, 1990).



FENCE



UST FIELD
15K DIESEL TANK
8K GASOLINE TANK

FUEL
DISPENSING
ISLAND

FUEL
DISPENSING
ISLAND

BUILDING 750



REVISION # 1 DATE: 5/16/94 PLOT NAME: B750USTS
FILE NAME: B750USTS.DWG DRAWN BY: B. VAC



PROJECT NAME:
UST SYSTEM PIPING CLOSURE AND
REMEDIAL INVESTIGATION REPORT
BUILDING 750 - UST NOS. 191,192
FORT MONMOUTH, NEW JERSEY
CLIENT NAME: U.S. ARMY - FORT MONMOUTH
DIRECTORATE OF PUBLIC WORKS

SITE MAP

DATE: 5/17/94

FIGURE #: 1-2

Local Geology

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Main Post area. The Red Bank sand conformably overlies the Navesink Formation and dips to the southeast at 35 feet per mile. The upper member (Shrewsbury) of the Red Bank sand is a yellowish-gray to reddish-brown clayey, medium-to-course-grained sand that contains abundant rock fragments, minor mica and glauconite (Jablonski). The lower member (Sandy Hook) is a dark grey to black, medium-to-fine grained sand with abundant clay, mica, and glauconite.

The Tinton sand conformably overlies the Red Bank Sand and ranges from a clayey, medium-to-very coarse grained feldspathic quartz and glauconite sand to a glauconitic coarse sand. The color varies from dark yellowish-orange or light brown to moderate brown and from light olive to grayish olive. Glauconite may constitute 60 to 80 percent of the sand fraction in the upper part of the unit (Minard, 1969). The upper part of the Tinton is often highly oxidized and iron-oxide encrusted (Minard).

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities by the military. Topographic elevations for the Main Post area range from five feet above mean sea level (MSL) to 31 feet above MSL.

1.3.2 Hydrogeological Setting

The water table aquifer at the Main Post is identified as part of the "composite confining units", or minor aquifers. The minor aquifers include the Navesink formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation, and the basal clay of the Kirkwood Formation.

Based on records from wells drilled at the Main Post, groundwater is typically encountered at depths of two to nine feet below ground surface (BGS). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce from 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Shallow groundwater is locally influenced within the Main Post area by the following factors:

- tidal influence (based on proximity to the Atlantic Ocean, rivers and tributaries),
- topography,
- nature of the fill material within the Main Post area,
- presence of clay and silt lenses in the natural overburden deposits, and
- local groundwater recharge areas (i.e. stream, lakes).

Due to the fluvial nature of the overburden deposits (i.e. sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis. This is consistent with

lithologies observed in borings installed within the Main Post area, which primarily consisted of fine-to-medium grained sands, with occasional lenses or laminations of silt and/or clay.

Building 750 is less than 1/4 mile north of Husky Brook, the nearest water body. In addition, Mill Brook is located approximately 1/4 mile north of Building 750. Four groundwater monitoring wells were installed as part of the substantial modification of UST Nos. 191 and 192. The monitoring well permit, monitoring well records and Form B for each well is provided in Appendix C. Figure 1-3 indicates the location of the groundwater monitoring wells and groundwater flow direction based on water level elevations obtained on 10 January 1994. Table 1-1 provides a summary of groundwater level informations. The groundwater flow direction in the area of Building 750 was determined to be to the northeast. The Atlantic Ocean is located approximately five miles east of the site.

1.3.3 Offsite Ground Water Usage

In compliance with the NJDEPE regulations, WESTON conducted a well search to identify all irrigation, monitoring, domestic, industrial and public supply wells within one half mile of Fort Monmouth. The file search produced records for 104 wells within one half mile of Building 750. The well search summary table includes the following information on surrounding wells: well identification number; well owner; well address; total depth (feet BGS); casing length (feet); static water level elevation (feet BGS); use code; and NJDEPE permit number. In addition, a summary table of all U.S. Army wells located at Fort Monmouth, which includes the following information: well number, NJDEPE permit number; New Jersey State Plane Coordinates; casing elevation and, elevation of ground well records for the nearest identified offsite well have also been included, if available. This information is included in Appendix D.

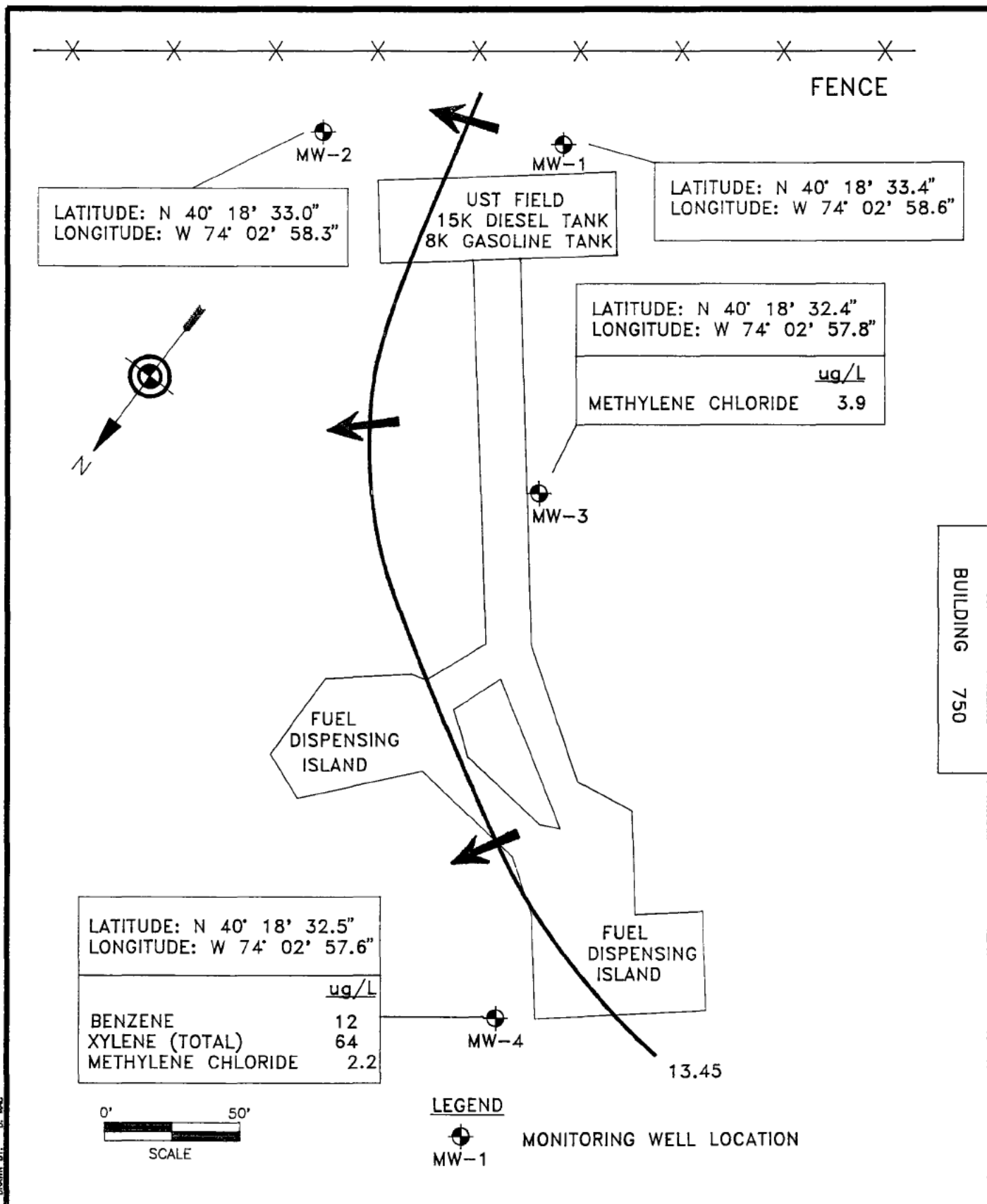
A review of the well records indicated that the majority of the wells within the area of concern are used for monitoring purposes. There were 90 monitoring wells. An irrigation well (Permit Number 29-22571), owned by Mr. A. Khristiansen is the closest to the site in the downgradient flow direction. The well is located at 54 Trafalcer Place, approximately 4,500 feet northeast of the site.

1.4 HEALTH AND SAFETY

Before, during, and after all activities, hazards at the work site which may have posed a threat to the health and safety of all personnel who were involved with, or were affected by, the decommissioning of the UST system were minimized. All areas which posed, or may have been suspected to pose a vapor hazard were monitored by a qualified individual utilizing approved equipment. The trained individual ascertained if the area was properly vented to render the area safe, as defined by OSHA.

TABLE 1-1
WATER LEVEL ELEVATIONS FOR
MONITORING WELLS MW-1, MW-2, MW-3 AND MW-4
COLLECTED ON 10 JANUARY 1994

Monitoring Well Permit Number	Time of Collection	Top of Well Casing Elevation (feet)	Depth to Water (feet)	Groundwater Surface Elevation (feet)
29-28992 (MW-1)	1:40 pm	18.79	5.39	13.40
29-28993 (MW-2)	1:42 pm	18.61	5.08	13.53
29-28994 (MW-3)	1:46 pm	19.04	5.23	13.81
29-28995 (MW-4)	1:50 pm	18.98	5.54	13.44



REVISION # 1 DATE: 5/16/94 PLOT NAME: B750LSTS
 FILE NAME: B750LSTS.DWG DRAWN BY: B. WAC



PROJECT NAME: UST SYSTEM PIPING CLOSURE
 AND SITE INVESTIGATION REPORT
 BUILDING 750 - UST NOS. 191,192
 FORT MONMOUTH, NEW JERSEY
 CLIENT NAME: U.S. ARMY - FORT MONMOUTH
 DIRECTORATE OF PUBLIC WORKS

**MONITORING WELL
 LOCATION PLAN AND
 GROUNDWATER FLOW**

DATE: 5/17/94 FIGURE #: 1-3

1.5 REMOVAL OF UNDERGROUND STORAGE TANK PIPING

1.5.1 General Procedures

Between 26 December 1991 and 7 June 1993 soil around the piping system for UST Nos. 191 and 192 were investigation for contamination.

Ground Water was evaluated by the installation and sampling of four (4) monitoring wells in the area of the tank farm, piping and dispenser areas between 30 October 1992 and 21 April 1993.

On 7 June 1993 the two UST systems were substantially modified by the installation of double wall fiberglass piping, leak detection systems and new dispensers.

- All underground obstructions (utilities,... etc.) were marked out by the contractor performing the closure prior to excavation activities.
- All activities were carried out with the greatest regard to safety and health and the safeguarding of the environment.
- All excavated soils were screened visually and with air monitoring instruments for evidence of contamination. Approximately 1140 cubic yards of contaminated soil was identified and removed during remediation activities.
- Surface materials (i.e, asphalt, concrete, etc...) were excavated and staged separate from all soils. These materials were later recycled in accordance with all applicable laws and regulations.
- A Sub-Surface Evaluator from the DPW was present during all closure activities.

1.5.2 Underground Storage Tank Piping Excavation

On 26 December 1991, after failure of precision tightness testing, soil samples were collected for visual inspection along the suction lines extending from UST Nos. 191 and 192 to the dispenser area. Soil screening revealed the presence of potential contamination and a program was established to excavate tainted soils.

On 7 May 1992, excavation commenced along the piping run and around the dispenser islands. Contamination was confirmed using an OVA. A discharge was immediately reported to the NJDEPE by the DPW (Case No. 92-05-07-1600). Soil was excavated to expose the piping. The piping was drained of all free product, removed and disposed. The dispenser islands were removed and soil beneath and surrounding them excavated.

On 11 May 1992 excavation of the dispenser areas continued and the area was excavated to non-detectable (OVA) levels. Approximately 1140 cubic yards of contaminated soil was removed and



transported to a designated staging area within Fort Monmouth (T-80 yard). The soil was then transported to Soil Remediation of Philadelphia, Inc. by Allied Environmental, Inc. for recycling. A certificate of soil remediation is provided in Appendix E. Groundwater was not present in the excavation.

1.6 UNDERGROUND STORAGE TANK PIPING TRANSPORTATION AND DISPOSAL:

The UST system piping was transported and disposed of by Charles J. Hoffman, Inc.

1.7 MANAGEMENT OF EXCAVATED SOILS:

Approximately 1140 cubic yards of contaminated soil was removed from the area surrounding the dispenser islands and placed on and covered with polyethylene sheets. All excavated soils suspected to be contaminated were excavated by Serv-Air, Inc., a base operations contractor, and transported, by Charles J. Hoffman, Inc. to a designated staging area within Fort Monmouth (T-80 yard). The soils were then transported to Soil Remediation of Philadelphia, Inc. for recycling. A certificate of soil remediation is provided in Appendix E.

SECTION 2.0

SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Site Investigation was managed and carried out by U.S Army DPW personnel. Post excavation soil analyses were performed and reported by A.A. Laboratories, Inc. Ground Water sample analysis was performed by 21st Century Environmental. Both laboratories were NJDEPE certified at the time testing was performed. All sampling was performed under the direct supervision of a NJDEPE Certified Sub-Surface Evaluator according to the methods described in the NJDEPE Field Sampling Procedures Manual (May 1992). Sampling frequency and parameters analyzed complied with the NJDEPE-BUST document "Technical Requirements for Site Remediation - Proposed New Rules" (May 1992) which was the applicable regulation at the date of closure. All records of the site investigation activities are maintained by Fort Monmouth DPW: Environmental Office.

The following Parties participated in closure and site investigation activities:

- **Closure Contractor: Charles J. Hoffman, Inc.**
Contact Person: Charles Hoffman
Phone Number: (908) 775-7979
NJDEPE Company Certification No.: 1300221
- **Subsurface Evaluator: Charles Appleby**
Employer: U.S. Army, Fort Monmouth
Phone Number: (908) 532-6224
NJDEPE Certification No.: 2056
- **Analytical Laboratory: A.A. Laboratories, Inc.**
Contact Person: Raymond Feldt
Phone Number: (609) 799-8787
NJDEPE Laboratory Certification No.: 12660
- **Analytical Laboratory: 21st Century Environmental, Inc.**
Contact Person: Richard W. Lynch
Phone Number: (609) 467-9521
NJDEPE Laboratory Certification No.: 08031

2.2 FIELD SCREENING/MONITORING

All soils that were excavated as part of the substantial modification of UST Nos. 191 and 192 were screened using a OVA, for evidence of contamination. Soils were also inspected visually for evidence of contamination (staining, free product, etc.). Soils on the sidewalls and base of the excavation were screened with a OVA by an individual under the direct supervision of the NJDEPE Certified Sub-Surface Evaluator. Evidence of contamination was noted during excavation of soils surrounding the UST system and associated piping and subsequently 1140 cubic yards of contaminated soil was removed and recycled. Excavation was continued until OVA readings on the sidewalls were below 10 units.

2.3 SOIL AND Ground Water SAMPLING

2.3.1 Soil

On 2 June 1992, following the exposure of the piping system, removal of the dispenser pads and excavation of potentially contaminated soils, twenty (20) soil samples were collected for laboratory analysis. Each sample was analyzed by A. A. Laboratories, Inc. (NJDEPE Certification No. 12660) for VO+15 and lead. Soil samples were obtained from the bottoms of the piping excavations, and the sidewalls and the bottoms of other excavated areas. Figure 2-1 depicts the locations of the post-excavation soil samples and Table 2-1 provides a summary of sampling activities including sample location and depths.

Samples were collected using decontaminated stainless steel scoops and placed in laboratory supplied sample bottles. After sampling, the soils were placed in coolers with ice for transportation to the laboratory. One field blank was collected during post-excavation sampling activities.

2.3.2 Ground Water

On 21 April 1993, one groundwater sample was collected from each of the four (4) monitoring well and analyzed by 21st Century Environmental Laboratories for VO+15 and BN+15. A summary of sampling activities including parameters analyzed is provided in Table 2-2.

The groundwater samples were collected using decontaminated teflon bailers. Prior to sampling, the wells were purged. Samples were placed into laboratory prepared sample bottles and placed in coolers with ice for transportation to the laboratory. In addition to the well samples, one duplicate sample was obtained from MW-4 and one trip blank and one field blank were collected and analyzed.

As noted in the analytical report narrative, volatile organic analysis surrogates for sample Nos. MW-4-2928995 and MW-4-2928995-Dup were outside of the acceptable range. Because the



surrogate did not pass quality control requirements they were re-analyzed. Surrogates for the second run were within acceptable limits.

The frequency of sampling and parameters analyzed were consistent with the applicable NJDEPE regulations at the date of closure, which were the "Technical Requirements for Site Remediation - Proposed New Rules" (N.J.A.C. 7:26E-1 et seq., dated May 1992).

TABLE 2-1
SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING NO. 750
UST NO. 191 & 192
FORT MONMOUTH, NEW JERSEY

Sample Location	Sample No.	Sample Location	Sample Depth (ft)	Date of Collection	Matrix	Sample Type	Analytical Parameters	Sampling Method
Site A	841A	Bottom of Piping Chase	2	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site B	842B	Bottom of Piping Chase	2	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site C	843C	Bottom of Piping Chase	2	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site D	844D	Bottom of Piping Chase	2	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site E	845E	Bottom of Piping Chase	2	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site F	846F	Excavation Sidewall	3-4	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site G	847G	Excavation Sidewall	3-4	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site H	848H	Excavation Sidewall	3-4	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site I	849I	Bottom of Excavation	3-4	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site J	850J	Excavation Sidewall	3-4	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site K	851K	Bottom of Piping Chase	3	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site L	852L	Bottom of Piping Chase	3	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site M	853M	Bottom of Piping Chase	3	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site N	854N	Excavation Sidewall	5	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site O	855O	Excavation Sidewall	5	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site P	856P	Bottom of Excavation	8	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop

TABLE 2-1 (CONTINUED)

**SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
BUILDING NO. 750
UST NOS. 191 & 192
FORT MONMOUTH, NEW JERSEY**

Sample Location	Sample No.	Sample Location	Sample Depth (ft)	Date of Collection	Matrix	Sample Type	Analytical Parameters	Sampling Method
Site Q	857Q	Excavation Sidewall	8	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site R	858R	Excavation Sidewall	8	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site S	859S	Excavation Sidewall	8	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site T	860T	Bottom of Excavation	8	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop

Abbreviations:

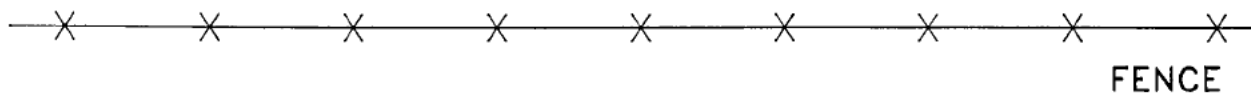
VO+15 - Volatile Organic Compounds plus 15 tentatively identified compounds.

TABLE 2-2
SUMMARY OF GROUNDWATER SAMPLING ACTIVITIES
BUILDING NO. 750
UST NO. 191 & 192
FORT MONMOUTH, NEW JERSEY

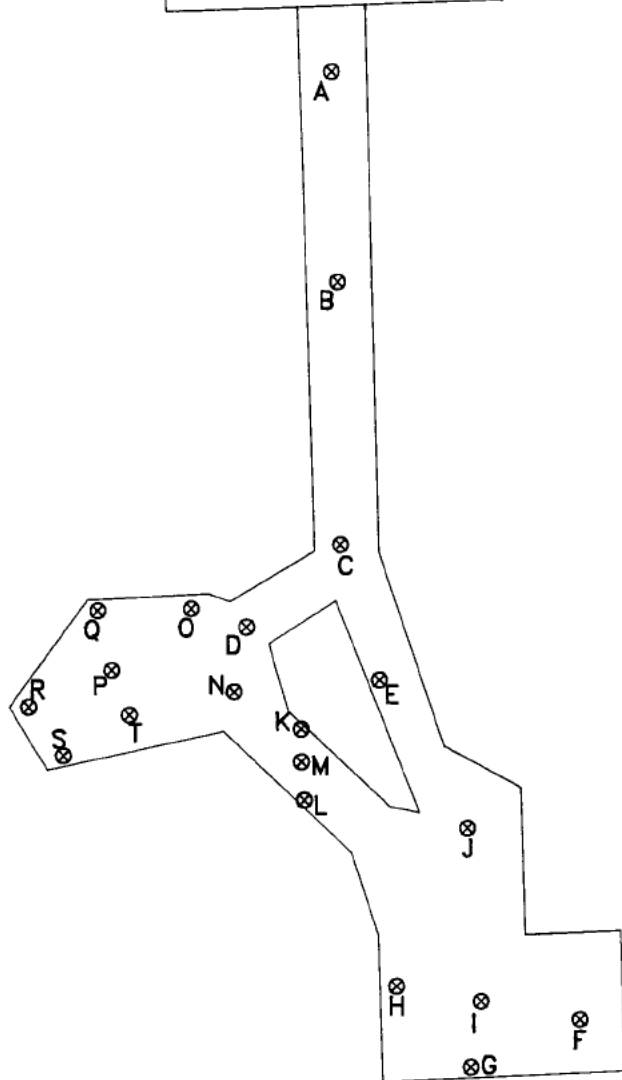
Sample Location	Date of Collection	Matrix	Sample Type	Analytical Parameters	Sampling Method
MW-1	4/21/93	Aqueous	Monitoring Well	VO+15, BN+15	Decontaminated Teflon Bailer
MW-2	4/21/93	Aqueous	Monitoring Well	VO+15, BN+15	Decontaminated Teflon Bailer
MW-3	4/21/93	Aqueous	Monitoring Well	VO+15, BN+15	Decontaminated Teflon Bailer
MW-4	4/21/93	Aqueous	Monitoring Well	VO+15, BN+15	Decontaminated Teflon Bailer

Abbreviations:

BN+15 - Base neutral compounds plus 15 tentatively identified compounds.
VO+15 - Volatile Organic analysis plus 15 tentatively identified compounds.



UST FIELD
15K DIESEL TANK
8K GASOLINE TANK



BUILDING 750



LEGEND

⊗ POST-EXCAVATION SAMPLING LOCATION

REVISION # 1 DATE 5/16/94 PLOT NAME: B750USTS
FILE NAME: B750USTS.DWG DRAWN BY: B. MAC

	PROJECT NAME: UST SYSTEM PIPING CLOSURE AND SITE INVESTIGATION REPORT BUILDING 750 - UST NOS. 191,192 FORT MONMOUTH, NEW JERSEY CLIENT NAME: U.S. ARMY - FORT MONMOUTH DIRECTORATE OF PUBLIC WORKS	POST-EXCAVATION SAMPLING LOCATIONS DATE: 5/17/94 FIGURE #: 2-1
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SECTION 3.0

CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL AND GROUND WATER SAMPLING RESULTS

To evaluate soil conditions following the substantial modification of the UST piping system for UST Nos. 191 and 192, twenty post-excavation soil samples were collected and analyzed by Analytical Associates Laboratories for VO+15 and lead. The post-excavation soil sample results were compared to NJDEPE Impact to Ground Water Soil Cleanup Criteria (revision dated 3 February 1994). All samples contained either non-detectable concentrations of contaminants or concentrations of contaminants below NJDEPE impact to groundwater soil cleanup criteria.

To evaluate groundwater conditions following the substantial modification of the UST piping system, one round of groundwater sampling was collected and analyzed for VO+15 and BN+15 by 21st Century Environmental, Inc. Analytical results from the groundwater samples were compared to NJDEPE Class II-A Ground Water Quality Criteria (N.J.A.C. 7:9-6.4, 6.8 and Table 1).

Benzene and total xylenes were detected in groundwater samples collected from MW-4 (12 ug/L and 64 ug/L, respectively). These concentrations of contaminants exceed the NJDEPE Class II-A Ground Water Quality Criteria. Methylene chloride was detected in all groundwater samples. Reported concentrations of methylene chloride were in excess of the NJDEPE's Class II-A Ground Water Quality Criteria. All analytical results for methylene chloride were marked with the data qualifier "B" to indicate methylene chloride was present in laboratory's quality control method blank sample. Therefore, the detected concentrations of methylene chloride in groundwater samples are attributable to laboratory induced contamination and not related to the operation of the piping. Figure 3-1 depicts the location of monitoring wells and contaminant concentrations for detected volatile and semivolatile compounds.

A summary of the analytical results and comparison to NJDEPE Impact to Ground Water Soil Cleanup Criteria is provided in Table 3-1. A summary of the analytical results for groundwater and comparison to NJDEPE Class II-A Ground Water Quality Criteria is provided in Table 3-2. A summary of the analytical methods used and quality assurance information is provided in Table 3-2. The analytical data package summary is provided in Appendix F. The full data package, including associated quality control and chromatograph data is on file at U.S. Army, DPW.

3.2 CONCLUSIONS AND RECOMMENDATIONS:

On 7 June 1993, DPW modified the piping system for UST Nos. 191 and 192 and closed the associated piping at Building 750 in the Main Post Fort Monmouth.

Ground Water flow direction at Building 750 is to the northeast based on water level readings obtained 10 January 1994. Due to the concentrations of contaminants detected in the downgradient well (MW-4) which exceed NJDEPE Class II-A Ground Water Quality Criteria, it is proposed that each monitoring well be analyzed quarterly for a period of one year. Each sample will be analyzed for VO+15. The analytical results will be compared to NJDEPE Class II-A Ground Water Quality Criteria. After completion of the quarterly sampling, an addendum to this report will be submitted to NJDEPE outlining sampling results and recommending further action if necessary.

Based on the remedial measures performed and the absence of contamination in the post excavation samples, it is recommended that no further action be required for soil surrounding the piping chases and dispenser areas.

TABLE 3-1

**SUMMARY OF ANALYTICAL RESULTS FOR SOILS
BUILDING NO. 750
UST NOS. 191 & 192
FORT MONMOUTH, NEW JERSEY**

Sample ID No.		841A	842B	843C	844D	845E	846F	847G	NJDEPE Impact to Ground Water Soil Cleanup Criteria
Lab ID No.		13608	13609	13610	13611	13612	13613	13614	
Matrix		Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Sample Type		PE	PE	PE	PE	PE	PE	PE	
Date of Collection		6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	
Analytical Parameters	Units								
Inorganics									
Lead	mg/kg	ND	5.46	5.75	2.81	2.51	4.38	5.54	NC
Volatile Organic Compounds									
Methylene Chloride	mg/kg	0.002 JB	0.0037 JB	0.0066 B	0.0063 B	0.0083 B	ND B	0.0075 B	1
Methyl Tert-Butyl Ether (MTBE)	mg/kg	0.0064	0.0086	0.0034 J	ND	ND	ND	ND	NC
Benzene	mg/kg	ND	0.0027 J	ND	ND	ND	ND	ND	1
Xylene (Total)	mg/kg	ND	0.0147 J	ND	ND	ND	ND	ND	10
1,2-Dichlorobenzene	mg/kg	ND	0.061	0.0037 J	ND	ND	ND	ND	50
Acetone (Tentatively Identified Compound)	mg/kg	ND	ND	0.006	ND	0.023	0.007	0.012	50

Abbreviations:

NC: - No subsurface cleanup criterion has been proposed for this analyte by NJDEPE.
 ND: - Indicates compound not detected.
 PE: - Post-Excavation.
 mg/kg: - Milligrams per kilograms.

Data Qualifiers:

B: - Indicates also present in blank.
 J: - Indicates detected below method detection limit.

TABLE 3-1 (CONTINUED)

**SUMMARY OF ANALYTICAL RESULTS FOR SOILS
BUILDING NO. 750
UST NOS. 191 & 192
FORT MONMOUTH, NEW JERSEY**

Sample ID No.		848H	849I	850J	8451K	852L	853M	865N	NJDEPE Impact to Ground Water Soil Cleanup Criteria
Lab ID No.		13615	13616	13617	13618	13619	13620	13621	
Matrix		Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Sample Type		PE	PE	PE	PE	PE	PE	PE	
Date of Collection		6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	
Analytical Parameters	Units								
Inorganics									
Lead	mg/kg	ND	9.58	2.88	3.50	2.74	2.40	2.87	NC
Volatile Organic Compounds									
Methylene Chloride	mg/kg	0.0042 JB	0.0052 JB	0.0043 JB	0.0043 JB	0.0052 JB	0.0067 B	0.0039 JB	1
Methyl Tert-Butyl Ether (MTBE)	mg/kg	0.0093	0.160	0.0057	0.0020 J	0.0022 J	0.0088	ND	NC
Benzene	mg/kg	0.0036 J	ND	ND	ND	ND	ND	ND	1
Xylene (Total)	mg/kg	ND	0.0069	ND	ND	ND	ND	ND	10
1,2-Dichlorobenzene	mg/kg	ND	ND	ND	ND	ND	ND	ND	50
Acetone (Tentatively Identified Compounds)	mg/kg	0.004	0.005	ND	ND	ND	ND	ND	50

Abbreviations:

- NC: - No subsurface cleanup criterion has been proposed for this analyte by NJDEPE.
 ND: - Indicates compound not detected.
 PE: - Post-Excavation.
 mg/kg: - Milligrams per kilograms.

Data Qualifiers:

- B: - Indicates also present in blank.
 J: - Indicates detected below method detection limit.

TABLE 3-1 (CONTINUED)

**SUMMARY OF ANALYTICAL RESULTS FOR SOILS
BUILDING NO. 750
UST NOS. 191 & 192
FORT MONMOUTH, NEW JERSEY**

Sample ID No.		855O	856P	857Q	858R	859S	860T	Method Blank	NJDEPE Impact to Ground Water Soil Cleanup Criteria
Lab ID No.		13622	13623	13624	13625	13626	13627	VBLK	
Matrix		Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Sample Type		PE	PE	PE	PE	PE	PE	QA	
Date of Collection		6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	NA	
Analytical Parameters	Units								
Inorganics									
Lead	mg/kg	ND	ND	ND	ND	6.88	8.33	NR	NC
Volatile Organic Compounds									
Methylene Chloride	mg/kg	0.0055 JB	0.0071 B	ND B	0.0046 JB	ND B	0.0015 B	0.0024 J	1
Tert-butyl Methyl Ether (MTBE)	mg/kg	ND	0.0042 J	ND	ND	ND	0.002 J	ND	NC
Benzene	mg/kg	ND	0.0015 J	ND	ND	ND	ND	ND	1
Xylene (Total)	mg/kg	ND	ND	ND	ND	ND	ND	ND	10
1,2-Dichlorobenzene	mg/kg	ND	ND	ND	ND	ND	ND	ND	50
Acetone (Tentatively Identified Compound)	mg/kg	0.006	ND	ND	ND	0.018	ND	ND	50

Abbreviations:

- NA: - Not applicable.
 NC: - No subsurface cleanup criterion has been proposed for this analyte by NJDEPE.
 ND: - Indicates compound not detected.
 NR: - Analysis not requested.
 PE: - Post-Excavation.
 QA: - Quality Assurance sample.
 mg/kg: - Milligrams per Kilograms.

TABLE 3-2

**SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER
BUILDING NO. 750
UST NOS. 191 & 192
FORT MONMOUTH, NEW JERSEY**

Sample ID No.		MW-1	MW-2	MW-3	MW-4	MW-4 (Dup)	Method Blank	NJDEPE Class II-A Ground Water Quality Criteria
Lab ID No.		A1629	A1628	A1627	A1630	A1631	NA	
Matrix		Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	
Sample Type		MW	MW	MW	MW	MW	QA	
Date of Collection		4/21/93	4/21/93	4/21/93	4/21/93	4/21/93	NA	
Analytical Parameters	Units							
Volatile Organic Compounds								
Xylene (Total)	ug/L	ND	ND	ND	64	53	ND	40
Benzene	ug/L	ND	ND	ND	12	9	ND	1
Toluene	ug/L	ND	ND	ND	16	12	ND	1,000
Ethylbenzene	ug/L	ND	ND	ND	6.8	5.4	ND	700
Methyl Tert-Butyl Ether (MTBE)	ug/L	ND	ND	30	500	500	ND	NC
Acetone	ug/L	140B	140B	2.7 JB	4.2 J	ND	3.6JB	700
Methylene Chloride	ug/L	2.0 JB	1.9 JB	3.9 JB	2.2 JB	2.9 JB	3.1JB	2
Tertiary Butyl Alcohol	ug/L	ND	ND	ND	6.6 J	7.2 J	ND	NC
Base Neutral Compounds								
Butylbenzylphthalate	ug/L	4.1 J	ND	ND	2.5 J	ND	ND	100
Bis(2-ethylhexyl)phthalate	ug/L	1.0 J	ND	ND	ND	ND	ND	100

Abbreviations:

- NA: - Not Available.
 NC: - No Class II-A groundwater cleanup standard has been proposed for this analyte by NJDEPE.
 ND: - Indicates compound not detected.
 NR: - Analysis not requested.
 MW: - Monitor well.
 QA: - Quality Assurance sample.
 ug/L: - Micrograms per Kilograms.

Data Qualifiers:

- B: - Indicates compound detected in blank.
 J: - Indicates compound detected below method detection limit (MDL).

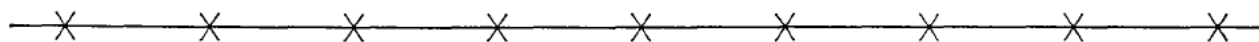
TABLE 3-3

**ANALYTICAL METHODS/QUALITY ASSURANCE SUMMARY TABLES
BUILDING NO. 750
UST NO. 191 AND 192
FORT MONMOUTH, NEW JERSEY**

Analytical Parameter	No. of Samples Collected	Matrix	Date Collected	Date Analysis Completed	Preservation Method	USEPA SW-846 Analytical Method
VO+15	19	Soil	6/2/92	6/8/92	Cool to 4°C	8240
Lead	19	Soil	6/2/92	6/11/92	Cool to 4°C	6010
VO+15	4	Aqueous	4/21/93	4/28/93	Cool to 4°C	USEPA-CLP-IFB
BN+15	4	Aqueous	4/21/93	5/13/93	Cool to 4°C	8270

Abbreviations:

USEPA-CLP-IFB - Volatile samples were analyzed using the method cited in the USEPA-CLP-IFB version 2/88. The CLP volatile method is based on USEPA Method 624 and SW-846.
VO+15: - Volatile Organic Compounds plus 15 tentatively identified compounds.
C: - Celsius.
BN+15: - Base Neutral Compounds plus 15 tentatively identified compounds.



FENCE



LATITUDE: N 40° 18' 33.0"
LONGITUDE: W 74° 02' 58.3"



UST FIELD
15K DIESEL TANK
8K GASOLINE TANK

LATITUDE: N 40° 18' 33.4"
LONGITUDE: W 74° 02' 58.6"



LATITUDE: N 40° 18' 32.4"
LONGITUDE: W 74° 02' 57.8"

ug/L
METHYLENE CHLORIDE 3.9



BUILDING 750

FUEL
DISPENSING
ISLAND

LATITUDE: N 40° 18' 32.5"
LONGITUDE: W 74° 02' 57.6"

	<u>ug/L</u>
BENZENE	12
XYLENE (TOTAL)	64
METHYLENE CHLORIDE	2.2

FUEL
DISPENSING
ISLAND



SCALE

LEGEND



MONITORING WELL LOCATION

REVISION # 1 DATE: 5/16/94 PLOT NAME: B750JSTS
FILE NAME: B750JSTS.DWG DRAWN BY: B. MAC



PROJECT NAME:
UST SYSTEM PIPING CLOSURE
AND SITE INVESTIGATION REPORT
BUILDING 750 - UST NOS. 191,192
FORT MONMOUTH, NEW JERSEY
CLIENT NAME: U.S. ARMY - FORT MONMOUTH
DIRECTORATE OF PUBLIC WORKS

MONITORING WELL
LOCATIONS

DATE: 5/17/94

FIGURE #: 3-1



APPENDIX A

NJDEPE-BUST SUBSTANTIAL MODIFICATION PERMIT

UNDERGROUND STORAGE TANK SYSTEM PERMIT

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL
PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF UNDERGROUND STORAGE TANKS
CN-029, TRENTON, NJ 08625-0029

- SEE
Substantial
modification
File.

4-14-94

Chen

App

TMS # S-91-2811

UST # 0081533

NOV 22 1991

Fort Monmouth
Main Post West Building 750
Fort Monmouth

(Monmouth County)

THE ABOVE LISTED FACILITY IS HEREBY GRANTED A PERMIT TO PERFORM THE
FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et seq.:

Substantial modification to one (1) underground gasoline
storage tank and one (1) diesel tank, to consist of installation
of a discharge monitoring system, and spill and overfill
prevention.

ON-SITE MANAGER: Joseph M. Fallon

TELEPHONE: 908 532-1475

OWNER: United States Army

TELEPHONE:

EFFECTIVE DATE: November 18, 1991

EXPIRATION DATE: November 18, 1992

THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED
ACTIVITY AND MUST BE MADE AVAILABLE FOR INSPECTION AT ALL TIMES.

Kenneth Goldstein

KENNETH GOLDSTEIN, P.E., CHIEF
BUREAU OF UNDERGROUND STORAGE TANKS

YELLOW- APPLICANT

COPY- APPLICANT

COPY- LCO

COPY- TMS

COPY- R&B



APPENDIX B

NJDEPE UST SITE ASSESSMENT SUMMARY FORM



UST# _____
Date Rec'd: _____
TMS# _____
Staff: _____

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation

CN 028
Trenton, NJ 08625-0028
Tel. # 609-984-3156
Fax. # 609-292-5604

Scott A. Weiner
Commissioner

Karl J. Delane
Director

**UNDERGROUND STORAGE TANK
SITE ASSESSMENT SUMMARY**

*Under the provisions of the Underground Storage
of Hazardous Substances Act
in accordance with N.J.A.C. 7:14B*

This Summary form shall be used by all owners and operators of Underground Storage Tank Systems (USTS) who have either reported a release and are subject to the site assessment requirements of N.J.A.C. 7:14B-8.2 or who have closed USTS pursuant to N.J.A.C. 7:14B-9.1 et seq. and are subject to the site assessment requirements of N.J.A.C. 7:14B-9.2 and 9.3.

INSTRUCTIONS:

- Please print legibly or type.
- Fill in all applicable blanks. This form will require various attachments in order to complete the Summary. The technical guidance document, Interim Closure Requirements for USTs, explains the regulatory (and technical) requirements for closure and the Scope of Work, Investigation and Corrective Action Requirements for Discharges from Underground Storage Tanks and Piping Systems explains the regulatory (and technical) requirements for corrective action.
- Return one original of the form and all required attachments to the above address.
- Attach a scaled site diagram of the subject facility which shows the information specified in Item IV B of this form.
- Explain any "No" or "N/A" response on a separate sheet.

Date of Submission

6-7-94

81533-191 & 192

FACILITY REGISTRATION #

I. FACILITY NAME AND ADDRESS

U.S. Army Fort Monmouth
Directorate of Public Works, Building 167
Fort Monmouth, NJ 07703 County Monmouth
Telephone No. (908) 532-1475

OWNER'S NAME AND ADDRESS, if different from above

Telephone No. _____

II. DISCHARGE REPORTING REQUIREMENTS

A. Was contamination found? ☒ Yes ☐ No If Yes, Case No. 92-05-07-1600
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)

B. The substance(s) discharged was(were) Gasoline, Diesel

C. Have any vapor hazards been mitigated? ☒ Yes ☐ No ☐ N/A

III. DECOMMISSIONING OF TANK SYSTEMS

Closure Approval No. S-91-2811

The site assessment requirements associated with tank decommissioning are explained in the Technical Guidance Document, Interim Closure Requirements for UST's, Section V. A-D. Attach complete documentation of the methods used and the results obtained for each of the steps of tank decommissioning used. Please include a site map which shows the locations of all samples and borings, the location of all tanks and piping runs at the facility at the beginning of the tank closure operation and annotated to differentiate the status of all tanks and piping (e.g., removed, abandoned, temporarily closed, etc.). The same site map can be used to document other parts of the site assessment requirements, if it is properly and legibly annotated.

IV. SITE ASSESSMENT REQUIREMENTS

A. Excavated Soil

Any evidence of contamination in excavated soil will require that the soil be classified as either Hazardous Waste or Non-Hazardous Waste. Please include all required documentation of compliance with the requirements for handling contaminated excavated soil (if any was present) as explained in the technical guidance documents for closure and corrective action. Describe amount of soil removed, its classification, and disposal location.

B. Scaled Site Diagrams

1. Scaled site diagrams must be attached which include the following information:

- North arrow and scale
- The locations of the ground water monitoring wells
- Location and depth of each soil sample and boring
- All major surface and sub-surface structures and utilities.
- Approximate property boundaries
- All existing or closed underground storage tank systems, including appurtenant piping
- A cross-sectional view indicating depth of tank, stratigraphy and location of water table
- Locations of surface water bodies

C. Soil samples and borings (check appropriate answer)

- Were soil samples taken from the excavation as prescribed? ☒ Yes ☐ No ☐ N/A
- Were soil borings taken at the tank system closure site as prescribed? ☒ Yes ☐ No ☐ N/A
- Attach the analytical results in tabular form and include the following information about each sample
 - Customer sample number (keyed to the site map)
 - The depth of the soil sample
 - Soil boring logs
 - Method detection limit of the method used
 - QA/QC information as required

D. Ground Water Monitoring

1. Number of ground water monitoring wells installed 4

2. Attach the analytical results of the ground water samples in tabular form. Include the following information for each sample from each well:

- a. Site diagram number for each well installed.
- b. Depth of ground water surface.
- c. Depth of screened interval.
- d. Method detection limit of the method used.
- e. Well logs.
- f. Well permit numbers.
- g. QA/QC information as required.

V. SOIL CONTAMINATION

A. Was soil contamination found? Yes ☒ No ☒

If "Yes", please answer Question B-E

If "No", please answer Question B

B. The highest soil contamination still remaining in the ground has been determined to be:

- 1. 17.4 ppb total BTEX, 28 ppb total non-targeted VOC
- 2. NA ppb total B/N, NA ppb total non-targeted B/N
- 3. NA ppm TPHC
- 4. 9.58 ppb Lead (for non-petroleum substance)

C. Remediation of free product contaminated soils

- 1. All free product contaminated soil on the property boundaries and above the water table are believed to have been removed from the subsurface ☒ Yes ☐ No
- 2. Free product contaminated soils are suspected to exist below the water table ☐ Yes ☒ No
- 3. Free product contaminated soils are suspected to exist off the property boundaries. ☐ Yes ☒ No

D. Was the vertical and horizontal extent of contamination determined? ☒ Yes ☐ No ☐ N/A

E. Does soil contamination intersect ground water? ☒ Yes ☐ No ☐ N/A

VI. GROUND WATER CONTAMINATION

A. Was ground water contamination found? Yes ☒ No ☐

If "Yes", please answer Questions B-G.

If "No", please answer only Question B.

B. The highest ground water contamination at any 1 sampling location and at any 1 sampling event to date has been determined to be:

- 1. 98.8 ppb total BTEX, 160.4 ppb total non-targeted VOC
- 2. 5.1 ppb total B/N, 9.17 ppb total non-targeted B/N
- 3. 0 ppb total MTBE, 7.2 ppb total TBA
- 4. NA ppb NA (for non-petroleum substance)
- 5. greatest thickness of separate phase product found NA
- 6. separate phase product has been delineated ☐ Yes ☐ No ☒ N/A

C. Result(s) of well search

1. A well search (including a review of manual well records) indicates that private, municipal or commercial wells do exist within the distances specified in the Scope of Work. ☒ Yes ☐ No ☐ N/A

2. The number of these wells identified is 13.

D. Proximity of wells and contaminant plume -

1. The shallowest depth of any well noted in the well search which may be in the horizontal or vertical potential path(s) of the contaminant plume(s) is 20 feet below grade (consideration has been given for the effects of pumping, subsurface structures, etc. on the direction(s) of contaminant migration). This well is 1500 feet from the source and its screening begins at a depth of 5 feet.
2. The shallowest depth to the top of the well screen for any well in the potential path of the plume(s) (as described in D1 above) is 20 feet below grade. This well is located 1500 feet from the source.
3. The closest horizontal distance of a private, commercial or municipal well in the potential path of the plume (as determined in D1) is 4500 feet from the source. This well is 50 feet deep and screening begins at a depth of NA feet. (no screen)

E. A plan for separate phase product recovery has been included. Yes No X N/A

F. A ground water contour map has been submitted which includes the ground water elevations for each well.
X Yes No N/A

G. Delineation of contamination

1. The ground water contaminants have been delineated to MCLs or lower values at the property boundaries. Yes X No
2. The plume is suspected to continue off the property at concentrations greater than MCLs.
Yes X No
3. Off property access (circle one): is being sought has been approved has been denied
NA

VII. SITE ASSESSMENT CERTIFICATION [preparer of site assessment plan - N.J.A.C. 7:14B-8.3(b) & 9.5(a)(3)]

The person signing this certification as the "Qualified Ground Water Consultant" (as defined in N.J.A.C. 7:14B-1.6) responsible for the design and implementation of the site assessment plan as specified in N.J.A.C. 7:14B-8.3(a) & 9.2(b)(2), must supply the name of the certifying organization and certification number.

"I certify under penalty of law that the information provided in this document is true, accurate, and complete and was obtained by procedures in compliance with N.J.A.C. 7:14B-8 and 9. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) Charles Appleby

SIGNATURE 

COMPANY NAME U.S. Fort Monmouth

DATE 6-7-94

(Preparer of Site Assessment Plan)

CERTIFYING

ORGANIZATION

NJDEPE

CERTIFICATION

NUMBER

2056

VIII. TANK DECOMMISSIONING CERTIFICATION (person performing tank decommissioning portion of closure plan - N.J.A.C. 7:14B-9.5(a)4)

"I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) Charles Appleby SIGNATURE [Signature]
COMPANY NAME U.S. Army Fort Monmouth DATE 6-7-94
(Performer of Tank Decommissioning)

IX. CERTIFICATIONS BY THE RESPONSIBLE PARTY(IES) OF THE FACILITY

- A. The following certification shall be signed by the highest ranking individual with overall responsibility for that facility [N.J.A.C. 7:14B-2.3(c)1].

"I certify under penalty of law that the information provided in this document is true, accurate, and complete. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) James Ott SIGNATURE [Signature]
COMPANY NAME U.S. Army Fort Monmouth DATE 6/8/94

- B. The following certification shall be signed as follows (according to the requirements of N.J.A.C. 7:14B-2.3(C)2):

1. For a corporation, by a principal executive officer of at least the level of vice president.
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal or other public agency by either the principal executive officer or ranking elected official.
4. In cases where the highest ranking corporate partnership, governmental officer or official at the facility as required in A above is the same person as the official required to certify in B, only the certification in A need to be made. In all other cases, the certifications of A and B shall be made.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) _____ SIGNATURE _____
COMPANY NAME _____ DATE _____

ATTACHMENT I

NO/NA RESPONSE EXPLANATION

<u>SAS QUESTION #</u>	<u>RESPONSE</u>	<u>EXPLANATION</u>
V.A	No	No contaminants were identified in soil samples at concentrations exceeding proposed NJDEPE cleanup criteria.
V.B.2.3	N/A	Soil samples were not analyzed for these parameters.
VI.B.5,6	N/A	No free product was identified with respect to the substantial modification of UST Nos. 191 and 192.
VI.E	N/A	Same as above.
VI.G.1-3	No	Additional groundwater samples shall be collected in order to confirm the existence of groundwater contamination in the area surrounding the substantial modification of UST Nos. 191 and 192.

APPENDIX C
MONITORING WELL INFORMATION

VR-133M (4/90) SERIAL # 17288

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
TRENTON, N.J.

Permit No. 2928195

Mail to
Water Allocation
CN 029
Trenton, N.J. 08625

MONITORING WELL PERMIT

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 29144.41

Owner U.S. Army
Address Fort Monmouth, NJ 07703
Name of Facility 513th Motor Pool, Bldg 750
Address Fort Monmouth, NJ 07703

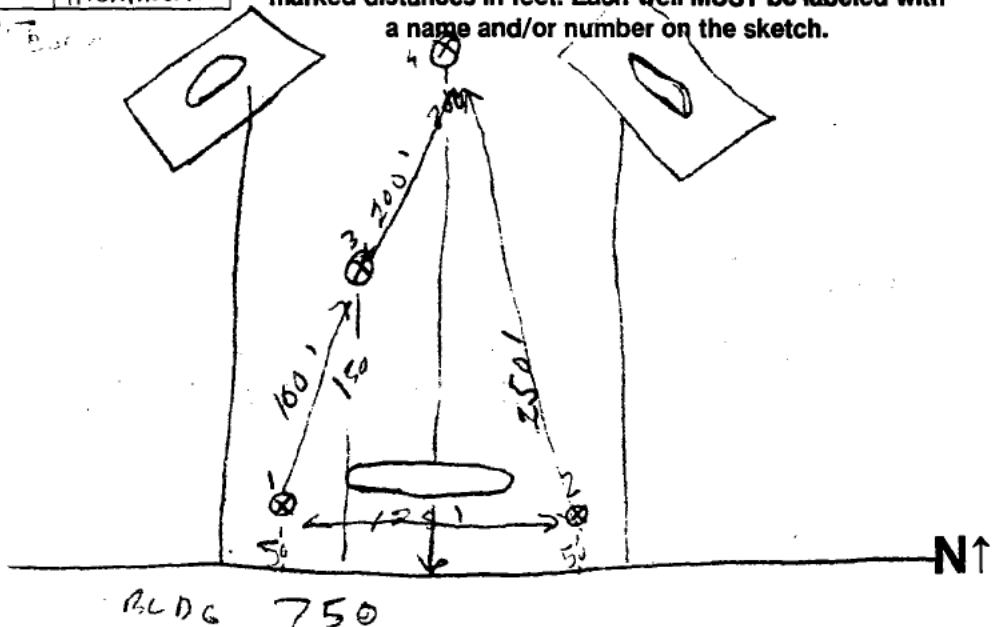
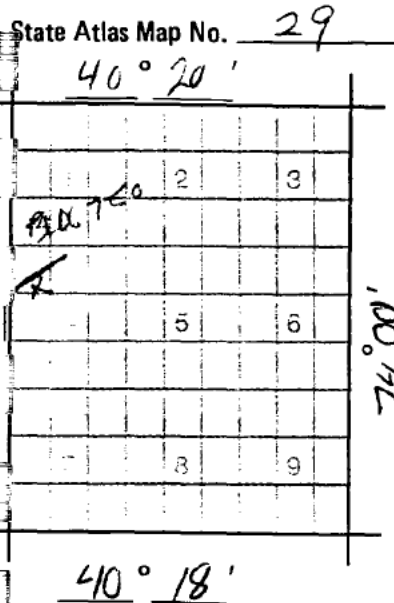
Driller Garden State Environmental Drilling
Address 1565 Suite 13, Rte 37 West
Toms River, NJ

Diameter of Well(s)	4" Inches	Proposed Depth of Well(s)	20' Feet
# of Wells Applied for (max. 10)	4	Will pumping equipment be installed? YES ☐ NO ☒	
Type of Well (see reverse)	MONITORING		If Yes, give pump capacity GPM

LOCATION OF WELL(S)

Lot # 1 Block # 3 Municipality Fort Monmouth County Monmouth

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Fund Case
- ☐ ECRA Case
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank
- ☐ NJPDES Municipal Discharge Permit
- ☐ NJPDES Industrial Discharge Permit
- ☐ Div. Hazardous Waste Mgmt. Enforcement Case
- ☐ Div. Water Resources Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____

Case I.D. Number _____

This Space for Approval Stamp

DEPT. OF ENVIRONMENTAL PROTECTION
Water Resources/Water Allocation
OCT 27 1992

FOR D.E.P. USE ☐ Issuance of this permit is subject to the conditions attached. (see next page) ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT.

In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date 10/27/92

Signature of Driller

Charles Smith

License #

1098

Signature of Owner

John Smith

Driller — White

MONITORING WELL RECORD

Well Permit No. 29 28092
Atlas Sheet Coordinates 29 : 14 : 441

OWNER IDENTIFICATION - Owner U.S. ARMY
Address 513 PATRICK POOL, BLDG. 750
City PORT HAZARD State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No.
County Municipality PORT HAZARD Lot No. 1 Block No. 3
Address

TYPE OF WELL (as per Well Permit Category) MONITORING Date well completed 10/30/92
Regulatory Program Requiring Well UST Case I.D. #
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) U.S. Army Tele. # 908-532-6224

WELL CONSTRUCTION

Total depth drilled 15' ft.

Well finished to 15' ft.

Borehole diameter:

Top 12" in.

Bottom 12" in.

Well was finished: ☐ above grade
☒ flush mounted

If finished above grade, casing
height (stick up) above land
surface ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 7'6" ft.

Water level was measured using WATER TUBE

Well was developed for 20 min hours at 1 gpm

Method of development NO PUMP

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity gpm

Pump type:

Drilling Method

Drilling Fluid Type of Rig PC AUGER

Name of Driller CLAUDE BOUTIN

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None D C B A

N.J. License No. 1098

Name of Drilling Company CLAUDE BOUTIN DRILLING COMPANY

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable
State rules and regulations.

Driller's Signature Claude Boutin

Date 10-31-92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

	Depth to Top (ft.) (From land surface)	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing				
Outer Casing (Not Protective Casing)	6"	5'	4"	PVC F.T.
Screen (Note slot size)	5'	15'	4"	P.V.C. F.T.
Tail Piece				
Gravel Pack	3'6"	15'	12"	SAND
Annular Seal/Grout	6'	3'6"	12"	BENSEAL
Method of Grouting				

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0' - 8' - GW
8' - 13' - SW
13' - 15' - CL GRGW
WATER AT 7'6"

MONITORING WELL RECORD

Well Permit No. 29 28993
Atlas Sheet Coordinates 29 14 441OWNER IDENTIFICATION - Owner U.S. ARMY
Address 513 HATCH POOL, BLDG. 750
City PORT HENRIETH State NJ Zip Code _____WELL LOCATION - If not the same as owner please give address. Owner's Well No. _____
County _____ Municipality OCEANPORT BORO Lot No. 1 Block No. 3
Address _____TYPE OF WELL (as per Well Permit Category) MONITORING Date well completed 10/30/92
Regulatory Program Requiring Well UST Case I.D. # _____
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) US Army Tele. # 908-532-6249

WELL CONSTRUCTION

Total depth drilled 15' ft.Well finished to 15' ft.

Borehole diameter:

Top 12 in.Bottom 12 in.Well was finished: ☐ above grade
☒ flush mountedIf finished above grade, casing
height (stick up) above land
surface _____ ft.

Was steel protective casing installed?

☐ Yes ☒ NoStatic water level after drilling 7'6" ft.Water level was measured using WATER TAPEWell was developed for 20 min hours at 5 gpmMethod of development WATER JUMPWas permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity _____ gpm

Pump type: _____

Drilling Method _____

Drilling Fluid _____ Type of Rig R61 AUGERName of Driller CLAUDE BRITTONHealth and Safety Plan submitted? ☐ Yes ☒ NoLevel of Protection used on site (circle one) None D C B AN.J. License No. 1098Name of Drilling Company GARDEN STATE DRILLING COMPANY

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Claude BrittonDate 10-31-92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing				
Outer Casing (Not Protective Casing)	6'	5'	4'	PVC F.J.
Screen (Note slot size)	5'	15'	4"	PVC F.J.
Tail Piece				
Gravel Pack	3'6"	15'	12"	SAND
Annular Seal/Grout	6"	3'6"	12"	BEUSCAL
Method of Grouting				

GEOLOGIC LOG

(Copies of other geologic logs and/or geophysical logs should be attached.)

0'-8' GW
8'-13' SW
13'-15' CL GRGW
WATER AT 7'6"

MONITORING WELL RECORD

Well Permit No. 29 23994
Atlas Sheet Coordinates 29 14 141OWNER IDENTIFICATION - Owner U.S. ARMY
Address 513 HAVEN POOL, BLDG. 7507
City FORT MONMOUTH State NY Zip Code _____WELL LOCATION - If not the same as owner please give address. Owner's Well No. _____
County _____ Municipality OCCANFORT BORO Lot No. 1 Block No. _____
Address _____TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 11-2-92
Regulatory Program Requiring Well UST Case I.D. # _____CONSULTING FIRM/FIELD SUPERVISOR (if applicable) U.S. ARMY Tele. # 908-533-62

WELL CONSTRUCTION

Total depth drilled 15' ft.Well finished to 15' ft.

Borehole diameter:

Top 12" in.Bottom 12" in.Well was finished: ☐ above grade
☒ flush mountedIf finished above grade, casing
height (stick up) above land
surface _____ ft.

Was steel protective casing installed?

☐ Yes ☒ NoStatic water level after drilling 7'6" ft.Water level was measured using WATER TAPESWell was developed for 20 minutes at _____ gpmMethod of development FOAM PUMPWas permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity _____ gpm

Pump type: _____

Drilling Method _____

Drilling Fluid _____ Type of Rig RLI mobileName of Driller CLAUDE BRITTONHealth and Safety Plan submitted? ☐ Yes ☒ NoLevel of Protection used on site (circle one) None D C B AN.J. License No. 1098Name of Drilling Company GARDEN STATE DRILLING COMPANY

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing				
Outer Casing (Not Protective Casing)	6'	5'	4"	PVC F. J.
Screen (Note slot size)	5'	15'	4"	PVC F.
Tail Piece				
Gravel Pack	3'6"	15'	12"	SAND
Annular Seal/Grout	6"	3'6"	12"	BRANDAL
Method of Grouting				

GEOLOGIC LOG

(Copies of other geologic logs and/or
geophysical logs should be attached.)

0'-3" GLW
3'-7" CL
7'-13" SM-
13'-15" CL GLW
WATER AT 7'6"

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Claude BrittonDate 11-4-92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

MONITORING WELL RECORD

Well Permit No. 29
Atlas Sheet Coordinates 20 14 41

OWNER IDENTIFICATION - Owner U.S. ARMY
Address 513 HUTOR POOL, BLDG. 75
City FORT MONMOUTH State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No.
County Municipality CORANCAH Lot No. 1 Block No.
Address

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 11/3/92
Regulatory Program Requiring Well EST Case I.D. #

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) U.S. ARMY Tele. # 908-532-6

WELL CONSTRUCTION

Total depth drilled 15' ft.

Well finished to 15' ft.

Borehole diameter:
Top 12" in.
Bottom 12" in.

Well was finished: ☐ above grade
☒ flush mounted

If finished above grade, casing
height (stick up) above land
surface ft.

Was steel protective casing installed?
☐ Yes ☒ No

Static water level after drilling 7'6" ft.

Water level was measured using WATER TAP

Well was developed for 20 min hours at 5 gpm

Method of development GAS PUMP

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity gpm

Pump type:

Drilling Method AUGER

Drilling Fluid Type of Rig 1261 ACCEL

Name of Driller

Health and Safety Plan submitted? ☐ Yes ☒ No

Level of Protection used on site (circle one) None D C B A

Permit No. 1098

Drilling Company GREEN STATE DRILLING COMPANY

I drilled the above-referenced well in accordance with all well permit requirements and all applicable
regulations.

Driller's Signature [Signature]

Date 11-4-92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing				
Outer Casing (Not Protective Casing)	6"	5'	4"	P.V.C. F.
Screen (Note slot size)	5'	15'	4"	P.V.C. F.
Tail Piece				
Gravel Pack	3'6"	15'	12"	SAND
Annular Seal/Grout	6"	3'6"	12"	PERMEAL
Method of Grouting				

GEOLOGIC LOG

(Copies of other geologic logs and/or
geophysical logs should be attached.)

0'-3' GW
3'-7' CL
7'-13' SM
13'-15' CL
WATER AT 7'6"

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: United States Army
Name of Facility: Fort Monmouth - Building No. 750
Location: Fort Monmouth
New Jersey
NJPDES Permit No: NJ 29-28992

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water
Allocation Section (609-984-6831):
This number must be permanently affixed to the
well casing.

Longitude (one tenth of a second):	West	<u>29-28992</u> <u>74° 02' 58.6"</u>
Latitude (one tenth of a second):	North	<u>40° 18' 33.4"</u>
Elevation of Top of Casing (cap off)		<u>18.79</u>
Distance from Top of Casing (cap off) to ground		<u>0.10</u>
Owner's Well Number (As shown in the application or Plans):		<u>MW-1</u>
Benchmark:		

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

William E. Telling

Professional Land Surveyor's Signature

William E. Telling, P.L.S.

Professional Land Surveyor's Name

SEAL

N.J.P.L.S. License No. 37211

Professional Land Surveyor's License #

(lak41\wp51\ftmonfmb.wet)

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: United States Army
Name of Facility: Fort Monmouth - Building No. 750
Location: Fort Monmouth
New Jersey
NJPDES Permit No: NJ 29-28993

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water

Allocation Section (609-984-6831):

This number must be permanently affixed to the well casing.

Longitude (one tenth of a second):	West	<u>29-28993</u> <u>74° 02' 58.3"</u>
Latitude (one tenth of a second):	North	<u>40° 18' 33.0"</u>
Elevation of Top of Casing (cap off)		<u>18.61</u>
Distance from Top of Casing (cap off) to ground		<u>0.10</u>
Owner's Well Number (As shown in the application or Plans):		<u>MW-2</u>
Benchmark:		

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

William E. Telling

Professional Land Surveyor's Signature

William E. Telling, P.L.S.

Professional Land Surveyor's Name

SEAL

N.J.P.L.S. License No. 37211

Professional Land Surveyor's License #

(lak41\wp51\ftmonfmb.wet)

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: United States Army
Name of Facility: Fort Monmouth - Building No. 750
Location: Fort Monmouth
New Jersey
NJDES Permit No: NJ 29-28994

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water
Allocation Section (609-984-6831):
This number must be permanently affixed to the
well casing.

Longitude (one tenth of a second):	West	<u>29-28994</u> <u>74° 02' 57.8"</u>
Latitude (one tenth of a second):	North	<u>40° 18' 32.4"</u>
Elevation of Top of Casing (cap off)		<u>19.04</u>
Distance from Top of Casing (cap off) to ground		<u>0.16</u>
Owner's Well Number (As shown in the application or Plans):		<u>MW-3</u>
Benchmark:		

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

William E. Telling
Professional Land Surveyor's Signature

William E. Telling, P.L.S.
Professional Land Surveyor's Name

SEAL

N.J.P.L.S. License No. 37211
Professional Land Surveyor's License #

(lak41\wp51\ftmonfmb.wet)

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: United States Army
Name of Facility: Fort Monmouth - Building No. 750
Location: Fort Monmouth
New Jersey
NJPDES Permit No: NJ 29-28995

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water
Allocation Section (609-984-6831):

This number must be permanently affixed to the
well casing.

Longitude (one tenth of a second):	West	<u>74° 02' 57.6"</u>
Latitude (one tenth of a second):	North	<u>40° 18' 32.5"</u>
Elevation of Top of Casing (cap off)		<u>18.98</u>
Distance from Top of Casing (cap off) to ground		<u>0.19</u>
Owner's Well Number (As shown in the application or Plans):		<u>MW-4</u>
Benchmark:		

AUTHENTICATION:

I declare under penalty of law that I have personally examined and
am familiar with the information submitted in this document and all
attachments and that, based on my inquiry of those individuals
immediately responsible for obtaining the information, I believe
the submitted information is true, accurate and complete. I am
aware that there are significant penalties for submitting false
information including the possibility of fine and imprisonment.

William E. Telling

Professional Land Surveyor's Signature

William E. Telling, P.L.S.

Professional Land Surveyor's Name

SEAL

N.J.P.L.S. License No. 37211

Professional Land Surveyor's License #

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APPENDIX D
WELL SEARCH INFORMATION

WELL SEARCH SUMMARY TABLE

MAIN POST AREA

U.S. ARMY FORT MONMOUTH

WELL ID NO	WELL OWNER	WELL ADDRESS	TOTAL DEPTH (FEET BGS)	CASING LENGTH (FEET)	STATIC WATER ELEV. (FEET BGS)	USE CODE	NJDEPE PERMIT NO.
5	Eatontown Senior Housing	55 Wyckoff Road, Eatontown	192	177	25	G	29-15008
14	Shell Oil Company	Block 110, Lot 25, Oceanport	12	2	4	M	29-24953
15	Shell Oil Company	Block 110, Lot 25, Oceanport	12	2	3	M	29-24953
16	Shell Oil Company	Block 110, Lot 25, Oceanport	12	2	3	M	29-24953
17	Shell Oil Company	Block 110, Lot 25, Oceanport	11	2	3	M	29-24953
34	Boro of Eatontown	Block 14, Lot 17, Eatontown	20	10	12.1	M	29-28236
35	Redacted - Privacy Act	Orchard St, Block 73, Lot 36, Eatontown	67	52	16	D	29-23690
36	Redacted - Privacy Act	92 Sunnybrook Dr, Shrewsbury Boro	197	191	7	D	29-23608
37	V. J. Russo Realty	170 Ave of Commons, Shrewsbury Boro	250	245	4	G	29-27756
38	Price Communication Corp	1 Register Plaza, Shrewsbury Boro	28	15	8	M	29-26185
39	Redacted - Privacy Act	Trafalger Pl, Block 69.04, Lot 4, Shrewsbury Boro	50	50	5	G	29-22571
40	Redacted - Privacy Act	83 Sunnybrook Dr, Shrewsbury Boro	250	210	8	D	29-26704
41	Boro of Eatontown	Block 14, Lot 17, Eatontown	20	10	11.7	M	29-29158
42	Boro of Eatontown	Block 14, Lot 17, Eatontown	18	8	10.1	M	29-29159
43	Redacted - Privacy Act	Relwof Ave, Block 98, Lot 1&2, Oceanport	45	35	2	G	29-21780
44	Kleiner Bros. Construction	Alenhurst & Myrtle Aves, Oceanport	50	40	5	D	29-6499
64	Redacted - Privacy Act	112 Orchid St, Oceanport	323	317	16	D,G	29-14244
65	N.J. Transit Corporation	Silverside & Fairview Ave, Little Silver	*	*	*	M	29-13825
97	Shell Oil Company	1 Main Street, Oceanport	10	2	2.5	M/S	29-12553
98	Shell Oil Company	1 Main Street, Oceanport	9	1	2	M/S	29-12554
99	Shell Oil Company	1 Main Street, Oceanport	9	1	2	M/S	29-12555
100	Redacted - Privacy Act	121 Horseneck Point Rd, Oceanport	15	12	5	D	29-5084
101	Bridgewater Townhouse	57 Bridgewater Dr, Oceanport	180	155	12	G	29-22549
113	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.38	M	29-14180
114	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	5.1	M	29-14181
115	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.47	M	29-14182
116	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.39	M	29-14183
117	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.75	M	29-14184
118	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.10	M	29-14185
119	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.82	M	29-14186
120	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.30	M	29-14187
121	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.54	M	29-14188
122	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.34	M	29-14189

ID - Identification
 BGS - Below Ground Surface
 G - Irrigation Well
 D - Domestic Well

M - Monitoring Well
 E - Recovery Well
 S - Sealed Well
 * - This information was not available during the well search
 ** - This well has not received a permit by the NJDEPE

WELL SEARCH SUMMARY TABLE

MAIN POST AREA

U.S. ARMY FORT MONMOUTH

WELL ID NO	WELL OWNER	WELL ADDRESS	TOTAL DEPTH (FEET BGS)	CASING LENGTH (FEET)	STATIC WATER ELEV. (FEET BGS)	USE CODE	NJDEPE PERMIT NO.
123	Shell Oil Company	Route 35 & South Street, Eatontown	12	2	4.22	M	29-14190
124	Shell Oil Company	Route 35 & South Street, Eatontown	12	2	3.9	M	29-14191
125	Shell Oil Company	Route 35 & South Street, Eatontown	14.83	4	4	E	29-14192
127	Vincent J. Russo, Bldr	Block 70.1, Lot 90, Shrewsbury	184	165	5	G	29-14168
128	William Goodspeed	30 Alwin Terrace, Little Silver	173	158	6	G	29-22526
129	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-23732
130	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-23733
131	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-23734
132	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-23735
133	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-24138
134	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	4	*	M	29-24139
135	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-24140
136	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-24141
137	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	20	5	7	M	29-27072
138	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	16	3	6	M	29-29208
138A	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	6	E	29-30283
138B	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	6	E	29-30284
139	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	6.36	M	29-12793
140	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	7.08	M	29-12794
141	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	6.34	M	29-12795
142	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	7.59	M	29-12796
143	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	6.63	M	29-12797
144	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	6.07	M	29-12798
145	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12785
146	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12786
147	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12787
148	Citgo Oil Co.	700 Branch Avenue, Little Silver	10	1	*	M	29-12788
149	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12789
150	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12790
151	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12792
152	Mobile Oil Corporation	700 Branch Avenue, Little Silver	10	1	*	M	29-12793
153	Mobile Oil Corporation	700 Branch Avenue, Little Silver	11	1	*	M	29-12794
154	Mobile Oil Corporation	700 Branch Avenue, Little Silver	11	1	*	M	29-12795
155	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	5	7	M	29-25317

ID - Identification
BGS - Below Ground Surface
G - Irrigation Well
D - Domestic Well

M - Monitoring Well
E - Recovery Well
S - Sealed Well
 * - This information was not available during the well search
 ** - This well has not received a permit by the NJDEPE

WELL SEARCH SUMMARY TABLE

MAIN POST AREA
U.S. ARMY FORT MONMOUTH

WELL ID NO	WELL OWNER	WELL ADDRESS	TOTAL DEPTH (FEET BGS)	CASING LENGTH (FEET)	STATIC WATER ELEV. (FEET BGS)	USE CODE	NJDEPE PERMIT NO.
156	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	2	7	M	29-25316
157	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	5	7	M	29-25318
158	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	5	7	M	29-25319
159	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	5	7	M	29-25320
160	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	16	3	4.7	M	29-26806
161	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	17	2	6	M	29-26807
162	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	15	3	8.2	M	29-26808
163	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	15	3	5.8	M	29-26809
164	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	12	2	2.35	M	29-28143
165	Allied Signal, Inc.	118 Route 35, Eatontown	*	*	*	M	*
814/1	U.S. Army, Fort Monmouth	Main Post, Building 814, Ft Monmouth	14	4	4	M	29-26939
750/1	U.S. Army, Fort Monmouth	Main Post, Building 750, Ft Monmouth ***	15	5	7.5	M	29-28992
750/2	U.S. Army, Fort Monmouth	Main Post, Building 750, Ft Monmouth ***	15	5	7.5	M	29-28993
750/3	U.S. Army, Fort Monmouth	Main Post, Building 750, Ft Monmouth ***	15	5	7.5	M	29-28994
750/4	U.S. Army, Fort Monmouth	Main Post, Building 750, Ft Monmouth ***	15	5	7.5	M	29-28995
699/1	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	2	4	M	29-23677-1
699/2	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	17	1.5	5	M	29-23678-9
699/3	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	2	4	M	29-23679-1
699/4	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	20	2	3	M	29-23680-7
699/5	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	3	5	M	29-23808-1
699/6	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	1	4.5	M	29-23809-9
699/7	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	3	3	M	29-23810-2
699/8	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	2	4	M	29-23811-1
699/9	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	2	3	M	29-24639
699/10	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	14	1	3	M	29-24640
699/11	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	*	*	E	29-28031
699/12	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	5	7.1	M	29-28907
699/13	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	5	*	*	M	**
699/14	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	5.7	*	*	M	**
1076/1	U.S. Army, Fort Monmouth	Main Post, Building 1076, Ft Monmouth ***	15	3	5.5	M	29-26940
1076/2	U.S. Army, Fort Monmouth	Main Post, Building 1076, Ft Monmouth ***	14	4	5	M	29-26941
1076/3	U.S. Army, Fort Monmouth	Main Post, Building 1076, Ft Monmouth ***	15	5	6	M	29-26942
65A/1	U.S. Army, Fort Monmouth	Main Post, Building 65, Ft Monmouth ***	12	2	4	M	29-26938
L/1	U.S. Army, Fort Monmouth	Main Post, Landfill, Fort Monmouth	9.85	3.05	5.08	M	49-000551
L/2	U.S. Army, Fort Monmouth	Main Post, Landfill, Fort Monmouth	16.99	1.30	*	M	49-000552
L/3	U.S. Army, Fort Monmouth	Main Post, Landfill, Fort Monmouth	16.43	1.62	10.83	M	49-000553
L/4	U.S. Army, Fort Monmouth	Main Post, Landfill, Fort Monmouth	10.25	1.90	*	M	49-000554
108/1	U.S. Army, Fort Monmouth	Main Post, Building 108, Ft Monmouth ***	13	3	4	M	29-29739
108/2	U.S. Army, Fort Monmouth	Main Post, Building 108, Ft Monmouth ***	13	3	4	M	29-29740
108/3	U.S. Army, Fort Monmouth	Main Post, Building 108, Ft Monmouth ***	13	3	4	M	29-29741

ID - Identification
 BGS - Below Ground Surface
 G - Irrigation Well
 D - Domestic Well

M - Monitoring Well
 E - Recovery Well
 S - Sealed Well
 * - This information was not available during the well search
 ** - This well has not received a permit by the NJDEPE
 *** - Form B has been completed for this well.

US Army Fort Monmouth

Well Coordinates

Main Post Area

Well No.	Permit No.	NJ Planar Coord*****		Elevation-TOC	Elevation-GRD
		Northing	Easting		
5	29-15008	534833	2172701	***	30
14	29-24953	539699	2176794	***	***
15	29-24953	539699	2176794	***	***
16	29-24953	539699	2176794	***	***
17	29-24953	539699	2176794	***	***
34	29-28236	536866	2169110	***	***
35	29-23690	534905	2173743	31.5	30
36	29-23608	542674	2175219	41.5	40
37	29-27756	541198	2169014	11	10
38	29-26185	541186	2168357	***	***
39	29-22571	542306	2172913	31	30
40	29-26704	542869	2173760	21	21
41	29-29158	536588	2169220	***	***
42	29-29159	536292	2169165	***	***
43	29-21780	540011	2179428	***	9
44	29-6499	539721	2181216	***	48
64	29-14244	541732	2181489	***	***
65	29-13825	544679	2175765	***	***
97	29-12553	539866	2176849	***	***
98	29-12554	539866	2176849	***	***
99	29-12555	539866	2176849	***	***
100	29-5084	542528	2182033	***	5
101	29-22549	539587	2178036	***	30
113	29-14180	534995	2168385	***	***
114	29-14181	534995	2168385	***	***
115	29-14182	534995	2168385	***	***
116	29-14183	534995	2168385	***	***
117	29-14184	534995	2168385	***	***
118	29-14185	534995	2168385	***	***
119	29-14186	534995	2168385	***	***
120	29-14187	534995	2168385	***	***
121	29-14188	534995	2168385	***	***
122	29-14189	534995	2168385	***	***
123	29-14190	534995	2168385	***	***
124	29-14191	534995	2168385	***	***
125	29-14192	534777	2168285	***	***

US Army Fort Monmouth

Well Coordinates

Main Post Area

Well No.	Permit No.	NJ Planar Coord****		Elevation-TOC	Elevation-GRD
		Northing	Easting		
127	29-14168	541665	2168429	***	60
128	29-22526	545069	2180319	***	20
129	29-23732	545613	2175613	***	***
130	29-23733	545613	2175613	***	***
131	29-23734	545613	2175613	***	***
132	29-23735	545613	2175613	***	***
133	29-24138	545613	2175613	***	***
134	29-24139	545613	2175613	***	***
135	29-24140	545613	2175613	***	***
136	29-24141	545613	2175613	***	***
137	29-27072	545613	2175613	***	***
138	29-29208	545613	2175613	***	***
138A	29-30283	545613	2175613	***	***
138B	29-30284	545613	2175613	***	***
139	29-12793	546086	2175947	***	***
140	29-12794	546086	2175947	***	***
141	29-12795	546086	2175947	***	***
142	29-12796	546086	2175947	***	***
143	29-12797	546086	2175947	***	***
144	29-12798	546086	2175947	***	***
145	29-12785	546225	2174788	***	***
146	29-12786	546225	2174788	***	***
147	29-12787	546225	2174788	***	***
148	29-12788	546225	2174788	***	***
149	29-12789	546225	2174788	***	***
150	29-12790	546225	2174788	***	***
151	29-12792	546225	2174788	***	***
152	29-12793	546393	2175613	***	***
153	29-12794	546393	2175613	***	***
154	29-12795	546393	2175613	***	***
155	29-25317	537562	2168385	***	***
156	29-25316	537562	2168385	***	***
157	29-25318	537562	2168385	***	***
158	29-25319	537562	2168385	***	***
159	29-25320	537562	2168385	***	***
160	29-26806	537896	2168078	***	***

US Army Fort Monmouth

Well Coordinates

Main Post Area

Well No.	Permit No.	NJ Planar Coord****		Elevation-TOC	Elevation-GRD
		Northing	Easting		
161	29-26807	537896	2168078	***	***
162	29-26808	537896	2168078	***	***
163	29-26809	537896	2168078	***	***
164	29-28143	537896	2168078	***	***
165	*	534471	2171838	***	***
1076/1	29-26940	537975	2175236	19.44	19.28
1076/2	29-26941	537975	2175236	18.03	17.61
1076/3	29-26942	537975	2175236	19.36	19.28
108/1	29-29739	541565	2178231	11.85	8.48
108/2	29-29740	541565	2178231	10.89	7.65
108/3	29-29741	541565	2178231	8.16	8.06
65A/1	29-26938	541114	2178147	8.47	8.47
699/1	29-23677-1	539367	2171941	15.81	***
699/2	29-23678-9	539486	2171973	16.64	***
699/3	29-23679-1	539399	2173050	15.8	***
699/4	29-23680-7	539380	2171986	15.92	***
699/5	29-23808-1	539409	2173150	15.48	***
699/6	29-23809-9	539342	2173066	15.78	***
699/7	29-23810-2	539272	2172914	15.97	***
699/8	29-23811-1	539331	2172842	16.2	***
699/9	29-24639	539220	2173102	15.96	***
699/10	29-24640	539171	2173042	15.97	***
699/11	29-28031	539334	2173025	17.14	***
699/12	29-28907	539194	2172956	16.66	***
699/13	**	539389	2173010	16.21	***
699/14	**	539351	2173021	15.98	***
750/1	29-28992	538342	2171950	18.79	18.69
750/2	29-28993	538342	2171950	18.61	18.51
750/3	29-28994	538342	2171950	19.04	18.88
750/4	29-28995	538342	2171950	18.98	18.79
814/1	29-26939	538025	2173387	***	***
L/1	49-000551	540568	2172144	***	***
L/2	49-000552	540568	2172144	***	***
L/3	49-000553	540568	2172144	***	***
L/4	49-000554	540568	2172144	***	***

US Army Fort Monmouth

Well Coordinates

Main Post Area

Well No.	Permit No.	NJ Planar Coord****		Elevation-TOC	Elevation-GRD
		Northing	Easting		

Notes: * - This information was not available during the well search

** - This well was not issued a permit by NJDEPE

*** - No elevation data was found for this well location.

**** - Except for wells 699/1-14, all coordinates shown are approximate.

The information given does not represent surveyed coordinates.

TOC - Top of Casing

GRD - Ground Surface

WELL RECORD

WELL ID NO. 39

Well Permit No. 29 - 22571
Atlas Sheet Coordinates 29 : 13 : 653

OWNER IDENTIFICATION - Owner CHRISTIANSEN, A.
Address 54 TRAFALGER PLACE
City SHREWSBURY State NJ Zip Code _____

WELL LOCATION - If not the same owner please give address. Owner's Well No. _____
Address Trafalger Place
County Monmouth Municipality SHREWSBURY TWP. Lot No. 4 Block No. 69.04

WELL USE Irrigation Status In Use

WATER USE Irrigation Average _____ gals. daily Maximum _____ gals. daily

WELL CONSTRUCTION Date well completed 4 / 24 / 89
BOREHOLE DIMENSIONS Depths: Total 50 ft. Finished 55 ft.
Diameter: Top 8 in. Bottom 4 in.
Land Surface Elevation at well 30 ft. Elevation was determined using Atlas Sheet
Casing Height (stick-up) above land surface 1 ft.

DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1	<u>50</u>	<u>4</u>	<u>Black Steel</u>
Casing 2			
Casing 3			
Screen 1	<u>None</u>		
Screen 2			
Tail Piece			
Gravel Pack			
Grout			<u>Ben Seal</u>
Grouting Method	<u>Pressure</u>		

WELL FLOWS NATURALLY _____ gals. per min. at _____ ft. above the land surface.
Water rises to _____ ft. above the land surface.

RECORD OF TEST Test Date 4 / 24 / 89
Static water-level before pumping 3 ft. below land surface. Water level _____ ft. below land surface after _____ hrs. of pumping.
Water level was measured using _____ Drawdown _____ ft.
Discharge rate measured using Calibrated Pail Discharge Rate 10 gals. per min.
Well was pumped using Air Compressor Specific Capacity _____ gals. per min. per ft. of drawdown
Observed effects on nearby wells None
Water Quality (taste, odor, color, etc.) Irony

PERMANENT PUMPING EQUIPMENT Installed by _____ Pump Type _____
Mfrs. Name _____ Model _____
CAPACITY: Pump delivers _____ GPM at _____ PSI pressure.
POWER: _____ HP at _____ RPM Power Source _____
DEPTHS: Pump _____ ft. Footpiece _____ ft. Airline _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor KAYE WELL DRILLING
Address R.O. 1, Box 75
Jackson State N.J. Zip Code _____
Name of Driller Gary Pepp License No. 1180

Signature of Contractor May Lechner Sec. 1 Trans Date 5 / 16 / 89

DWR-138 M
6/89New Jersey Department of Environmental Protection
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 23677
Atlas Sheet Coordinates 29 : 13 : 665OWNER IDENTIFICATION - Owner US ARMYAddress 167 RIVERSIDE DR.
City FORT MONMOUTH State NJ Zip Code 07703WELL LOCATION - If not the same as owner please give address. Owner's Well No. 1
County Monmouth Municipality OCEANPORT BORO Lot No. TAXIDEM Block No. TAX
Address Bldg 699, Saltzman Ave, Fort Monmouth NJ 07703TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 11/2/89
Regulatory Program Requiring Well Groundwater Case I.D. # 201-530-4787CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater & Environ. Sci. Inc. Tele. # 201-530-4787

WELL CONSTRUCTION

Total depth drilled 15 ft.Well finished to 15 ft.

Whole diameter:

Top 10 in.Bottom 10 in.Well was finished: ☐ above grade
☒ flush mountedIf finished above grade, casing
height (stick up) above land
surface ft.

Was steel protective casing installed?

☐ Yes ☒ NoStatic water level after drilling ft.Water level was measured using interface probeWell was developed for 1 hours at 2-3 gpmMethod of development Surged with PumpWas permanent pumping equipment installed? ☐ Yes ☒ NoPump capacity 11A gpmPump type: Centrifugal pump 11ADrilling Method AugerDrilling Fluid None Type of Rig TH-10Name of Driller Bragg MyersHealth and Safety Plan submitted? ☐ Yes ☒ NoLevel of Protection used on site (circle one) None (D) C B AN.J. License No. J 1472Name of Drilling Company B.L. MYERS BROS., INC.

GEOLOGIC LOG

(Copies of other geologic logs and/or
geophysical logs should be attached.)

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature

Monica Selfino for Bragg Myers

Date

2/15/90

COPIES: White & Green - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
6/89New Jersey Department of Environmental Protection
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 23878
Atlas Sheet Coordinates 29 : 13 : 665 ☐OWNER IDENTIFICATION - Owner US ARMYAddress 167 RIVERSIDE DR.
City FORT MONMOUTH State NJ Zip Code 07703

WELL LOCATION - If not the same as owner please give address.

Owner's Well No. 2County Monmouth Municipality OCEANPORT BORO Lot No. TAXICENT Block No. TAX
Address Bldg 699, Saltzman Ave, Fort Monmouth NJ 07703

TYPE OF WELL (as per Well Permit Categories)

MONITORINGDate well completed 11/2/89

Regulatory Program Requiring Well

Case I.D. #

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater Environ Svcs, Inc. Tele. # 701-530-4787

WELL CONSTRUCTION

Total depth drilled 17 ft.Well finished to 17 ft.

Rehole diameter:

Top 10 in.Bottom 10 in.Well was finished: ☐ above grade
☒ flush mountedIf finished above grade, casing
height (stick up) above land
surface _____ ft.

Was steel protective casing installed?

☐ Yes ☒ No

Static water level after drilling _____ ft.

Water level was measured using interface probeWell was developed for 1 hours at 2-3 gpmMethod of development purged with pumpWas permanent pumping equipment installed? ☐ Yes ☒ NoPump capacity NA gpmPump type: NADrilling Method AugerDrilling Fluid None Type of Rig TH-10Name of Driller B.L. MyersHealth and Safety Plan submitted? ☐ Yes ☒ NoLevel of Protection used on site (circle one) None (D) C B AN.J. License No. J1472

B.L. MYERS BROS., INC.

Name of Drilling Company

GEOLOGIC LOG

(Copies of other geologic logs and/or
geophysical logs should be attached.)I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable
State rules and regulations.Driller's Signature Theresa DelphinoDate 2/15/90

COPIES: White & Green - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
6/89New Jersey Department of Environmental Protection
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 23679
Atlas Sheet Coordinates 29 : 13 : 665OWNER IDENTIFICATION - Owner US ARMYAddress 167 RIVERSIDE DR.City FORT MONMOUTHState NJ

Zip Code _____

WELL LOCATION - If not the same as owner please give address.

Owner's Well No. 3County MonmouthMunicipality OCEANPORT BOROLot No. TAXEXEMP Block No. TAXAddress 3 Hg 699 Saltzman Ave, Fort Monmouth NJ 07703TYPE OF WELL (as per Well Permit Categories) MONITORINGDate well completed 11/21/89

Regulatory Program Requiring Well _____

Case I.D. # _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater & Environmental Sciences, Inc. Tele. # 201-530-4787

WELL CONSTRUCTION

Total depth drilled 15 ft.Well finished to 15 ft.

Whole diameter:

Top 10 in.Bottom 10 in.Well was finished: ☐ above grade☒ flush mounted

If finished above grade, casing

height (stick up) above land

surface _____ ft.

Was steel protective casing installed?

☐ Yes ☒ No

Static water level after drilling _____ ft.

Water level was measured using interface probeWell was developed for 1 hours at 2-3 gpmMethod of development pulsed with pumpWas permanent pumping equipment installed? ☐ Yes ☒ NoPump capacity NA gpmPump type: Centrifugal pump NADrilling Method AvgDrilling Fluid none Type of Rig TH-10Name of Driller Greg MyersHealth and Safety Plan submitted? ☐ Yes ☒ NoLevel of Protection used on site (circle one) None (C) B AN.J. License No. J14702

B.L. MYERS BROS., INC.

Name of Drilling Company _____

GEOLOGIC LOG

(Copies of other geologic logs and/or geophysical logs should be attached.)

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature

Theresa Delivito for Greg Myers

Date

2/15/90

COPIES: White & Green - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
6/89New Jersey Department of Environmental Protection
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 - 23680
Atlas Sheet Coordinates 29 : 13 : 665 ☐OWNER IDENTIFICATION - Owner US ARMY
Address 167 RIVERSIDE DR.
City FORT MONMOUTH State NJ Zip Code WELL LOCATION - If not the same as owner please give address. Owner's Well No. 4
County Monmouth Municipality OCEANPORT BORO Lot No. TAX Block No. TAX
Address Bldg 699, Saltzman Ave, Fort Monmouth NJ 07703TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 11/2/89
Regulatory Program Requiring Well - Case I.D. # CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater Envr. Con. Svc., Inc. Tele. # 201-531-4787

WELL CONSTRUCTION

Total depth drilled 20 ft.Well finished to 20 ft.hole diameter:
Top 10 in.
Bottom 10 in.Well was finished: ☐ above grade
☒ flush mountedIf finished above grade, casing
height (stick up) above land
surface ft.Was steel protective casing installed?
☐ Yes ☒ NoStatic water level after drilling ft.Water level was measured using interface probeWell was developed for 1 hours at 2-3 gpmMethod of development purged with pumpWas permanent pumping equipment installed? ☐ Yes ☒ NoPump capacity NA gpmPump type: Centrifugal Pump NADrilling Method AugerDrilling Fluid none Type of Rig TH-10Name of Driller Greg MyersHealth and Safety Plan submitted? ☐ Yes ☒ NoLevel of Protection used on site (circle one) None ☒ C ☐ B ☐ AN.J. License No. J1472
Name of Drilling Company B.L. MYERS BROS., INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature

Theresa Delino for Greg Myers

Date

2/15/90

COPIES: White & Green - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
6/89New Jersey Department of Environmental Protection
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 - 23808
Atlas Sheet Coordinates 29 : 13 : 629 ☐OWNER IDENTIFICATION - Owner US ARMY
Address 167 RIVERSIDE DR
City FORT MONMOUTH State NJ Zip Code _____WELL LOCATION - If not the same as owner please give address. Owner's Well No. 5
County Monmouth Municipality OCEANPORT BORO Lot No. TAX Block No. EXEMPT
Address Bldg 699, Saltzman Ave, Fort Monmouth, NJ 07703TYPE OF WELL (as per Well Permit Categories) _____ Date well completed 11, 30, 89
Regulatory Program Requiring Well MONITORING Case I.D. # _____CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater Environmental SCS, Inc Tele. # 201-531-4787

WELL CONSTRUCTION

Total depth drilled 15 ft.Well finished to 15 ft.

Borehole diameter:

Top 10 in.Bottom 10 in.Well was finished: ☐ above grade
☒ flush mountedIf finished above grade, casing
height (stick up) above land
surface _____ ft.

Was steel protective casing installed?

☐ Yes ☒ No

Static water level after drilling _____ ft.

Water level was measured using interface probeWell was developed for 1 hours at 2 gpmMethod of development purged with pumpWas permanent pumping equipment installed? ☐ Yes ☒ NoPump capacity NA gpmPump type: NADrilling Method AugerDrilling Fluid None Type of Rig TH-10Name of Driller Anthony KullHealth and Safety Plan submitted? ☐ Yes ☒ NoLevel of Protection used on site (circle one) None (D) C B AN.J. License No. J1312Name of Drilling Company ANTHONY A. KULL

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	<u>0</u>	<u>3</u>	<u>4</u>	<u>PVC Sch 40 50' x 2</u>
Outer Casing (Not Protective Casing)	<u>-</u>	<u>-</u>		
Screen (Note slot size)	<u>3</u>	<u>15</u>	<u>4</u>	<u>Sch 40 PVC 22</u>
Tail Piece	<u>-</u>	<u>-</u>		
Gravel Pack	<u>3</u>	<u>15</u>		<u>#2 Maria Gravel</u>
Annular Seal/Grout	<u>1</u>	<u>3</u>		<u>Pentacrite Pellets</u>
Method of Grouting	<u>0-1 Slurry</u>			

GEOLOGIC LOG

(Copies of other geologic logs and/or
geophysical logs should be attached.)
I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable
State rules and regulations.

Driller's Signature

Anthony Kull

Date

2/15/90

COPIES: White & Green - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
6/89New Jersey Department of Environmental Protection
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 23880
Atlas Sheet Coordinates 29 13 620

OWNER IDENTIFICATION - Owner

Address US ARMY
187 REVERSHIDE DR.
City PORT MONMOUTH State NJ Zip Code

WELL LOCATION - If not the same as owner please give address.

Owner's Well No. 6County Monmouth Municipality Oceanport Boro, Port Monmouth Lot No. TAX 115 Block No. EXHPT
Address Bldg 699, Saltzman

TYPE OF WELL (as per Well Permit Categories)

Date well completed 12/1/89Regulatory Program Requiring Well MONITORINGCase I.D. # CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater Svcs Tele. # 201-530-4787

WELL CONSTRUCTION

Total depth drilled 15 ft.Well finished to 15 ft.

Borehole diameter:

Top 10 in.Bottom 10 in.Well was finished: ☐ above grade
☒ flush mountedIf finished above grade, casing
height (stick up) above land
surface ft.

Was steel protective casing installed?

☐ Yes ☒ NoStatic water level after drilling ft.Water level was measured using interfer probeWell was developed for 1 hours at 1 gpmMethod of development parged with pumpWas permanent pumping equipment installed? ☐ Yes ☒ NoPump capacity NA gpmPump type: NADrilling Method AugerDrilling Fluid None Type of Rig T4-10Name of Driller Anthony A. KullHealth and Safety Plan submitted? ☐ Yes ☒ NoLevel of Protection used on site (circle one) None (D) C B AN.J. License No. J1317Name of Drilling Company ANTHONY A. KULL

GEOLOGIC LOG

(Copies of other geologic logs and/or
geophysical logs should be attached.)I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable
State rules and regulations.Driller's Signature Theresa DelFinoDate 2/15/90

COPIES: White & Green - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
6/89New Jersey Department of Environmental Protection
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 - 23810
Atlas Sheet Coordinates 29 : 13 : 629 ☐OWNER IDENTIFICATION - Owner US ARMY
Address 167 RIVERSIDE DR.
City FORT MONMOUTH State NJ Zip Code WELL LOCATION - If not the same as owner please give address. Owner's Well No. 7
County BHg 699 Municipality OCEANPORT BORO Lot No. TAX Block No. 115 0703
Address Saltman Ave. Fort Monmouth EXHPTTYPE OF WELL (as per Well Permit Categories) Date well completed 12/1/89
Regulatory Program Requiring Well MONITORING Case I.D. # CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater & Environ Svcs Inc Tele. # 201-530-4787

WELL CONSTRUCTION

Total depth drilled 15 ft.Well finished to 15 ft.

Borehole diameter:

Top 10 in.Bottom 10 in.Well was finished: ☐ above grade
☒ flush mountedIf finished above grade, casing
height (stick up) above land
surface ft.Was steel protective casing installed?
☐ Yes ☒ NoStatic water level after drilling ft.Water level was measured using interface probeWell was developed for 1 hours at 2-3 gpmMethod of development Purged with pumpWas permanent pumping equipment installed? ☐ Yes ☒ NoPump capacity NA gpmPump type: NADrilling Method AugerDrilling Fluid None Type of Rig TH-10Name of Driller Anthony KullHearth and Safety Plan submitted? ☐ Yes ☒ NoLevel of Protection used on site (circle one) None (D) C B AN.J. License No. J 1317Name of Drilling Company ANTHONY A. KULL

	Depth to Top (ft.) (From land surface)	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	3	4	Sch 40 PVC Solid
Outer Casing (Not Protective Casing)	—	—		
Screen (Note slot size)	3	15	4	Sch 40 PVC Solid
Tail Piece	—	—		
Gravel Pack	3	15		#2 Marine Gravel
Annular Seal/Grout	15	3		Bentinite Pellets
Method of Grouting	Slurry 0-15			

GEOLOGIC LOG

(Copies of other geologic logs and/or
geophysical logs should be attached.)I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable
State rules and regulations.Driller's Signature Anthony A. KullDate 2/15/90

COPIES: White & Green - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-138 M
6/89New Jersey Department of Environmental Protection
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 23811
Atlas Sheet Coordinates 29 : 13 : 629 ☐OWNER IDENTIFICATION - Owner US ARMY
Address 167 RIVERSIDE DR.
City FORT MONMOUTH State NJ Zip Code _____WELL LOCATION - If not the same as owner please give address. Owner's Well No. 8
County Monmouth Municipality CRANFORD BORO Lot No. TAX Block No. SECRET
Address Bldg G 99 SALTZMAN AVE, Fort Monmouth NJTYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 12/1/89
Regulatory Program Requiring Well _____ Case I.D. # _____CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater Environ Svcs, Inc Tele. # 201-530-4887

WELL CONSTRUCTION

Total depth drilled 15 ft.Well finished to 15 ft.

Corehole diameter:

Top 10 in.Bottom 10 in.Well was finished: ☐ above grade
☒ flush mountedIf finished above grade, casing
height (stick up) above land
surface _____ ft.

Was steel protective casing installed?

☐ Yes ☒ No

Static water level after drilling _____ ft.

Water level was measured using interface probeWell was developed for 1 hours at 2-3 gpmMethod of development purged with pumpWas permanent pumping equipment installed? ☐ Yes ☒ NoPump capacity 14A gpmPump type: NADrilling Method AugerDrilling Fluid None Type of Rig TH-10Name of Driller Anthony A. KullHealth and Safety Plan submitted? ☐ Yes ☒ NoLevel of Protection used on site (circle one) None (D) C' B AN.J. License No. J1317Name of Drilling Company ANTHONY A. KULL

	Depth to Top (ft.) (From land surface)	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	2	4	Sch 40 PVC Solid
Outer Casing (Not Protective Casing)	-	-		
Screen (Note slot size)	2	15	4	Sch 40 PVC 1/2"
Tail Piece	-	-		
Gravel Pack	2	15		#2 Mica Gravel
Annular Seal/Grout	1	2		Bentonite Pellets
Method of Grouting	Slurry 0-1'			

GEOLOGIC LOG

(Copies of other geologic logs and/or
geophysical logs should be attached.)

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature

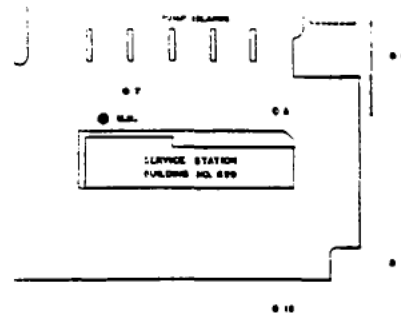
Meresa Delina for Anthony Kull

Date

2/15/90

COPIES: White & Green - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

Sketch Map



Project Fort Monmouth Owner E-Systems, Inc.
 Location Fort Monmouth Eatontown Permit No. 2924639
 Well Number 9 Total Depth 15' Diameter 10"
 casing Elevation Water Level: Initial 5.0' Static
 Screen Diameter 4" Length 13' Slot Size .020"
 casing Diameter 4" Length 2' Type Sch. 40 PVC
 Drilling Method Auger Sample Method Split Spoon

Completion Details Flush mount, with manhole cover, Inner locking cap

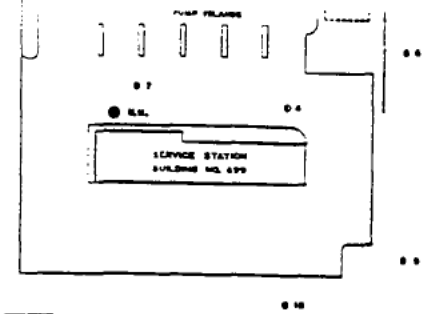
Driller B.L. Myers

Log By J. Gallagher

Date Drilled 5/1/90

Depth (ft)	Well Constr	HNU ppm	Lithological Description	Comments
0-2'			SAND Brown-black Silt, medium (-) to fine SAND trace fine Gravel	No odor slightly moist
2-4'			SAND Brown fine SAND, trace Silt	
4-8'		0	SAND Light Brown fine SAND, some Silt little Clay	Groundwater encountered @ 4'
8-10'			SAND Green-brown SAND, some clay	No odor or sheen
9-10'		0	CLAY Gray, some orange fine Sand	
10-12'			SAND Green-gray to orange coarse to fine SAND, some Clay	
12-15'		0	CLAY Light-brown, some fine Sand	
15'			END HOLE @ 15'	

Sketch Map



Project Fort Monmouth Owner E-Systems, Inc.
 Location Fort Monmouth Eatontown Permit No 2924640
 Well Number 10 Total Depth 15' Diameter 10"
 casing Elevation Water Level: Initial 5.0' Static
 Screen Diameter 4" Length 13' Slot Size .020"
 casing Diameter 4" Length 2' Type Sch 40 PVC
 Drilling Method Auger Sample Method Split Spoon
 Completion Details Flush mount, with manhole cover, Inner locking cap

Driller B.L. Myers Log By J. Gallagher Date Drilled 5/1/90

Depth (ft)	Well Constr	HNu ppm	Lithological Description	Comments
0-2'			SAND Brown, fine SAND little Gravel	No odor or sheen
2-3'			SILT Black SILT & fine Sand, trace Gravel	
3-4'			SILT Brown, fine Sand, some SILT trace Clay	Groundwater encountered @4'
4-7'		0	SAND Light green coarse to fine SAND little Clay	
7-12'		0	CLAY Orange CLAY & fine Sand	Saturated, no odor
12-15'			CLAY Light green CLAY, some fine Sand	
			Black CLAY, little Sand	No odor
15'		0	END HOLE @ 15'	

DWR-138 M
12/91New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 29 - 28031
Atlas Sheet Coordinates 29 : 14 : 444 ☐OWNER IDENTIFICATION - Owner U S ARMY
Address EVANS AREA BLDG. 688
City FORT MONMOUTH State NJ Zip Code _____WELL LOCATION - If not the same as owner please give address. Owner's Well No. R-1 (BLDG 688)
County _____ Municipality OCEANPORT BORO Lot No. N/A Block No. N/A
Address _____TYPE OF WELL (as per Well Permit Categories) _____ Date well completed 5/23/92
Regulatory Program Requiring Well recovery Case I.D. # _____
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) U.S. Army / CHUCK APPELBY Tele. # _____

WELL CONSTRUCTION

Total depth drilled 20 ft.Well finished to 20 ft.

Borehole diameter:

Top 16 in.Bottom 16 in.Well was finished: ☐ above grade
☒ flush mountedIf finished above grade, casing
height (stick up) above land
surface _____ ft.

Was steel protective casing installed?

☒ Yes ☐ NoStatic water level after drilling 6 ft.Water level was measured using LINE FORMER

Well was developed for _____ hours at _____ gpm

Method of development MHAWas permanent pumping equipment installed? ☐ Yes ☒ NoPump capacity MHA gpm

Pump type: _____

Drilling Method MHADrilling Fluid _____ Type of Rig REDUCED U-120Name of Driller WILLIAM SHAINHealth and Safety Plan submitted? ☒ Yes ☐ NoLevel of Protection used on site (circle one) None ☒ C B AN.J. License No. 1289Name of Drilling Company TABASCO DRILLING CORP.

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	5	10	FR. SCH. 40
Outer Casing (Not Protective Casing)				
Screen (Note slot size)	5	20	10	FR. SCH. 40 20/60
Tail Piece				
Gravel Pack	4	20	16	FOULERS #2
Annular Seal/Grout	0	4	16	BLK / WHITE - 20/60
Method of Grouting	TABASCO			

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0
BLK F-C SAND, LITTLE F. GRAVEL, TH. Silt.

4
BLK. F. SAND, SOME Silt.

20 BLK C. R. F. Silt (MGR)

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature W. ShainDate 5-20-92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.



WELL ID NO. 699/12
WELL ID NO. 699/13
WELL ID NO. 699/14

PROJECT NOTE

S. GOLUB

Originator

TO: U. S. ARMY, FT. MONMOUTH DATE: FEB 2, 1994
FROM: STEVEN GOLUB W.O. NO.: 03886-088-001-0003
SUBJECT: WELL RECORD FOR BUILDINGS 699/12, 13,14

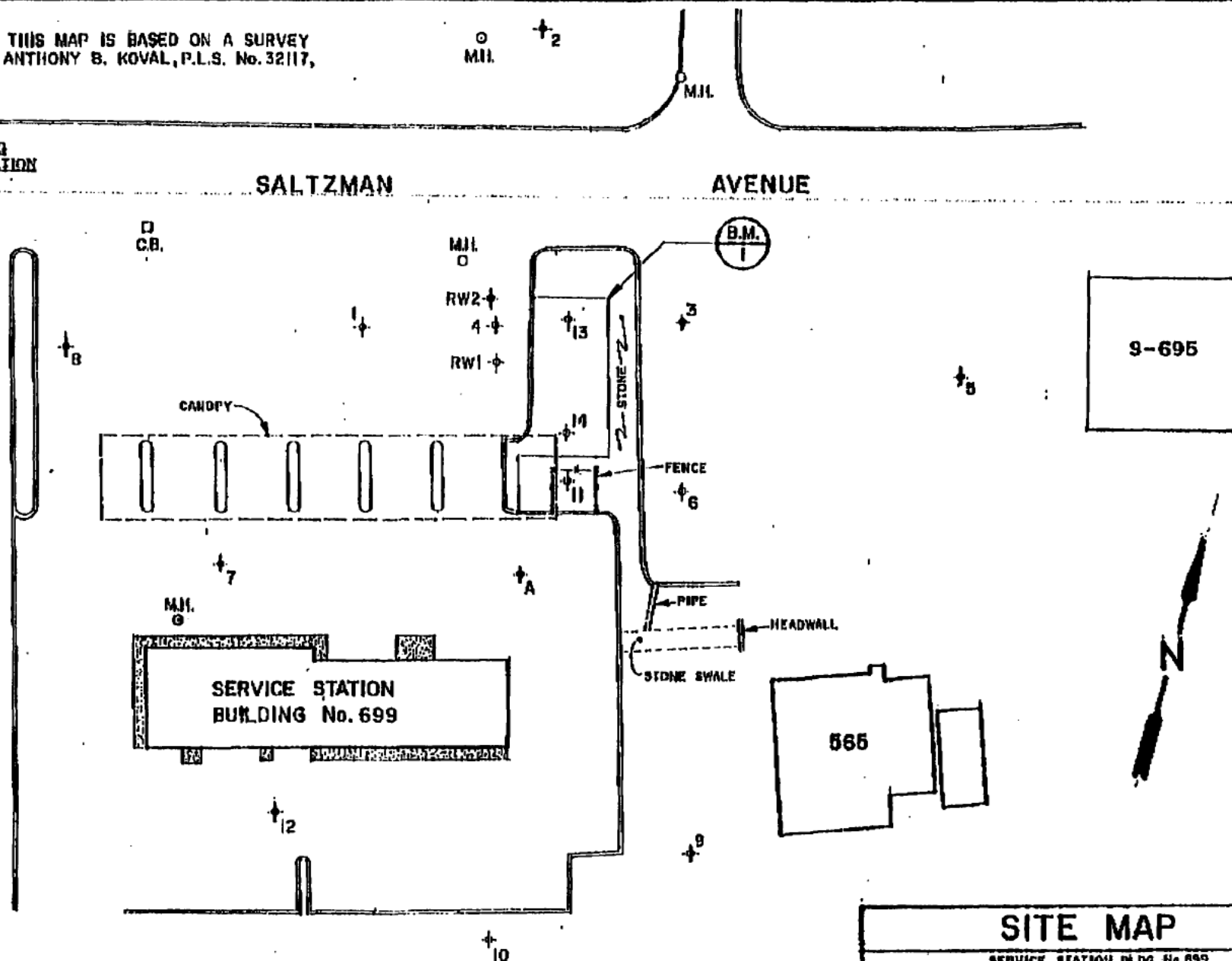
NOTES: MONITORING WELLS RECORDS FOR BUILDINGS 699/12, 699/13 AND
699/14 WERE UNAVAILABLE DURING THIS WELL SEARCH. AS INFORMATION
BECOMES AVAILABLE CONCERNING THESE WELLS, IT WILL BE INCORPORATED
INTO THE REPORT.

NOTE:

INFORMATION ON THIS MAP IS BASED ON A SURVEY
PERFORMED BY ANTHONY B. KOVAL, P.L.S. No. 32117,
ON 4/19/93.

WELL CASING ELEVATION

1	15.88
2	16.64
3	18.80
4	15.92
	15.18
	15.76
7	15.97
8	16.39
9	15.96
10	15.97
11	17.14
12	16.66
13	16.21
14	15.98
A	15.47
RW1	15.93
RW2	16.09



ENCHMARK: B.M. No. 1, BOX CUT IN CORNER OF
CONC. PAD, ELEV. = 16.62

SITE MAP

SERVICE STATION BLDG. No. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

SCALE: 1" = 50'
5082-9301

HENDERSON, GREEN & HESS
833 WEST LACEY ROAD
FORKED RIVER, NEW JERSEY

DATE: 4/30/93
BY: DS/TS

BUILDING 699
MONITORING WELL
STATE PLANE COORDINATES

<u>Well #</u>	<u>Northing</u>	<u>Easting</u>
1	539366.8083	2171940.7903
2	539485.8788	2171973.4779
3	539399.1426	2173050.0135
4	539379.7602	2171986.2115
5	539408.7326	2173149.7318
6	539342.0819	2173065.6781
7	539271.6999	2172914.0015
8	539331.3116	2172841.9991
9	593219.7750	2173102.2622
10	539171.4854	2173041.7736
11	539334.3793	2173025.4191
12	539194.0916	2172956.3047
13	539389.0031	2173010.4812
14	539350.9794	2173020.8452
A	539298.2118	2173017.8716
RW1	539367.3112	2172990.1686
RW2	539389.6935	2172981.8246

NOTE:
 INFORMATION ON THIS MAP IS BASED ON A SURVEY
 PERFORMED BY ANTHONY B. KOVAL, P.L.S. No. 32117
 ON 4/19/93.

<u>WELL</u>	<u>CASING ELEVATION</u>
1	15.81
2	16.64
3	15.80
4	15.92
5	15.48
6	15.76
7	15.97
8	16.10
9	15.96
10	15.97
11	17.14
12	16.66
13	16.21
14	15.98
A	15.47
RW1	15.92
RW2	16.09

□
C.B.

SAL

CANOPY

M.I.

SERVICE
BUILDIN

APPENDIX E

CERTIFICATION OF SOIL RECLAMATION

SOIL REMEDIATION of Philadelphia, Inc.

3201 South 61st Street

Philadelphia, PA 19153

Pennsylvania Department of Environmental Resources Permitted Facility

CERTIFICATE OF SOIL REMEDIATION

Soil Remediation of Philadelphia, Inc. certifies that 2422.68 tons of non-hazardous petroleum contaminated soil delivered by ALLIED ENVIRONMENTAL and identified as lot # 471 has been processed to destroy the hydrocarbon contamination. This soil has been remediated to meet Level A Protection as established by the Pennsylvania Department of Environmental Resources Cleanup Standards issued October 18, 1991. This states that the hydrocarbons are removed so that they are non-detectable thereby allowing the soil to be considered clean fill.

Certificate Issued To: U.S. ARMY FORT MONMOUTH

Authorized Signature: _____



Date: _____

8-3-93

APPENDIX F
ANALYTICAL DATA PACKAGE

LABORATORY DELIVERABLES

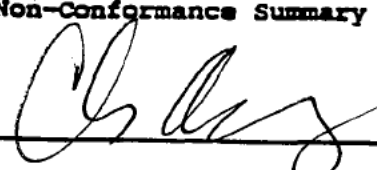
THIS FORM MUST BE COMPLETED BY THE LABORATORY OR
ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following laboratory deliverables shall be included in the data submission. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The proposed "Technical Requirements for Site Remediation" rules, which appeared in the May 4, 1992 New Jersey Register, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits be included in one section of the data package and in the main body of the report.

Check if
Complete

- | | |
|---|---|
| 1. Cover Page, Title Page listing Lab Certification #, facility name & address, & date of report | ☒ |
| 2. Table of Contents | ☒ |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds | ☒ |
| 4. Summary Table cross-referencing field ID #'s vs. Lab ID #'s | ☒ |
| 5. Document bound, paginated and legible | ☒ |
| 6. Chain of Custody | ☒ |
| 7. Methodology Summary | ☒ |
| 8. Laboratory Chronicle and Holding Time Check | ☒ |
| 9. Results submitted on a dry weight basis (if applicable) | ☒ N/A |
| 10. Method Detection Limits | ☒ |
| 11. Lab certified by NJDEPE for parameters or appropriate category of parameters or a member of the USEPA CLP | ☒ |
| 12. Non-Conformance Summary | ☒ |



Laboratory Manager or Environmental
Consultant's Signature

6-7-94

Date

Bldg. 750



A.A. LABS, INC.

Analytical Associates Laboratory

NJ DEP# 12660

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787
FAX: 609-799-8262

E-SYSTEMS, INC./SAI
P.O. Box 360
Fort Monmouth, NJ 07703

SAMPLE DATE: 6/2/92

REPORT DATE: 6/12/92

SAMPLE ID	LAB LOG NO	ANALYSIS
C92-841	3406-1	Pb
C92-842	3406-2	Pb
C92-843	3406-3	Pb
C92-844	3406-4	Pb
C92-845	3406-5	Pb
C92-846	3406-6	Pb
C92-847	3406-7	Pb
C92-848	3406-8	Pb
C92-849	3406-9	Pb
C92-850	3406-10	Pb
C92-851	3406-11	Pb
C92-852	3406-12	Pb
C92-853	3406-13	Pb
C92-854	3406-14	Pb
C92-855	3406-15	Pb
C92-856	3406-16	Pb
C92-857	3406-17	Pb
C92-858	3406-18	Pb
C92-859	3406-19	Pb
C92-860	3406-20	Pb

Approved by

Raymond J. Feldt

Raymond J. Feldt
Chemistry Lab Manager



A.A. LABS, INC.

Analytical Associates Laboratory

NJ DEP# 12660

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787
FAX: 609-799-8262

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Data - Lead	3
QA/QC Summary Sheets	4



A.A. LABS, INC.

Analytical Associates Laboratory

NJDEP CERTIFICATION # 12660

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787

SECTION 1

CHAIN OF CUSTODY RECORD

ANALYSES REQUESTED

Page 1 of 2

CLIENT NAME: SERV-AIR INC. Bldg 750 ^{2A}
 SITE LOCATION: PO BOX 369 BLDG 490
 Ft. MONMOUTH NJ 07703 (908)542-4359

SAMPLERS: C. Appleby
 G. ROCHKOVSKY

SAMPLE ID.	DATE	TIME	MAT RIX	COMP	GRAV	SAMPLE LOCATION	NUMBER OF CONTAINERS	VOA/METHOD 8240..	Lead								REMARKS
C92-841	6/2	1055	SOIL		X	S.pt "A" 513th gas sta	1	X	X								SAMPLES
C92-842		1100	↑		X	S.pt "B" ↑ ↑ ↑	1	X	X								KEPT AT
C92-843		1110			X	S.pt "C"	1	X	X								4°C
C92-844		1120			X	S.pt "D"	1	X	X								
C92-845		1125			X	S.pt "E"	1	X	X								Tier II-Voc
C92-846		1135			X	S.pt "F"	1	X	X								
C92-847		1140			X	S.pt "G"	1	X	X								
C92-848		1150			X	S.pt "H"	1	X	X								
C92-849		1355			X	S.pt "I"	1	X	X								
C92-850		1400			X	S.pt "J"	1	X	X								
C92-851		1410			X	S.pt "K"	1	X	X								
C92-852		1415			X	S.pt "L"	1	X	X								
C92-853		1425			X	S.pt "M"	1	X	X								
C92-854		1430	↓		X	S.pt "N" ↓ ↓ ↓	1	X	X								
TOTALS							14	14	14								

SAMPLE CONTAINERS
 PREPARED BY:

RELINQUISHED BY:

DATE TIME

RECEIVED BY:

RELINQUISHED BY:

DATE TIME

RECEIVED BY:

RELINQUISHED BY:

DATE TIME

RECEIVED BY:

6/3/1350 / CORCORAN

CHAIN OF CUSTODY RECORD

ANALYSES REQUESTED

Page 1 of 2

CLIENT NAME: SERV-AIR INC. <i>Bldg 750 G</i>						NUMBER OF CONTAINERS	<i>VOC / method 8240..</i> <i>Lead</i>										REMARKS
SITE LOCATION: PO BOX 369 BLDG 490 Ft. MONMOUTH NJ 07703 (908)542-4359																	
SAMPLERS: C. APPLEBY G. ROCHKOVSKY																	
SAMPLE ID.	DATE	TIME	MAT RIX	COMP	GRAB	SAMPLE LOCATION											
C92-855	6/2	1440	SOIL		X	S. pt "O" 513th Gas Sta	1	X	X								Samples kept at 4°C
C92-856		1455			X	S. pt "P"	1	X	X								
C92-857		1505			X	S. pt "Q"	1	X	X								
C92-858		1515			X	S. pt "R"	1	X	X							Tier II-Voc	
C92-859	✓	1520	✓		X	S. pt "S"	1	X	X								
C92-860	6/2	1525	SOIL		X	S. pt "T" 513th Gas Sta	1	X	X								
C92-861	6/2	-	-			FIELD BLANK	2	X									
TOTALS							8	7	6								
SAMPLE CONTAINERS PREPARED BY:						RELINQUISHED BY:						DATE TIME		RECEIVED BY:			
RELINQUISHED BY: <i>[Signature]</i>						DATE TIME: 6/3/92 1350						RECEIVED BY: T. Colcoran		DATE TIME		RECEIVED BY:	
RELINQUISHED AT						DATE TIME						RECEIVED AT LABORATORY BY:					



A.A. LABS, INC.

Analytical Associates Laboratory

NJDEP CERTIFICATION # 12660

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787

LABORATORY CHRONICLE (p. 1 of 2)

CLIENT: E-Systems / SAI

DATE SAMPLED: 6/2/92

MATRIX: soil

DATE SUBMITTED: 6/3/92

ANALYTICAL PARAMETER: Pb

SAMPLE NUMBER	EXTRACTION DATE/TIME	EXTRACTOR'S INITIALS	ANALYSIS DATE/TIME	ANALYST'S INITIALS
3406-1	6/10/92	MT	6/11/92	MT
-2				
-3				
-4				
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-9				
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-12				
-13				
-14				
-15				
-16				



1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787

LABORATORY CHRONICLE (p. 2 of 2)

CLIENT: E-Systems/SAI

DATE SAMPLED: 6/2/92

MATRIX: 5-66

DATE SUBMITTED: 6/3/92

ANALYTICAL PARAMETER: FB[illegible]



A.A. LABS, INC.

Analytical Associates Laboratory

NJDEP CERTIFICATION # 12660

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SECTION 2



A.A. LABS, INC.

Analytical Associates Laboratory

NJ DEP# 12660

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787
FAX: 609-799-8262

METHODOLOGY SUMMARY

PRIORITY POLLUTANT METALS:

Metals analyses in water are performed by atomic absorption using EPA methods presented in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid sample analyses are conducted as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

<u>PARAMETER</u>	<u>WATER METHODS</u>		<u>SOLID METHOD</u>	
	<u>FLAME</u>	<u>FURNACE</u>	<u>FLAME</u>	<u>FURNACE</u>
Antimony	204.1	204.2	7040	7041
Arsenic	-	206.2	-	7060
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Chromium	218.1	218.2	7190	7191
Copper	220.1	220.2	7210	7211
Lead	239.1	239.2	7420	7421
Mercury*	245.1	-	7470, 7471**	-
Nickel	249.1	249.2	7520	-
Selenium	-	270.2	-	7740
Silver	272.1	272.2	7760	-
Thallium	279.1	279.2	7840	7841
Zinc	289.1	289.2	7950	-

* Cold vapor technique.

** Method 7470 is for liquid waste; 7471 is for solid or semisolid waste.



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DATA REPORTING QUALIFIERS

- ND - The compound was not detected at the indicated concentration.
- B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.



A.A. LABS, INC.

Analytical Associates Laboratory

NJDEP CERTIFICATION # 12660

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SECTION 3



A.A. LABS, INC.

Analytical Associates Laboratory

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787
FAX: 609-799-8262

NJ DEP# 12660

REPORT TO: E-Systems, Inc/Serv-Air
P.O. Box 360
Fort Monmouth, NJ
07703
ATTN: Barbara/Chuck

DATE SAMPLED: 6/2/92
SAMPLED BY: customer
DATE SUBMITTED: 6/3/92
DATE EXTRACTED: 6/10/92
DATE ANALYZED: 6/11/92

REPORT DATE: 6/11/92

A.A. LAB LOG NO: 3406 (1-20)

CUSTOMER SAMPLE ID: See below

PARAMETER MEASURED: Lead

UNITS: mg/kg

<u>CUSTOMER SAMPLE ID</u>	<u>RESULTS</u>	<u>DETECTION LIMITS</u>
C92-841	ND	2.40
C92-842	5.46	2.40
C92-843	5.75	2.40
C92-844	2.81	2.40
C92-845	2.51	2.40
C92-846	4.38	2.40
C92-847	5.54	2.40
C92-848	ND	2.25
C92-849	9.58	2.40
C92-850	2.88	2.40
C92-851	3.50	2.40
C92-852	2.74	2.40
C92-853	2.40	2.40
C92-854	2.87	2.40
C92-855	ND	2.34
C92-856	ND	2.34
C92-857	ND	2.23
C92-858	ND	2.30
C92-859	6.88	2.40
C92-860	8.33	2.40

ND = not detected.
= less than.

Raymond J. Feldt
Raymond J. Feldt
Chemistry Laboratory Manager



A.A. LABS, INC.

Analytical Associates Laboratory

NJDEP CERTIFICATION # 12660

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787

SECTION 4

QC BATCH #: _____
FOR A.A. LAB SAMPLE ID #: 3406
and NJ labs

[illegible]



A.A. LABS, INC.

Analytical Associates Laboratory

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787
FAX: 609-799-8262

NJ DEP# 12660

REPORT TO: E-Systems, Inc./SAI
P.O. Box 360
Fort Monmouth, NJ
07703
ATTN: Barbara/Chuck

DATE SAMPLED: -
SAMPLED BY: -
DATE SUBMITTED: -
DATE EXTRACTED: 6/10/92
DATE ANALYZED: 6/11/92

REPORT DATE: 6/11/92

A.A. LAB LOG NO: -

CUSTOMER SAMPLE ID: Method Blank for 3406-11 through -20

PARAMETERS

RESULTS

DETECTION LIMITS

Lead

ND

0.050 mg/L

ND = not detected.
< = less than.

Raymond J. Feldt

Raymond J. Feldt
Chemistry Laboratory Manager



A.A. LABS, INC.

Analytical Associates Laboratory

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787
FAX: 609-799-8262

NJ DEP# 12660

REPORT TO: E-Systems, Inc./Serv-Air
P.O. Box 360
Fort Monmouth, NJ
07703
ATTN: Barbara/Chuck

DATE SAMPLED: -
SAMPLED BY: -
DATE SUBMITTED: -
DATE EXTRACTED: 6/10/92
DATE ANALYZED: 6/11/92

REPORT DATE: 6/11/92

A.A. LAB LOG NO: -

CUSTOMER SAMPLE ID: Method Blank for 3406-1 through -10

PARAMETERS

RESULTS

DETECTION LIMITS

Lead	ND	0.050 mg/L
------	----	------------

ND = not detected.
= less than.

Raymond J. Feldt

Raymond J. Feldt
Chemistry Laboratory Manager



A.A. LABS, INC.

Analytical Associates Laboratory

NJDEP CERTIFICATION # 12660

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787

NONCONFORMANCE SUMMARY

No nonconformance reported.



A.A. LABS, INC.

Analytical Associates Laboratory

NJ DEP# 12660

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787
FAX: 609-799-8262

LABORATORY CHRONICLE

CLIENT: E Systems

DATE SAMPLED: 6/2/92

MATRIX: Soil/H₂O

DATE SUBMITTED: 6/3/92

ANALYTICAL PARAMETER: DOA + 15

SAMPLE NUMBER	EXTRACTION DATE/TIME	EXTRACTOR'S INITIALS	ANALYSIS DATE/TIME	ANALYST'S INITIALS
13608	N/A	NA	6-4-92/13:08	RL
13609			13:55	
13610			14:43	
13611			15:31	
13612			16:19	
13613			17:07	
13614			17:55	
13615			18:46	
13616			19:34	
13617			20:21	
13618			6-5-92/16:08	YFB
13619			16:56	
13620			17:43	
13621			18:31	
13622			19:19	
13623			20:06	
13624			20:54	
13625			21:42	
13626			22:29	
13627			6/8/92/19:44	
13628			6/9/92/14:08	RL

A.A. LABS, INC.
Analytical Associates Laboratory

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787
FAX: 609-799-8262

DEP# 12660

E SYSTEMS, INC./SERV-AIR

VOLATILES REPORT

SAMPLE DATE: 6/2/92

REPORT DATE: 6/10/92

SAMPLE ID	NJ ASSAY.#	A.A. LAB LOG #	ANALYSES
C92-841	3406-1	013608	8240
C92-842	3406-2	013609	8240
C92-843	3406-3	013610	8240
C92-844	3406-4	013611	8240
C92-845	3406-5	013612	8240
C92-846	3406-6	013613	8240
C92-847	3406-7	013614	8240
C92-848	3406-8	013615	8240
C92-849	3406-9	013616	8240
C92-850	3406-10	013617	8240
C92-851	3406-11	013618	8240
C92-852	3406-12	013619	8240
C92-853	3406-13	013620	8240
C92-854	3406-14	013621	8240
C92-855	3406-15	013622	8240
C92-856	3406-16	013623	8240
C92-857	3406-17	013624	8240
C92-858	3406-18	013625	8240
C92-859	3406-19	013626	8240
C92-860	3406-20	013627	8240
C92-861	3406-21	013628	624

Approved by

Norman Sears



222 EASTON AVENUE
NEW BRUNSWICK, NEW JERSEY 08901
TELEPHONE: (908) 249-0148
TELEFAX: (908) 249-0243

ANALYTICAL TESTING
SINCE 1939

Division:
PHARMETICS LABORATORY

E-SYSTEMS, INC./SAI
P.O. Box 360
Fort Monmouth, NJ 07703

SAMPLE DATE: 6/2/92

REPORT DATE: 6/12/92

SAMPLE ID	LAB LOG NO	ANALYSIS
C92-841	3406-1	Pb
C92-842	3406-2	Pb
C92-843	3406-3	Pb
C92-844	3406-4	Pb
C92-845	3406-5	Pb
C92-846	3406-6	Pb
C92-847	3406-7	Pb
C92-848	3406-8	Pb
C92-849	3406-9	Pb
C92-850	3406-10	Pb
C92-851	3406-11	Pb
C92-852	3406-12	Pb
C92-853	3406-13	Pb
C92-854	3406-14	Pb
C92-855	3406-15	Pb
C92-856	3406-16	Pb
C92-857	3406-17	Pb
C92-858	3406-18	Pb
C92-859	3406-19	Pb
C92-860	3406-20	Pb

Approved by

Raymond J. Feldt

Raymond J. Feldt
Chemistry Lab Manager

NONCONFORMANCE SUMMARY
LABORATORY CHRONICLES
CHAIN OF CUSTODY
METHODOLOGY SUMMARY

1

METHOD BLANK RESULTS
SAMPLE RESULTS

2

BFB TUNE CHECK FORM
SPECTRA, CHROMATOGRAM, AND TABULATION OF BFB
INITIAL CALIBRATION SUMMARY
CONTINUING CALIBRATION SUMMARY

3

SURROGATE RECOVERIES
MATRIX SPIKE RECOVERIES
METHOD BLANK SUMMARY

4

BLANK AND SAMPLE RAW DATA:
QUANT REPORTS
CHROMATOGRAMS
SPECTRA OF IITS

5

- Bldg. 750

C. App/oly DEH

NUMBER OF
CONTAINERS

TPHC

% Solids

REMARKS

TS%	—
-----	---

$$C92-1035 = 81\%$$

29	2	10	36	79%
----	---	----	----	-----

$$192 + 10.37 = 78\%$$

SAMPLE CONTAINERS
PREPARED BY:

Pre cleaned ESS-

RELINQUISHED BY:

Charles Fox

DATE TIME

 $\frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$

RECEIVED BY:

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

RELINQUISHED BY:

DATE

TIME

RECEIVED BY:

RELINQUISHED AT

DATE TIME

RECEIVED AT 11-20-1904

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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FT. MONMOUTH OFFICE
F-SYSTEMS INC. • P O BOX 369, BUILDING 1209 • FT. MONMOUTH, NEW JERSEY 07703-5000 • (201) 544-0995

MS C

FT. MONMOUTH OFFICE
E-SYSTEMS, INC. • P. O. BOX 369, BUILDING 1209 • FT. MONMOUTH, NEW JERSEY 07703-5000 • (201) 544-0995

CHAIN OF CUSTODY RECORD

ANALYSES REQUESTED

Page 1 of 1

CLIENT NAME: SERV-AIR INC.
SITE LOCATION: PO BOX 369 BLDG 490
FL. MONMOUTH NJ 07703 (908)542-4359

SAMPLERS: C. Appleby
G. R. DANKOUSKY

SAMPLE ID.	DATE	TIME	MAT RIX	COMP	GRUB	SAMPLE LOCATION	NUMBER OF CONTAINERS	VOC/METH/NO ₂ 8240	Lead	REMARKS
C92-841	6/2	1055	Soil		X	S. pt "A" S13th gas sta	1	X	X	SAMPLES
C92-842		1100	↑		X	S. pt "B" ↑ ↑ ↑	1	X	X	KEPT AT
C92-843		1110			X	S. pt "C"	1	X	X	4°C
C92-844		1120			X	S. pt "D"	1	X	X	
C92-845		1125			X	S. pt "E"	1	X	X	Line II-Voc
C92-846		1135			X	S. pt "F"	1	X	X	
C92-847		1140			X	S. pt "G"	1	X	X	
C92-848		1150			X	S. pt "H"	1	X	X	
C92-849		1355			X	S. pt "I"	1	X	X	
C92-850		1400			X	S. pt "J"	1	X	X	
C92-851		1410			X	S. pt "K"	1	X	X	
C92-852		1415			X	S. pt "L"	1	X	X	
C92-853		1425			X	S. pt "M"	1	X	X	
C92-854		1430	↓		X	S. pt "N" ↓ ↓ ↓	1	X	X	
TOTALS							14	14	14	

SAMPLE CONTAINERS
PREPARED BY:

RELINQUISHED BY:

DATE TIME

RECEIVED BY:

RELINQUISHED BY:

DATE TIME

RECEIVED BY:

RELINQUISHED BY:

DATE TIME

RECEIVED BY:

RELINQUISHED BY:

DATE TIME

RECEIVED AT LABORATORY BY:

REMARKS

CEAIN OF CUSTODY RECORD

ANALYSES REQUESTED

Page 1 of 2

CLIENT NAME: SERV-AIR INC.
SITE LOCATION: PO BOX 369 BLDG 490
FT. MONMOUTH NJ 07703 (908)542-4359

SAMPLERS: C. APPLEBY
G. ROCHKOVSKY

SAMPLE ID.	DATE	TIME	MAT RIX	COMP	GRAB	SAMPLE LOCATION	NUMBER OF CONTAINERS	UOA	Method 8240	Lead	REMARKS
C92-855	6/2	1440	Soil		X	S. pt "O" 513th Gas Sta	1	X	X		Samples kept at 4°C
C92-856		1455			X	S. pt "P" ↑	1	X	X		
C92-857		1505			X	S. pt "Q" ↑	1	X	X		
C92-858		1515			X	S. pt "R" ↑	1	X	X		
C92-859	✓	1520	✓		X	S. pt "S" ↓	1	X	X		Tier II-Voc
C92-860	6/2	1525	Soil		X	S. pt "T" 513th Gas Sta	1	X	X		
C92-861	6/2	—	—			FIELD BLANK	2	X			
TOTALS							8	7	6		

SAMPLE CONTAINERS PREPARED BY:

RELINQUISHED BY:

DATE TIME

RECEIVED BY:

RELINQUISHED BY:

DATE TIME

RECEIVED BY:

RELINQUISHED BY:

DATE TIME

RECEIVED BY:

6/3/92 1350

T. C. McCORMAN



A.A. LABS, INC.

Analytical Associates Laboratory

NJDEP CERTIFICATION # 12660

1375 OFFICE CENTER
PRINCETON MEADOWS
P.O. BOX 749
PLAINSBORO, N.J. 08536
609-799-8787

GC/MS VOLATILE ORGANIC METHODOLOGY

Aqueous samples are analyzed in accordance with USEPA Methods 624, 40 CFR Ch. 1 Part 136 (7-1-85 Edition). A five mL portion of sample is purged at ambient temperature and then rapidly desorbed onto a GC/MS.

Soil samples are analyzed in accordance with USEPA SW-846 Methods for Evaluating Solid Waste (9/86) Rev. 0 Method 8240 and 5030. 5 grams of sample are purged at 40 °C and then rapidly desorbed onto a GC/MS.

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	UBLK	MATRIX	Soil
CLIENT NAME		DILUTION FACTOR	1.00
CLIENT ID	UBLK 6/8	QA BATCH	
DATA FILE	T4463	DATE ANALYZED	06/08/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	10	Trichloroethene	ND	5
Bromomethane	ND	10	Dibromochloromethane	ND	5
Vinyl Chloride	ND	10	1,1,2-Trichloroethane	ND	5
Chloroethane	ND	10	Benzene	ND	5
Methylene Chloride	2.4 J	5	2-Chloroethyl vinyl ether	ND	10
Acrolein	ND	50	Trans-1,3-Dichloropropene	ND	5
Acrylonitrile	ND	50	Ethylene Dibromide	ND	5
tert-Butyl alcohol	ND	50	Diisopropylether	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	2-Hexanone	ND	5
1,1-Dichloroethane	ND	5	4-Methyl-2-pentanone	ND	5
trans-1,2-Dichloroethene	ND	5	Tetrachloroethene	ND	5
Chloroform	ND	5	1,1,2,2-Tetrachloroethane	ND	5
2-Butanone	ND	5	Toluene	ND	5
1,2-Dichloroethane	ND	5	Chlorobenzene	ND	5
tert-Butyl methyl ether	ND	5	Ethylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
1,4-Dioxane	ND	50	m-Xylene	ND	5
Carbon Tetrachloride	ND	5	o,p-Xylene	ND	5
Bromodichloromethane	ND	5	1,3-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
cis-1,3-Dichloropropene	ND	5	1,4-Dichlorobenzene	ND	5

Percent Solid of 100. is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

LAB SAMPLE NO.

UBLK

Lab Code: GC/MS

Case No. : -----

SAS No. : -----

SDG No. : ----

Matrix: SOIL

Lab Sample ID: UBLK

Sample wt/vol: 5.0 (g/ml) g

Lab File ID: >T4448

Level: (low/mod) LOW

Date Received: NA

% Moisture: not dec. _____

Date Analyzed: 06/05/92

Column: PACK

Dilution Factor: 1.00

CONCENTRATION UNITS:
ug/Kg

Number of TICs found: 0

[illegible]

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13608	MATRIX	Soil
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	841-A	QA BATCH	
DATA FILE	>T4436	DATE ANALYZED	06/04/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	13	Trichloroethene	ND	6
Bromomethane	ND	13	Dibromochloromethane	ND	6
Vinyl Chloride	ND	13	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	13	Benzene	ND	6
Methylene Chloride	2.0 JB	6	2-Chloroethyl vinyl ether	ND	13
Acrolein	ND	63	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	63	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	63	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	6.4	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	63	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 79.0 is used for all Target compounds.

- (J) Indicates detected below MDL
 (B) Indicates also present in blank
 (ND) Indicates compound not detected

LAB SAMPLE NO.

UBLK

Lab Code: GC/MS

Case No. : -----

SAS No. : -----

SDG No. : -----

Lab Sample ID: UBLK

Lab File ID: >T4463

Date Received: NA

Date Analyzed: 06/08/92

Dilution Factor: 1.00

Number of TICs found: 0

 $\mu\text{g/Kg}$ [illegible]

LAB SAMPLE NO.

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Lab Sample ID: 13608

Lab File ID: >T4436

Date Received: NA

Date Analyzed: 06/04/92

Dilution Factor: 1.00

Number of TICs found: 0

[illegible]

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13609	MATRIX	Soil
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	842-B	QA BATCH	
DATA FILE	T4437	DATE ANALYZED	06/04/92

COMPOUND	UG/KG	HDL	COMPOUND	UG/KG	HDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	2.7 J	6
Methylene Chloride	3.7 JB	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	60	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	60	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	60	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	8.6	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	60	m-Xylene	3.7 J	6
Carbon Tetrachloride	ND	6	o,p-Xylene	11	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	61	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 83.0 is used for all Target compounds.

(J) Indicates detected below HDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

17.4 ppb

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13610	MATRIX	Soil
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	843-C	QA BATCH	
DATA FILE	T4438	DATE ANALYZED	06/04/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	ND	6
Methylene Chloride	6.6 B	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	60	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	60	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	60	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	3.4 J	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	60	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	3.7 J	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 83.0 is used for all Target compounds.

(J) Indicates detected below MDL
 (B) Indicates also present in blank
 (ND) Indicates compound not detected

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13611	MATRIX	Soil
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	844-D	QA BATCH	
DATA FILE	T4439	DATE ANALYZED	06/04/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	ND	6
Methylene Chloride	6.3 B	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	58	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	58	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	58	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	58	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 86.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13612</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>845-E</u>	QA BATCH	
DATA FILE	<u>>T4440</u>	DATE ANALYZED	<u>06/04/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	8.3 B	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	57	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	57	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	57	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	57	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 87.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13613	MATRIX	Soil
CLIENT NAME	E-SYSTH	DILUTION FACTOR	1.00
CLIENT ID	846-F	QA BATCH	
DATA FILE	T4441	DATE ANALYZED	06/04/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	ND	6
Methylene Chloride	ND B	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	58	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	58	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	58	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	58	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 86.0 is used for all Target compounds.

(J) Indicates detected below MDL

(B) Indicates also present in blank

(ND) Indicates compound not detected

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID 13614
CLIENT NAME E-SYST.
CLIENT ID 842-G
DATA FILE >T4442

MATRIX Soil
DILUTION FACTOR 1.00
QA BATCH _____
DATE ANALYZED 06/04/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	7.5 B	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	57	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	57	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	57	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	57	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 87.0 is used for all Target compounds.

- (J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

LAB SAMPLE NO.

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL

Lab Sample ID: 13614

Sample wt/vol: 5.0 (g/ml) g

Lab File ID: >T4442

Level: (low/med) LOW

Date Received: NA

% Moisture: not dec. _____

Date Analyzed: 06/04/92

Column: PACK

Dilution Factor: 1.00

CONCENTRATION UNITS:
ug/Kg

Number of TICs found: 2

[illegible]

Quantitated from calibration

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13615	MATRIX	Soil
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	848-H	QA BATCH	
DATA FILE	>T4443	DATE ANALYZED	06/04/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	5
Bromomethane	ND	11	Dibromochloromethane	ND	5
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	5
Chloroethane	ND	11	Benzene	3.6 J	5
Methylene Chloride	4.2 JB	5	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	55	Trans-1,3-Dichloropropene	ND	5
Acrylonitrile	ND	55	Ethylene Dibromide	ND	5
tert-Butyl alcohol	ND	55	Diisopropylether	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	2-Hexanone	ND	5
1,1-Dichloroethane	ND	5	4-Methyl-2-pentanone	ND	5
trans-1,2-Dichloroethene	ND	5	Tetrachloroethene	ND	5
Chloroform	ND	5	1,1,2,2-Tetrachloroethane	ND	5
2-Butanone	ND	5	Toluene	ND	5
1,2-Dichloroethane	ND	5	Chlorobenzene	ND	5
tert-Butyl methyl ether	9.3	5	Ethylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
1,4-Dioxane	ND	55	m-Xylene	ND	5
Carbon Tetrachloride	ND	5	o,p-Xylene	ND	5
Bromodichloromethane	ND	5	1,3-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
cis-1,3-Dichloropropene	ND	5	1,4-Dichlorobenzene	ND	5

Percent Solid of 91.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

3.6 ppb.

LAB SAMPLE NO.

848-H

Dilution Factor: 1.00

Number of TICs found: 2

[illegible]

Quantitated from calibration

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13616</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>849-I</u>	QA BATCH	
DATA FILE	<u>>T4444</u>	DATE ANALYZED	<u>06/04/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	ND	6
Methylene Chloride	5.2 JB	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	60	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	60	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	60	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	160	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	60	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	6.9	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 84.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

6.9 ppb

LAB SAMPLE NO.

849-I .

Dilution Factor: 1.00

Number of TICs found: 2

[illegible]

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AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13617	MATRIX	Soil
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	850-J	QA BATCH	
DATA FILE	T4445	DATE ANALYZED	06/04/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	4.3 JB	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	57	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	57	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	57	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	5.7	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	57	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 88.0 is used for all Target compounds.

(J) Indicates detected below MDL
 (B) Indicates also present in blank
 (ND) Indicates compound not detected

LAB SAMPLE NO.

850-J

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Lab Sample ID: 13617

Lab File ID: >T4445

Date Received: NA

Date Analyzed: 06/04/92

Dilution Factor: 1.00

Number of TICs found: 0

[illegible]

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13618	MATRIX	Soil
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	851-K	QA BATCH	
DATA FILE	T4449	DATE ANALYZED	06/05/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	4.3 JB	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	56	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	56	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	56	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	2.0 J	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	56	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 89.0 is used for all Target compounds.

(J) Indicates detected below MDL
 (B) Indicates also present in blank
 (ND) Indicates compound not detected

LAB SAMPLE NO.

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL

Lab Sample ID: 13618

Sample wt/vol: 5.0 (g/ml) g

Lab File ID: >T4449

Level: (low/med) LOW

Date Received: NA

% Moisture: not dec. _____

Date Analyzed: 06/05/92

Column: PACK

Dilution Factor: 1.00

CONCENTRATION UNITS:
ug/Kg

Number of TICs found: 1

FORM I UOA-TIC

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AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13619</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>852-L</u>	QA BATCH	
DATA FILE	<u>>T4450</u>	DATE ANALYZED	<u>06/05/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	5.2 JB	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	56	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	56	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	56	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	2.2 J	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	56	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 89.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13620	MATRIX	Soil
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	853-H	QA BATCH	
DATA FILE	>T4451	DATE ANALYZED	06/05/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	6.7 B	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	57	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	57	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	57	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	8.8	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	57	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 87.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

LAB SAMPLE NO.

853-M

Dilution Factor: 1.00

Number of TICs found: 1

[illegible]

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13621	MATRIX	Soil
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	854-N	QA BATCH	
DATA FILE	T4452	DATE ANALYZED	06/05/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	ND	6
Methylene Chloride	3.9 JB	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	58	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	58	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	58	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	58	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 86.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

LAB SAMPLE NO.

854-N

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Lab Sample ID: 13621

Lab File ID: >T4452

Date Received: NA

Date Analyzed: 06/05/92

Dilution Factor: 1.00

Number of TICs found: 0

[illegible]

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13622</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>855-0</u>	QA BATCH	
DATA FILE	<u>>T4453</u>	DATE ANALYZED	<u>06/05/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	ND	6
Methylene Chloride	5.5 JB	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	60	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	60	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	60	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	60	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 83.0 is used for all Target compounds.

(J) Indicates detected below MDL
 (B) Indicates also present in blank
 (ND) Indicates compound not detected

LAB SAMPLE NO.

855-0

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Lab Sample ID: 13622

Lab File ID: >T4453

Date Received: NA

Date Analyzed: 06/05/92

Dilution Factor: 1.00

Number of TICs found: 0

[illegible]

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13623</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>856- P</u>	QA BATCH	
DATA FILE	<u>>T4454</u>	DATE ANALYZED	<u>06/05/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	13	Trichloroethene	ND	6
Bromomethane	ND	13	Dibromochloromethane	ND	6
Vinyl Chloride	ND	13	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	13	Benzene	1.5 J	6
Methylene Chloride	7.1 B	6	2-Chloroethyl vinyl ether	ND	13
Acrolein	ND	64	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	64	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	64	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	4.2 J	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	64	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 78.0 is used for all Target compounds.

1.5 ppb

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

LAB SAMPLE NO.

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Lab Sample ID: 13623

Lab File ID: >T4454

Date Received: NA

Date Analyzed: 06/05/92

Dilution Factor: 1.00

Number of TICs found: 1

*Quantitated from calibration

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13624	MATRIX	Soil
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	857-0	QA BATCH	
DATA FILE	>T4455	DATE ANALYZED	06/05/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	ND B	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	57	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	57	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	57	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	57	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 87.0 is used for all Target compounds.

(J) Indicates detected below MDL
 (B) Indicates also present in blank
 (ND) Indicates compound not detected

LAB SAMPLE NO.

857-Q

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Lab Sample ID: 13624

Lab File ID: >T4455

Date Received: NA

Date Analyzed: 06/05/92

Dilution Factor: 1.00

Number of TICs found: 0

[illegible]

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13625	MATRIX	Soil
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	858-R	QA BATCH	
DATA FILE	T4456	DATE ANALYZED	06/05/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	4.6 JB	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	56	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	56	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	56	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethane	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	56	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 90.0 is used for all Target compounds.

(J) Indicates detected below MDL
 (B) Indicates also present in blank
 (ND) Indicates compound not detected

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13626	MATRIX	Soil
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	859-S	QA BATCH	
DATA FILE	>T4457	DATE ANALYZED	06/05/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	ND B	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	57	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	57	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	57	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	57	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 87.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID 13627
CLIENT NAME E-SYSTH.
CLIENT ID 860-T
DATA FILE T4464

MATRIX Soil
DILUTION FACTOR 1.00
QA BATCH
DATE ANALYZED 06/08/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	13	Trichloroethene	ND	6
Bromomethane	ND	13	Dibromochloromethane	ND	6
Vinyl Chloride	ND	13	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	13	Benzene	ND	6
Methylene Chloride	15 B	6	2-Chloroethyl vinyl ether	ND	13
Acrolein	ND	65	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	65	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	65	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethane	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	2.0 J	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	65	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 77.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

LAB SAMPLE NO.

860-T

Dilution Factor: 1.00

Number of TICs found: 1

[illegible]

LAB SAMPLE NO.

5995T,VOA

Dilution Factor: 1.00

Number of TICs found: 0

[illegible]

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	13628	MATRIX	Water
CLIENT NAME	E-SYSTH.	DILUTION FACTOR	1.00
CLIENT ID	FIELD BLK	QA BATCH	
DATA FILE	T4470	DATE ANALYZED	06/09/92

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Chloromethane	ND	10	Trichloroethene	ND	5
Bromomethane	ND	10	Dibromochloromethane	ND	5
Vinyl Chloride	ND	10	1,1,2-Trichloroethane	ND	5
Chloroethane	ND	10	Benzene	ND	5
Methylene Chloride	3.8 JB	5	2-Chloroethyl vinyl ether	ND	10
Acrolein	ND	50	Trans-1,3-Dichloropropene	ND	5
Acrylonitrile	ND	50	Ethylene Dibromide	ND	5
tert-Butyl alcohol	ND	50	Diisopropylether	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	2-Hexanone	ND	5
1,1-Dichloroethane	ND	5	4-Methyl-2-pentanone	ND	5
trans-1,2-Dichloroethene	ND	5	Tetrachloroethene	ND	5
Chloroform	ND	5	1,1,2,2-Tetrachloroethane	ND	5
2-Butanone	ND	5	Toluene	ND	5
1,2-Dichloroethane	ND	5	Chlorobenzene	ND	5
tert-Butyl methyl ether	ND	5	Ethylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
1,4-Dioxane	ND	50	m-Xylene	ND	5
Carbon Tetrachloride	ND	5	o,p-Xylene	ND	5
Bromodichloromethane	ND	5	1,3-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
cis-1,3-Dichloropropene	ND	5	1,4-Dichlorobenzene	ND	5

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

LAB SAMPLE NO.

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Lab Sample ID: 13628

Lab File ID: >T4470

Date Received: NA

Date Analyzed: 06/09/92

Dilution Factor: 1.00

Number of TICs found: 0

FORM I UOA-TIC

1/87 Rev

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>5995T.VOA</u>	MATRIX	<u>Soil</u>
CLIENT NAME		DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>VBK QT060</u>	QA BATCH	
DATA FILE	<u>>T4435</u>	DATE ANALYZED	<u>06/04/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	10	Trichloroethene	ND	5
Bromomethane	ND	10	Dibromochloromethane	ND	5
Vinyl Chloride	ND	10	1,1,2-Trichloroethane	ND	5
Chloroethane	ND	10	Benzene	ND	5
Methylene Chloride	2.9 J	5	2-Chloroethyl vinyl ether	ND	10
Acrolein	ND	50	Trans-1,3-Dichloropropene	ND	5
Acrylonitrile	ND	50	Ethylene Dibromide	ND	5
tert-Butyl alcohol	ND	50	Diisopropylether	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	2-Hexanone	ND	5
1,1-Dichloroethane	ND	5	4-Methyl-2-pentanone	ND	5
trans-1,2-Dichloroethene	ND	5	Tetrachloroethene	ND	5
Chloroform	ND	5	1,1,2,2-Tetrachloroethane	ND	5
2-Butanone	ND	5	Toluene	ND	5
1,2-Dichloroethane	ND	5	Chlorobenzene	ND	5
tert-Butyl methyl ether	ND	5	Ethylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
1,4-Dioxane	ND	50	m-Xylene	ND	5
Carbon Tetrachloride	ND	5	o,p-Xylene	ND	5
Bromodichloromethane	ND	5	1,3-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
cis-1,3-Dichloropropene	ND	5	1,4-Dichlorobenzene	ND	5

Percent Solid of 100. is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

AA LABS INC.
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>UBLK</u>	MATRIX	<u>Soil</u>
CLIENT NAME		DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>UBLK 6-5</u>	QA BATCH	
DATA FILE	<u>>T4448</u>	DATE ANALYZED	<u>06/05/92</u>

COMPOUND	UG/KG	HDL	COMPOUND	UG/KG	HDL
Chloromethane	ND	10	Trichloroethene	ND	5
Bromomethane	ND	10	Dibromochloromethane	ND	5
Vinyl Chloride	ND	10	1,1,2-Trichloroethane	ND	5
Chloroethane	ND	10	Benzene	ND	5
Methylene Chloride	2.6 J	5	2-Chloroethyl vinyl ether	ND	10
Acrolein	ND	50	Trans-1,3-Dichloropropene	ND	5
Acrylonitrile	ND	50	Ethylene Dibromide	ND	5
tert-Butyl alcohol	ND	50	Diisopropylether	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	2-Hexanone	ND	5
1,1-Dichloroethane	ND	5	4-Methyl-2-pentanone	ND	5
trans-1,2-Dichloroethene	ND	5	Tetrachloroethene	ND	5
Chloroform	ND	5	1,1,2,2-Tetrachloroethane	ND	5
2-Butanone	ND	5	Toluene	ND	5
1,2-Dichloroethane	ND	5	Chlorobenzene	ND	5
tert-Butyl methyl ether	ND	5	Ethylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
1,4-Dioxane	ND	50	m-Xylene	ND	5
Carbon Tetrachloride	ND	5	o,p-Xylene	ND	5
Bromodichloromethane	ND	5	1,3-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
cis-1,3-Dichloropropene	ND	5	1,4-Dichlorobenzene	ND	5

Percent Solid of 100. is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

Serv-Air, Inc.
A Subsidiary of E-Systems, Inc.
Environmental and Energy Laboratory
P.O. Box 369
Fort Monmouth, NJ 07703
908-532-6147

NJDEPE Certified Laboratory # 13461

Report of Analysis

Analysis by: Sarah J. Hubbard

Project: MW Installation Bldg. # 750

Date Started: 10-30-92

Date Complete: 11-04-92

Reviewed: 11-09-92

Revised: NA

Released: 11-09-92

By:



Brian K. McKee

Environmental and Energy Chief

Serv-Air, Inc.
A Subsidiary of E-Systems, Inc.
Environmental and Energy Laboratory
P.O. Box 369
Fort Monmouth, NJ 07703
908-532-6147

NJDEPE Certified Laboratory # 13461

Project: MW Installation Bldg. 750

Date: 11-09-92

Sample Matrix: Soil

Parameter: Total Petroleum Hydrocarbon

Method: 418.1

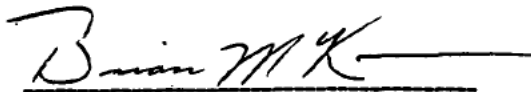
Sample ID	Rec'd	Extract	Analysis	Results (mg/Kg)	Detection Limit (mg/Kg)
C92-1028	10/30	11/02	11/02	177.0	3.3
C92-1029	10/30	11/02	11/02	ND	3.3
C92-1030	10/30	11/02	11/02	8.20	3.3
C92-1031	10/30	11/02	11/02	ND	3.3
C92-1032	11/02	11/03	11/03	ND	3.3
C92-1033	11/02	11/03	11/03	ND	3.3
C92-1034	11/02	11/03	11/03	ND	3.3
C92-1035	11/03	11/04	11/04	11.0	3.3
C92-1036	11/03	11/04	11/04	4.30	3.3
C92-1037	11/03	11/04	11/04	ND	3.3
Blank	0/00	11/02	11/02	nd	3.3
Blank	0/00	11/03	11/03	nd	3.3
Blank	0/00	11/04	11/04	nd	3.3

Notes: All results reported on a dry weight basis.
ND = not detected

C92-1028 = MW1-S1, 86% Solid
C92-1029 = MW1-S2, 78% Solid
C92-1030 = MW2-S3, 74% Solid
C92-1031 = MW2-S4, 77% Solid

C92-1035 = MW4-ss-5'-7', 81% Solid
C92-1036 = MW4-ss-10'-12', 79% Solid
C92-1037 = MW4-ss-15'-17', 78% Solid

C92-1032 = MW3-S5, 78% Solid
C92-1033 = MW3-S6, 79% Solid
C92-1034 = MW3-S7, 77% Solid


Brian K. McKee
Laboratory Director



14 APR 1994

618 HERON DRIVE, P.O. BOX 489 • BRIDGEPORT, NJ 08014-0489 • 609-467-9521

E-SYSTEMS

PROJECT: U.S ARMY-FORT MONMOUTH, NJ BLDG 750

ANALYSIS NO:

CLIENT ID:

A 1627

MW-3-2928994

A 1628

MW-2-2928993

A 1629

MW-1-2928992

A 1630

MW-4-2928995

A 1631

MW-4-2928995-Dup

A 1632

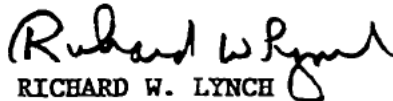
Field Blank

A 1639

Trip Blank

DATE RECEIVED: APRIL 21, 1993

TWENTY FIRST CENTURY
ENVIRONMENTAL, INC.


RICHARD W. LYNCH
LABORATORY MANAGER

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (CONTINUED)

No Yes

10. Extraction Holding Time Met

 ✓

If not met, list number of days exceeded for each sample:

- See Narrative

11. Analysis Holding Time Met

 ✓

If not met, list number of days exceeded for each sample:

- See Narrative

Additional Comments:

This form completed by Prime Contractor

Laboratory Manager:

B. MK

Date:

3-28-94

Blog 750

Sampled 4-21-93

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GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

	No	Yes
1. Chromatograms Labeled/Compounds Identified (Field Samples and Method Blanks)	___	___✓
2. GC/MS Tune Specifications		
a. BFB Meet Criteria	___	___✓
b. DFTPP Meet Criteria	___	___✓
3. GC/MS Tuning Frequency - Performed every 24 hours for 600 series and 12 hours for 8000 series.	___	___✓
4. GC/MS Calibration - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series	___	___✓
5. GC/MS Calibration Requirements		
a. Calibration Check Compounds	___	___✓
b. System Performance Check Compounds	___	___✓
6. Blank Contamination - If yes, list compounds and concentrations in each blank:		
a. VOA Fraction	<u>Acetone + Methylene Chloride Below MDL</u>	
b. B/N Fraction	<u>None</u>	
c. Acid Fraction	_____	
7. Surrogate Recoveries Meet Criteria	___	___✓
If not met, list those compounds and their recoveries which fall outside the acceptable range:		
a. VOA Fraction	<u>- Recoveries for Surrogate Recovery - See Narrative</u>	
b. B/N Fraction	_____	
c. Acid Fraction	_____	
If not met, were the calculations checked and the results qualified as "estimated"?		
	___	___ <u>N/A</u>
8. Matrix Spike/ Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries which fall outside the acceptable range)	___	___✓
a. VOA Fraction	_____	
b. B/N Fraction	_____	
c. Acid Fraction	_____	
9. Internal Standard Area/Retention Time Shift Meet Criteria	___	___✓

Blog 750

Sampled 4-21-93

NARRATIVE

During the analysis of this batch of samples (A1627 to A1632), the following problems occurred:

The volatile analysis for samples A1630 and A1631 (Client ID MW-4-2928995 and MW-4-2928995-Dup) were initially run within the seven day hold time. Because the surrogate did not pass QC requirements they were re-analyzed in the next day. The surrogate passed QC. The results of both analysis are in the final report package. All other extractions and analysis were performed within proper hold times. Trip blank is from Building 2567 which was sampled the same day.

00001



618 HERON DRIVE, P.O. BOX 489 • BRIDGEPORT, NJ 08014-0489
609.467.9521 • 609.467.4523 FAX

CUSTOMER: Y-0121 MOW MOUTH
ADDRESS: _____
TELEPHONE: _____
PROJECT: BLDg # 750
PROJECT MANAGER: _____
PROJECT LOCATION: _____ STATE: _____
PO NUMBER: 92-05-07-1600-23

TURNAROUND (INDICATE CALENDAR DAYS, CONFIRM WITH LAB): 2 5 7 14 21 OTHER: _____
DELIVERABLES (PLEASE CIRCLE): TIER I TIER II ECRA
CLP RESULTS ONLY OTHER: _____ BIAS CORRECTION
FAX RESULTS TO: _____

ADDITIONAL INFORMATION / SPECIAL INSTRUCTIONS

A1627 - A1632

ADDITIONAL INFORMATION / SPECIAL INSTRUCTIONS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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SAMPLE NUMBER	SAMPLE DESCRIPTION	MATRIX	DATE	TIME	TEC	GRAB	NUMBER OF CONTAINERS	ANALYSIS		METHOD													ADDITIONAL ANALYSIS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
								VOLATILE ORGANICS	SEMI VOA'S (BNA'S)	PESTICIDES / PCB'S	PCB'S	BTEX	TPH-PETROLEUM HYDROCARBONS	CORROSIVITY	IGNITABILITY	FLASHPOINT	REACTIVITY	TOC	TCLP METALS	TCLP VOLATILE ORGANICS	TCLP SEMI VOA'S (BNA'S)	TCLP PEST / HERB	PRIORITY POLLUTANT METALS (13)	HSL METALS (23)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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Relinquished By: Steve Turner Date: 4/21/93 Time: 18:45

Received By: _____ Date: _____ Time: _____
WHITE LAB COPY
YELLOW CUSTOMER COPY
G. Cui 4/21/93 18:45

ADDITIONAL INFORMATION / SPECIAL INSTRUCTIONS

41633-41639

PO NUMBER:

STATE:

91-8-27-1412

FAX RESULTS TO:

ADDITIONAL ANALYSIS

0000

0002A

Relinquished By: Day, L. Date: 4/2/93 Time: 18:45

WHITE
LAB COPY

**YELLOW
CUSTOMER COPY**

Received By:

Dato

Time

GL Col

4/21/93

1845

Purgeables

U.S.E.P.A. Method 624 - This is a purge and trap Gas Chromatograph/Mass Spectrometer (GC/MS) method applicable to the determination of the compounds listed in the U.S.E.P.A. Manual entitled "Test Procedures for the Analysis of Organic Pollutants".

An HP5996 GC/MS was used with a capillary column.

Method detection limits are as stated.

Soil samples are prepared for analysis as prescribed in Method 8240 from SW846.

Acid Extractables Base Neutrals

U.S.E.P.A. Method 625 - This method covers the determination of a number of organic compounds that are partitioned in an organic solvent and amenable to gas chromatography. This is a gas chromatography/mass spectrometer (GC/MS) method applicable to the determination of the compounds listed in the U.S.E.P.A. Manual entitled "Test Procedures for the Analysis of Organic Pollutants".

A HP5970 was used with a DB-5 FSCC.

Method detection limits are as stated.

Soil samples were prepared for analysis as prescribed in Method 3550 and analyzed as prescribed in Method 8270 from SW846.

LABORATORY CHRONICLE

RECEIPT/REFRIGERATION

4/21/93

ORGANICS
EXTRACTION

1. Acids NA
2. Base/Neutrals 4/24/93
3. Pesticides/PCB's/Herbicides NA
4. Petroleum Hydrocarbons/Oil & Grease NA

ANALYSIS

1. Volatiles 4/27/93 - 4/29/93
2. Acids NA
3. Base/Neutrals 5/13/93
4. Pesticides/PCB's/Herbicides NA
5. Petroleum Hydrocarbons/Oil & Grease NA
6. Total Organic Carbon NA

Section Supervisor
Review & Approval

Jeffrey L. Mark

INORGANICS

1. Metals NA
2. Cyanides NA
3. Phenols NA

OTHER ANALYTES

Section Supervisor
Review & Approval

NA

Quality Control Supervisor
Review & Approval

Laboratory Director
Review & Approval

Richard W. Ryan

If fractions are re-extracted and re-analyzed because initial endeavors did not meet quality control acceptance criteria, include dates for both.

00004

RESULT SUMMARY

00005

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER US ARMY FT. MONMOUTH NJ
SAMPLE NUMBER A1627
CLIENT ID MW3-2928994 BLDG 750
DATA FILE >A1375

MATRIX Water
DILUTION FACTOR 1.00
COMMENTS HMU NO 92-05-07-1600-23
DATE ANALYZED 04/28/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	2.7 JB	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	3.9 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	30	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	98.3	76 - 114	OK
Toluene-d8	99.2	88 - 110	OK
Bromofluorobenzene	98.5	86 - 115	OK

(J) Indicates detected below MDL

(B) Indicates also present in blank

(ND) Indicates compound not detected

00006

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ
 SAMPLE NUMBER A1627
 CLIENT ID BLDG 750, MW3-2928994
 DATA FILE >C1240

MATRIX Water
 DILUTION FACTOR 1.00
 COMMENTS HNU: 0. NJDEP 92-05-07-1600-23
 DATE ANALYZED 05/13/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL

(B) Indicates also present in blank

(ND) Indicates compound not detected

00007

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW3-2928994

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ
Case: 92-05-07-1600-23
Matrix: (soil/water) WATER

Client ID: BLDG 750

Lab Sample ID: A1627

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1375

Level: (low/med) LOW

Date Received: 04/21/93

Moisture: NA

Date Analyzed: 04/28/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----
	No Unknowns			

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00008

E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 750
MW-3
1-2928994

Client: US ARMY, FT. MONMOUTH, NJ

Comments: HNU: 0

NJDEPE Case No: 92-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1627

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1240

Level: LOW

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 1

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	TEST CONC
1	UNKNOWN	5.72	7

00000

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1628	DILUTION FACTOR	1.00
CLIENT ID	MW2-2928993 BLDG 750	COMMENTS	HNU 1.3 92-05-07-1600-23
DATA FILE	>A1383	DATE ANALYZED	04/28/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	140 B	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	1.9 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	103	76 - 114	OK
Toluene-d8	98.6	88 - 110	OK
Bromofluorobenzene	100	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

00010

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ
 SAMPLE NUMBER A1628
 CLIENT ID BLDG 750, MW2-2928993
 DATA FILE >C1241

MATRIX Water
 DILUTION FACTOR 1.00
 COMMENTS HNU: 1.3, NJDEP 92-05-07-1600-23
 DATE ANALYZED 05/13/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL

(B) Indicates also present in blank

(ND) Indicates compound not detected

00011

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW2-2928993

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ
Case: 92-05-07-1600-23

Client ID: BLDG 750

Matrix: (soil/water) WATER

Lab Sample ID: A1628

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1383

Level: (low/med) LOW

Date Received: 04/21/93

% Moisture: NA

Date Analyzed: 04/28/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
	No Unknowns			

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00012

E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 750
MW-2
2928993

Client: US ARMY, FT. MONMOUTH, NJ

Comments: HNU: 1.3

NJDEP Case No.: 92-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1628

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1241

Level: LOW

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 0

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC

NO UNKNOWN COMPOUNDS IDENTIFIED			

00013

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1629	DILUTION FACTOR	1.00
CLIENT ID	MW1-2928992 BLDG 750	COMMENTS	HNU 8.9 92-05-07-1600-23
DATA FILE	A1384	DATE ANALYZED	04/28/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	140 B	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	2.0 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m,p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	113	76 - 114	OK
Toluene-d8	99.1	88 - 110	OK
Bromofluorobenzene	101	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER	<u>US ARMY, FT. MONMOUTH, NJ</u>	MATRIX	<u>Water</u>
SAMPLE NUMBER	<u>A1629</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>BLDG 750, MW1-2928992</u>	COMMENTS	<u>HNU: 8.9, NJDEP 92-05-07-1600-23</u>
DATA FILE	<u>>C1242</u>	DATE ANALYZED	<u>05/13/93</u>

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	4.1 J	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	1.0 J	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

1
MW1-2928992
1

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ
Case: 92-05-07-1600-23

Client ID: BLDG 750

Matrix: (soil/water) WATER

Lab Sample ID: A1629

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1384

Level: (low/med) LOW

Date Received: 04/21/93

% Moisture: NA

Date Analyzed: 04/28/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
	No Unknowns			

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E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 750
MW-1
2928992

Client: US ARMY, FT. MONMOUTH, NJ

Comments: HNU: 8.9

NJDEP Case No: 92-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1629

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1242

Level: LOW

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 1

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	UNKNOWN	5.73	11

00017

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1630	DILUTION FACTOR	1.00
CLIENT ID	MW4-2928995 BLDG 750	COMMENTS	HNU 20.2 92-05-07-1600-23
DATA FILE	>A1391	DATE ANALYZED	04/29/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	16	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	4.2 J	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	2.2 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	6.8	5
Vinyl Acetate	ND	5	m&p-Xylenes	38	5
2-Butanone	ND	10	o-Xylene	26	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	12	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	500	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	6.6 J	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	98.6	76 - 114	OK
Toluene-d8	98.9	88 - 110	OK
Bromofluorobenzene	97.9	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ
SAMPLE NUMBER A1630
CLIENT ID BLDG 750, MW4-2928995
DATA FILE >C1243

MATRIX Water
DILUTION FACTOR 1.00
QA BATCH HNU: 20.2, NJDEP 92-05-07-1600-23
DATE ANALYZED 05/13/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	2.5 J	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL

(B) Indicates also present in blank

(ND) Indicates compound not detected

E1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

MW4-2928995

Client Name: US ARMY FT. MONMOUTH, NJ
Case: 92-05-07-1600-23
Matrix: (soil/water) WATER

Client ID: BLDG 750

Lab Sample ID: A1630

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1391

Level: MED

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 04/29/93

Column: CAP

Dilution Factor: 1

Number TICs Found 09

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	106989 1-Butene (8CI9CI)	4.15	36
3	611143 Benzene, 1-ethyl-2-methyl- (9CI)	18.23	18
4	95636 Benzene, 1,2,4-trimethyl- (8CI9CI)	18.39	10
5	622968 Benzene, 1-ethyl-4-methyl- (9CI)	18.77	6
6	108678 Benzene, 1,3,5-trimethyl- (9CI)	19.08	22
7	620144 Benzene, 1-ethyl-3-methyl- (9CI)	19.86	14
8	496117 1H-Indene, 2,3-dihydro- (9CI)	20.23	5
9	1758889 Benzene, 2-ethyl-1,4-dimethyl- (9CI)	20.37	3
10	767588 1H-Indene, 2,3-dihydro-1-methyl- (9CI)	21.30	5

00020

E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 750
MW-4
2928995

Client: US ARMY, FT. MONMOUTH, NJ

Comments: NHU: 20.2

NJDEP Case No.: 9-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1630

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1243

Level: LOW

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 2

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	UNKNOWN	3.47	4
2	UNKNOWN	5.70	10

00021

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1631	DILUTION FACTOR	1.00
CLIENT ID	MW4-2928995-DUP BLDG 750	COMMENTS	HNU 20.2 92-05-07-1600-92
DATA FILE	>A1392	DATE ANALYZED	04/29/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	12	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	2.9 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	5.4	5
Vinyl Acetate	ND	5	m,p-Xylenes	32	5
2-Butanone	ND	10	o-Xylene	21	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	9.0	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	500	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	7.2 J	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	101	76 - 114	OK
Toluene-d8	99.1	88 - 110	OK
Bromofluorobenzene	99.1	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ
SAMPLE NUMBER A1631
CLIENT ID BLDG 750, MW4-2928995 DUP
DATA FILE >C1246

MATRIX Water
DILUTION FACTOR 1.00
COMMENTS HNU: 20.2, NJDEP 92-05-07-1600-23
DATE ANALYZED 05/13/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL

(B) Indicates also present in blank

(ND) Indicates compound not detected

E1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

MW4-2928995-DUP

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID BLDG 750

Case: 92-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1361

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1392

Level: MED

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 04/29/93

Column: CAP

Dilution Factor: 1

Number TICs Found 09

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	106989 1-Butene (8CI9CI)	4.13	31
3	611143 Benzene, 1-ethyl-2-methyl- (9CI)	18.25	15
4	108678 Benzene, 1,3,5-trimethyl- (9CI)	18.41	8
5	622968 Benzene, 1-ethyl-4-methyl- (9CI)	18.78	5
6	95636 Benzene, 1,2,4-trimethyl- (8CI9CI)	19.10	19
7	620144 Benzene, 1-ethyl-3-methyl- (9CI)	19.87	13
8	496117 1H-Indene, 2,3-dihydro- (9CI)	20.25	5
9	1758889 Benzene, 2-ethyl-1,4-dimethyl- (9CI)	20.40	3
10	767588 1H-Indene, 2,3-dihydro-1-methyl- (9CI)	21.32	5

00024

E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 750
MW-4 DUP
2928995

Client: US ARMY, FT. MONMOUTH, NJ

Comments: HNU: 20.2

NJDEP Case No.: 92-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1631

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1246

Level: LOW

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 4

CONCENTRATION UNITS
(ug/L or ug/Kg) (UG/L)

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	UNKNOWN	3.12	5
2	UNKNOWN	3.48	6
3	UNKNOWN	4.39	4
4	UNKNOWN	5.71	13

00025

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1632	DILUTION FACTOR	1.00
CLIENT ID	FIELD BLANK BLDG 750	COMMENTS	HNU NO 92-05-07-1600-23
DATA FILE	A1371	DATE ANALYZED	04/27/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	2.2 JB	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	4.8 J	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m,p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	98.0	76 - 114	OK
Toluene-d8	97.8	88 - 110	OK
Bromofluorobenzene	102	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

00026

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER	US ARMY, FT. MONMOUTH, NJ	MATRIX	Water
SAMPLE NUMBER	A1632	DILUTION FACTOR	1.00
CLIENT ID	BLDG 750, FIELD BLANK	COMMENTS	NONE
DATA FILE	>C1247	DATE ANALYZED	05/13/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Ben-zidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

00027

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FIELD BLANK

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Case: 92-05-07-1600-23

Matrix: (soil/water) WATER

Sample wt/vol: 5 (g/mL) mL

Level: (low/med) LOW

% Moisture: NA

Column: DB-624

Client ID: BLDG 750

Lab Sample ID: A1632

Lab File ID: >A1371

Date Received: 04/21/93

Date Analyzed: 04/27/93

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	No Unknowns			

FORM I VOA-TIC

1/87 Rev.

00028

E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 750
FIELD BLK

Client: US ARMY, FT. MONMOUTH, NJ

Comments: None

NJDEP Case No.: 92-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1632

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1247

Level: LOW

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 1

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	TEST CONC
1	UNKNOWN	5.71	11

00029

DATA PACKAGE

00030

QUANT REPORT

Operator ID: JEFF
 Output File: ^A1375::D7
 Data File: >A1375::D3
 Name: A1627
 Disc: MW3-2928994 BLDG 750

Quant Rev: 6 Quant Time: 930428 12:07
 Injected at: 930428 11:37
 Dilution Factor: 1.00000

5.0mL

ID File: ID0127::M1
 Title: USEPA 624 VOLATILES
 Last Calibration: 930428 10:56

	Compound	R.T.	Scan#	Area	Conc	Units	q.
1)	*Bromochloromethane	9.08	704	34422	50.00	UG/L	100
9)	Acetone	6.24	417	1439	2.69	UG/L	76
3)	Methylene Chloride	6.87	481	6485	3.90	UG/L	77
21)	1,2-Dichloroethane-d4	9.95	792	67705	49.16	UG/L	100
22)	*1,4-Difluorobenzene	10.61	859	168363	50.00	UG/L	100
1)	Toluene-d8	12.93	1093	170856	49.58	UG/L	100
5)	*Chlorobenzene-d5	15.33	1335	139845	50.00	UG/L	100
46)	Bromofluorobenzene	17.38	1542	85016	49.24	UG/L	100

Compound is ISTD

QUANT REPORT

Operator ID: JEFF
 Output File: MA1375::QT
 Data File: >A1375::D3
 Name: A1627

Quant Rev: 6 Quant Time: 930520 14:51
 Injected at: 930428 11:37
 Dilution Factor: 1.00000

Misc: MW3-2928994 BLDG 750

5.0mL

ID File: IDAUXA::M1
 Title: INST A AUX. COMPOUNDS
 Last Calibration: 930520 13:36

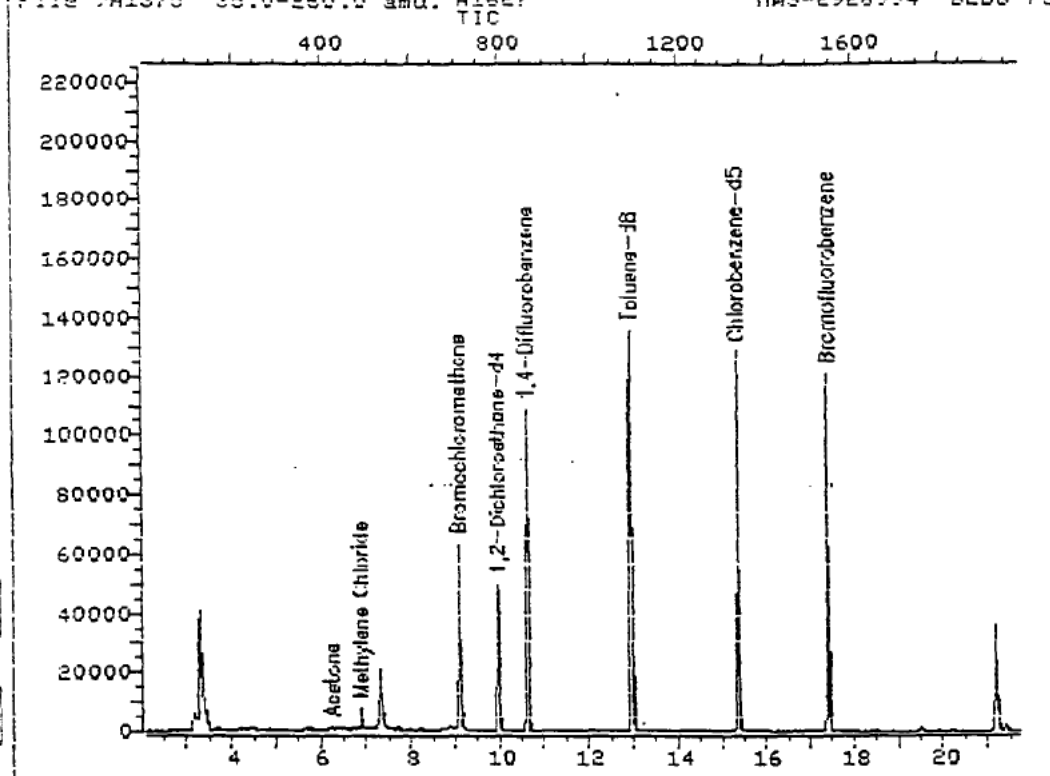
Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	9.08	704	34422	50.00	ug/L	100
2) Methyl Tertiary Butyl Ether	7.30	524	47948	29.55	ug/L	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM

File >A1375 35.0-260.0 amu. A1627

MW3-2928994 BLDG 75



Data File: >A1375::D3

Quant Output File: ^A1375::D7

Name: A1627

Misc: MW3-2928994 BLDG 750

5.0mL

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930428 10:56

Operator ID: JEFF

Quant Time: 930428 12:07

Injected at: 930428 11:37

00035

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ
SAMPLE NUMBER A1627
CLIENT ID BLDG 750, MWJ-2928994
DATA FILE >C1240

MATRIX Water
DILUTION FACTOR 1.00
COMMENTS HNJ: 0, NJDEP 92-05-07-1600-23
DATE ANALYZED 05/13/93

COMPOUND	US/L	MDL	COMPOUND	US/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 750
MW-3
1-2928994

Client: US ARMY, FT. MONMOUTH, NJ

Comments: HNU: 0

NJDEPE Case No: 92-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1627

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1240

Level: LOW

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 1

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	UNKNOWN	5.72	7

QUANT REPORT

Operator ID: JEFF
 Output File: ^C1240::DA
 Data File: >C1240::D4
 Name: A1627 04/24
 Disc: 051393

Quant Rev: 6 Quant Time: 930513 15:19
 Injected at: 930513 14:41
 Dilution Factor: 1.00000

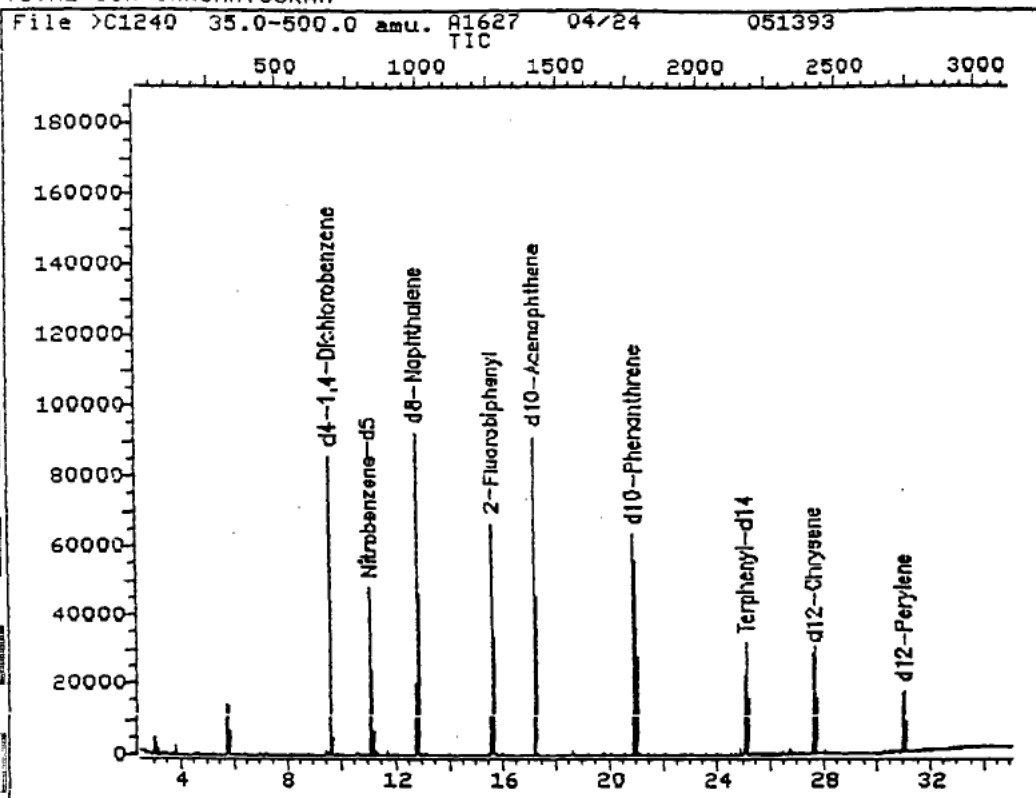
BTL# 5

ID File: IDHSLC::D3
 Title: hSL BNA STD
 Last Calibration: 930513 11:38

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.58	678	35956	40.00	UG/L	94
18)	*d8-Naphthalene	12.75	982	82761	40.00	UG/L	87
19)	Nitrobenzene-d5	11.04	818	27813	28.40	UG/L	90
3)	*d10-Acenaphthene	17.22	1410	43443	40.00	UG/L	96
38)	2-Fluorobiphenyl	15.60	1255	43958	28.87	UG/L	93
53)	*d10-Phenanthrene	20.91	1764	53725	40.00	UG/L	97
4)	*d12-Chrysene	27.63	2408	26866	40.00	UG/L	97
67)	Terphenyl-d14	25.08	2164	25904	27.64	UG/L	91
73)	*d12-Perylene	30.98	2730	16676	40.00	UG/L	94

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >C1240::D4

Quant Output File: ^C1240::DA

Name: A1627 04/24

Misc: 051393

BTL# 5

Id File: IDHSLC::D3

Title: hSL BNA STD

Last Calibration: 930513 11:38

Operator ID: JEFF

Quant Time: 930513 15:19

Injected at: 930513 14:41

00039

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1628	DILUTION FACTOR	1.00
CLIENT ID	MW2-2928993 BLDG 750	COMMENTS	HNU 1.3 92-05-07-1600-23
DATA FILE	>A1383	DATE ANALYZED	04/28/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	140 B	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	1.9 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	103	76 - 114	OK
Toluene-d8	98.6	88 - 110	OK
Bromofluorobenzene	100	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

00040

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW2-2928993

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 750

Case: 92-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1628

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1383

Level: (low/med) LOW

Date Received: 04/21/93

% Moisture: NA

Date Analyzed: 04/28/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----
	No Unknowns			

FORM I UOA-TIC

1/87 Rev.

00041

QUANT REPORT

Operator ID: JEFF
 Output File: ^A1383::D7
 Data File: ^A1383::D3
 Name: A1628

Quant Rev: 6 Quant Time: 930428 16:55
 Injected at: 930428 16:25
 Dilution Factor: 1.00000

Disc: MW2-2928993 BLDG 750

5.0mL

ID File: ID0127::M1
 Title: USEPA 624 VOLATILES
 Last Calibration: 930428 10:56

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.05	707	32121	50.00	UG/L	100
9)	Acetone	6.21	420	69011	138.28	UG/L	81
3)	Methylene Chloride	6.82	482	2951	1.90	UG/L	81
21)	1,2-Dichloroethane-d4	9.95	798	66174	51.49	UG/L	100
22)	*1,4-Difluorobenzene	10.64	867	150150	50.00	UG/L	100
41)	Toluene-d8	12.97	1103	151485	49.29	UG/L	100
33)	*Chlorobenzene-d5	15.39	1347	127769	50.00	UG/L	100
46)	Bromofluorobenzene	17.45	1555	78888	50.01	UG/L	100

* Compound is ISTD

QUANT REPORT

Operator ID: JEFF
 Output File: MA1383::QT
 Data File: >A1383::D3
 Name: A1628
 Misc: MW2-2928993 BLDG 750

Quant Rev: 6 Quant Time: 930520 13:38
 Injected at: 930428 16:25
 Dilution Factor: 1.00000

5.0mL

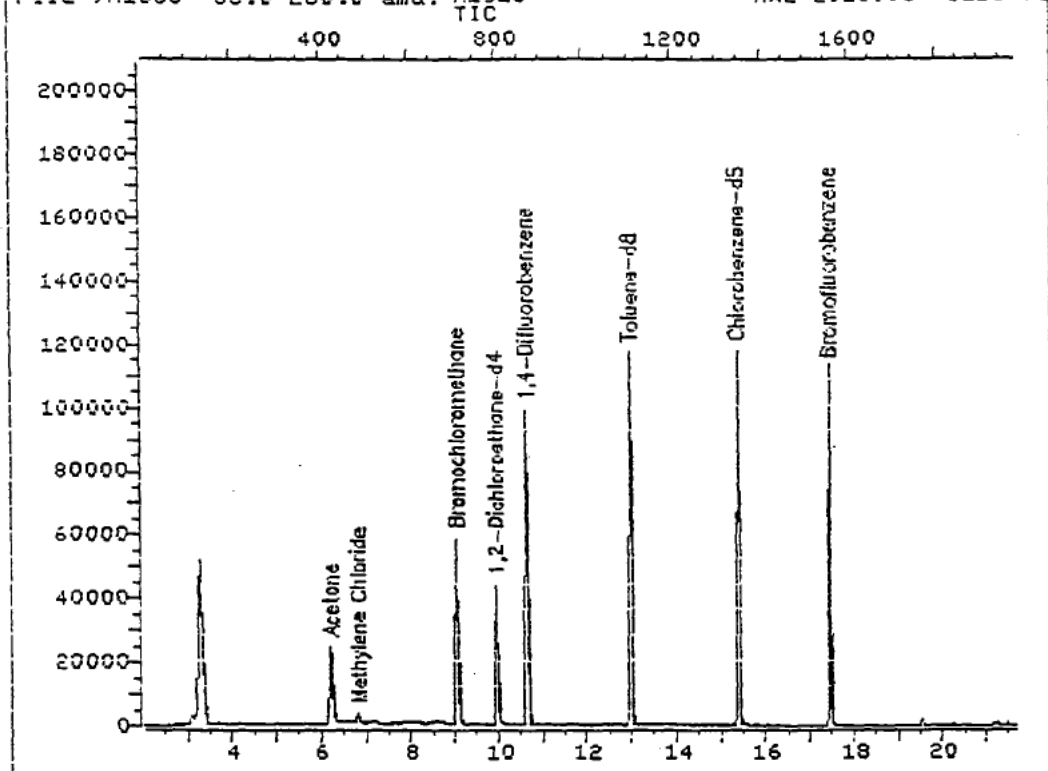
ID File: IDAUXA::M1
 Title: INST A AUX. COMPOUNDS
 Last Calibration: 930520 13:36

Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	9.05	707	32121	50.00	ug/L	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM

File >A1383 35.0-260.0 amu. H1628 MW2-2928993 BLDG 75



Data File: >A1383::D3

Quant Output File: ^A1383::D7

Name: A1628

Misc: MW2-2928993 BLDG 750

5.0mL

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930428 10:56

Operator ID: JEFF

Quant Time: 930428 16:55

Injected at: 930428 16:25

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ
 SAMPLE NUMBER A1628
 CLIENT ID BLDG 750, MW2-2928993
 DATA FILE >C1241

MATRIX Water
 DILUTION FACTOR 1.00
 COMMENTS HWJ: 1.3, NJDEP 92-05-07-1600-23
 DATE ANALYZED 05/13/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL

(B) Indicates also present in blank

(ND) Indicates compound not detected

E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 750
MW-2
2928993

Client: US ARMY, FT. MONMOUTH, NJ

Comments: HNU: 1.3

NJDEP Case No.: 92-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1628

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1241

Level: LOW

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 0

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	TEST CONC
NO UNKNOWN COMPOUNDS IDENTIFIED			

00046

QUANT REPORT

Operator ID: JEFF
 Output File: ^C1241::DA
 Data File: >C1241::D4
 Name: A1628 04/24
 Misc: 051393

Quant Rev: 6 Quant Time: 930513 16:08
 Injected at: 930513 15:27
 Dilution Factor: 1.00000

BTL# 6

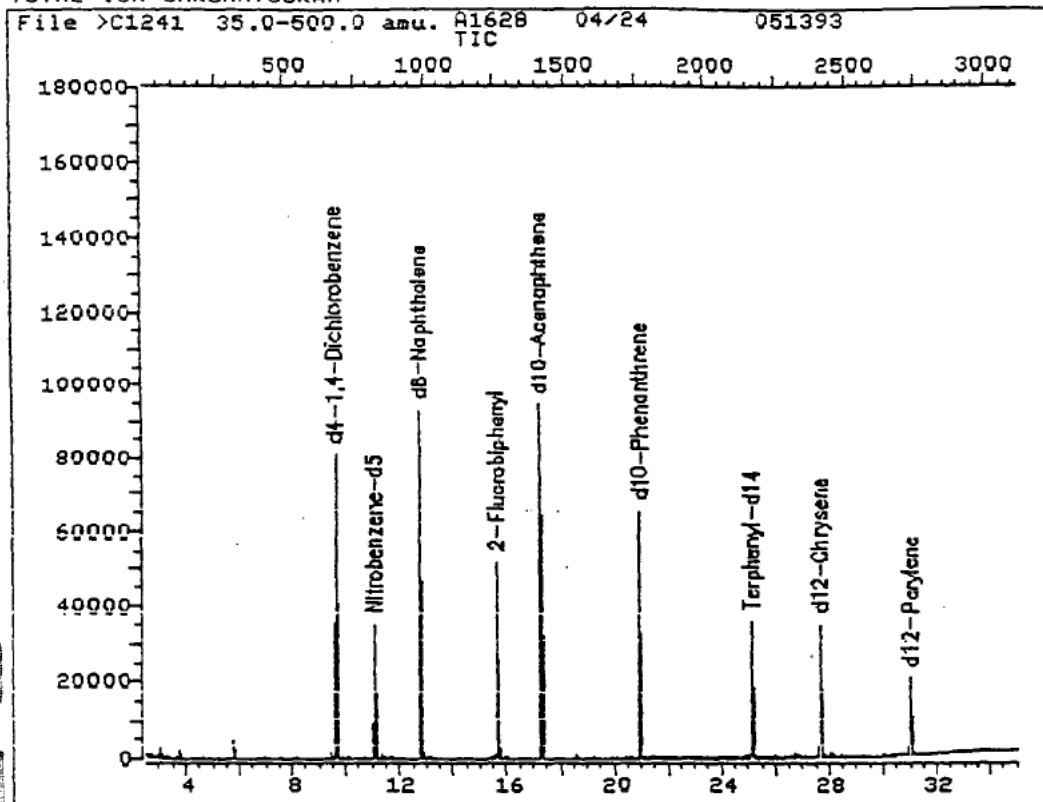
ID File: IDHSLC::D3
 Title: hSL BNA STD
 Last Calibration: 930513 11:38

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.58	674	36397	40.00	UG/L	94
18)	*d8-Naphthalene	12.75	978	81425	40.00	UG/L	87
19)	Nitrobenzene-d5	11.04	814	19499	20.24	UG/L	91
3)	*d10-Acenaphthene	17.23	1407	42795	40.00	UG/L	96
38)	2-Fluorobiphenyl	15.61	1252	33049	22.03	UG/L	95
33)	*d10-Phenanthrene	20.92	1761	55646	40.00	UG/L	99
4)	*d12-Chrysene	27.64	2405	29030	40.00	UG/L	96
62)	Terphenyl-d14	25.09	2161	28327	27.98	UG/L	91
73)	*d12-Perylene	31.00	2727	19079	40.00	UG/L	93

Compound is ISTD

00047

TOTAL ION CHROMATOGRAM



Data File: >C1241::D4
Name: A1628 04/24
Misc: 051393

Quant Output File: ^C1241::DA

BTL# 6

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930513 11:38

Operator ID: JEFF
Quant Time: 930513 16:08
Injected at: 930513 15:27

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1629	DILUTION FACTOR	1.00
CLIENT ID	MW1-2928992 BLDG 750	COMMENTS	HNU 8.9 92-05-07-1600-23
DATA FILE	>A1384	DATE ANALYZED	04/28/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	140 B	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	2.0 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	113	76 - 114	OK
Toluene-d8	99.1	88 - 110	OK
Bromofluorobenzene	101	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

00049

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW1-2928992

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Case: 92-05-07-1600-23

Matrix: (soil/water) WATER

Sample wt/vol: 5 (g/mL) mL

Level: (low/med) LOW

% Moisture: NA

Column: DB-624

Client ID: BLDG 750

Lab Sample ID: A1629

Lab File ID: >A1384

Date Received: 04/21/93

Date Analyzed: 04/28/93

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
	No Unknowns			

FORM I VOA-TIC

1/87 Rev.

00050

QUANT REPORT

Operator ID: JEFF
Output File: ^A1384::D7
Data File: >A1384::D3
Name: A1629

Quant Rev: 6 Quant Time: 930428 17:30
 Injected at: 930428 17:00
 Dilution Factor: 1.00000

Mass: MW1-2928992 BLDG 750

5.0mL

ID File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930428 10:56

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.13	708	29074	50.00	UG/L	100
9)	Acetone	6.34	426	61160	135.39	UG/L	80
11)	Methylene Chloride	6.92	484	2883	2.05	UG/L	76
2)	1,2-Dichloroethane-d4	10.02	797	65925	56.67	UG/L	100
22)	*1,4-Difluorobenzene	10.67	863	150258	50.00	UG/L	100
31)	Toluene-d8	13.02	1100	152460	49.57	UG/L	100
31)	*Chlorobenzene-d5	15.43	1344	127213	50.00	UG/L	100
43)	Bromofluorobenzene	17.50	1553	79700	50.75	UG/L	100

Compound is ISTD

00051

QUANT REPORT

Operator ID: JEFF
 Output File: MA1364::QT
 Data File: >A1364::D3
 Name: A1636
 Misc: MW2-2926926 BLDG 2567
 ID File: IDAUXA::M1
 Title: INST A AUX. COMPOUNDS
 Last Calibration: 930430 15:14

Quant Rev: 6 Quant Time: 930430 15:16
 Injected at: 930427 15:46
 Dilution Factor: 1.00000

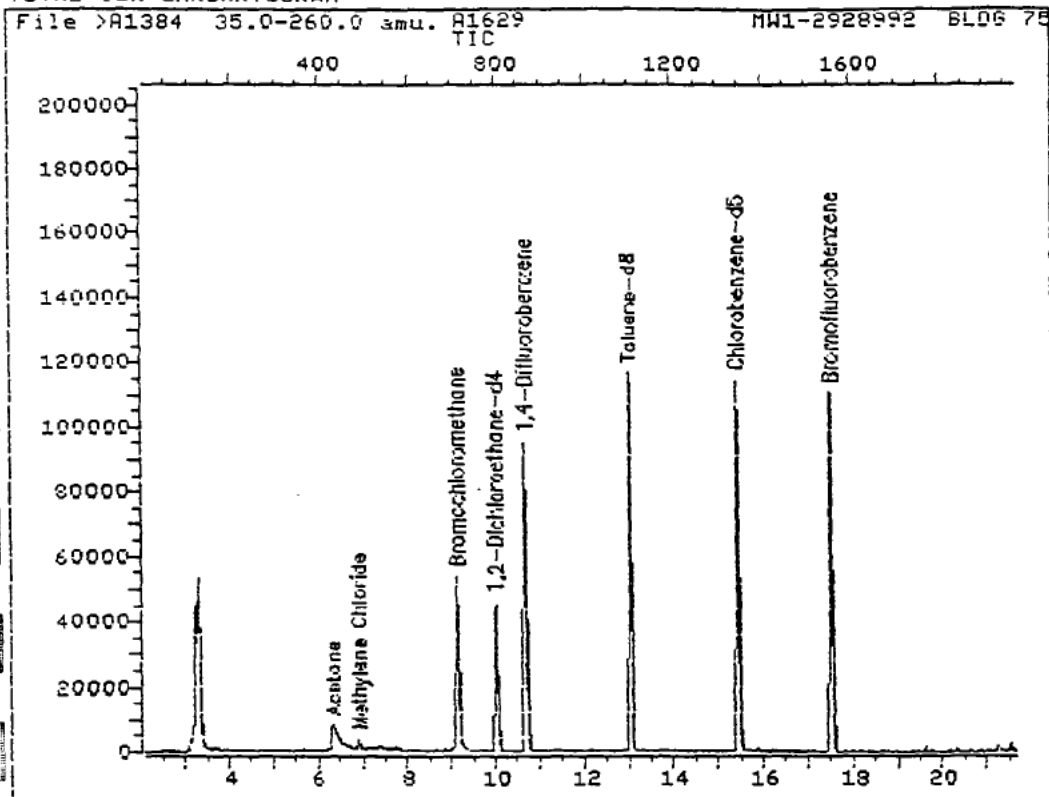
5mL

Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	9.10	711	33303	50.00	ug/L	100

* Compound is ISTD

00052

TOTAL ION CHROMATOGRAM



Data File: >A1384::D3

Quant Output File: ^A1384::D7

Name: A1629

Misc: MW1-2928992 BLDG 750

5.0mL

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930428 10:56

Operator ID: JEFF

Quant Time: 930428 17:30

Injected at: 930428 17:00

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ
 SAMPLE NUMBER A1629
 CLIENT ID BLOG 750, MWI-2928992
 DATA FILE >C1242

MATRIX Water
 DILUTION FACTOR 1.00
 COMMENTS HNU: 8.9, NJDEP 92-05-07-1600-23
 DATE ANALYZED 05/13/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	4.1 J	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	1.0 J	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL
 (B) Indicates also present in blank
 (ND) Indicates compound not detected

00054

E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 750
MW-1
2928992

Client: US ARMY, FT. MONMOUTH, NJ

Comments: HNU: 8.9

NJDEP Case No: 92-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1629

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1242

Level: LOW

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 1

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	TEST CONC
1	UNKNOWN	5.73	11

00055

QUANT REPORT

Operator ID: JEFF
 Output File: ^C1242::DA
 Data File: >C1242::D4
 Name: A1629 04/24
 Misc: 051393

Quant Rev: 6 Quant Time: 930513 16:51
 Injected at: 930513 16:13
 Dilution Factor: 1.00000

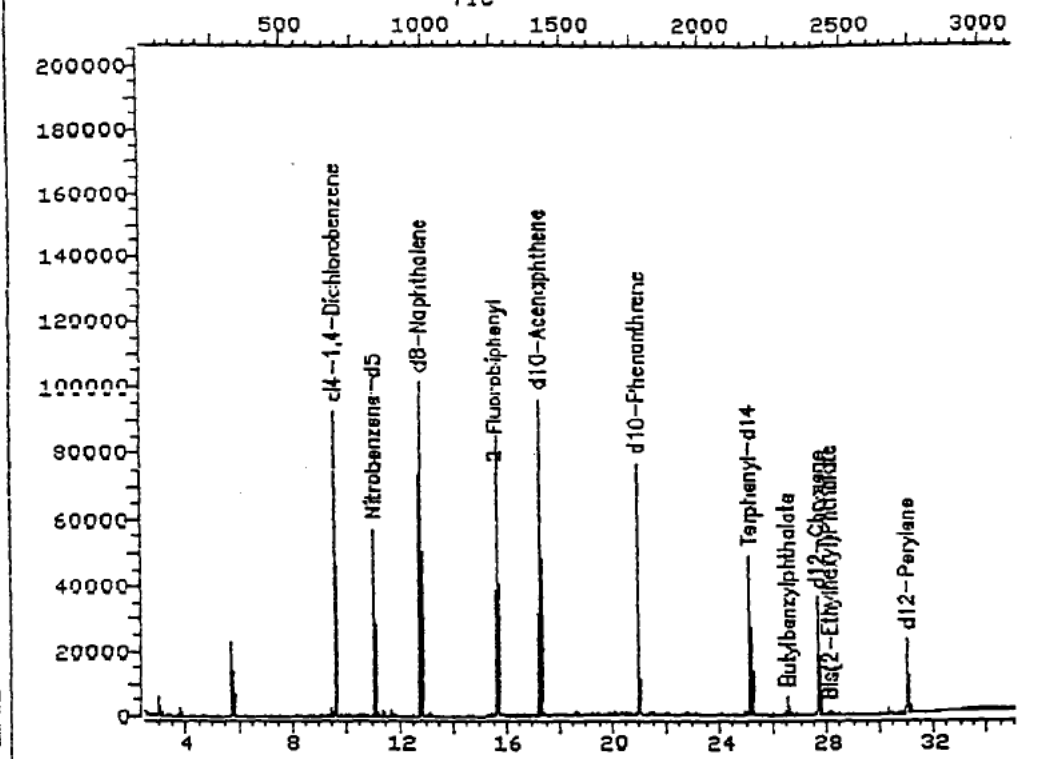
BTL# 7

ID File: IDHSLC::03
 Title: hSL BNA STD
 Last Calibration: 930513 11:38

	Compound	R.T.	Scan#	Area	Conc	Units	q
17)	*d4-1,4-Dichlorobenzene	9.58	677	39587	40.00	UG/L	93
18)	*d8-Naphthalene	12.75	981	90122	40.00	UG/L	89
19)	Nitrobenzene-d5	11.04	817	34509	32.36	UG/L	88
20)	*d10-Acenaphthene	17.22	1409	48005	40.00	UG/L	97
21)	2-Fluorobiphenyl	15.60	1254	54005	32.09	UG/L	92
22)	*d10-Phenanthrene	20.92	1763	64006	40.00	UG/L	98
23)	*d12-Chrysene	27.63	2406	31956	40.00	UG/L	96
24)	Terphenyl-d14	25.09	2163	38419	34.47	UG/L	92
25)	Butylbenzylphthalate	26.51	2299	2827	4.14	UG/L	94
26)	Bis(2-Ethylhexyl)Phthalate	28.10	2451	860	1.02	UG/L	98
27)	*d12-Perylene	30.99	2728	21865	40.00	UG/L	93

* Compound is ISTD

TOTAL ION CHROMATOGRAM

File >C1242 35.0-500.0 amu. A1629 04/24 051393
TIC

Data File: >C1242::D4
Name: A1629 04/24
Misc: 051393

Quant Output File: ^C1242::DA

BTL# 7

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930513 11:38

Operator ID: JEFF
Quant Time: 930513 16:51
Injected at: 930513 16:13

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER US ARMY FT. MONMOUTH NJ
SAMPLE NUMBER A1630
CLIENT ID MW4-2928995 BLDG 750
DATA FILE >A1391

MATRIX Water
DILUTION FACTOR 1.00
COMMENTS HNU 20.2 92-05-07-1600-23
DATE ANALYZED 04/29/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	16	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	4.2 J	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	2.2 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	6.8	5
Vinyl Acetate	ND	5	m,p-Xylenes	38	5
2-Butanone	ND	10	o-Xylene	26	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	12	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	500	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	6.6 J	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	98.6	76 - 114	OK
Toluene-d8	98.9	88 - 110	OK
Bromofluorobenzene	97.9	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

E1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

MW4-2928995

Client Name: US ARMY FT. MONMOUTH, NJ
Case: 92-05-07-1600-23
Matrix: (soil/water) WATER

Client ID: BLDG 750

Lab Sample ID: A1630

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1391

Level: MED

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 04/29/93

Column: CAP

Dilution Factor: 1

Number TICs Found 09

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1 106989	1-Butene (8CI9CI)	4.15	36
3 611143	Benzene, 1-ethyl-2-methyl- (9CI)	18.23	18
4 95636	Benzene, 1,2,4-trimethyl- (8CI9CI)	18.39	10
5 622968	Benzene, 1-ethyl-4-methyl- (9CI)	18.77	6
6 108678	Benzene, 1,3,5-trimethyl- (9CI)	19.08	22
7 620144	Benzene, 1-ethyl-3-methyl- (9CI)	19.86	14
8 496117	1H-Indene, 2,3-dihydro- (9CI)	20.23	5
9 1758889	Benzene, 2-ethyl-1,4-dimethyl- (9CI)	20.37	3
10 767588	1H-Indene, 2,3-dihydro-1-methyl- (9CI)	21.30	5

00059

QUANT REPORT

Operator ID: JEFF
 Output File: ^A1391::D7
 Data File: >A1391::D3
 Name: A1630
 Misc: MW4-2928995 BLDG 750

Quant Rev: 6 Quant Time: 930429 12:18
 Injected at: 930429 11:47
 Dilution Factor: 1.00000

ID File: ID0127::M1
 Title: USEPA 624 VOLATILES
 Last Calibration: 930429 11:27

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.30	724	32996	50.00	UG/L	100
9)	Acetone	6.38	430	2229	4.25	UG/L	79
13)	Methylene Chloride	7.02	494	2940	2.16	UG/L	71
21)	1,2-Dichloroethane-d4	10.19	814	65052	49.30	UG/L	100
22)	*1,4-Difluorobenzene	10.85	881	157568	50.00	UG/L	100
24)	Benzene	10.29	824	33894	11.68	UG/L	100
31)	Toluene-d8	13.16	1114	160928	49.47	UG/L	100
32)	Toluene	13.27	1125	60886	16.39	UG/L	98
33)	*Chlorobenzene-d5	15.56	1356	134772	50.00	UG/L	100
41)	Ethylbenzene	15.78	1379	33667	6.79	UG/L	83
42)	m&p-Xylenes	15.99	1400	169097	38.35	UG/L	94
43)	o-Xylene	16.69	1470	102882	25.81	UG/L	88
46)	Bromofluorobenzene	17.61	1563	83426	48.96	UG/L	100

* Compound is ISTD

QUANT REPORT

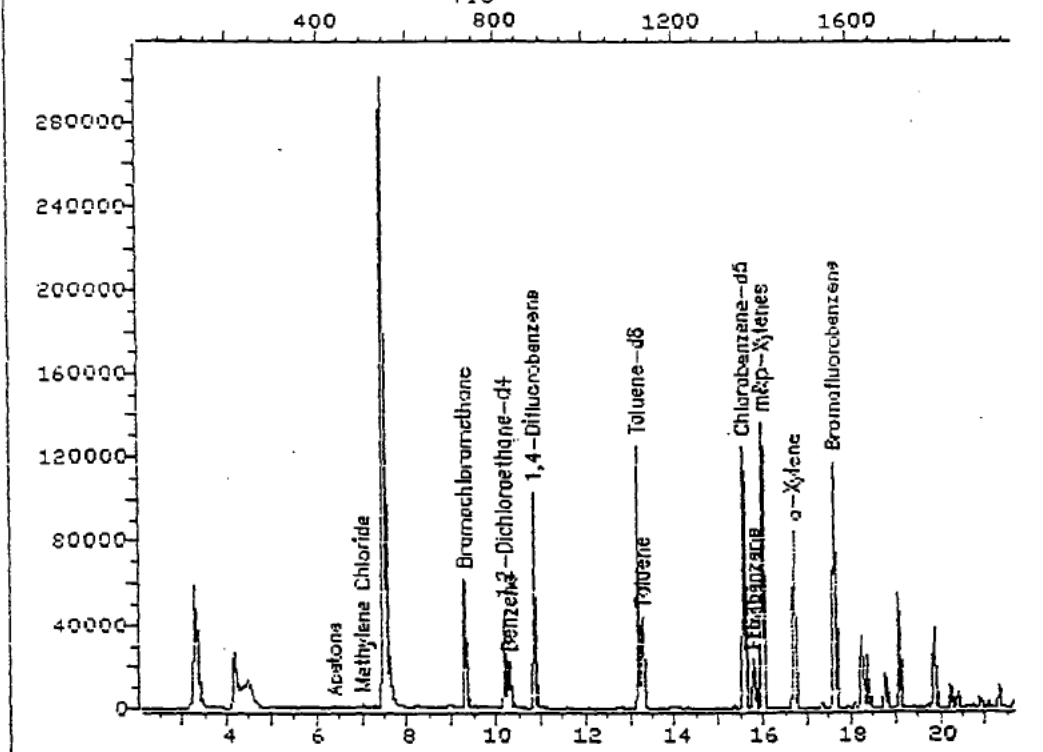
Operator ID: JEFF
 Quant Rev: 6 Quant Time: 930520 15:56
 Output File: MA1391::QT
 Injected at: 930429 11:47
 Data File: >A1391::D3
 Dilution Factor: 1.00000
 Name: A1630
 Misc: MW4-2928995 BLDG 750
 ID File: IDAUXA::M1
 Title: INST A AUX. COMPOUNDS
 Last Calibration: 930520 15:54

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.30	724	32996	50.00	ug/L	100
2)	Methyl Tertiary Butyl Ether	7.48	541	705823	503.04	ug/L	100
3)	Tertiary Butyl Alcohol	7.28	521	2578	6.58	ug/L	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM

File >A1391 35.0-260.0 amu. A1630 MW4-2928995 BLDG 750
TIC



Data File: >A1391::D3

Quant Output File: ^A1391::D7

Name: A1630

Misc: MW4-2928995 BLDG 750

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930429 11:27

Operator ID: JEFF

Quant Time: 930429 12:18

Injected at: 930429 11:47

QUANT REPORT

Operator ID: JEFF
Output File: ^A1385::D7
Data File: >A1385::D3

Quant Rev: 6 Quant Time: 930428 18:06
 Injected at: 930428 17:36
Dilution Factor: 1.00000

Name: A1630

Misc: MW4-2928995 BLDG 750

5.0mL

ID File: ID0127::M1

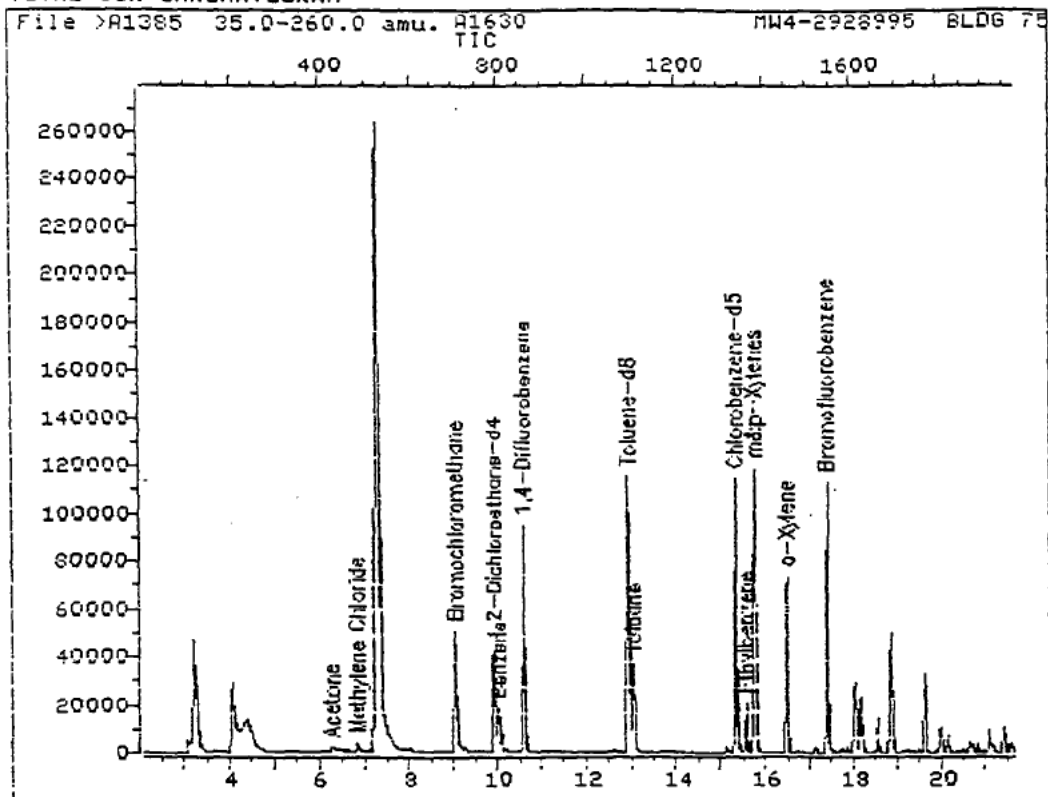
Title: USEPA 624 VOLATILES

Last Calibration: 930428 10:56

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.05	700	27320	50.00	UG/L	100
9)	Acetone	6.26	419	3741	8.81	UG/L	81
3)	Methylene Chloride	6.83	476	3239	2.46	UG/L	78
21)	1,2-Dichloroethane-d4	9.93	789	63517	58.10	UG/L	100
22)	*1,4-Difluorobenzene	10.59	856	149714	50.00	UG/L	100
4)	Benzene	10.03	799	27914	9.17	UG/L	100
1)	Toluene-d8	12.93	1092	152870	49.89	UG/L	100
32)	Toluene	13.04	1103	51596	13.19	UG/L	97
3)	*Chlorobenzene-d5	15.34	1335	128704	50.00	UG/L	100
1)	Ethylbenzene	15.57	1358	29049	5.41	UG/L	83
42)	m&p-Xylenes	15.77	1378	148769	35.59	UG/L	94
43)	o-Xylene	16.47	1449	90859	21.28	UG/L	89
6)	Bromofluorobenzene	17.39	1542	80940	50.94	UG/L	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >A1385::D3

Quant Output File: ^A1385::D7

Name: A1630

Misc: MW4-2928995 BLDG 750

5.0mL

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930428 10:56

Operator ID: JEFF

Quant Time: 930428 18:06

Injected at: 930428 17:36

00064

21ST CENTURY Environmental
SEMI-VOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ
 SAMPLE NUMBER A1630
 CLIENT ID BLDG 750, MW4-2928995
 DATA FILE >C1243

MATRIX Water
 DILUTION FACTOR 1.00
 QA BATCH HNU: 20.2, NJDEP 92-05-07-1600-23
 DATE ANALYZED 05/13/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	2.5 J	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL
 (B) Indicates also present in blank
 (ND) Indicates compound not detected

E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 750
MW-4
2928995

Client: US ARMY, FT. MONMOUTH, NJ

Comments: NHU: 20.2

NJDEP Case No.: 9-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1630

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1243

Level: LOW

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 2

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	UNKNOWN	3.47	4
2	UNKNOWN	5.70	10

QUANT REPORT

Operator ID: JEFF
 Output File: ^C1243::DA
 Data File: >C1243::D4
 Name: A1630 04/24
 Misc: 051393

Quant Rev: 6 Quant Time: 930513 17:38
 Injected at: 930513 17:00
 Dilution Factor: 1.00000

BTLe 8

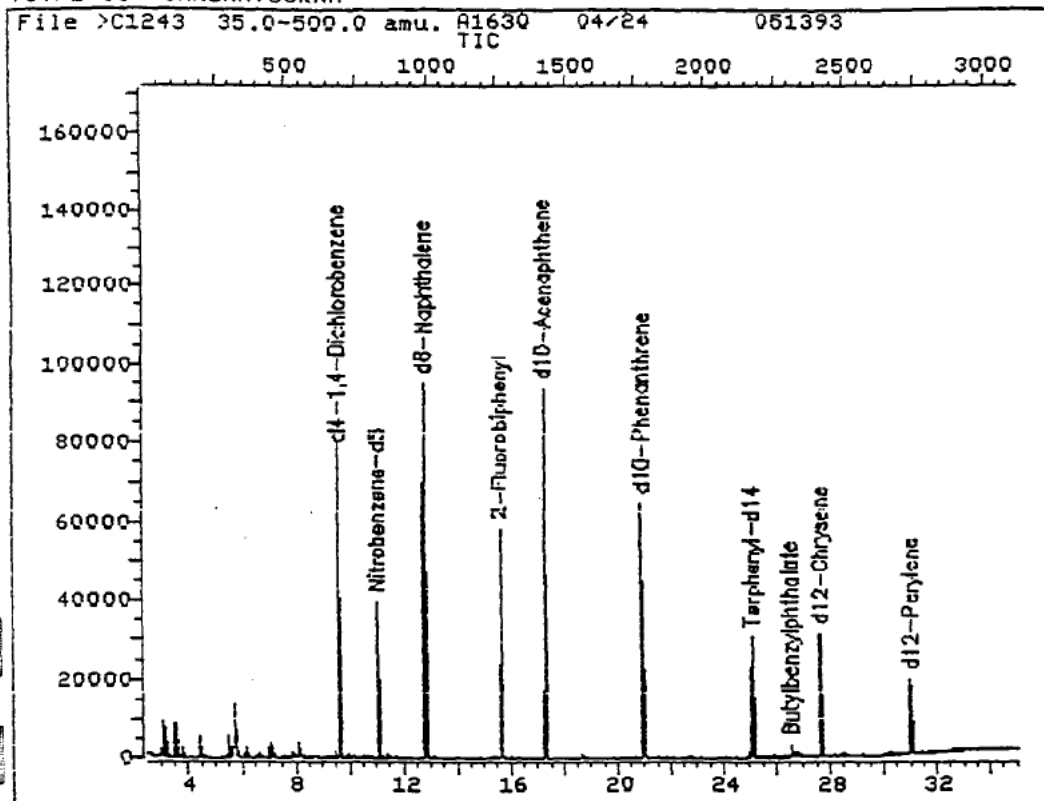
ID File: IDHSLC::D3
 Title: hSL BNA STD
 Last Calibration: 930513 11:38

	Compound	R.T.	Scan#	Area	Conc	Units	q
16)	*d4-1,4-Dichlorobenzene	9.57	676	37912	40.00	UG/L	95
16)	*d8-Naphthalene	12.75	981	81825	40.00	UG/L	88
19)	Nitrobenzene-d5	11.04	817	22292	23.02	UG/L	92
3)	*d10-Acenaphthene	17.22	1410	43167	40.00	UG/L	95
3)	2-Fluorobiphenyl	15.61	1255	37243	24.61	UG/L	92
53)	*d10-Phenanthrene	20.91	1764	53824	40.00	UG/L	99
6)	*d12-Chrysene	27.63	2408	26975	40.00	UG/L	98
6)	Terphenyl-d14	25.08	2164	23721	25.21	UG/L	90
68)	Butylbenzylphthalate	26.51	2301	1428	2.47	UG/L	84
73)	*d12-Perylene	30.99	2730	17812	40.00	UG/L	93

Compound is ISTD

00067

TOTAL ION CHROMATOGRAM



Data File: >C1243::D4
Name: A1630 04/24
Misc: 051393

Quant Output File: ^C1243::DA

BTL# 8

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930513 11:38

Operator ID: JEFF
Quant Time: 930513 17:38
Injected at: 930513 17:00

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1631	DILUTION FACTOR	1.00
CLIENT ID	MM4-2928995-DUP BLDG 750	COMMENTS	HNU 20.2 92-05-07-1600-92
DATA FILE	A1392	DATE ANALYZED	04/29/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	12	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	2.9 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	5.4	5
Vinyl Acetate	ND	5	m&p-Xylenes	32	5
2-Butanone	ND	10	o-Xylene	21	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	9.0	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	500	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	7.2 J	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	101	76 - 114	OK
Toluene-d8	99.1	88 - 110	OK
Bromofluorobenzene	99.1	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

00069

E1
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

MW4-2928995-DUP

Client Name: US ARMY FT. MONMOUTH, NJ
Case: 92-05-07-1600-23

Client ID BLDG 750

Matrix: (soil/water) WATER

Lab Sample ID: A1361

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1392

Level: MED

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 04/29/93

Column: CAP

Dilution Factor: 1

Number TICs Found 09

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	106989 1-Butene (8CI9CI)	4.13	31
3	611143 Benzene, 1-ethyl-2-methyl- (9CI)	18.25	15
4	108678 Benzene, 1,3,5-trimethyl- (9CI)	18.41	8
5	622968 Benzene, 1-ethyl-4-methyl- (9CI)	18.78	5
6	95636 Benzene, 1,2,4-trimethyl- (8CI9CI)	19.10	19
7	620144 Benzene, 1-ethyl-3-methyl- (9CI)	19.87	13
8	496117 1H-Indene, 2,3-dihydro- (9CI)	20.25	5
9	1758889 Benzene, 2-ethyl-1,4-dimethyl- (9CI)	20.40	3
10	767588 1H-Indene, 2,3-dihydro-1-methyl- (9CI)	21.32	5

00070

QUANT REPORT

Operator ID: JEFF
 Output File: QA1392::07
 Data File: QA1392::D3
 Name: A1631

Quant Rev: 6 Quant Time: 930429 12:54
 Injected at: 930429 12:23
 Dilution Factor: 1.00000

Sample: MW4-2928995-DUP BLDG 750

5mL

File: ID0127::M1
 Title: USEPA 624 VOLATILES
 Last Calibration: 930429 11:27

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.27	729	34559	50.00	UG/L	100
2)	Methylene Chloride	6.99	499	4163	2.92	UG/L	76
3)	1,2-Dichloroethane-d4	10.17	819	69554	50.33	UG/L	100
4)	*1,4-Difluorobenzene	10.83	886	167432	50.00	UG/L	100
5)	Benzene	10.27	830	27682	8.98	UG/L	100
6)	Toluene-d8	13.16	1121	171223	49.53	UG/L	100
7)	Toluene	13.28	1133	47916	12.14	UG/L	97
8)	*Chlorobenzene-d5	15.57	1365	142445	50.00	UG/L	100
9)	Ethylbenzene	15.80	1388	28126	5.36	UG/L	82
10)	m&p-Xylenes	16.00	1408	147031	31.55	UG/L	94
11)	o-Xylene	16.70	1479	88741	21.06	UG/L	90
12)	Bromofluorobenzene	17.62	1572	89217	49.54	UG/L	100

Compound is ISTD

QUANT REPORT

Operator ID: JEFF
 Output File: MA1392::QT
 Data File: >A1392::D3
 Name: A1631

Quant Rev: 6 Quant Time: 930520 16:20
 Injected at: 930429 12:23
 Dilution Factor: 1.00000

Sample: MW4-2928995-DUP BLDG 750

5mL

ID File: IDAUXA::M1

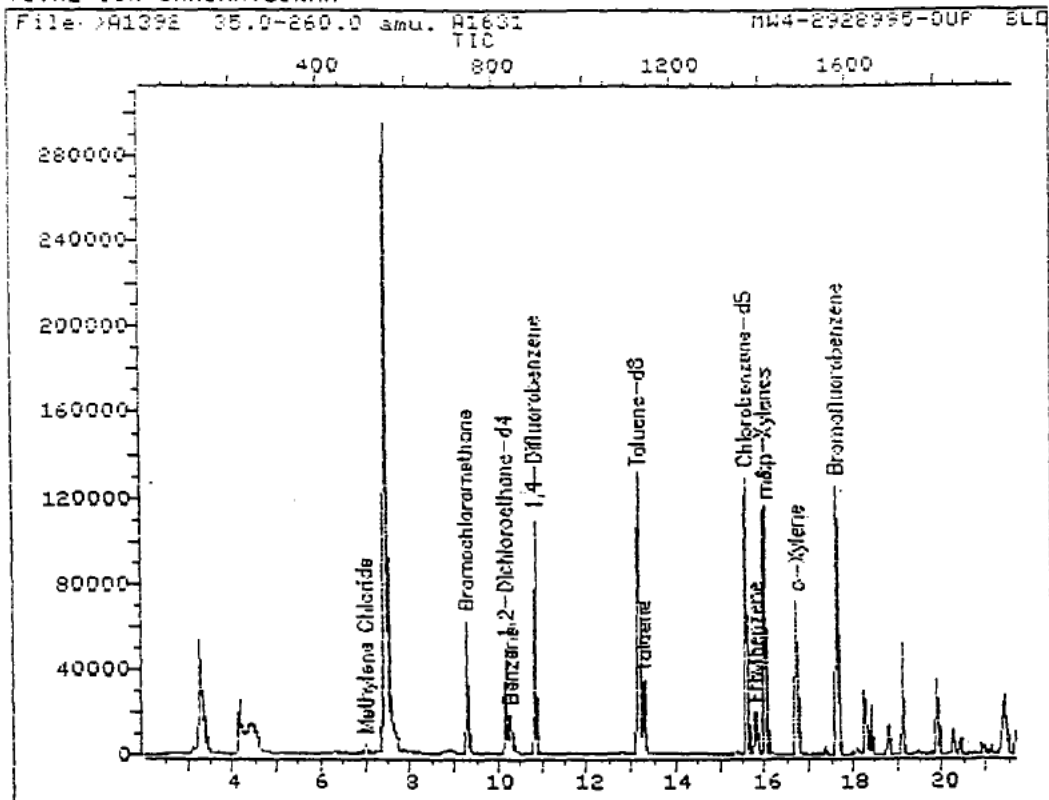
Title: INST A AUX. COMPOUNDS

Last Calibration: 930520 15:54

Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	9.27	729	34559	50.00	ug/L	100
2) Methyl Tertiary Butyl Ether	7.45	545	704146	479.14	ug/L	100
3) Tertiary Butyl Alcohol	7.25	525	2960	7.21	ug/L	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >A1392::D3

Quant Output File: ^A1392::D7

Name: A1631

Misc: MW4-2928995-DUP BLDG 750

5mL

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930429 11:27

Operator ID: JEFF

Quant Time: 930429 12:54

Injected at: 930429 12:23

QUANT REPORT

Operator ID: JEFF
 Output File: A1386::D7
 Data File: A1386::D3
 Name: A1631
 Misc: MW4-2928995-DUP BLDG 750

Quant Rev: 6 Quant Time: 930428 18:41
 Injected at: 930428 18:11
 Dilution Factor: 1.00000

5.0

ID File: ID0127::M1
 Title: USEPA 624 VOLATILES
 Last Calibration: 930428 10:56

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.78	672	1892	50.00	UG/L	100
9)	Acetone	6.24	416	16340	555.84	UG/L	81
3)	Methylene Chloride	6.88	481	2625	28.74	UG/L	78
1)	1,2-Dichloroethane-d4	9.58	753	5338	70.51	UG/L	100
2)	*1,4-Difluorobenzene	10.29	825	32734	50.00	UG/L	100
4)	Benzene	9.67	762	1270	1.91	UG/L	100
1)	Toluene-d8	12.71	1069	120653	180.08	UG/L	100
2)	Toluene	12.83	1081	34250	40.04	UG/L	97
3)	*Chlorobenzene-d5	15.22	1322	114716	50.00	UG/L	100
1)	Ethylbenzene	15.46	1347	22910	4.79	UG/L	82
2)	m&p-Xylenes	15.67	1368	118030	31.68	UG/L	92
3)	o-Xylene	16.40	1441	70675	18.57	UG/L	89
6)	Bromofluorobenzene	17.36	1538	74688	52.74	UG/L	100

* Compound is ISTD

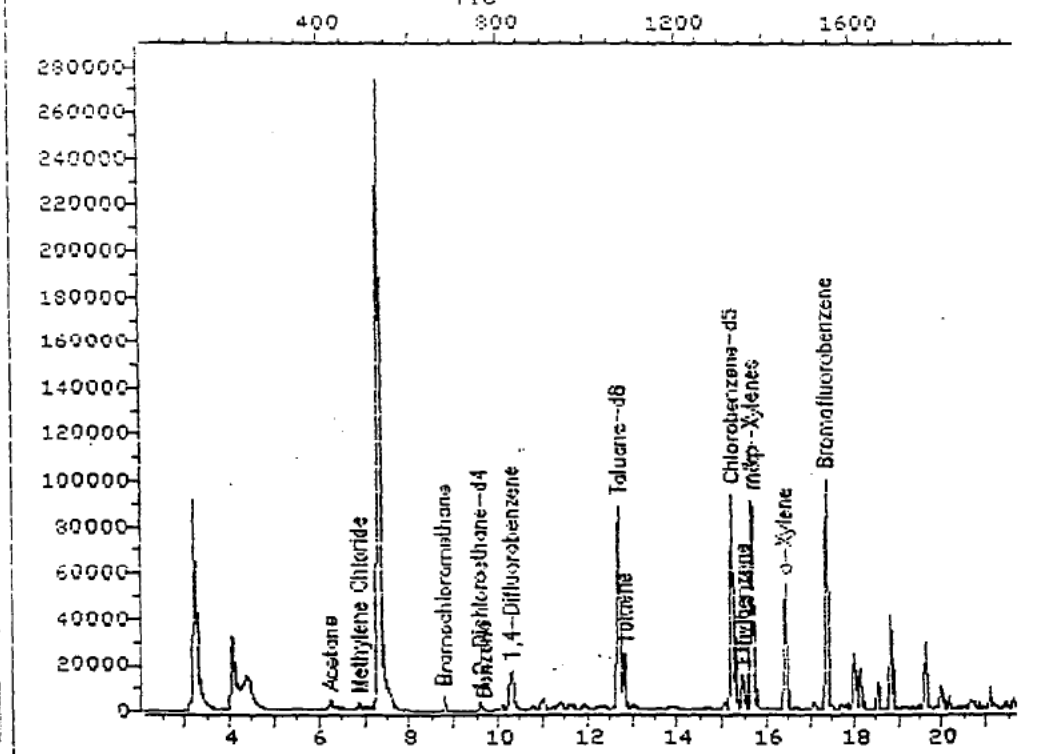
00074

TOTAL ION CHROMATOGRAM

File: A1386 35.0-260.0 amu. A1631

MW4-2928995-DUP BLDG

TIC



Data File: >A1386::D3

Quant Output File: ^A1386::D7

Name: A1631

Misc: MW4-2928995-DUP BLDG 750

5.0

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930428 10:56

Operator ID: JEFF

Quant Time: 930428 18:41

Injected at: 930428 18:11

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ
 SAMPLE NUMBER A1631
 CLIENT ID BLDG 750, MW4-2928995 DUP
 DATA FILE >C1246

MATRIX Water
 DILUTION FACTOR 1.00
 COMMENTS HNU: 20.2, NJDEP 92-05-07-1600-23
 DATE ANALYZED 05/13/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL

(B) Indicates also present in blank

(ND) Indicates compound not detected

E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 750
MW-4 DUP
2928995

Client: US ARMY, FT. MONMOUTH, NJ

Comments: HNU: 20.2

NJDEP Case No.: 92-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1631

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1246

Level: LOW

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 4

CONCENTRATION UNITS
(ug/L or ug/Kg) (UG/L)

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	UNKNOWN	3.12	5
2	UNKNOWN	3.48	6
3	UNKNOWN	4.39	4
4	UNKNOWN	5.71	13

00077

QUANT REPORT

Operator ID: JEFF
 Output File: ^C1246::D4
 Data File: ^C1246::E4
 Name: A1631
 Date: 051393

Quant Rev: 6 Quant Time: 930513 19:55
 Injected at: 930513 19:17
 Dilution Factor: 1.00000

BTL# 2

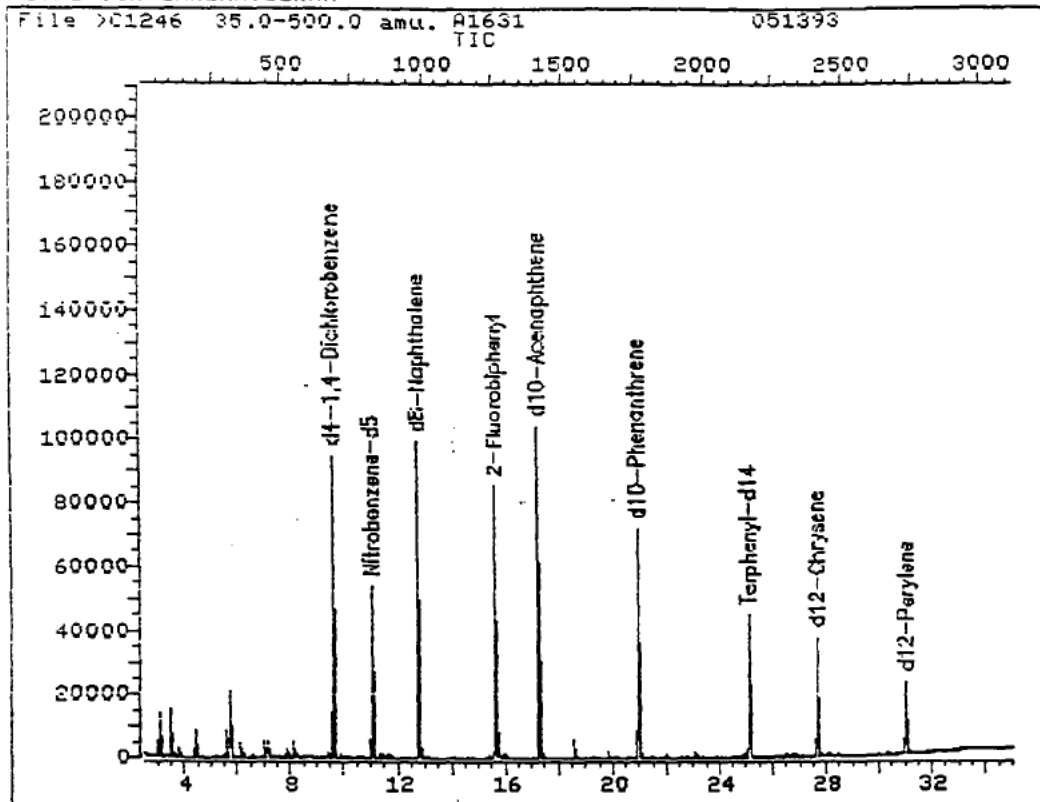
File: IDHSLC::03
 Title: hSL BNA STD
 Last Calibration: 930513 19:40

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.58	674	42226	40.00	UG/L	92
2)	*d8-Naphthalene	12.75	978	94628	40.00	UG/L	87
9)	Nitrobenzene-d5	11.05	815	32590	30.82	UG/L	89
1)	*d10-Acenaphthene	17.22	1407	52308	40.00	UG/L	94
2)	2-Fluorobiphenyl	15.61	1252	56490	31.34	UG/L	93
3)	*d10-Phenanthrene	20.91	1760	64308	40.00	UG/L	99
1)	*d12-Chrysene	27.63	2404	34981	40.00	UG/L	96
2)	Terphenyl-d14	25.08	2160	38203	30.05	UG/L	89
3)	*d12-Perylene	30.99	2726	24208	40.00	UG/L	95

Compound is ISTD

00078

TOTAL ION CHROMATOGRAM



Data File: >C1246::E4
Name: A1631
Misc: 051393

Quant Output File: ^C1246::D4

BTL# 2

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930513 19:40

Operator ID: JEFF
Quant Time: 930513 19:55
Injected at: 930513 19:17

00079

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1632	DILUTION FACTOR	1.00
CLIENT ID	FIELD BLANK BLDG 750	COMMENTS	HNU NO 92-05-07-1600-23
DATA FILE	A1371	DATE ANALYZED	04/27/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	2.2 JB	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	4.8 J	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	98.0	76 - 114	OK
Toluene-d8	97.8	88 - 110	OK
Bromofluorobenzene	102	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FIELD BLANK

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ
Case: 92-05-07-1600-23

Client ID: BLDG 750

Matrix: (soil/water) WATER

Lab Sample ID: A1632

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1371

Level: (low/med) LOW

Date Received: 04/21/93

% Moisture: NA

Date Analyzed: 04/27/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----
	No Unknowns			

FORM I VOA-TIC

1/87 Rev.

00081

QUANT REPORT

Operator ID: JEFF
 Output File: A1371::D7
 Data File: A1371::D3
 Name: A1632
 Disc: FIELD BLANK BLDG 750

Quant Rev: 6 Quant Time: 930520 10:44
 Injected at: 930427 19:53
 Dilution Factor: 1.00000

D File: ID0127::M1
 Title: USEPA 624 VOLATILES
 Test Calibration: 930520 10:22

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.11	706	34216	50.00	UG/L	100
2)	Acetone	6.24	417	1379	2.19	UG/L	83
3)	Methylene Chloride	6.87	480	7881	4.86	UG/L	76
4)	1,2-Dichloroethane-d4	9.99	795	68005	48.98	UG/L	100
5)	*1,4-Difluorobenzene	10.66	863	155462	50.00	UG/L	100
6)	Toluene-d8	13.00	1099	158428	48.90	UG/L	100
7)	*Chlorobenzene-d5	15.39	1341	130485	50.00	UG/L	100
8)	Bromofluorobenzene	17.44	1548	82006	50.97	UG/L	100

Compound is ISTD

QUANT REPORT

Operator ID: JEFF

Quant Rev: 6

Quant Time: 930520 13:26

Output File: MA1371::QT

Injected at: 930427 19:53

Data File: >A1371::D3

Dilution Factor: 1.00000

Name: A1632

Disc: FIELD BLANK BLDG 2567

D File: IDAUXA::M1

Title: INST A AUX. COMPOUNDS

Last Calibration: 930430 15:14

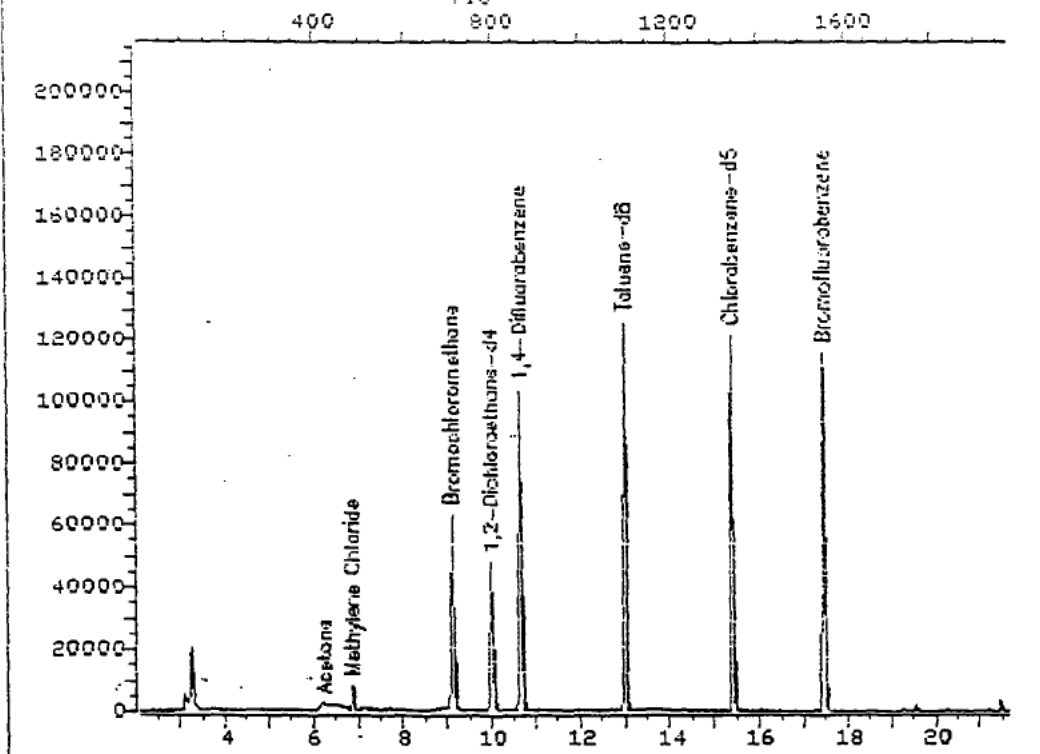
Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	9.11	706	34216	50.00	ug/L	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM

File >A1371 35.0-250.0 amu. A1632
TIC

FIELD BLANK BLDG 750



Data File: >A1371::D3

Quant Output File: ^A1371::D7

Name: A1632

Misc: FIELD BLANK BLDG 750

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930520 10:22

Operator ID: JEFF

Quant Time: 930520 10:44

Injected at: 930427 19:53

00084

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ
 SAMPLE NUMBER A1632
 CLIENT ID BLDG 750, FIELD BLANK
 DATA FILE >C1247

MATRIX Water
 DILUTION FACTOR 1.00
 COMMENTS NONE
 DATE ANALYZED 05/13/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL
 (B) Indicates also present in blank
 (ND) Indicates compound not detected

00085

E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 750
FIELD BLK

Client: US ARMY, FT. MONMOUTH, NJ

Comments: None

NJDEP Case No.: 92-05-07-1600-23

Matrix: (soil/water) WATER

Lab Sample ID: A1632

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1247

Level: LOW

Date Received: 04/21/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 1

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	UNKNOWN	5.71	11

00086

QUANT REPORT

Operator ID: JEFF
 Output File: ^C1247::QT
 Data File: >C1247::E4
 Name: A1632
 Disc: 051393

Quant Rev: 6 Quant Time: 930513 20:43
 Injected at: 930513 20:05
 Dilution Factor: 1.00000

BTL# 1

D File: IDHSLC::D3
 Title: hSL BNA STD
 Last Calibration: 930513 19:40

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.57	672	40123	40.00	UG/L	93
8)	*d8-Naphthalene	12.74	976	89798	40.00	UG/L	86
9)	Nitrobenzene-d5	11.04	813	29685	29.58	UG/L	89
3)	*d10-Acenaphthene	17.21	1404	49630	40.00	UG/L	94
8)	2-Fluorobiphenyl	15.60	1249	59475	34.78	UG/L	93
3)	*d10-Phenanthrene	20.91	1758	62859	40.00	UG/L	98
4)	*d12-Chrysene	27.63	2402	29831	40.00	UG/L	95
7)	Terphenyl-d14	25.08	2158	38867	35.85	UG/L	89
3)	*d12-Perylene	30.99	2724	19463	40.00	UG/L	95

* Compound is ISTD

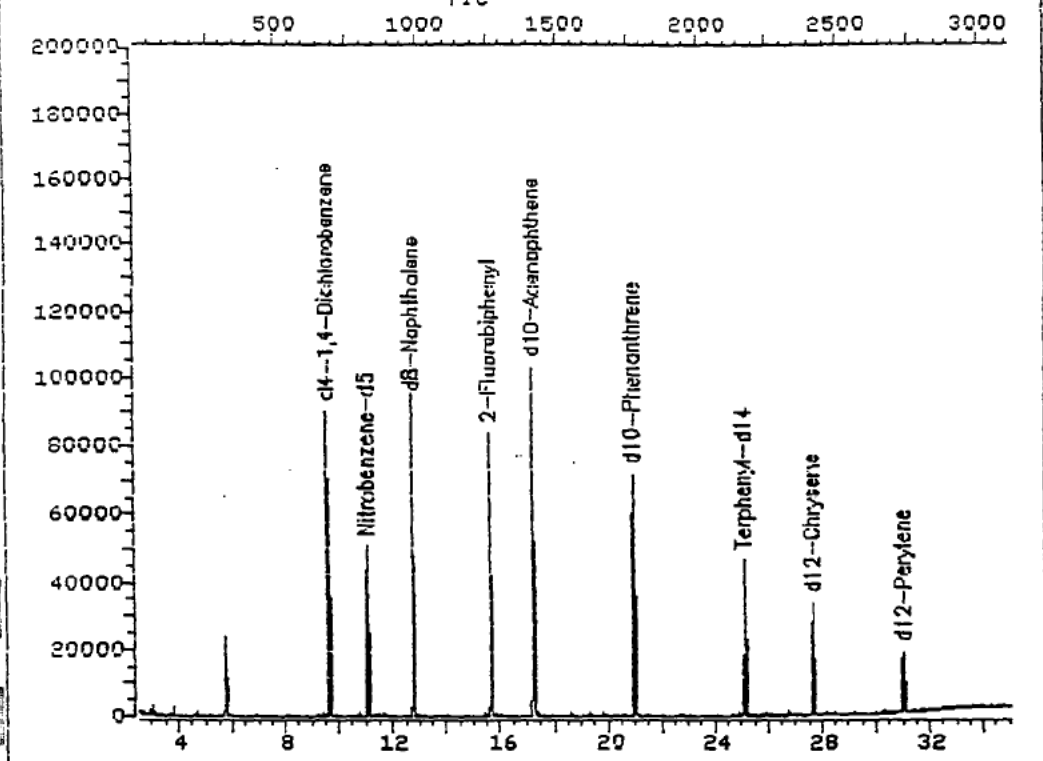
00087

TOTAL ION CHROMATOGRAM

File >C1247 35.0-500.0 amu. A1632

051393

TIC



Data File: >C1247::E4

Quant Output File: ^C1247::QT

Name: A1632

Misc: 051393

BTL# 1

Id File: IDHSLC::D3

Title: hSL BNA STD

Last Calibration: 930513 19:40

Operator ID: JEFF

Quant Time: 930513 20:43

Injected at: 930513 20:05

00088

Q C RESULTS

21st Century Environmental Inc
WATER VOLATILE SURROGATE RECOVERY

SAMPLE NO.	S1 (DCE)#	S2 (TOL)#	S3 (BFB)#	TOT OUT
BLANK	96	97	97	0
A1632	98	98	102	0
BLANK	98	98	97	0
A1627	98	99	98	0
A1628	103	99	100	0
A1629	113	99	101	0
A1630	116*	100	102	1
A1631	141*	360*	105	2
BLANK	95	98	96	0
A1630	99	99	98	0
A1631	101	99	99	0
A1582MS	101	99	99	0
A1582MSD	101	99	100	0

S1 (DCE) = 1,2-Dichloroethane-d4
S2 (TOL) = Toluene-d8
S3 (BFB) = Bromofluorobenzene

QC LIMITS

76-114
88-110
86-115

Column used to flag surrogate recovery values

00090

21ST CENTURY ENVIRONMENTAL INC.
WATER semi-VOLATILE SURROGATE RECOVERY

SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (FPH) #	S6 (TBP) #	TOT OUT
AQ BLK	78	80	85	-	-	-	0
A1627	57	58	55	-	-	-	0
A1628	41	44	56	-	-	-	0
A1629	65	64	69	-	-	-	0
A1630	46	49	50	-	-	-	0
A1631	62	63	60	-	-	-	0
A1632	59	70	72	-	-	-	0
A1412MS	83	92	110	-	-	-	0
A1412MSD	65	74	91	-	-	-	0

** Values out due to matrix interference

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5	(35-114)
S2 (FBP) = 2-Fluorobiphenyl	(43-116)
S3 (TPH) = Terphenyl-d14	(33-141)
S4 (PHL) = Phenol-d5	(10-94)
S5 (FPH) = 2-Fluorophenol	(21-100)
S6 (TBP) = 2,4,6-Tribromophenol	(10-123)

Column used to flag surrogate recovery values

00091

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: 21ST CENTURY ENVIRONMENTAL Contract: N/A

Lab Code: Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix Spike - EPA Sample No.: A1582

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	ND	50.5	101	61-145
Trichloroethene	50.00	ND	51.5	103	71-120
Benzene	50.00	ND	56.7	113	76-127
Toluene	50.00	ND	53.9	108	76-125
Chlorobenzene	50.00	ND	51.4	103	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
1,1-Dichloroethene	50.00	46.9	94	7	14 61-145
Trichloroethene	50.00	47.8	96	7	14 71-120
Benzene	50.00	52.2	104	8	17 76-127
Toluene	50.00	49.7	99	9	12 76-125
Chlorobenzene	50.00	48.7	97	6	13 75-130

Column to be used to flag recovery and RPD values with an asterisk

Values outside of qc limits

D: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS:

00092

QUANT REPORT

Operator ID: JEFF
 Input File: ^A1303::QT
 Data File: >A1303::D2
 Sample: A1582MS
 Volume: 5.0mL

Quant Rev: 6 Quant Time: 930422 21:11
 Injected at: 930422 20:41
 Dilution Factor: 1.00000

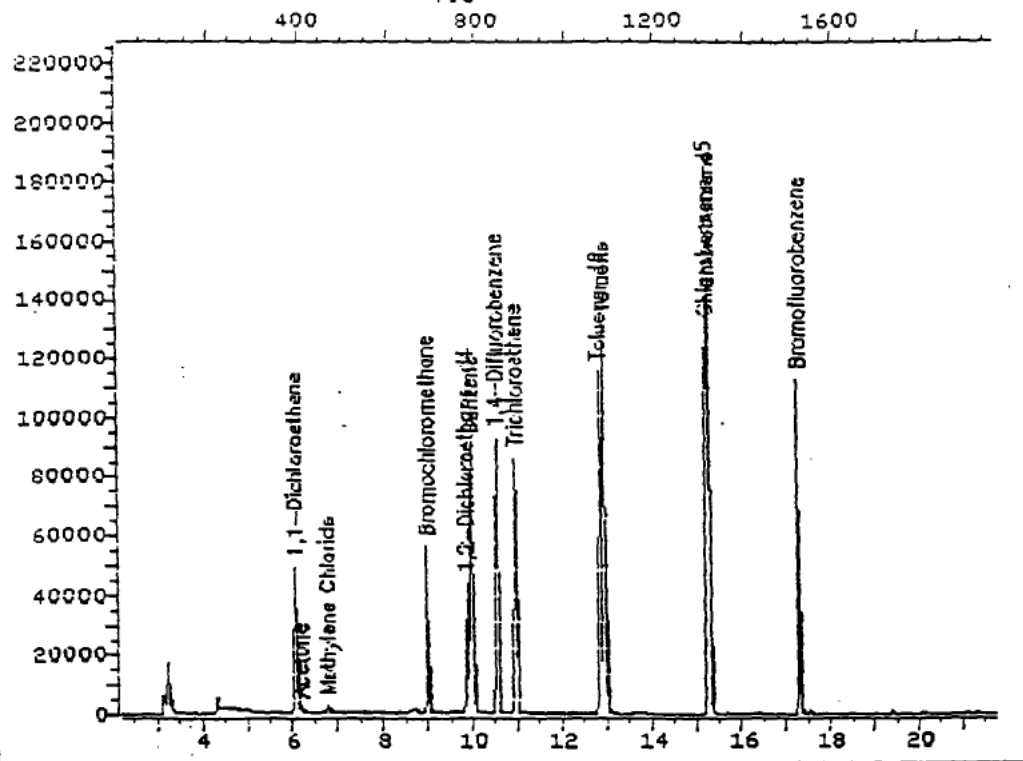
File: ID0127::M1
 Sample: USEPA 624 VOLATILES
 Start Calibration: 930422 16:06

Compound	R.T.	Scan#	Area	Conc	Units	q
*Bromochloromethane	8.99	682	29725	50.00	UG/L	100
Acetone	6.17	397	2832	6.11	UG/L	81
1,1-Dichloroethene	6.07	387	65102	50.48	UG/L	100
Methylene Chloride	6.78	459	2018	1.63	UG/L	83
1,2-Dichloroethane-d4	9.86	770	61899	50.27	UG/L	100
*1,4-Difluorobenzene	10.54	838	143184	50.00	UG/L	100
Benzene	9.97	781	151941	56.65	UG/L	100
Trichloroethene	10.96	880	55193	51.48	UG/L	80
Toluene-d8	12.85	1071	148619	49.64	UG/L	100
Toluene	12.96	1082	186788	53.91	UG/L	97
*Chlorobenzene-d5	15.25	1313	127484	50.00	UG/L	100
Chlorobenzene	15.29	1318	141007	51.43	UG/L	94
Bromofluorobenzene	17.29	1519	77753	49.73	UG/L	100

Compound is ISTD

TOTAL ION CHROMATOGRAM

File: >A1303 35.0-260.0 amu. A1582MS
TIC



Data File: >A1303::D2

Name: A1582MS

Misc:

Quant Output File: ^A1303::QT

5.0mL

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930422 16:06

Operator ID: JEFF

Quant Time: 930422 21:11

Injected at: 930422 20:41

QUANT REPORT

Operator ID: JEFF
 tput File: ^A1304::QT
 ta File: >A1304::D2
 me: A1582MSD
 sc:

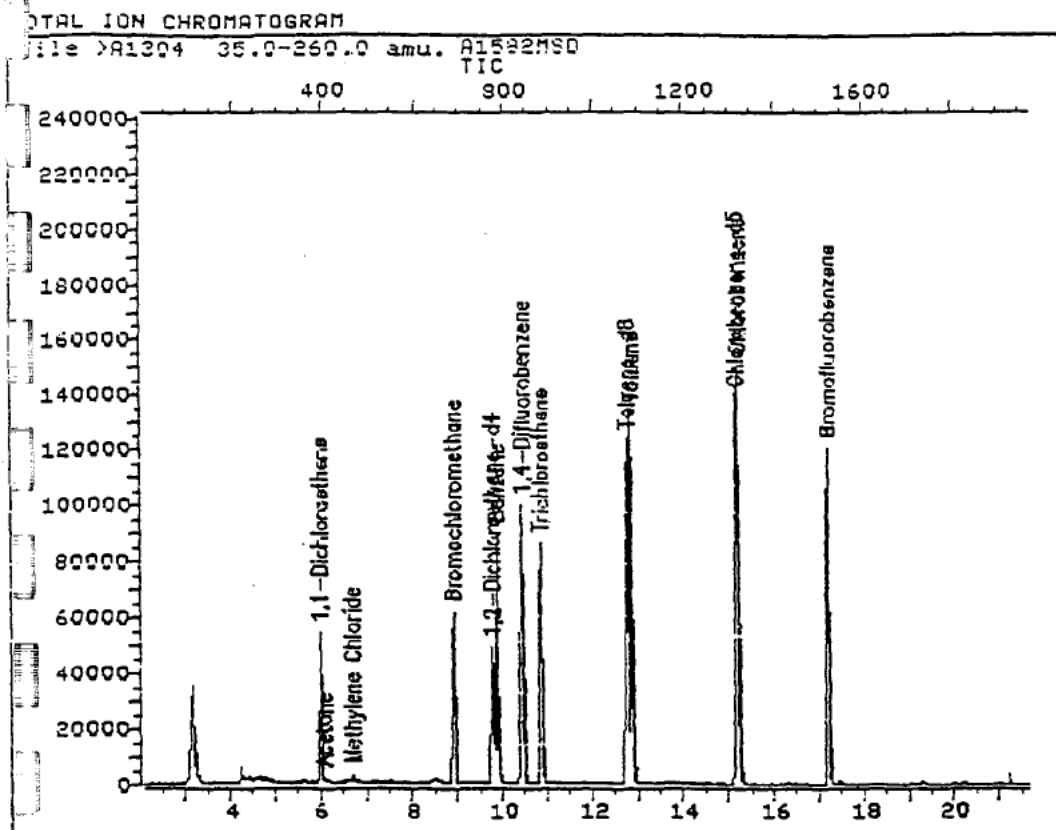
Quant Rev: 6 Quant Time: 930422 21:46
 Injected at: 930422 21:16
 Dilution Factor: 1.00000

5.0mL

File: ID0127::M1
 title: USEPA 624 VOLATILES
 st Calibration: 930422 16:06

Compound	R.T.	Scan#	Area	Conc	Units	q
) *Bromochloromethane	8.90	685	31771	50.00	UG/L	100
) Acetone	6.06	398	3385	6.83	UG/L	79
) 1,1-Dichloroethene	5.99	391	64586	46.85	UG/L	100
) Methylene Chloride	6.68	461	2426	1.83	UG/L	77
) 1,2-Dichloroethane-d4	9.76	772	66293	50.37	UG/L	100
) *1,4-Difluorobenzene	10.43	839	155797	50.00	UG/L	100
) Benzene	9.87	783	152393	52.21	UG/L	100
) Trichloroethene	10.84	881	55705	47.75	UG/L	80
) Toluene-d8	12.75	1073	160835	49.37	UG/L	100
) Toluene	12.85	1084	187453	49.72	UG/L	97
) *Chlorobenzene-d5	15.14	1315	136330	50.00	UG/L	100
) Chlorobenzene	15.18	1319	142906	48.74	UG/L	93
) Bromofluorobenzene	17.18	1521	83629	50.02	UG/L	100

Compound is ISTD



Data File: >A1304::D2

Quant Output File: ^A1304::QT

Name: A1582MSD

Misc:

5.0mL

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930422 16:06

Operator ID: JEFF

Quant Time: 930422 21:46

Injected at: 930422 21:16

00096

3C
WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: 21st Century Environmental
Lab Code: Case No:
MATRIX SPIKE- EPA SAMPLE NO.: A1412

Contract No.:
SAS No.: SDG No.:

COMPOUND NAME	SPIKE ADDED UG/L	MS CONC UG/L	SAMP CONC UG/L	MS % REC#	QC LIMITS RECOVERY
Phenol	100	59.5	ND	60	12-89
2-Chlorophenol	100	78.6	ND	79	27-123
1,4-Dichlorobenzene	50	42.3	ND	85	36-97
N-Nitroso-di-n-prop. (1)	50	47.1	ND	94	41-116
1,2,4-Trichlorobenzene	50	39.7	ND	79	39-98
4-Chloro-3-methylphenol	100	82.9	ND	83	23-97
Acenaphthene	50	44.6	ND	89	46-118
4-Nitrophenol	100	23.8	ND	24	10-80
2,4-Dinitrotoluene	50	37.7	ND	75	24-96
Pentachlorophenol	100	55.2	ND	65	9-103
Pyrene	50	55.2	ND	55	26-127

3C
WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: 21st Century Environmental
Lab Code: Case No:
MATRIX SPIKE- EPA SAMPLE NO.: A1412

Contract No.:
SAS No.: SDG No.:

COMPOUND NAME	SPIKE ADDED UG/L	MSD CONC UG/L	MSD % REC.	% RPD	QC LIMITS RPD RECOV
Phenol	100	45.1	45	27	42 21-89
2-Chlorophenol	100	60.5	60	26	40 27-123
1,4-Dichlorobenzene	50	32.9	66	25	28 36-197
N-Nitroso-di-n-prop.	50	36.0	72	27	38 41-116
1,2,4-Trichlorobenzene	50	30.2	60	27	28 39-98
4-Chloro-3-Methylphenol	100	64.8	65	25	42 23-97
Acenaphthene	50	35.6	71	22	31 46-118
4-Nitrophenol	100	22.8	23	4	50 10-80
2,4-Dinitrotoluene	50	33.1	66	13	38 24-96
Pentachlorophenol	100	51.6	52	22	50 9-103
Pyrene	50	38.2	76	36	51 26-127

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values
* Values outside of qc limits

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS:

00097

QUANT REPORT

Operator ID: JEFF
 Output File: ^C1050::ED
 Data File: ^C1050::D2
 Name: A1412MS
 Scan: 042393

Quant Rev: 6 Quant Time: 930423 14:06
 Injected at: 930423 13:26
 Dilution Factor: 1.00000

BTL# 1

File: ID0423::D3
 Title: hSL BNA STD
 Last Calibration: 930423 13:14

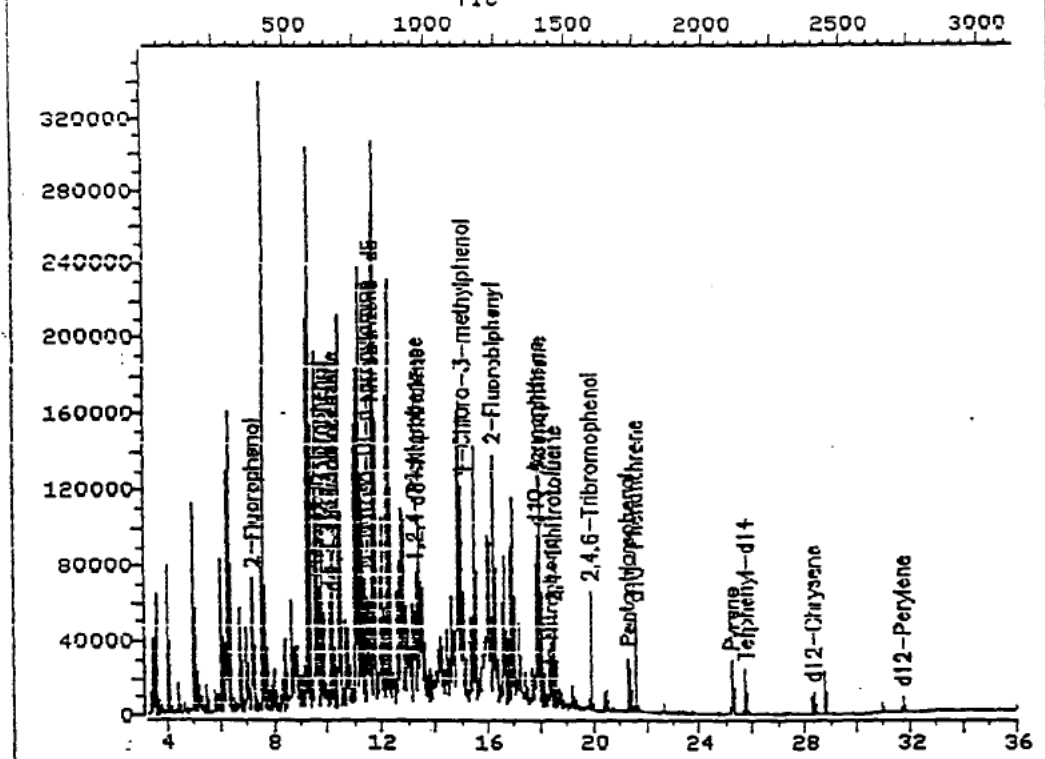
	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	10.16	657	29184	40.00	UG/L	98
2)	2-Fluorophenol	7.22	376	38152	69.93	UG/L	96
3)	Phenol-d5	9.60	604	41325	54.35	UG/L	82
4)	Phenol	9.63	607	50147	59.53	UG/L	65
5)	2-Chlorophenol	9.74	617	48868	78.57	UG/L	99
6)	1,4-Dichlorobenzene	10.20	661	29129	42.27	UG/L	97
7)	N-Nitroso-Di-n-propylamine	11.42	777	26240	47.11	UG/L	97
8)	*d8-Naphthalene	13.35	961	69918	40.00	UG/L	88
9)	Nitrobenzene-d5	11.63	797	33588	41.43	UG/L	85
10)	1,2,4-Trichlorobenzene	13.28	954	27412	39.68	UG/L	89
11)	4-Chloro-3-methylphenol	15.03	1119	58872	82.92	UG/L	96
12)	*d10-Acenaphthene	17.86	1387	48105	40.00	UG/L	93
13)	2-Fluorobiphenyl	16.21	1231	80168	46.22	UG/L	94
14)	Acenaphthene	17.94	1395	65337	44.58	UG/L	93
15)	4-Nitrophenol	18.39	1438	6078	23.81	UG/L	77
16)	2,4-Dinitrotoluene	18.52	1450	20223	37.72	UG/L	92
17)	*d10-Phenanthrene	21.58	1741	46629	40.00	UG/L	97
18)	2,4,6-Tribromophenol	19.89	1580	13350	112.55	UG/L	90
19)	Pentachlorophenol	21.30	1715	8167	64.82	UG/L	97
20)	*d12-Chrysene	28.34	2388	10685	40.00	UG/L	96
21)	Pyrene	25.22	2089	31167	47.43	UG/L	96
22)	Terphenyl-d14	25.75	2140	20578	55.22	UG/L	91
23)	*d12-Perylene	31.72	2712	8172	40.00	UG/L	94

* Compound is ISTD

00008

File >C1050 35.0-500.0 amu. R1412MS
TIC

042393



```
Data File: >C1050::D2
Name: A1412MS
Misc: 042393
```

Quant Output File: ^C1050::ED

BTL# 1

Id File: ID0423::D3
Title: hSL BNA STD
Last Calibration: 930423 13:14

Operator ID: JEFF
Quant Time: 930423 14:06
Injected at: 930423 13:26

00099

QUANT REPORT

Operator ID: JEFF
 Output File: ^C1051::EX
 Data File: >C1051::D2
 Name: A1412MSD
 Misc: 042393

Quant Rev: 6 Quant Time: 930423 15:23
 Injected at: 930423 14:12
 Dilution Factor: 1.00000

BTL# 2

D File: ID0423::D3
 Title: hSL BNA STD
 Last Calibration: 930423 13:14

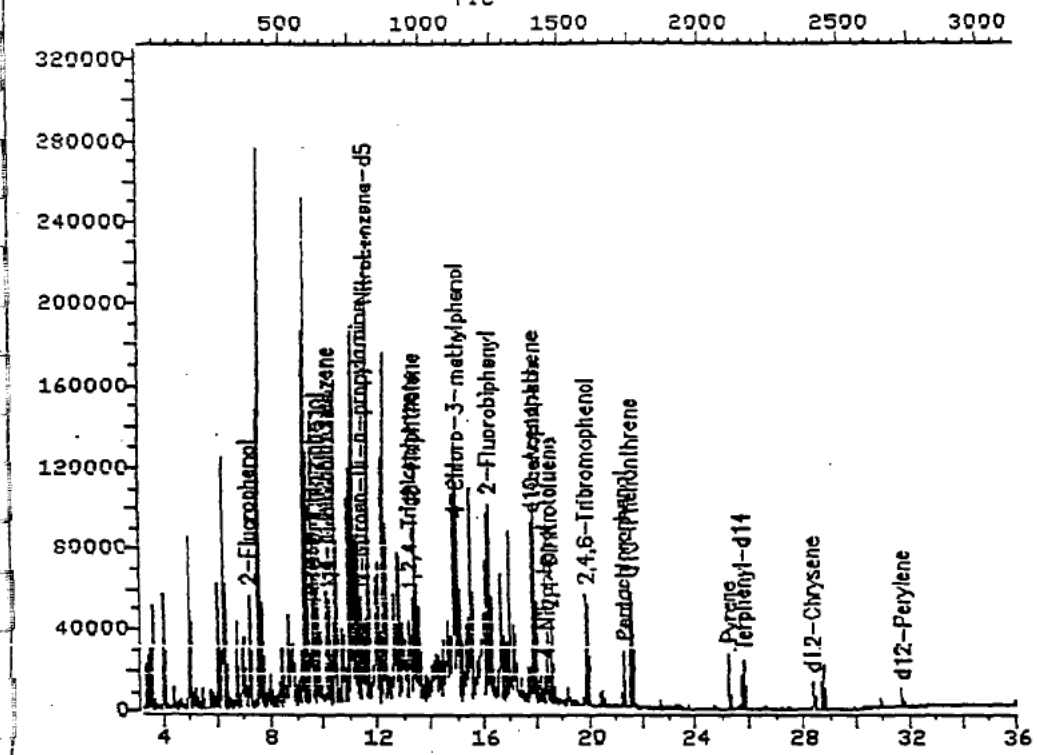
	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	10.15	656	28057	40.00	UG/L	98
4)	2-Fluorophenol	7.20	375	28158	53.68	UG/L	96
5)	Phenol-d5	9.58	602	30732	42.04	UG/L	84
6)	Phenol	9.61	605	36551	45.14	UG/L	64
8)	2-Chlorophenol	9.73	616	36156	60.47	UG/L	97
0)	1,4-Dichlorobenzene	10.19	660	21794	32.90	UG/L	97
6)	N-Nitroso-Di-n-propylamine	11.40	776	19260	35.97	UG/L	98
8)	*d8-Naphthalene	13.35	961	68057	40.00	UG/L	88
9)	Nitrobenzene-d5	11.62	797	25837	32.74	UG/L	89
7)	1,2,4-Trichlorobenzene	13.26	953	20311	30.20	UG/L	94
1)	4-Chloro-3-methylphenol	15.01	1119	44811	64.84	UG/L	99
3)	*d10-Acenaphthene	17.85	1389	44399	40.00	UG/L	95
8)	2-Fluorobiphenyl	16.21	1233	59154	36.95	UG/L	93
3)	Acenaphthene	17.92	1396	48142	35.59	UG/L	92
5)	4-Nitrophenol	18.38	1439	5373	22.80	UG/L	82
7)	2,4-Dinitrotoluene	18.51	1452	16392	33.13	UG/L	83
3)	*d10-Phenanthrene	21.57	1743	53624	40.00	UG/L	99
6)	2,4,6-Tribromophenol	19.88	1582	11374	83.38	UG/L	98
9)	Pentachlorophenol	21.29	1717	7479	51.62	UG/L	97
4)	*d12-Chrysene	28.33	2391	12407	40.00	UG/L	97
5)	Pyrene	25.21	2092	29131	38.18	UG/L	95
7)	Terphenyl-d14	25.75	2143	19747	45.63	UG/L	89
3)	*d12-Perylene	31.71	2714	9349	40.00	UG/L	94

* Compound is ISTD

TOTAL ION CHROMATOGRAM

File >C1051 35.0-500.0 amu. A1412MSD
TIC

042393



Data File: >C1051::D2

Quant Output File: ^C1051::EX

Name: A1412MSD

Misc: 042393

BTL# 2

Id File: ID0423::D3

Title: HSL BNA STD

Last Calibration: 930423 13:14

Operator ID: JEFF

Quant Time: 930423 15:23

Injected at: 930423 14:12

00101

21st Century Environmental Inc.

GC/MS STANDARD p-BROMOFLUOROBENZENE (BFB) TUNE
CRITERIA FOR VOLATILES 50ng

DATE AND TIME OF INJECTION: 3/24/93 9:18
INSTRUMENT ID: 5995

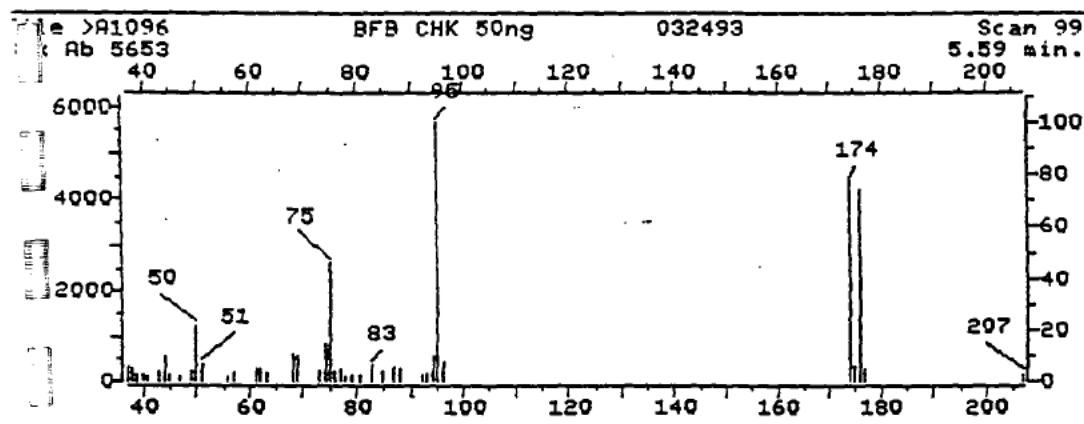
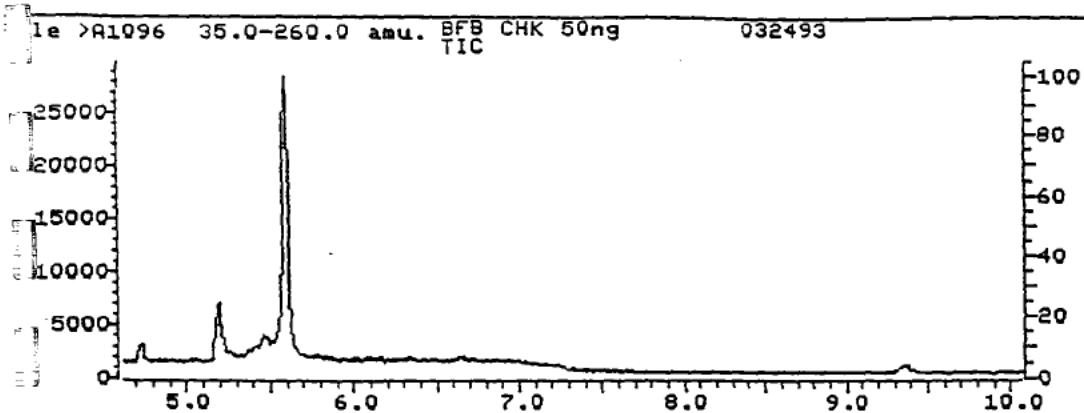
DATA RELEASE AUTHORIZED BY

Richard W. Lynn

m/z	Ion Abundance Criteria	% Relative Abundance		Status
		Base Peak	Appropriate Peak	
50	15-40% of mass 95	21.71	21.71	Ok
75	30-60% of mass 95	46.26	46.26	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.75	7.75	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	77.66	77.66	Ok
175	5-9% of mass 174	5.61	7.22	Ok
176	95-101% of mass 174	74.65	96.13	Ok
177	5-9% of mass 176	5.11	6.85	Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES
STANDARDS AND BLANKS LISTED BELOW

SAMPLE ID	LAB ID	DATE	TIME
I>A1096::02I	IBFB CHK 50ng	3/24/93	9:18I
I>A1097::02I	IHSL CAL CHK 20ppb	3/24/93	10:32I
I>A1098::02I	IHSL CAL CHK 50ppb	3/24/93	11:28I
I>A1099::02I	IHSL CAL CHK 100ppb	3/24/93	12:05I
I>A1100::02I	IHSL CAL CHK 150ppb	3/24/93	12:44I
I>A1101::02I	IHSL CAL CHK 200ppb	3/24/93	13:30I
I>A1103::02I	IBLANK	3/24/93	16:25I
I>A1106::02I	IA1290	3/24/93	18:11I
I>A1107::02I	IA1259	3/24/93	18:46I
I>A1108::02I	IA1261	3/24/93	19:22I
I>A1109::02I	IA1262	3/24/93	19:57I
I>A1110::02I	IA1263	3/24/93	20:32I
I>A1111::02I	IA1264	3/24/93	21:07I



1096 BFB CHK 50ng 032493
99 NRM

le: >A1096 Scan #: 99 Retn. time: 5.59

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.05	5.696	49.05	4.405	68.10	10.525	79.00	2.600	94.10	10.366
38.05	5.272	50.05	21.705	69.10	9.995	81.00	2.406	95.10	100.000
39.05	2.919	51.05	7.111	73.00	4.192	83.00	6.651	96.10	7.748
39.95	2.530	56.05	1.999	74.10	14.647	85.00	4.139	174.00	77.658
41.05	1.734	57.05	3.485	75.10	46.259	87.00	5.891	175.00	5.608
43.05	4.139	61.10	5.236	76.10	3.927	88.00	4.953	176.00	74.651
44.05	10.402	62.10	4.635	77.00	5.378	92.10	2.653	177.00	5.112
45.05	2.370	63.10	3.113	78.10	1.857	93.00	3.573	207.05	2.936
47.05	1.716								

00103

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: Volatile Inst A

Contractor: 21ST Century Env Calibration Date: 03/24/93

Contract No:

Minimum RF for SPCC is .300

Maximum % RSD for CCC is 30%

Laboratory ID: >A1097 >A1098 >A1099 >A1100 >A1101

Compound	RF 20.00	RF 50.00	RF 100.00	RF 150.00	RF 200.00	RRT	RF	% RSD	CCC	SPCC
Chloromethane	1.35641	1.02647	.99132	1.00656	.79290	.439	1.03473	19.611		**
Bromomethane	1.53893	1.18324	1.22783	1.23235	1.14535	.530	1.26554	12.399		
Vinyl Chloride	1.69065	1.27790	1.32297	1.42634	1.37279	.460	1.41813	11.431	*	
Chloroethane	1.25383	.96691	1.00450	1.02802	.99791	.562	1.05023	11.034		
Acrolein	.07284	.05831	.05634	.05809	.06165	.655	.06145	10.828		(Conc=32.0,80.0,160.0,240
1,1,2-Trichlorotrifluoroethane	2.79762	2.05080	2.20935	2.44935	2.39979	.677	2.38138	11.823		
Trichlorofluoromethane	2.94647	2.23903	2.41221	2.57143	2.46930	.581	2.52769	10.418		
Acetone	1.19655	.91273	.72838	.74235	.67086	.682	.85018	25.125		
1,1-Dichloroethene	2.77074	2.14633	2.24866	2.44820	2.39418	.672	2.40162	9.920	*	
Carbon Disulfide	4.70214	4.28100	3.78327	4.08900	4.01093	.707	4.17327	8.274		
Acrylonitrile	.58073	.44181	.44332	.47234	.50558	.793	.48876	11.789		
Ethylene Chloride	2.56565	1.91910	1.96311	2.08059	2.12403	.753	2.13050	12.072		
1,2-Dichloroethene(trans)	2.59852	2.00267	2.10307	2.23882	2.20183	.800	2.22898	10.143		
1,1-Dichloroethane	3.16728	2.49425	2.64260	2.77051	2.74526	.867	2.76398	9.054	**	
Vinyl Acetate	.62580	.58165	.52548	.54531	.57219	.877	.57008	6.706		
2-Butanone	1.13019	.93348	.79389	.84031	.79870	.966	.89931	15.646		
Chloroform	3.81613	3.00062	3.13032	3.27937	3.24226	1.014	3.29374	9.460	*	
1,1-Trichloroethane	2.60873	2.02050	2.15933	2.32474	2.27450	1.047	2.27756	9.618		
Carbon Tetrachloride	2.40404	1.87172	2.01083	2.16063	2.18610	1.075	2.12666	9.405		
1,2-Dichloroethane-d4	1.96966	1.99820	2.01788	2.03973	1.99601	1.097	2.00430	1.307		(Conc=50.0,50.0,50.0,50.0
1,2-Dichloroethane	.55674	.46309	.47720	.47702	.49416	.948	.49364	7.485		
Benzene	1.07172	.86687	.87716	.88076	.88871	.947	.91704	9.468		
Trichloroethene	.43157	.35587	.36700	.38023	.38186	1.039	.38331	7.560		
1,2-Dichloropropane	.39841	.32398	.33250	.33671	.34562	1.071	.34745	8.501	*	
1,1-Dimodichloromethane	.65609	.54780	.56796	.57977	.60112	1.109	.59055	7.013		
1-Chloroethylvinylether	.22925	.23836	.21184	.21542	.23121	1.152	.22522	4.963		
Hexanone	.33218	.32479	.28299	.29694	.31286	1.325	.30995	6.490		
trans-1,3-Dichloropropene	.61433	.51333	.53416	.54410	.56423	1.175	.55403	6.927		
Toluene-d8	1.04685	1.05249	1.05889	1.05531	1.06138	1.217	1.05498	.538		(Conc=50.0,50.0,50.0,50.0
Toluene	1.37169	1.11385	1.13926	1.15843	1.17496	1.228	1.19164	8.660	*	

RF - Response Factor (Subscript is amount in US/L)

RRT - Average Relative Retention Time (RT Std/RT Istd)

RF - Average Response Factor

%RSD - Percent Relative Standard Deviation

* - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: Volatile Inst A

Contractor: 21ST Century Env _____ Calibration Date: 03/24/93

Contract No: _____

Minimum RF for SPCC is .300 Maximum % RSD for CCC is 30%

Laboratory ID: >A1097 >A1098 >A1099 >A1100 >A1101

Compound	RF 20.00	RF 50.00	RF 100.00	RF 150.00	RF 200.00	RRT	RF	% RSD	CCC	SPCC
cis-1,3-Dichloropropene	.58028	.48807	.51944	.53450	.56130	.873	.53672	6.699		
1,1,2,2-Tetrachloroethane	.68341	.54869	.56307	.57027	.62677	1.148	.59844	9.356	**	
1,1,2-Trichloroethane	.46290	.36970	.38302	.39007	.40534	.892	.40220	9.020		
4-Methyl-2-pentanone	.39820	.38393	.33724	.35585	.37442	.919	.36993	6.457		
Tetrachloroethene	.53330	.42499	.44805	.47652	.48959	.911	.47449	8.715		
Dibromochloromethane	.61558	.51378	.55189	.56677	.59321	.936	.56824	6.872		
Chlorobenzene	1.24468	.98595	1.01228	1.02172	1.03170	1.004	1.05927	9.916	**	
Ethylbenzene	2.12287	1.72576	1.78883	1.83556	1.85128	1.015	1.86486	8.165	*	
m,p-Xylenes	1.72806	1.57055	1.49484	1.52103	1.52359	1.029	1.56761	5.980		
p-Xylene	1.76309	1.41090	1.41985	1.38215	1.34521	1.074	1.46424	11.582		
Styrene	1.29078	1.27673	1.08619	1.02272	.99591	1.075	1.13446	12.363		
Bromoform	.41687	.35189	.37861	.39693	.42406	1.095	.39367	7.455	**	
Bromofluorobenzene	.62496	.64453	.65270	.65049	.66144	1.133	.64682	2.110		(Conc=50.0,50.0,50.0,50.0)
p-Dichlorobenzene	1.13317	.81784	.80482	.82427	.84387	1.262	.88479	15.773		
p-Dichlorobenzene	1.15681	.83823	.81672	.83688	.85303	1.272	.90033	15.989		
o-Dichlorobenzene	1.84705	.75882	.74440	.76017	.78366	1.316	.81882	15.676		

RF - Response Factor (Subscript is amount in $\mu\text{g/L}$)

RT - Average Relative Retention Time (RT Std/RT Istd)

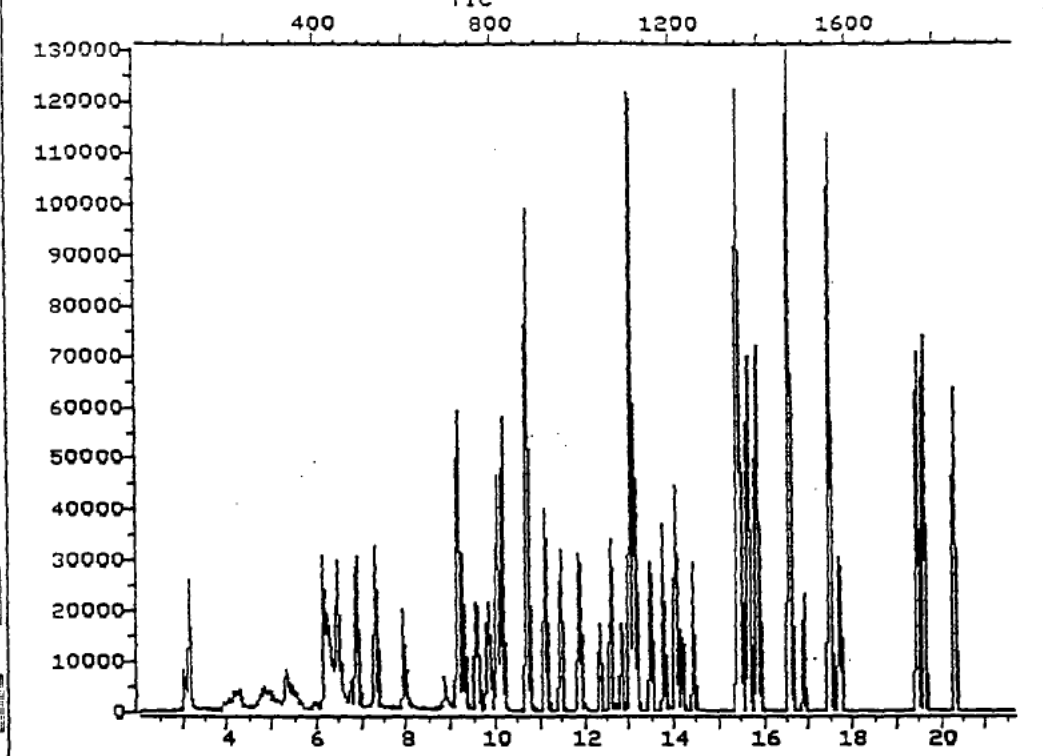
RF - Average Response Factor

RSD - Percent Relative Standard Deviation

CC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM

File >A1097 35.0-260.0 amu. HSL CAL CHK 20ppb 032293



Data File: >A1097::D2
Name: HSL CAL CHK 20ppb
Misc: 032293

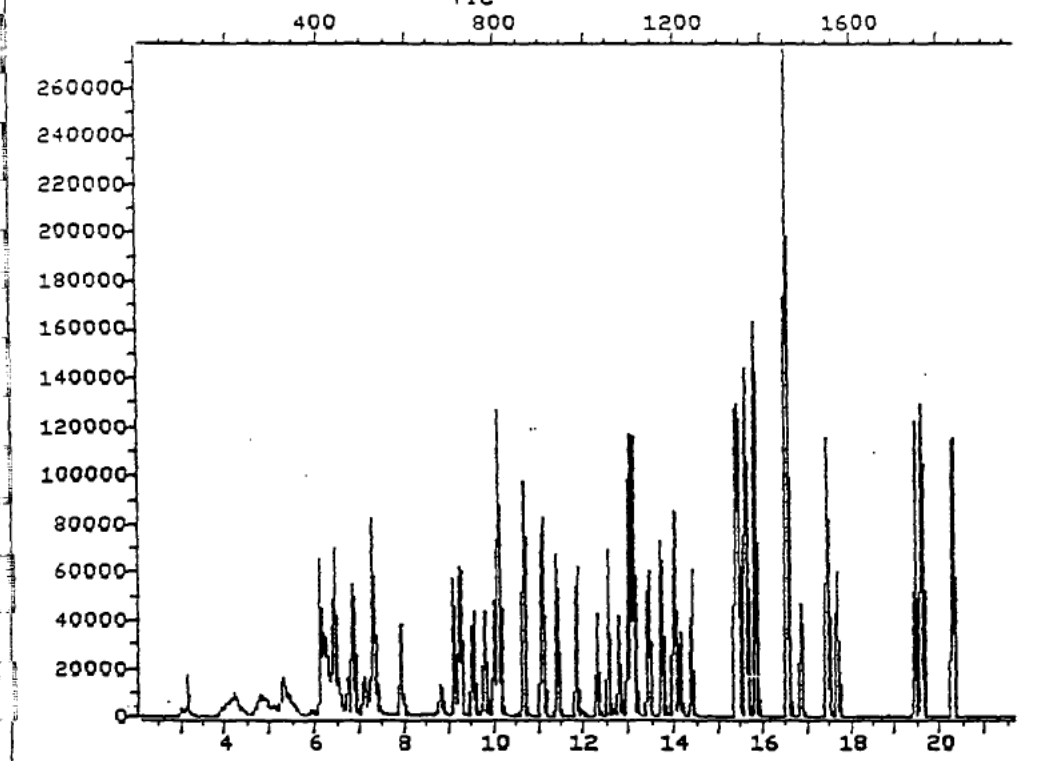
Quant Output File: ^A1097::QT

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930324 09:40

Operator ID: JEFF
Quant Time: 930324 11:03
Injected at: 930324 10:32

TOTAL ION CHROMATOGRAM

File >A1098 35.0-260.0 amu. HSL CAL CHK 50ppb 032293
TIC



Data File: >A1098::D2
Name: HSL CAL CHK 50ppb
Misc: 032293

Quant Output File: ^A1098::QT

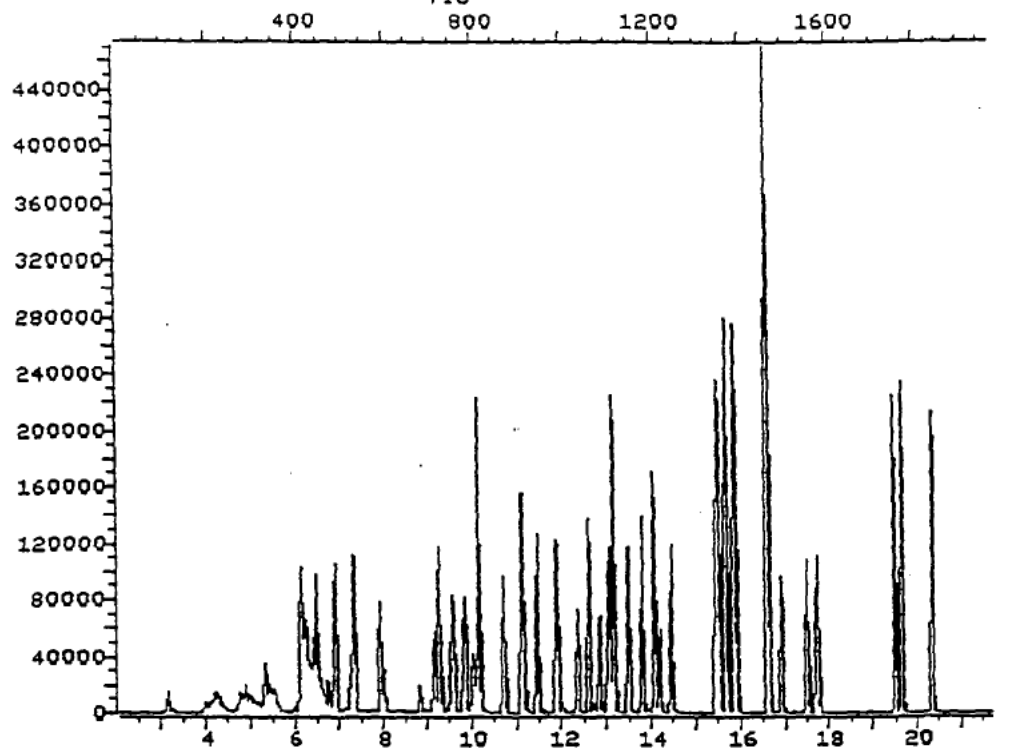
Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930324 09:40

Operator ID: JEFF
Quant Time: 930324 11:59
Injected at: 930324 11:28

00107

TOTAL ION CHROMATOGRAM

File >A1099 35.0-260.0 amu. HSL CAL CHK 100ppb 032293
TIC



Data File: >A1099::D2
Name: HSL CAL CHK 100ppb
Misc: 032293

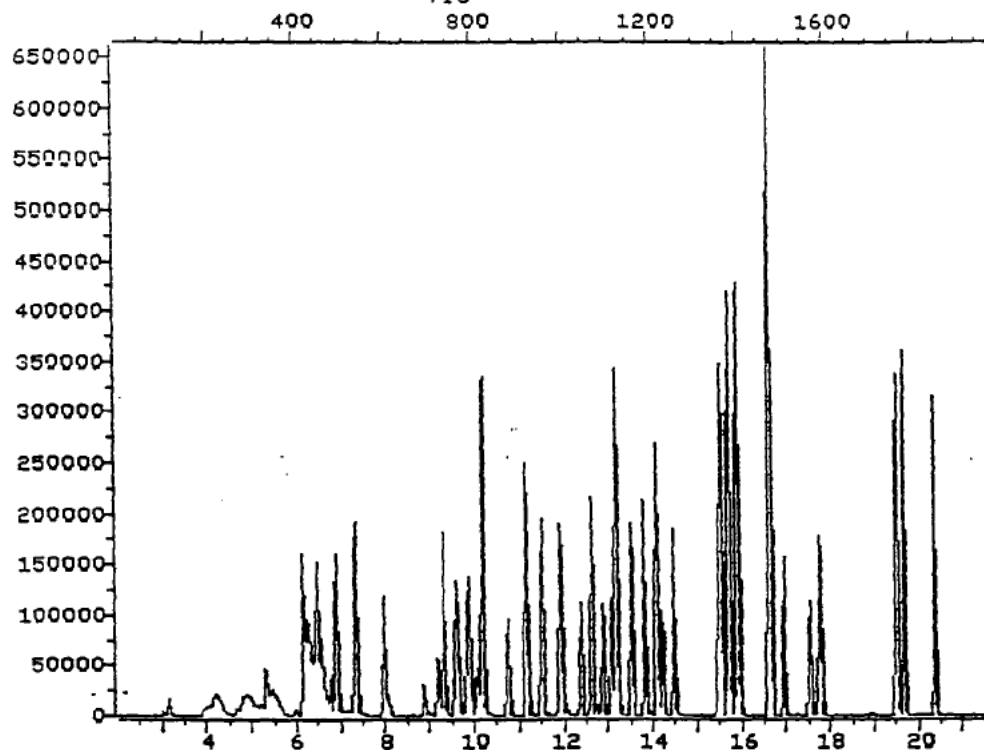
Quant Output File: ^A1099::QT

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930324 09:40

Operator ID: JEFF
Quant Time: 930324 12:35
Injected at: 930324 12:05

TOTAL ION CHROMATOGRAM

File >A1100 35.0-260.0 amu. HSL CAL CHK 150ppb 032293
TIC



Data File: >A1100::D2
Name: HSL CAL CHK 150ppb
Misc: 032293

Quant Output File: ^A1100::QT

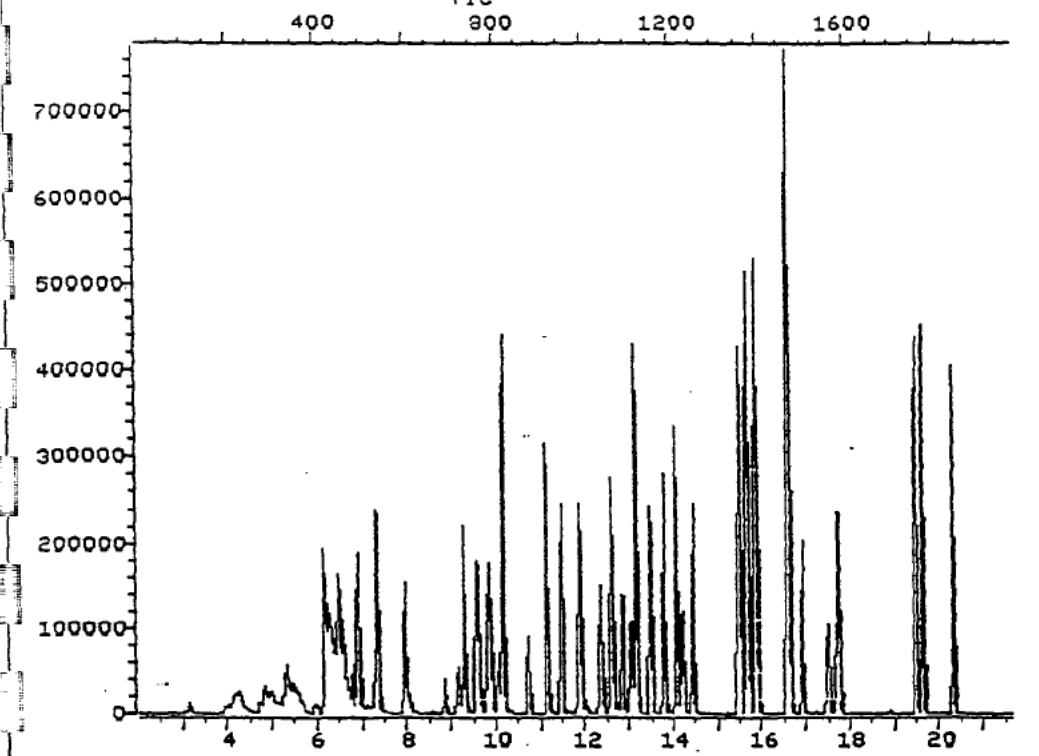
Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930324 09:40

Operator ID: JEFF
Quant Time: 930324 13:14
Injected at: 930324 12:44

TOTAL ION CHROMATOGRAM

File >A1101 35.0-260.0 amu. HSL CAL CHK 200ppb 032293

TIC



Data File: >A1101::D2
Name: HSL CAL CHK 200ppb
Misc: 032293

Quant Output File: ^A1101::QT

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930324 09:40

Operator ID: JEFF
Quant Time: 930324 14:01
Injected at: 930324 13:30

21st Century Environmental Inc.

GC/MS STANDARD p-BROMOFLUOROBENZENE (BFB) TUNE
CRITERIA FOR VOLATILES 50ng

DATE AND TIME OF INJECTION: 4/27/93 9:24
INSTRUMENT ID: 5995

DATA RELEASE AUTHORIZED BY

Robert W. Lynd

m/z	Ion Abundance Criteria	% Relative Abundance		Status
		Base Peak	Appropriate Peak	
50	15-40% of mass 95	21.76	21.76	Ok
75	30-60% of mass 95	47.59	47.59	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.94	8.94	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	73.21	73.21	Ok
175	5-9% of mass 174	5.63	7.69	Ok
176	95-101% of mass 174	70.50	96.30	Ok
177	5-9% of mass 176	4.88	6.92	Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES
STANDARDS AND BLANKS LISTED BELOW

SAMPLE ID	LAB ID	DATE	TIME
I>A1354::D2I	IBFB CHK 50ng	4/27/93	9:24I
I>A1355::D2I	IHSL CAL CHK 50ppb	4/27/93	9:54I
I>A1356::D2I	IBLANK	4/27/93	10:47I
I>A1357::D2I	IA1577	4/27/93	11:22I
I>A1358::D2I	IA1578	4/27/93	11:57I
I>A1359::D2I	IA1579	4/27/93	12:32I
I>A1360::D2I	IA1580	4/27/93	13:24I
I>A1361::D2I	IA1633	4/27/93	13:59I
I>A1364::D3I	IA1636	4/27/93	15:46I
I>A1365::D3I	IA1637	4/27/93	16:21I
I>A1366::D3I	IA1638	4/27/93	16:56I
I>A1367::D3I	IA1639	4/27/93	17:32I
I>A1368::D3I	IA1634	4/27/93	18:07I
I>A1370::D3I	IA1635	4/27/93	19:18I
I>A1371::D3I	IA1632	4/27/93	19:53I

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 04/27/93

Contractor: 21ST Century Env Time: 09:54

Contract No: Laboratory ID: >A1355

Instrument ID: Volatile Inst A Initial Calibration Date: 03/24/93

Minimum RF for SPCC is .300

Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC	SPCC
----------	----	----	-------	-----	------

1,1,2-Trichloroethane	.40220	.43240	7.51		
4-Methyl-2-pentanone	.36993	.35583	3.81		
Tetrachloroethene	.47449	.54856	15.61		
Dibromochloromethane	.56824	.58911	3.67		
Chlorobenzene	1.05927	1.20038	13.32	**	
Ethylbenzene	1.86486	2.09041	12.09	*	
m,p-Xylenes	1.56761	1.70907	9.02		
o-Xylene	1.46424	1.67644	14.49		
Styrene	1.13446	1.25893	10.97		
Bromoform	.39367	.40826	3.71	**	
Bromofluorobenzene	.64682	.61657	4.68		
m-Dichlorobenzene	.88479	.83621	5.49		
p-Dichlorobenzene	.90033	.85023	5.57		
o-Dichlorobenzene	.81882	.76695	6.34		

RF - Response Factor from daily standard file at 50.00 ug/L

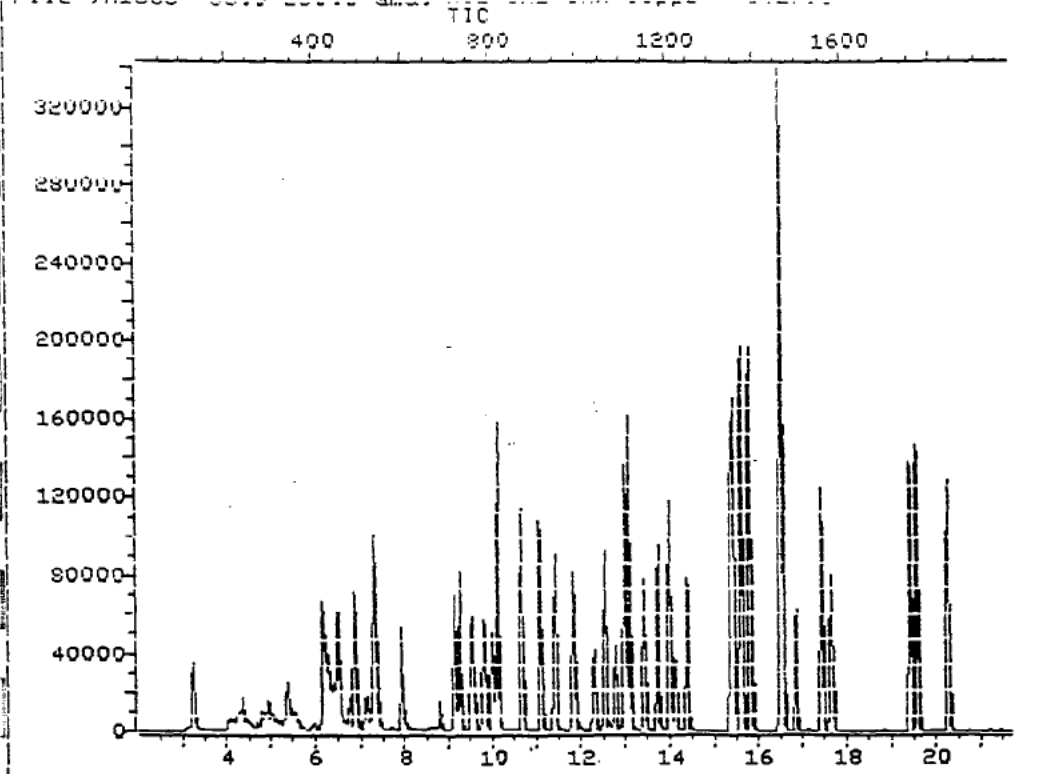
RF - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM

File >A1355 35.0-250.0 amu. HSL CAL CHK 50ppb 042793



Data File: >A1355::D2
Name: HSL CAL CHK 50ppb
Misc: 042793

Quant Output File: ^A1355::QT

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930424 11:02

Operator ID: JEFF
Quant Time: 930427 10:25
Injected at: 930427 09:54

QUANT REPORT

Operator ID: JEFF
 Output File: MA1355::QT
 Data File: >A1355::D2
 Name: HSL CAL CHK 50ppb
 Disc: 042793

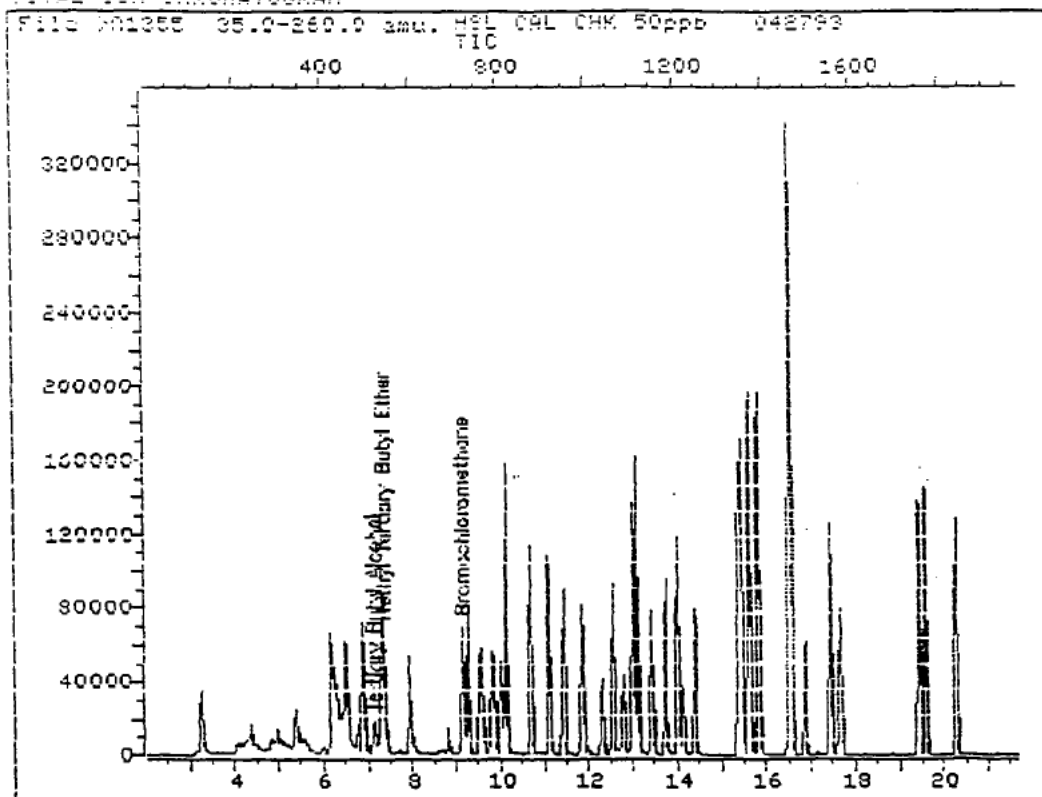
Quant Rev: 6 Quant Time: 930430 15:14
 Injected at: 930427 09:54
 Dilution Factor: 1.00000

ID File: IDAUXA::M1
 Title: INST A AUX. COMPOUNDS
 Last Calibration: 930430 15:14

Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	9.14	715	35196	50.00	ug/L	100
2) Methyl Tertiary Butyl Ether	7.34	534	80956	50.00	ug/L	100
3) Tertiary Butyl Alcohol	7.13	513	38658	100.00	ug/L	100

Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >A1355::D2
Name: HSL CAL CHK 50ppb
Misc: 042793

Quant Output File: MA1355::QT

Id File: IDAUXA::M1
Title: INST A AUX. COMPOUNDS
Last Calibration: 930430 15:14

Operator ID: JEFF
Quant Time: 930430 15:14
Injected at: 930427 09:54

21st Century Environmental Inc.

GC/MS STANDARD p-BROMOFLUOROBENZENE (BFB) TUNE
CRITERIA FOR VOLATILES 50ng

DATE AND TIME OF INJECTION: 4/28/93 9:38
INSTRUMENT ID: 5995

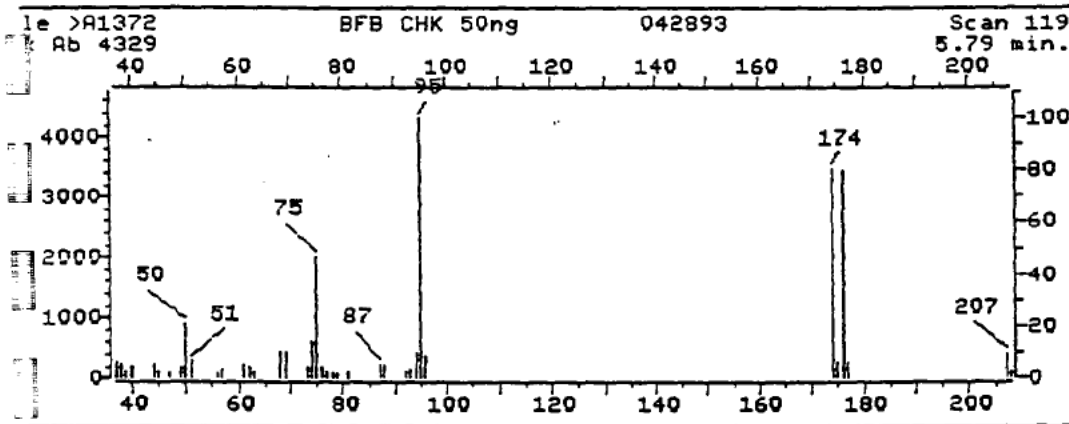
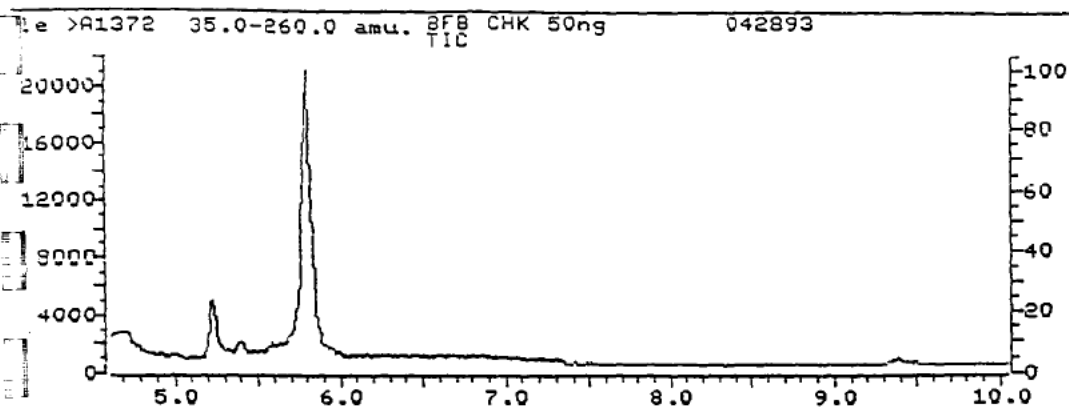
DATA RELEASE AUTHORIZED BY

Richard W. Syndt

m/z	Ion Abundance Criteria	% Relative Abundance		Status
		Base Peak	Appropriate Peak	
50	15-40% of mass 95	20.88	20.88	Ok
75	30-60% of mass 95	46.52	46.52	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.25	8.25	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	80.57	80.57	Ok
175	5-9% of mass 174	6.17	7.65	Ok
176	95-101% of mass 174	79.44	98.60	Ok
177	5-9% of mass 176	5.71	7.18	Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES
STANDARDS AND BLANKS LISTED BELOW

SAMPLE ID	LAB ID	DATE	TIME
>A1372::	IBFB CHK 50ng	4/28/93	9:38
>A1373::	IHSL CAL CHK 50ppb	4/28/93	10:11
>A1374::	IBLANK	4/28/93	11:01
>A1375::	IA1627	4/28/93	11:37
>A1380::	IA1584	4/28/93	14:34
>A1381::	IA1585	4/28/93	15:10
>A1382::	IA1583	4/28/93	15:49
>A1383::	IA1628	4/28/93	16:25
>A1384::	IA1629	4/28/93	17:00
>A1385::	IA1630	4/28/93	17:36
>A1386::	IA1631	4/28/93	18:11



A1372 BFB CHK 50ng 042893
119 NRM

le: >A1372 Scan #: 119 Retn. time: 5.79

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
47.05	5.891	50.05	20.882	69.00	9.702	81.00	2.402	96.00	8.247
48.05	4.874	51.05	6.422	73.10	4.435	87.00	5.128	174.00	80.573
49.05	2.356	55.95	1.594	74.10	14.368	88.00	4.851	175.00	6.168
49.95	3.927	57.05	3.280	75.10	46.523	92.00	2.356	176.00	79.441
54.05	5.174	61.10	4.689	76.10	4.250	93.00	3.557	177.00	5.706
55.05	2.195	62.10	4.019	77.00	2.610	94.00	9.818	207.05	9.194
56.95	1.525	63.10	2.957	78.10	1.594	95.00	100.000	208.05	2.171
59.05	4.297	68.10	9.933	78.90	2.056				

Continuing Calibration Check
HSL Compounds

File No: _____ Calibration Date: 04/28/93
Tractor: 21ST Century Env _____ Time: 10:11
Contract No: _____ Laboratory ID: >A1373
Instrument ID: Volatile Inst A _____ Initial Calibration Date: 03/24/93

Minimum RF for SPCC is .300 Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC	SPCC
Bromomethane	1.03473	1.10455	6.75	**	
Dibromomethane	1.26554	1.22308	3.36		
Vinyl Chloride	1.41813	1.37232	3.23	*	
Propoethane	1.05023	1.09328	4.10		
Molein	.06145	.06469	5.28		(Conc=80.00)
1,2-Trichlorotrifluoroethane	2.38138	2.47913	4.10		
Chlorofluoromethane	2.52769	2.39725	5.16		
Stone	.85018	.77687	8.62		
1,1-Dichloroethene	2.40162	2.34043	2.55	*	
Carbon Disulfide	4.17327	2.70730	35.13		
Acrylonitrile	.48876	.51543	5.46		
Styrene Chloride	2.13050	2.41385	13.30		
1,2-Dichloroethene(trans)	2.22898	2.38386	6.95		
1,1-Dichloroethane	2.76398	2.96188	7.16	**	
Ethyl Acetate	.57008	.38716	32.09		
Butanone	.89931	.84810	5.69		
Proform	3.29374	3.61668	9.80	*	
1,1,1-Trichloroethane	2.27756	2.46748	8.34		
Carbon Tetrachloride	2.12666	2.25868	6.21		
1,2-Dichloroethane-d4	2.00430	2.00064	.18		(Conc=50.00)
1,1-Dichloroethane	.49364	.50669	2.64		
Benzene	.91704	1.01675	10.87		
1,1-Dichloroethene	.38331	.40578	5.86		
1,1-Dichloropropane	.34745	.38028	9.45	*	
1,1-Dichloromethane	.59055	.60789	2.94		
Chloroethylvinylether	.22522	.18954	15.84		
Hexanone	.30995	.26940	13.08		
trans-1,3-Dichloropropene	.55403	.58870	6.26		
Toluene-d8	1.05498	1.02338	3.00		
Toluene	1.19164	1.30653	9.64	*	
1,3-Dichloropropene	.53672	.55737	3.85		
1,2,2-Tetrachloroethane	.59844	.63765	6.55	**	

- Response Factor from daily standard file at 50.00 UG/L
- Average Response Factor from Initial Calibration Form VI
- % Difference from original average or curve
- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 04/28/93

Contractor: 21ST Century Env Time: 10:11

Contract No: _____ Laboratory ID: >A1373

Instrument ID: Volatile Inst A Initial Calibration Date: 03/24/93

Minimum RF for SPCC is .300

Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC	SPCC
1,1,2-Trichloroethane	.40220	.42782	6.37		
i-Methyl-2-pentanone	.36993	.32539	12.04		
tetrachloroethene	.47449	.55073	16.07		
ibromochloromethane	.56824	.58206	2.43		
Chlorobenzene	1.05927	1.19083	12.42	**	
ethylbenzene	1.86486	2.08483	11.80	*	
m,p-Xylenes	1.56761	1.62401	3.60		
-Xylene	1.46424	1.65910	13.31		
ityrene	1.13446	1.13776	.29		
romoform	.39367	.39725	.91	**	
romofluorobenzene	.64682	.61726	4.57		
-Dichlorobenzene	.88479	.95353	7.77		
-Dichlorobenzene	.90033	.97294	8.06		
-Dichlorobenzene	.81882	.87725	7.14		

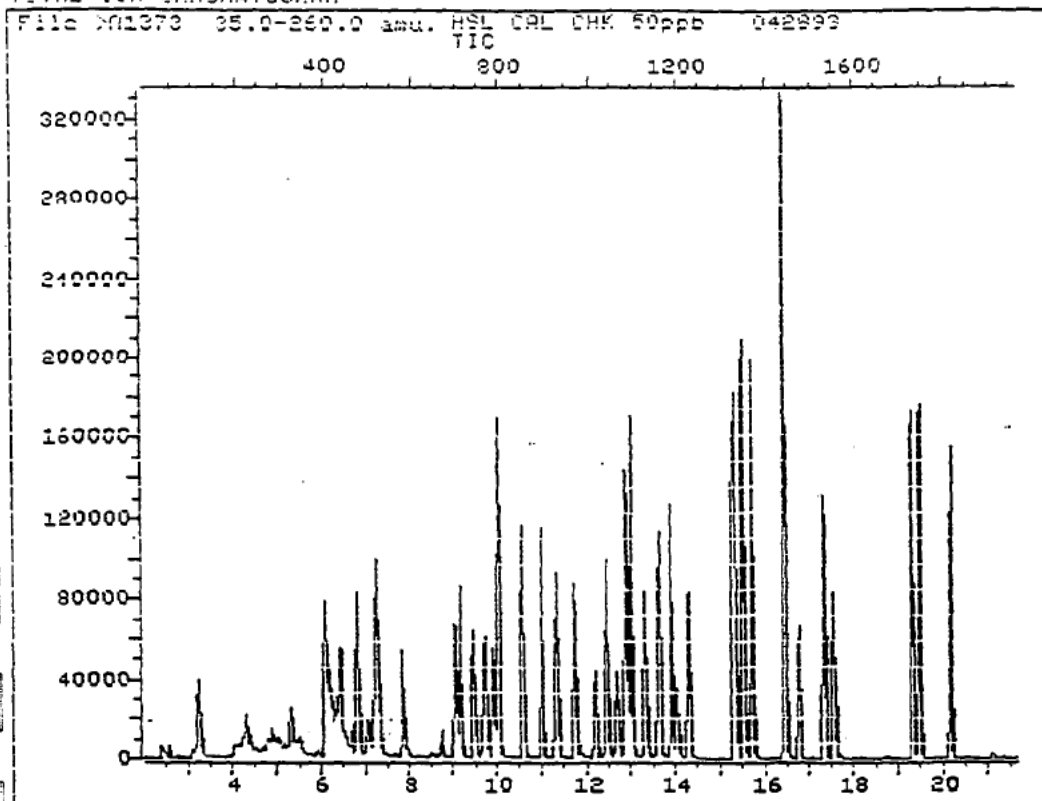
- Response Factor from daily standard file at 50.00 UG/L

- Average Response Factor from Initial Calibration Form UI

%Diff - % Difference from original average or curve

CC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM



Data File: >A1373::D2
Name: HSL CAL CHK 50ppb
Misc: 042893

Quant Output File: ^A1373::QT

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930427 11:07

Operator ID: JEFF
Quant Time: 930428 10:41
Injected at: 930428 10:11

QUANT REPORT

Operator ID: JEFF
 Output File: MA1373::QT
 Data File: >A1373::D2
 Name: HSL CAL CHK 50ppb
 Asc: 042893

Quant Rev: 6 Quant Time: 930520 13:37
 Injected at: 930428 10:11
 Dilution Factor: 1.00000

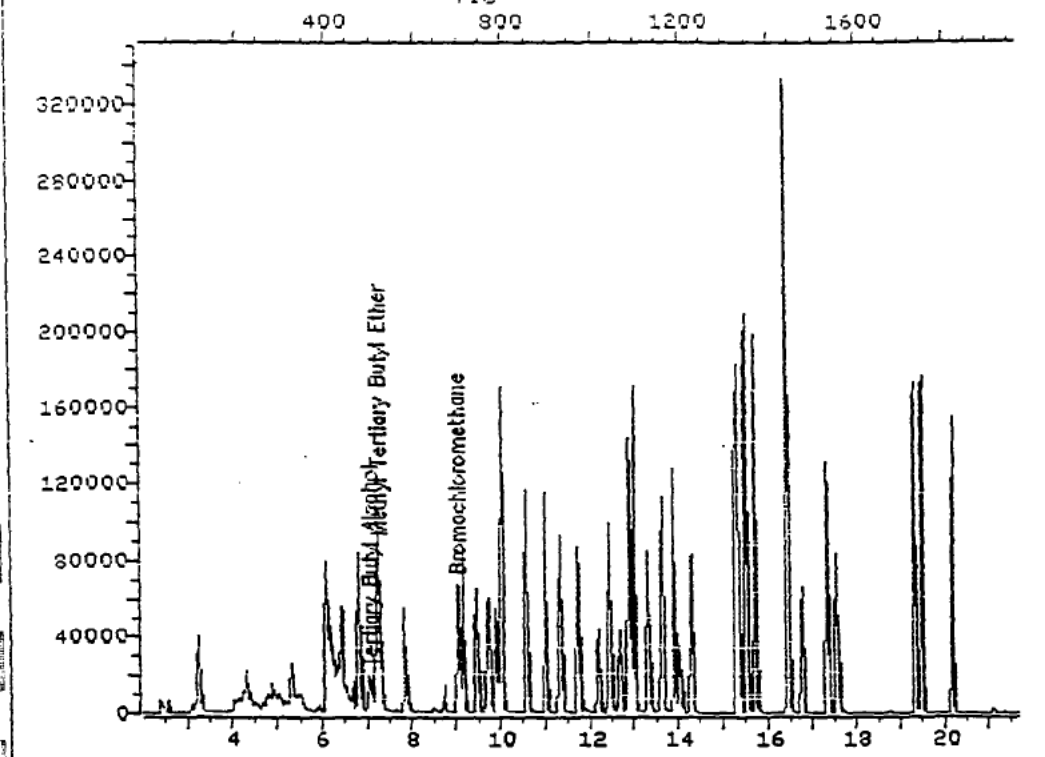
File: IDAUXA::M1
 Title: INST A AUX. COMPOUNDS
 Last Calibration: 930520 13:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.05	692	37274	50.00	ug/L	100
2)	Methyl Tertiary Butyl Ether	7.26	512	87845	50.00	ug/L	100
3)	Tertiary Butyl Alcohol	7.06	492	43717	100.00	ug/L	100

Compound is ISTD

TOTAL ION CHROMATOGRAM

File >A1373 35.0-260.0 amu. HSL CAL CHK 50ppb 042893
TIC



Data File: >A1373::D2
Name: HSL CAL CHK 50ppb
Misc: 042893

Quant Output File: MA1373::QT

Id File: IDAUXA::M1
Title: INST A AUX. COMPOUNDS
Last Calibration: 930520 13:36

Operator ID: JEFF
Quant Time: 930520 13:37
Injected at: 930428 10:11

21st Century Environmental Inc.

GC/MS STANDARD p-BROMOFLUOROBENZENE (BFB) TUNE
CRITERIA FOR VOLATILES 50ng

DATE AND TIME OF INJECTION: 4/29/93 9:46

INSTRUMENT ID: 5995

DATA RELEASE AUTHORIZED BY

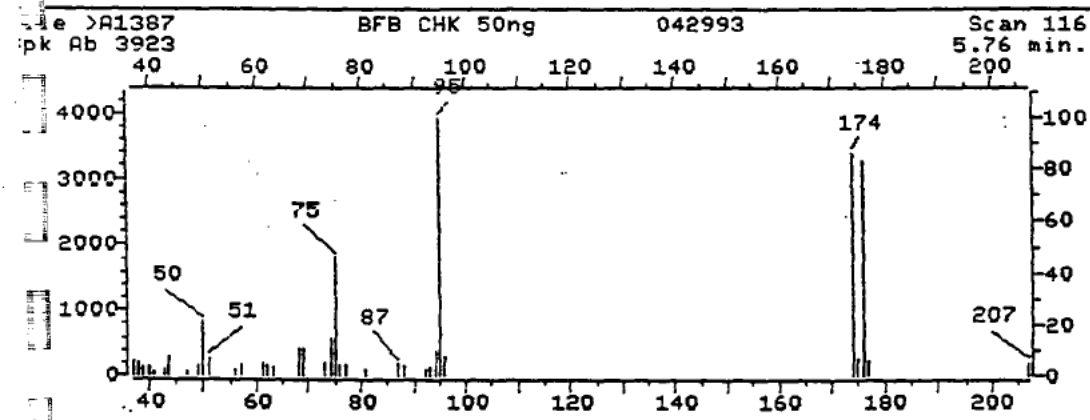
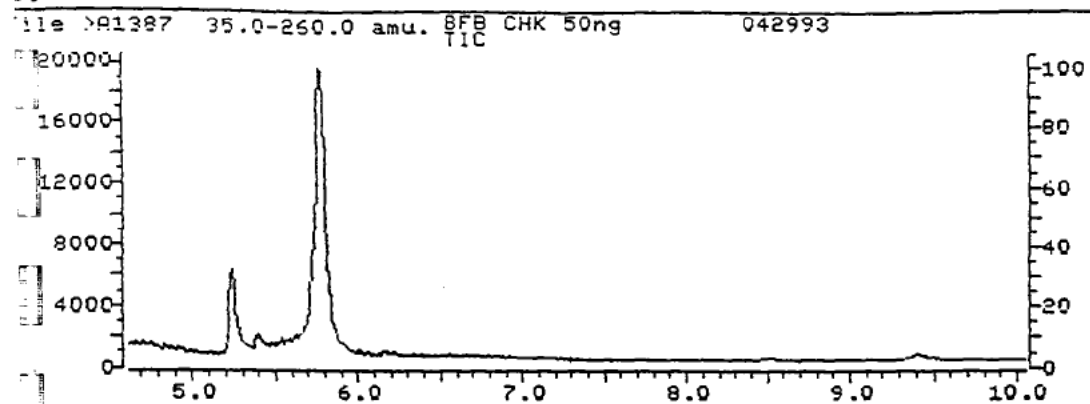
Richard W. Lynn

m/z	Ion Abundance Criteria	% Relative Abundance		Status
		Base Peak	Appropriate Peak	
50	15-40% of mass 95	21.18	21.18	Ok
75	30-60% of mass 95	46.27	46.27	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.62	7.62	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	86.11	86.11	Ok
175	5-9% of mass 174	6.30	7.31	Ok
176	95-101% of mass 174	83.71	97.22	Ok
177	5-9% of mass 176	5.66	6.76	Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES
STANDARDS AND BLANKS LISTED BELOW

SAMPLE ID	LAB ID	DATE	TIME
I>A1387::I	I BFB CHK 50ng	I 4/29/93	I 9:46I
I>A1389::I	I HSL CAL CHK 50ppb	I 4/29/93	I 10:15I
I>A1390::I	I BLANK	I 4/29/93	I 11:06I
I>A1391::I	I A1630	I 4/29/93	I 11:47I
I>A1392::I	I A1631	I 4/29/93	I 12:23I
I>A1393::I	I A1543MS	I 4/29/93	I 12:59I
I>A1394::I	I A1543MSD	I 4/29/93	I 13:35I
I>A1395::I	I A1558MS	I 4/29/93	I 14:11I
I>A1396::I	I A1558MSD	I 4/29/93	I 14:47I
I>A1397::I	I A1700	I 4/29/93	I 15:22I
I>A1401::I	I A1498	I 4/29/93	I 17:44I
I>A1403::I	I A1701	I 4/29/93	I 18:56I

00125



>A1387 BFB CHK 50ng 042993
116 NRM

File: >A1387 Scan #: 116 Retn. time: 5.76

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.05	6.169	49.05	4.308	63.10	3.416	77.10	3.977	95.10	100.000
38.05	4.920	50.05	21.183	68.10	10.757	81.00	2.498	96.00	7.622
39.05	3.314	51.05	6.959	69.10	10.451	87.00	5.022	174.00	86.108
39.95	3.645	56.05	2.167	73.10	4.971	88.00	4.282	175.00	6.296
41.05	1.963	57.05	4.053	74.10	14.963	92.10	2.447	176.00	83.711
43.05	2.498	61.10	4.767	75.10	46.266	93.00	3.798	177.00	5.659
43.95	7.494	62.10	4.614	76.10	4.028	94.10	9.865	207.05	5.277
46.85	1.657								

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 04/29/93

Contractor: 21ST Century Env Time: 10:15

Contract No: Laboratory ID: >A1389

Instrument ID: Volatile Inst A Initial Calibration Date: 03/24/93

Minimum RF for SPCC is .300 Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC	SPCC
----------	----	----	-------	-----	------

Chloromethane	1.03473	.89146	13.85	**	
Bromomethane	1.26554	1.02397	19.09		
Vinyl Chloride	1.41813	1.20148	15.28	*	
Chloroethane	1.05023	.88059	16.15		
Acrolein	.06145	.05708	7.10		(Conc=80.00)
1,1,2-Trichlorotrifluoroethane	2.38138	2.15479	9.52		
Trichlorofluoromethane	2.52769	1.92814	23.72		
Acetone	.85018	.79447	6.55		
1,1-Dichloroethene	2.40162	2.07022	13.80	*	
Carbon Disulfide	4.17327	3.07821	26.24		
Acrylonitrile	.48876	.46664	4.53		
Methylene Chloride	2.13050	2.06009	3.30		
1,2-Dichloroethene(trans)	2.22898	2.05868	7.64		
1,1-Dichloroethane	2.76398	2.59340	6.17	**	
Vinyl Acetate	.57008	.41833	26.62		
2-Butanone	.89931	.99046	10.13		
Chloroform	3.29374	3.18908	3.18	*	
1,1,1-Trichloroethane	2.27756	2.09808	7.88		
Carbon Tetrachloride	2.12666	1.91086	10.15		
1,2-Dichloroethane-d4	2.00430	1.99961	.23		(Conc=50.00)
1,2-Dichloroethane	.49364	.47402	3.98		
Benzene	.91704	.92077	.41		
Trichloroethene	.38331	.36111	5.79		
1,2-Dichloropropane	.34745	.33981	2.20	*	
Bromodichloromethane	.59055	.55082	6.73		
2-Chloroethylvinylether	.22522	.22816	1.31		
2-Hexanone	.30995	.33496	8.07		
trans-1,3-Dichloropropene	.55403	.52358	5.50		
Toluene-d8	1.05498	1.03232	2.15		
Toluene	1.19164	1.17880	1.08	*	
cis-1,3-Dichloropropene	.53672	.49237	8.26		
1,1,2,2-Tetrachloroethane	.59844	.60104	.43	**	

RF - Response Factor from daily standard file at 50.00 UG/L

RF - Average Response Factor from Initial Calibration Form UI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 04/29/93

Contractor: 21ST Century Env Time: 10:15

Contract No: Laboratory ID: >A1389

Instrument ID: Volatile Inst A Initial Calibration Date: 03/24/93

Minimum RF for SPCC is .300

Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC	SPCC
1,1,2-Trichloroethane	.40220	.39167	2.62		
4-Methyl-2-pentanone	.36993	.40093	8.38		
Tetrachloroethene	.47449	.49029	3.33		
Dibromochloromethane	.56824	.53791	5.34		
Chlorobenzene	1.05927	1.06460	.50	**	
Ethylbenzene	1.86486	1.84085	1.29	*	
m&p-Xylenes	1.56761	1.63593	4.36		
o-Xylene	1.46424	1.47881	.99		
Styrene	1.13446	1.28560	13.32		
Bromoform	.39367	.38134	3.13	**	
Bromofluorobenzene	.64682	.63220	2.26		
m-Dichlorobenzene	.88479	.96235	8.77		
p-Dichlorobenzene	.90033	.98015	8.87		
o-Dichlorobenzene	.81882	.88573	8.17		

RF - Response Factor from daily standard file at 50.00 UG/L

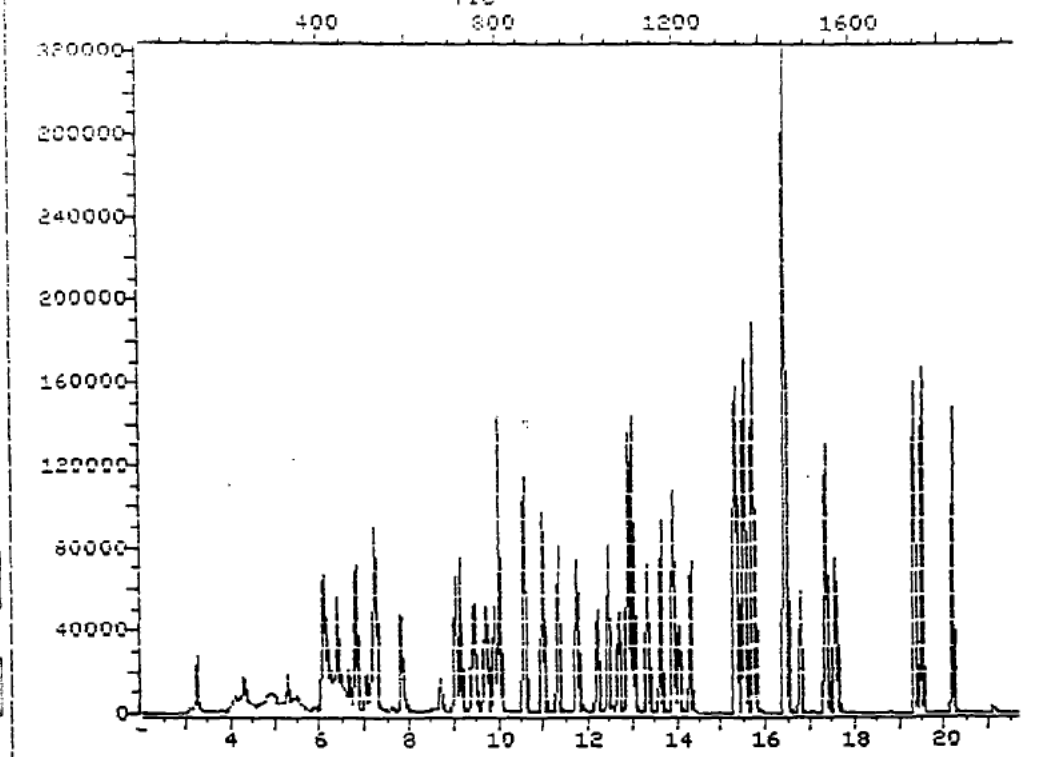
RF - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM

File: A1389 35.0-260.0 amu. HSL CAL CHK 50ppb 042993
TIC



Data File: >A1389::D3

Quant Output File: ^A1389::QT

Name: HSL CAL CHK 50ppb

Misc: 042993

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930428 10:56

Operator ID: JEFF

Quant Time: 930429 10:45

Injected at: 930429 10:15

QUANT REPORT

Operator ID: JEFF
 Output File: MA1389::QT
 Data File: >A1389::D3
 Name: HSL CAL CHK 50ppb
 Misc: 042993

Quant Rev: 6 Quant Time: 930520 15:55
 Injected at: 930429 10:15
 Dilution Factor: 1.00000

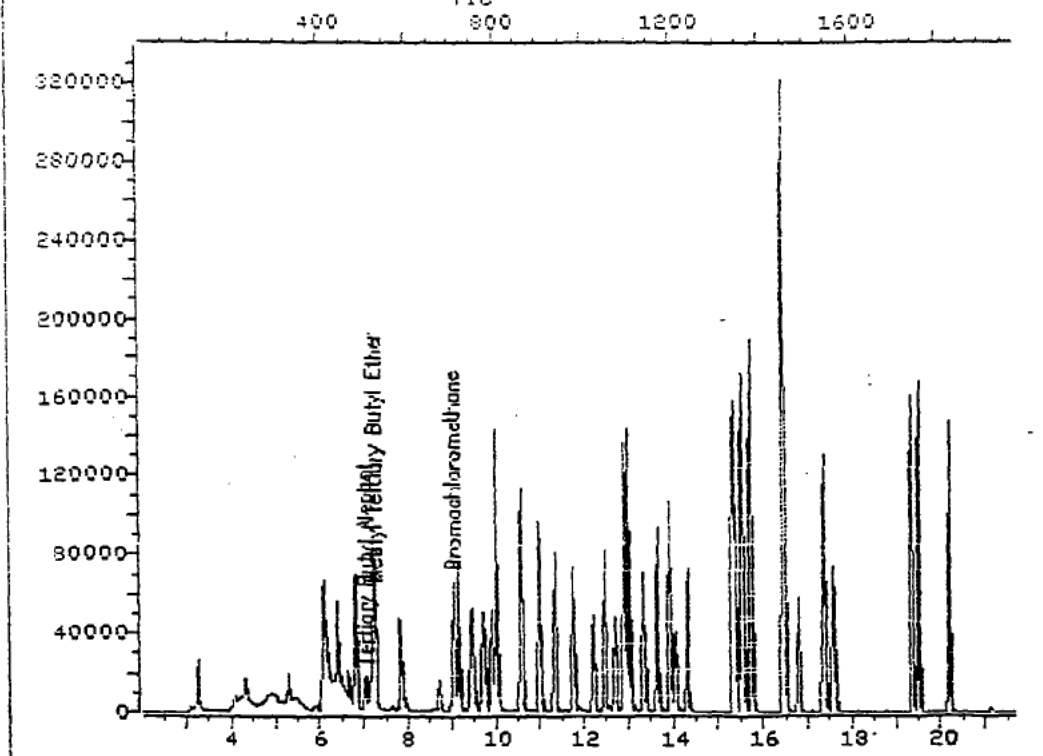
ID File: IDAUXA::M1
 Title: INST A AUX. COMPOUNDS
 Last Calibration: 930520 15:54

Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	9.04	702	36043	50.00	ug/L	100
2) Methyl Tertiary Butyl Ether	7.25	522	76635	50.00	ug/L	100
3) Tertiary Butyl Alcohol	7.04	501	42811	100.00	ug/L	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM

File >A1389 35.0-260.0 amu. HSL CAL CHK 50ppb 042993
TIC



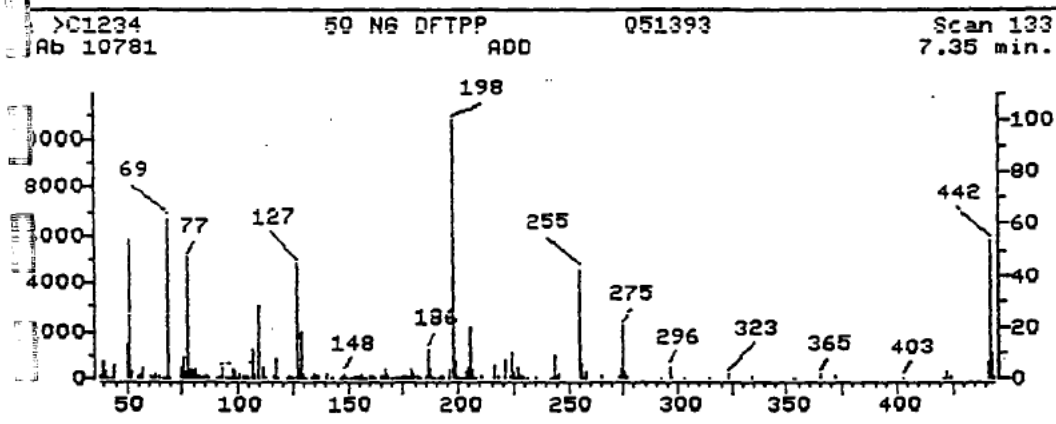
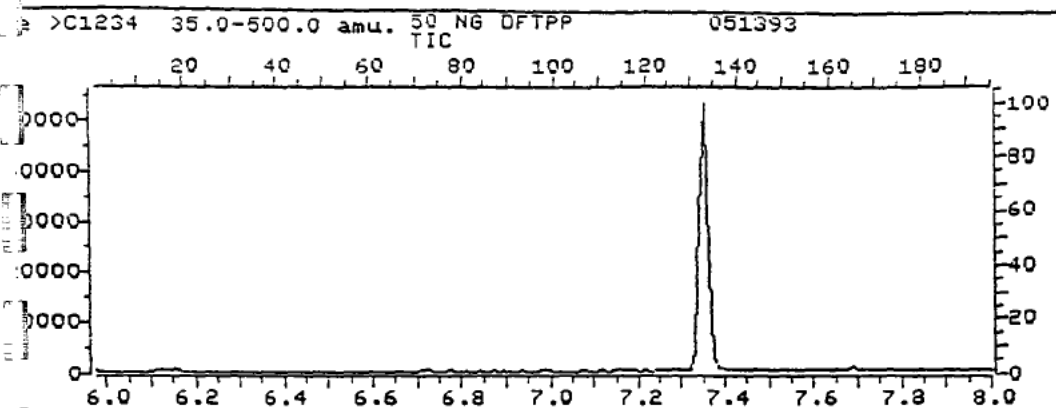
Data File: >A1389::D3
Name: HSL CAL CHK 50ppb
Misc: 042993

Quant Output File: MA1389::QT

Id File: IDAUXA::M1
Title: INST A AUX. COMPOUNDS
Last Calibration: 930520 15:54

Operator ID: JEFF
Quant Time: 930520 15:55
Injected at: 930429 10:15

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1234 50 NG DFTPP 051393
133 ADD NRM

File: >C1234 Scan #: 133 Retn. time: 7.35

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
68.10	.965	93.00	4.350	146.00	.121	186.00	11.325	243.10	.659
69.10	6.280	95.10	.121	146.95	.928	187.00	3.441	244.00	9.368
70.10	2.235	96.05	.232	147.95	2.031	188.00	.158	245.10	1.159
71.10	.427	97.15	.176	148.95	.213	188.90	.213	246.00	1.354
73.20	.288	98.05	3.135	151.05	.148	191.20	.195	254.95	42.389
74.10	5.250	99.05	2.718	151.45	.186	192.00	.918	255.95	6.150
76.05	13.422	100.05	.213	151.65	.186	193.00	.853	257.05	.417
77.15	53.372	101.05	1.920	152.95	.659	196.00	3.395	258.05	2.226
78.15	2.588	103.05	.631	154.05	.547	197.95	100.000	264.90	.900
79.15	.816	103.95	1.030	155.05	1.095	198.95	6.688	272.95	1.243
80.15	1.725	105.05	1.076	156.05	1.595	200.05	.473	273.95	2.977
82.05	4.174	107.05	11.845	157.05	.250	201.15	.436	274.95	20.518
83.10	.566	108.05	1.790	157.95	.297	201.45	.269	276.05	2.245
84.20	.501	110.00	28.457	160.00	.603	202.95	.306	276.95	1.150
85.10	1.976	111.00	3.979	161.00	.918	204.05	2.848	292.70	.139
86.10	.890	112.10	.306	161.80	.158	205.05	4.629	296.00	4.582
87.00	.093	116.00	.529	165.10	.733	206.05	19.980	297.00	.594
88.90	.241	117.00	7.198	165.10	.232	207.05	3.117	302.95	.473

00133

74.05	4.100	122.95	1.299	168.00	1.679	210.90	1.030	334.05	1.493
75.05	8.051	124.05	.519	170.00	.093	216.00	.250	352.05	.835
76.15	2.319	125.05	.288	172.05	.139	216.90	5.222	353.05	.455
77.15	47.083	127.05	44.578	172.95	.427	218.00	.677	353.85	.130
78.05	3.089	127.95	3.515	173.95	.492	221.00	7.374	364.90	.195
79.05	3.098	129.05	18.598	175.05	1.326	222.95	1.234	372.00	1.679
80.05	2.653	130.05	1.642	175.95	.529	223.95	10.083	403.05	.714
81.05	3.747	130.95	.167	176.15	.121	224.95	2.560	421.00	.223
81.95	.649	134.10	.288	176.95	.835	225.95	.297	422.00	.204
83.00	.992	135.00	1.577	177.95	.102	226.95	4.424	423.00	.167
84.00	.111	135.90	.529	178.95	3.015	227.95	.529	424.10	2.838
85.00	.538	137.10	.631	179.95	1.966	228.95	.844	441.00	.529
86.00	.816	141.00	1.772	181.05	1.002	230.95	.399	442.00	6.929
87.00	.223	142.10	.464	181.95	.130	234.90	.167	443.00	53.483
91.00	.501	143.00	.492	185.00	1.289	241.90	.288	444.00	10.416
92.00	.686								.788

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 05/13/93
Contractor: 21st Century Envir _____ Time: 10:34
Contract No: _____ Laboratory ID: >C1235
Instrument ID: 5970C _____ Initial Calibration Date: 05/12/93

Minimum RF for SPCC is 0.050 Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC SPCC
pyridine	.76932	.84355	9.65	
Nitrosodimethylamine	.57463	.65232	13.52	
2-Fluorophenol	.59926	.70422	17.52	(Conc=100.00)
Phenol-d5	.82277	.99686	21.16	(Conc=100.00)
Phenol	1.11128	1.27586	14.81	*
Bis(-2-Chloroethyl)Ether	.86103	1.01898	18.35	
2-Chlorophenol	.82260	.93069	13.14	
1,3-Dichlorobenzene	.89079	.99434	11.62	
1,4-Dichlorobenzene	.88557	.99130	11.94	*
Benzyl Alcohol	.36791	.38135	3.65	
1,2-Dichlorobenzene	.84993	.96468	13.50	
Methylphenol	.75596	.88366	16.89	
Bis(2-Chloroisopropyl)ether	1.14871	1.31478	14.46	
4-Methylphenol	1.56146	1.80364	15.51	
Nitroso-Di-n-propylamine	.67271	.82192	22.18	**
1,2-Dichloroethane	.40359	.46297	14.71	
Nitrobenzene-d5	.45677	.47336	3.63	(Conc=50.00)
Nitrobenzene	.50227	.51847	3.22	
Phosphorane	1.04763	1.04774	.01	
2-Nitrophenol	.24385	.24678	1.20	*
2,4-Dimethylphenol	.34300	.36345	5.96	
Malic Acid	.20961	.24268	15.77	
Bis(-2-Chloroethoxy)Methane	.51587	.53840	4.37	
2,4-Dichlorophenol	.36916	.37062	.40	*
1,2,4-Trichlorobenzene	.42454	.42451	.01	
Naphthalene	1.10614	1.13209	2.35	
4-Chloroaniline	.51623	.50946	1.31	
1,2-Dichlorobutadiene	.21967	.21294	3.07	*
1-Chloro-3-methylphenol	.38378	.39644	3.30	*
1-Methylnaphthalene	.74715	.75112	.53	
1,2,3-Trichlorocyclopentadiene	.45584	.47717	4.68	**
1,2,4,6-Trichlorophenol	.45501	.44982	1.14	*

RF - Response Factor from daily standard file at 50.00 ug/l

RF - Average Response Factor from Initial Calibration Form UI

% Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

00135

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 05/13/93
Contractor: 21st Century Envir _____ Time: 10:34
Contract No: _____ Laboratory ID: >C1235
Instrument ID: 5970C _____ Initial Calibration Date: 05/12/93

Minimum RF for SPCC is 0.050 Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC	SPCC
1,4,5-Trichlorophenol	.48969	.50949	4.04		
1-Chloronaphthalene	1.41562	1.44658	2.19		
2-Fluorobiphenyl	1.41999	1.40210	1.26		(Conc=50.00)
1-Nitroaniline	.46049	.48241	4.76		
Dimethyl Phthalate	1.34581	1.42361	5.78		
1-Cenaphthylene	1.87445	1.83518	2.10		
3-Nitroaniline	.25950	.27736	6.88		
1-Cenaphthene	1.25226	1.29791	3.65	*	
1,4-Dinitrophenol	.10362	.12204	17.78		**
1-Nitrophenol	.18598	.22477	20.85		**
1-Benzofuran	1.75582	1.79998	2.51		
1,4-Dinitrotoluene	.44018	.48377	9.90		
1,6-Dinitrotoluene	.38702	.39857	2.99		
Diethylphthalate	1.25561	1.38871	10.60		
1-Chlorophenyl-phenylether	.64764	.65910	1.77		
1-Tuorene	1.30991	1.36696	4.35		
1-Nitroaniline	.22499	.28140	25.08		
1,6-Dinitro-2-methylphenol	.13145	.15445	17.50		
1-Nitrosodiphenylamine	.57999	.57970	.05	*	
1,4,6-Tribromophenol	.12171	.10527	13.51		(Conc=100.00)
1-Bromophenyl-phenylether	.29329	.26911	8.25		
1-Chlorobenzene	.19516	.16871	13.55	*	
1-Tentachlorophenol	.13318	.13111	1.55		**
1-Tenanthrene	1.19483	1.19939	.38		
1-Thracene	1.17389	1.17442	.04		
1-n-Butylphthalate	1.15542	1.37927	19.37		
1-Tuoranthene	.79027	.88017	11.38	*	
1-Trene	2.31741	2.32807	.46		
1-nzidine	.43743	.58314	33.31		
1-erphenyl-d14	1.45335	1.39517	4.00		(Conc=50.00)
1-tylbenzylphthalate	.69181	.85573	23.69		
1,3'-Dichlorobenzidine	.28426	.27915	1.80		

- Response Factor from daily standard file at 50.00 ug/l

- Average Response Factor from Initial Calibration Form UI

Diff - % Difference from original average or curve

CC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

00136

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 05/13/93
Contractor: 21st Century Envir _____ Time: 10:34
Contract No: _____ Laboratory ID: >C1235
Instrument ID: 5970C _____ Initial Calibration Date: 05/12/93

Minimum RF for SPCC is 0.050

Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC	SPCC
Benzo(a)Anthracene	1.26855	1.26395	.36		
Bis(2-Ethylhexyl)Phthalate	.79167	1.05031	32.67		
Chrysene	1.12276	1.11575	.62		
Di-n-octyl phthalate	1.62157	2.01687	24.38	*	
Benzo(b)fluoranthene	1.43159	1.33320	6.87		
Benzo(k)Fluoranthene	1.25284	1.24353	.74		
Benzo(a)Pyrene	1.19555	1.16855	2.26	*	
Indeno(1,2,3-cd)Pyrene	1.10050	1.06357	3.36		
Dibenzo(a,h)Anthracene	.88342	.86756	1.80		
Benzo(g,h,i)Perylene	.92046	.87722	4.70		

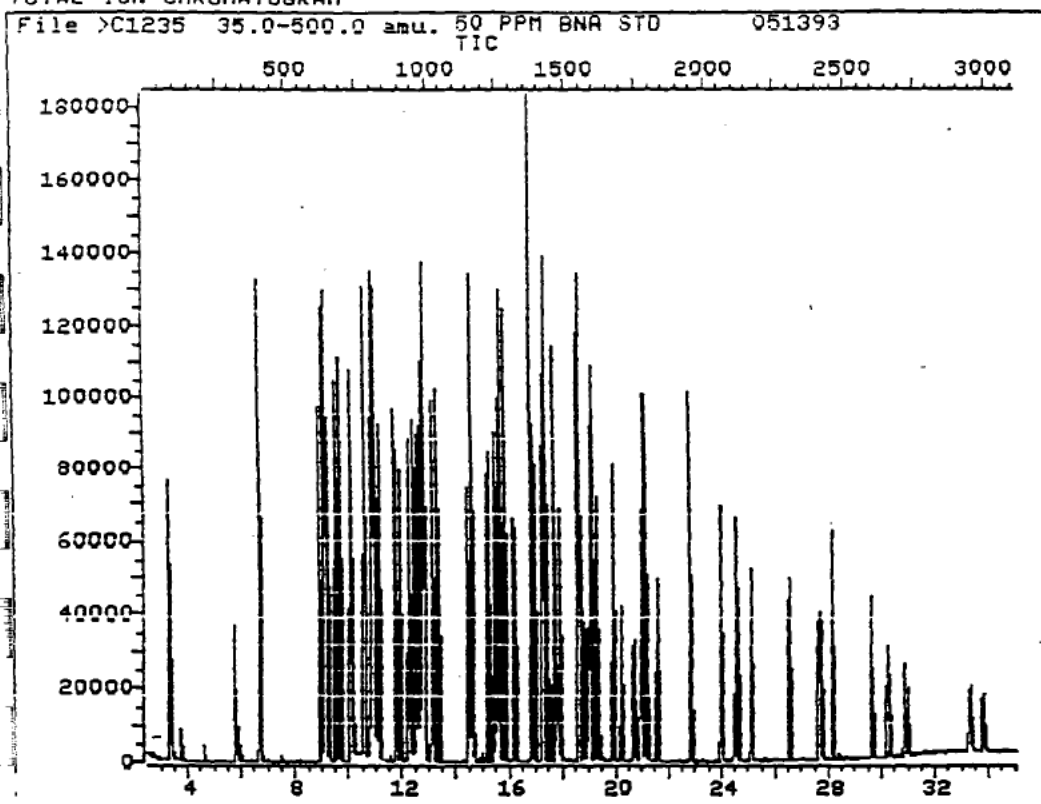
RF - Response Factor from daily standard file at 50.00 ug/l

RF - Average Response Factor from Initial Calibration Form VI

Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM



Data File: >C1235::E4
Name: 50 PPM BNA STD
Misc: 051393

Quant Output File: ^C1235::D4

BTL# 2

Id File: IDHSLC::03
Title: hSL BNA STD
Last Calibration: 930512 10:19

Operator ID: JEFF
Quant Time: 930513 11:12
Injected at: 930513 10:34

21ST CENTURY ENVIRONMENTAL INC.

GC/MS STANDARD DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP) TUNE
CRITERIA FOR SEMI-VOLATILES 50ng

DATE AND TIME OF INJECTION: 5/13/93 17:48
INSTRUMENT ID: 5970

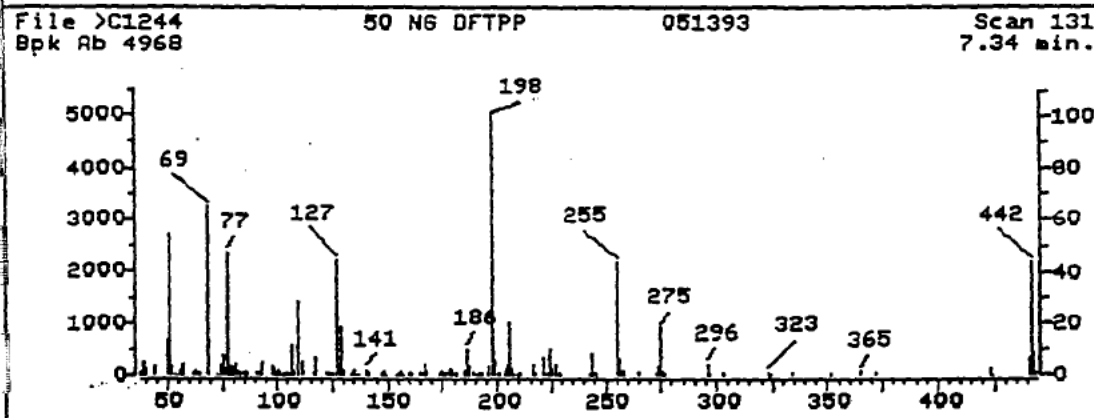
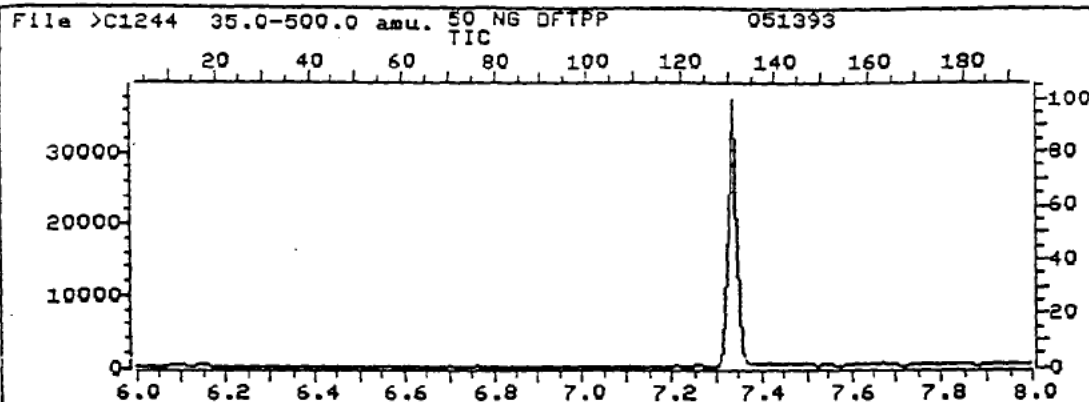
DATA RELEASE AUTHORIZED BY

Robert W. Ryan

m/z	Ion Abundance Criteria	% Relative Abundance		Status
		Base Peak	Appropriate Peak	
51	30-60% of mass 198	54.99	54.99	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	65.12	65.12	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	44.50	44.50	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.10	6.10	Ok
275	10-30% of mass 198	18.20	18.20	Ok
365	Greater than 1% of mass 198	1.41	1.41	Ok
441	0-100% of mass 443	6.32	76.59	Ok
442	Greater than 40% of mass 198	43.58	43.58	Ok
443	17-23% of mass 442	8.25	18.94	Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES
STANDARDS AND BLANKS LISTED BELOW

SAMPLE ID	LAB ID	DATE	TIME
I>C1244::E3	I50 NG DFTPP	5/13/93	17:48
I>C1245::E4	I50 PPM BNA STD	5/13/93	18:12
I>C1246::E4	IA1631	5/13/93	19:17
I>C1247::E4	IA1632	5/13/93	20:05
I>C1248::E4	IA1805	5/13/93	20:50
I>C1249::D4	IA1806	5/13/93	21:36
I>C1250::D4	IA1807	5/13/93	22:21
I>C1251::D4	IA1808	5/13/93	23:06
I>C1252::D4	IA1798	5/13/93	23:51
I>C1253::D4	IA1809	5/14/93	0:37
I>C1254::D5	IA1810	5/14/93	1:22
I>C1255::D5	IA1801	5/14/93	2:07
I>C1256::D5	IA1802	5/14/93	2:52
I>C1257::D5	IA1803	5/14/93	3:38
I>C1258::D5	IA1804	5/14/93	4:23
I>C1259::D5	IA1811	5/14/93	5:08



>C1244 50 NG DFTPP 051393
131 NRM

File: >C1244 Scan #: 131 Retn. time: 7.34

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
38.00	.705	90.95	.684	136.85	.423	186.85	3.019	244.90	1.167
39.10	5.294	91.95	.825	140.85	2.033	188.95	.624	245.80	1.047
40.00	2.758	92.95	4.690	141.85	.886	190.85	.282	254.85	43.498
43.95	3.241	97.95	3.100	147.05	.966	191.85	.966	255.85	5.817
50.05	13.104	98.95	2.496	147.90	1.570	192.85	.986	256.85	.463
51.05	54.992	99.95	.382	148.80	.423	195.90	3.100	257.95	1.791
52.05	3.221	100.90	1.469	154.00	.443	197.80	100.000	264.80	.684
54.40	.201	102.90	.443	155.00	1.188	198.90	6.099	272.90	1.127
56.00	1.369	104.00	1.107	156.00	1.671	201.30	.684	273.90	3.080
56.90	3.845	104.90	1.087	156.90	.443	203.90	2.778	274.90	18.196
62.00	.745	105.80	.302	159.85	.705	205.00	4.287	275.90	1.892
63.10	1.731	106.90	11.795	160.95	1.006	205.95	20.008	276.85	1.208
65.05	.926	107.90	1.872	164.95	.584	206.85	2.456	295.90	4.549
68.95	65.117	109.90	27.919	165.75	.443	207.85	.483	296.90	.564
72.95	.382	110.90	4.650	166.05	.362	209.85	.242	302.85	.624
73.95	4.529	116.05	.684	166.95	3.885	210.75	.543	322.90	1.288
74.95	7.629	116.85	6.985	167.85	1.449	210.95	.523	323.85	.320
75.95	2.234	121.85	.584	173.80	.785	216.85	4.489	333.95	.886
77.00	47.283	123.05	1.208	175.00	1.389	217.70	.745	351.05	.566

0140

79.90	2.738	126.90	44.505	176.90	.705	223.90	10.407	422.95	2.355
80.90	4.207	127.90	3.301	178.90	2.858	225.00	2.536	423.95	.503
81.90	.705	128.90	18.579	179.80	1.872	226.90	3.986	440.95	6.320
83.00	.705	129.90	1.570	180.90	.725	228.90	.845	441.85	43.579
84.90	.684	134.00	.483	184.95	1.429	242.90	.523	442.85	8.253
86.00	.664	134.90	1.449	185.95	10.246	243.90	8.655	443.95	.644

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 05/13/93

Contractor: 21st Century Envir Time: 18:12

Contract No: Laboratory ID: >C1245

Instrument ID: 5970C Initial Calibration Date: 05/12/93

Minimum RF for SPCC is 0.050

Maximum % Diff for CCC is 25%

Compound RF RF %Diff CCC SPCC

Pyridine	.76932	.69550	9.60		
n-Nitrosodimethylamine	.57463	.60038	4.48		
2-Fluorophenol	.59926	.68575	14.43		(Conc=100.00)
Phenol-d5	.82277	.94441	14.78		(Conc=100.00)
Phenol	1.11128	1.19604	7.63	*	
bis(-2-Chloroethyl)Ether	.86103	.95905	11.39		
2-Chlorophenol	.82260	.89717	9.06		
1,3-Dichlorobenzene	.89079	.97772	9.76		
1,4-Dichlorobenzene	.88557	.98131	10.81	*	
Benzyl Alcohol	.36791	.43708	18.80		
1,2-Dichlorobenzene	.84993	.92340	8.64		
2-Methylphenol	.75596	.84811	12.19		
bis(2-Chloroisopropyl)ether	1.14871	1.25077	8.89		
1-Methylphenol	1.56146	1.74472	11.74		
1-Nitroso-Di-n-propylamine	.67271	.78369	16.50	**	
hexachloroethane	.40359	.45173	11.93		
nitrobenzene-d5	.45677	.44702	2.14		(Conc=50.00)
nitrobenzene	.50227	.49765	.92		
isophorone	1.04763	1.01471	3.14		
1-Nitrophenol	.24385	.24966	2.39	*	
2,4-Dimethylphenol	.34300	.34995	2.03		
benzoic Acid	.20961	.22619	7.91		
bis(-2-Chloroethoxy)Methane	.51587	.51789	.39		
1,4-Dichlorophenol	.36916	.37674	2.05	*	
1,2,4-Trichlorobenzene	.42454	.42324	.31		
naphthalene	1.10614	1.14105	3.16		
1-Chloroaniline	.51623	.49673	3.78		
hexachlorobutadiene	.21967	.22429	2.10	*	
1-Chloro-3-methylphenol	.38378	.39179	2.09	*	
1-Methylnaphthalene	.74715	.74972	.34		
hexachlorocyclopentadiene	.45584	.47913	5.11	**	
1,4,6-Trichlorophenol	.45501	.45406	.21	*	

F - Response Factor from daily standard file at 50.00 ug/l

F - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 05/13/93
Contractor: 21st Century Envir _____ Time: 18:12
Contract No: _____ Laboratory ID: >C1245
Instrument ID: 5970C _____ Initial Calibration Date: 05/12/93

Minimum $\overline{RF}$ for SPCC is 0.050 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
4,5-Trichlorophenol	.48969	.50200	2.51		
1-Chloronaphthalene	1.41562	1.40892	.47		
2-Fluorobiphenyl	1.41999	1.37827	2.94		(Conc=50.00)
1-Nitroaniline	.46049	.45813	.51		
1-methyl Phthalate	1.34581	1.39534	3.68		
1-naphthylene	1.87445	1.89803	1.26		
2-Nitroaniline	.25950	.28364	9.30		
1-naphthene	1.25226	1.25954	.58	*	
2,4-Dinitrophenol	.10362	.12932	24.81	**	
4-Nitrophenol	.18598	.22744	22.29	**	
1-benzofuran	1.75582	1.76561	.56		
2,4-Dinitrotoluene	.44018	.48060	9.18		
2,6-Dinitrotoluene	.38702	.39735	2.67		
1-ethylphthalate	1.25561	1.38158	10.03		
1-Chlorophenyl-phenylether	.64764	.67135	3.66		
1-fluorene	1.30991	1.33996	2.29		
4-Nitroaniline	.22499	.28818	28.09		
2,6-Dinitro-2-methylphenol	.13145	.15173	15.42		
1-Nitrosodiphenylamine	.57999	.55086	5.02	*	
2,4,6-Tribromophenol	.12171	.00360	97.04		(Conc=100.00)
1-Bromophenyl-phenylether	.29329	.27067	7.71		
1-hexachlorobenzene	.19516	.18543	4.98	*	
1-pentachlorophenol	.13318	.15393	15.58	**	
1-benzanthrene	1.19483	1.20561	.90		
1-benzthracene	1.17389	1.18745	1.16		
1,1-n-Butylphthalate	1.15542	1.36496	18.14		
1-fluoranthene	.79027	.96790	22.48	*	
1-pyrene	2.31741	2.21353	4.48		
1-benzidine	.43743	.54144	23.78		
1-terphenyl-d14	1.45335	1.45392	.04		(Conc=50.00)
1-ethylbenzylphthalate	.69181	.81506	17.81		
1,3'-Dichlorobenzidine	.28426	.28538	.39		

- Response Factor from daily standard file at 50.00 ug/l

- Average Response Factor from Initial Calibration Form VI

% Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

00143.

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 05/13/93

Contractor: 21st Century Envir Time: 18:12

Contract No: Laboratory ID: >C1245

Instrument ID: 5970C Initial Calibration Date: 05/12/93

Minimum RF for SPCC is 0.050 Maximum % Diff for CCC is 25%

Compound	RF	RF	%Diff	CCC	SPCC
Benzo(a)Anthracene	1.26855	1.22797	3.20		
Bis(2-Ethylhexyl)Phthalate	.79167	1.04087	31.48		
Chrysene	1.12276	1.08909	3.00		
Di-n-octyl phthalate	1.62157	1.91784	18.27	*	
Benzo(b)fluoranthene	1.43159	1.40187	2.08		
Benzo(k)Fluoranthene	1.25284	1.13120	9.71		
Benzo(a)Pyrene	1.19555	1.15366	3.50	*	
Indeno(1,2,3-cd)Pyrene	1.10050	1.11741	1.54		
Dibenzo(a,h)Anthracene	.88342	.91432	3.50		
Benzo(g,h,i)Perylene	.92046	.93282	1.34		

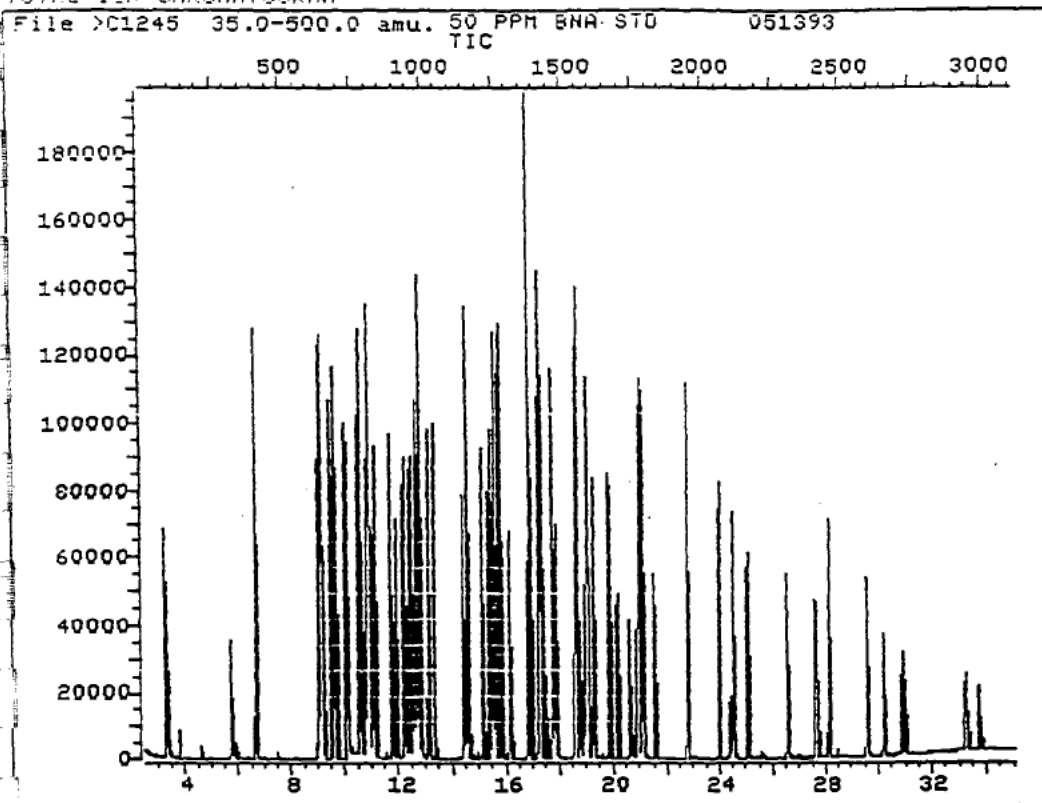
IV - Response Factor from daily standard file at 50.00 ug/l

IV - Average Response Factor from Initial Calibration Form VI

Diff - % Difference from original average or curve

II - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM



Data File: >C1245::E4
 Name: 50 PPM BNA STD
 Misc: 051393

Quant Output File: ^C1245::D4

BTL# 2

Id File: IDHSLC::03
 Title: hSL BNA STD
 Last Calibration: 930513 11:38

Operator ID: JEFF
 Quant Time: 930513 18:50
 Injected at: 930513 18:12

21ST CENTURY ENVIRONMENTAL INC.

GC/MS STANDARD DECAFLUOROTRIPHENYLPHOSPHINE(DFTPP) TUNE
CRITERIA FOR SEMIVOLATILES 50ng

DATE AND TIME OF INJECTION: 5/12/93 5:21
INSTRUMENT ID: 5970

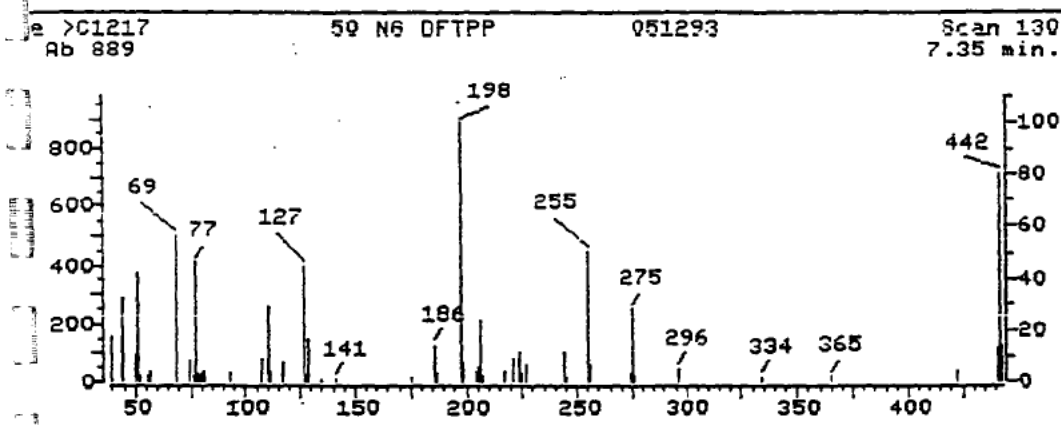
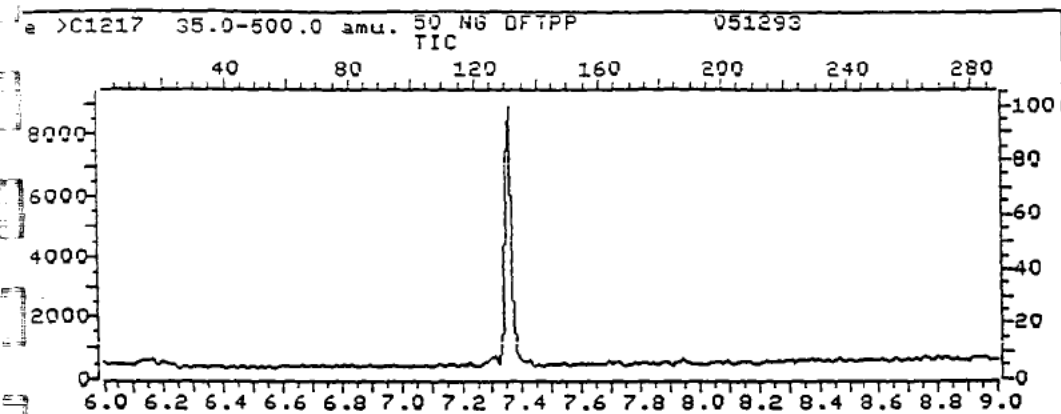
DATA RELEASE AUTHORIZED BY

Richard W. Ryan

m/z	Ion Abundance Criteria	% Relative Abundance		Status
		Base Peak	Appropriate Peak	
51	30-60% of mass 198	42.07	42.07	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	56.47	56.47	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	44.77	44.77	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	7.31	7.31	Ok
275	10-30% of mass 198	28.12	28.12	Ok
365	Greater than 1% of mass 198	2.25	2.25	Ok
441	0-100% of mass 443	13.27	92.19	Ok
442	Greater than 40% of mass 198	80.43	80.43	Ok
443	17-23% of mass 442	14.40	17.90	Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES
STANDARDS AND BLANKS LISTED BELOW

SAMPLE ID	LAB ID	DATE	TIME
I>C1217::E4I	I50 NG DFTPP	I5/12/93	I5:21I
I>C1218::04I	I20 PPM BNA STD	I5/12/93	I5:54I
I>C1219::04I	I50 PPM BNA STD	I5/12/93	I6:40I
I>C1220::04I	I80 PPM BNA STD	I5/12/93	I7:27I
I>C1221::04I	I120PPM BNA STD	I5/12/93	I8:13I
I>C1222::04I	I160PPM BNA STD	I5/12/93	I9:00I
I>C1223::03I	I AQ BLANK 050593	I5/12/93	I9:50I
I>C1224::03I	I A1739 050593	I5/12/93	I10:37I
I>C1225::03I	I A1740 050593	I5/12/93	I11:25I
I>C1226::03I	I A1741 050593	I5/12/93	I12:12I
I>C1227::03I	I A1743 050593	I5/12/93	I12:59I
I>C1228::04I	I A1744 050593	I5/12/93	I13:47I
I>C1229::04I	I A1745 050593	I5/12/93	I14:34I
I>C1231::04I	I A1747 050593	I5/12/93	I16:10I
I>C1232::04I	I A1748 050593	I5/12/93	I16:58I



C1217 50 NG DFTPP 051293
130 NRM

File: >C1217 Scan #: 130 Retn. time: 7.35

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
39.10	6.074	77.00	46.344	128.00	2.362	205.95	24.184	273.85	3.487
40.00	17.210	78.00	3.712	129.00	16.873	206.95	2.250	274.95	28.121
44.05	32.171	78.90	2.362	134.85	1.125	216.80	4.162	275.75	2.362
50.05	10.461	80.00	3.037	140.85	1.237	220.90	8.886	275.95	2.362
51.05	42.070	81.10	4.162	174.90	1.575	223.95	11.249	295.95	5.174
52.00	2.362	93.05	3.600	185.95	14.398	224.85	3.037	333.80	1.800
56.00	2.475	107.00	9.449	186.95	3.150	226.85	6.974	364.95	2.250
57.10	4.049	109.95	28.909	197.90	100.000	243.90	11.699	422.80	3.937
58.95	56.468	111.05	3.937	198.90	7.312	244.80	1.350	440.90	13.273
64.90	8.549	116.85	7.199	204.05	3.825	254.95	50.619	441.90	80.427
66.10	2.700	126.90	44.769	204.85	5.737	255.85	6.412	442.90	14.398

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: 5970C
Contractor: 21st Century Envir Calibration Date: 05/12/93
Contract No: _____

Minimum RF for SPCC is 0.050 Maximum % RSD for CCC is 30%

Laboratory ID: >C1218 >C1219 >C1220 >C1221 >C1222									
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	RRT	RF	% RSD	CCC SPCC
idine	.95064	.64838	.70685	.78983	.75089	.342	.76932	14.845	
Nitrosodimethylamine	.64720	.53782	.55720	.57105	.55986	.347	.57463	7.361	
2-Fluorophenol	.69645	.60468	.64230	.65136	.40149	.696	.59926	19.236	(Conc=100.0,100.0,100.0,1
2-nol-d5	.95712	.83604	.88140	.88802	.55128	.950	.82277	19.181	(Conc=100.0,100.0,100.0,1
2-nol	1.25440	1.07821	1.07148	1.15453	.99780	.953	1.11128	8.760	*
is(-2-Chloroethyl)Ether	1.05172	.85004	.80922	.82288	.77128	.956	.86103	12.812	
2-Chlorophenol	.95296	.80247	.78941	.82251	.74567	.959	.82260	9.498	
1,2-Dichlorobenzene	1.05358	.86950	.85676	.86740	.80672	.989	.89079	10.609	
1,4-Dichlorobenzene	1.04250	.87268	.84508	.87121	.79637	1.005	.88557	10.502	*
Benzyl Alcohol	.15170	.36992	.39274	.43214	.49305	1.058	.36791	35.218	
1,2-Dichlorobenzene	1.01448	.83237	.82426	.82355	.75497	1.050	.84993	11.431	
2-Methylphenol	.88422	.74231	.72403	.73933	.68989	1.098	.75596	9.876	
is(2-Chloroisopropyl)ether	1.27189	1.08396	1.07318	1.14459	1.16993	1.096	1.14871	6.956	
2-Methylphenol	1.78301	1.51777	1.51128	1.52526	1.46997	1.142	1.56146	8.049	
Nitroso-Di-n-propylamine	.79836	.69877	.66109	.45215	.75319	1.139	.67271	19.906	**
Hexachloroethane	.48302	.39985	.38312	.39036	.36161	1.128	.40359	11.541	
1,2-Dibenzene-d5	.45791	.44555	.42627	.48353	.47059	.867	.45677	4.852	(Conc=50.0,50.0,50.0,50.0
1,2-Dibenzene	.50725	.49686	.50103	.51495	.49128	.871	.50227	1.828	
Sophorone	1.02080	1.01423	1.02846	1.10308	1.07161	.921	1.04763	3.651	
1-Nitrophenol	.23300	.23257	.24024	.26324	.25018	.933	.24385	5.323	*
2,4-Dimethylphenol	.34230	.34661	.32576	.35279	.34755	.956	.34300	3.013	
Benzoic Acid	.07821	.17978	.21739	.27461	.29808	1.000	.20961	41.500	
is(-2-Chloroethoxy)Methane	.53276	.50569	.50931	.52201	.50957	.972	.51587	2.188	
2,4-Dichlorophenol	.36342	.36204	.36989	.38667	.36376	.983	.36916	2.776	*
1,2,4-Trichlorobenzene	.45944	.42179	.41886	.41765	.40494	.994	.42454	4.841	
1-Naphthalene	1.22342	1.11079	1.10839	1.06455	1.02356	1.004	1.10614	6.755	
2-Chloroaniline	.50900	.50055	.52164	.53671	.51323	1.026	.51623	2.663	
1,2-Dichlorobutadiene	.24041	.22212	.21724	.21325	.20534	1.045	.21967	5.974	*
2-Chloro-3-methylphenol	.35981	.36608	.38623	.42233	.38444	1.131	.38378	6.357	*
1-Methylnaphthalene	.81450	.74449	.72472	.74706	.70497	1.141	.74715	5.529	

- RF - Response Factor (Subscript is amount in ug/l)
- RRT - Average Relative Retention Time (RT Std/RT Istd)
- RF - Average Response Factor
- RSD - Percent Relative Standard Deviation
- CC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

00148

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: 5970C
Contractor: 21st Century Envir _____ Calibration Date: 05/12/93
Contract No: _____

Minimum RF for SPCC is 0.050 Maximum % RSD for CCC is 30%

Compound	Laboratory ID: >C1218 >C1219 >C1220 >C1221 >C1222					RRT	RF	% RSD	CCC	SPCC
	RF	RF	RF	RF	RF					
	20.00	50.00	80.00	120.00	160.00					
Hexachlorocyclopentadiene	.39151	.46414	.46717	.47970	.47671	.881	.45584	8.016		**
2,4,6-Trichlorophenol	.45778	.43602	.44216	.47732	.46175	.895	.45501	3.606	*	
2,4,5-Trichlorophenol	.43766	.50018	.47899	.52676	.50488	.901	.48969	6.877		
2-Chloronaphthalene	1.57233	1.45204	1.38261	1.35533	1.31578	.917	1.41562	7.115		
2-Fluorobiphenyl	1.43156	1.41266	1.31394	1.48063	1.46113	.907	1.41999	4.564		(Conc=50.0,50.0,50.0,50.0
2-Nitroaniline	.43962	.45588	.45948	.48248	.46497	.941	.46049	3.367		
Dimethyl Phthalate	1.59252	1.44168	1.30964	1.23267	1.15254	.978	1.34581	12.951		
Acenaphthylene	2.18694	1.91433	1.83733	1.76173	1.67194	.977	1.87445	10.479		
3-Nitroaniline	.26515	.27190	.27689	.25678	.22680	1.003	.25950	7.621		
Acenaphthene	1.42432	1.27791	1.22020	1.20542	1.13348	1.005	1.25226	8.710	*	
2,4-Dinitrophenol	.04246	.08148	.10744	.14462	.14209	1.017	.10362	41.527		**
4-Nitrophenol	.14275	.18091	.17304	.23121	.20200	1.036	.18598	17.761		**
Dibenzofuran	1.92072	1.80092	1.73711	1.68665	1.63372	1.029	1.75582	6.321		
2,4-Dinitrotoluene	.45816	.47103	.45064	.44085	.38019	1.041	.44018	8.019		
2,6-Dinitrotoluene	.39819	.39693	.39057	.38295	.36646	.985	.38702	3.356		
Diethylphthalate	1.53120	1.39461	1.25962	1.10875	.98386	1.082	1.25561	17.390		
4-Chlorophenyl-phenylether	.74259	.68675	.64004	.60854	.56027	1.084	.64764	10.854		
fluorene	1.47918	1.35617	1.30624	1.25808	1.14990	1.079	1.30991	9.279		
4-Nitroaniline	.21378	.23351	.24516	.23006	.20243	1.094	.22499	7.504		
2,6-Dinitro-2-methylphenol	.07311	.12130	.14410	.16115	.15761	.906	.13145	27.514		
Nitrosodiphenylamine	.61799	.57889	.55821	.57360	.57124	.910	.57999	3.891	*	
2,4,6-Tribromophenol	.11455	.10954	.12007	.12575	.13866	.921	.12171	9.238		(Conc=100.0,100.0,100.0,1
4-Bromophenyl-phenylether	.29735	.28966	.27853	.29815	.30277	.951	.29329	3.240		
Hexachlorobenzene	.19803	.19372	.18762	.19920	.19722	.965	.19516	2.399	*	
2,4,6-Trichlorophenol	.08627	.12133	.13879	.16337	.15611	.988	.13318	23.172		**
Phenanthrene	1.27230	1.21065	1.16084	1.17708	1.15328	1.003	1.19483	4.068		
Anthracene	1.21853	1.19975	1.16166	1.16080	1.12871	1.009	1.17389	3.019		
Di-n-Butylphthalate	1.27637	1.29383	1.16188	1.03367	1.01134	1.089	1.15542	11.401		
fluoranthene	.93188	.85140	.79458	.71195	.66155	1.147	.79027	13.645	*	
Pyrene	2.23787	2.50106	2.42593	2.33823	2.08397	.888	2.31741	7.050		

RF - Response Factor (Subscript is amount in ug/l)

RT - Average Relative Retention Time (RT Std/RT Istd)

RF - Average Response Factor

RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

00149

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: 5970C
Contractor: 21st Century Envir _____ Calibration Date: 05/12/93
Contract No: _____

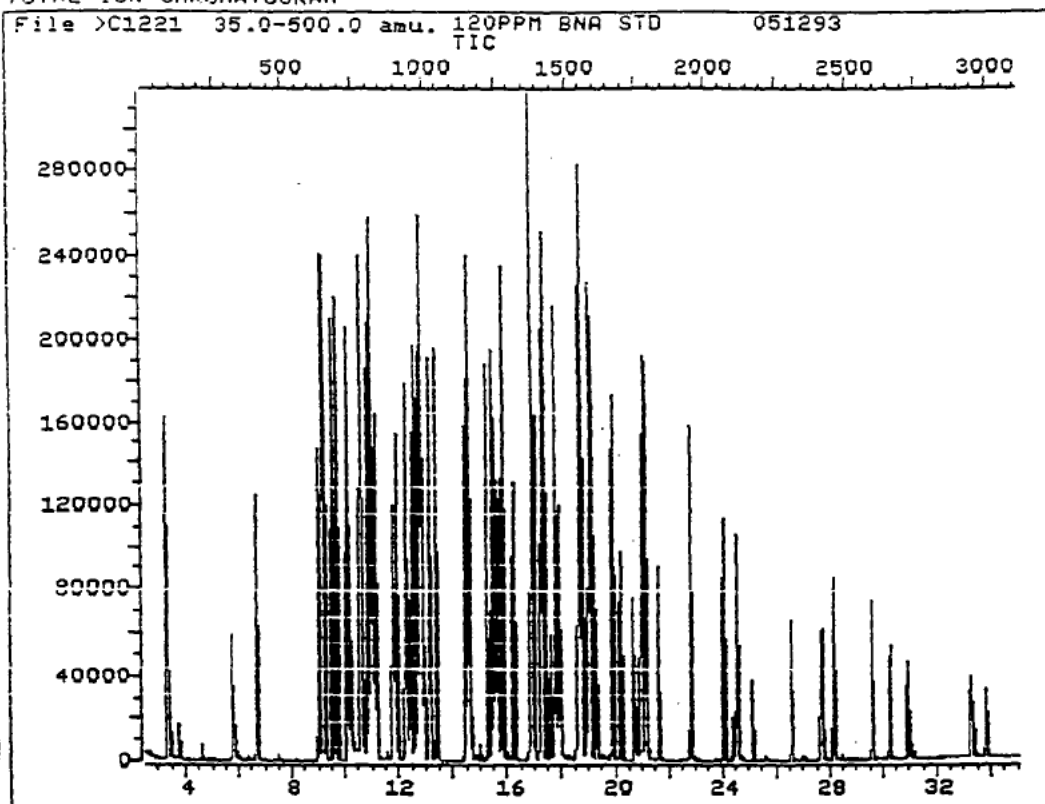
Minimum RF for SPCC is 0.050 Maximum % RSD for CCC is 30%

Laboratory ID: >C1218 >C1219 >C1220 >C1221 >C1222

Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	RRT	RF	% RSD	CCC	SPCC
benzidine	.32552	.44636	.49666	.46554	.45305	.884	.43743	14.968		
terphenyl-d14	1.40928	1.58928	1.42238	1.46922	1.37659	.908	1.45335	5.707		(Conc=50.0,50.0,50.0,50.0
Butylbenzylphthalate	.56136	.67529	.69935	.73915	.78391	.960	.69181	12.109		
3,3'-Dichlorobenzidine	.23063	.24408	.29161	.32646	.32851	1.001	.28426	16.009		
benzo(a)Anthracene	1.19345	1.24549	1.25713	1.32636	1.32029	.999	1.26855	4.375		
Bis(2-Ethylhexyl)Phthalate	.56060	.65444	.80334	.93352	1.00645	1.017	.79167	23.514		
Pyrene	1.09561	1.10941	1.11609	1.14030	1.15241	1.002	1.12276	2.063		
n-octyl phthalate	1.18596	1.45226	1.64562	1.83291	1.99110	.954	1.62157	19.507	*	
benzo(b)fluoranthene	1.46036	1.47967	1.33243	1.51522	1.37028	.974	1.43159	5.380		
Benzo(k)Fluoranthene	1.27093	1.22087	1.21697	1.23475	1.32065	.976	1.25284	3.470		
benzo(a)Pyrene	1.16047	1.15470	1.17595	1.23068	1.25596	.996	1.19555	3.779	*	
benzo(1,2,3-cd)Pyrene	.88489	.92959	1.12204	1.30463	1.26135	1.071	1.10050	17.223		
Dibenzo(a,h)Anthracene	.66566	.73840	.90541	1.05994	1.04766	1.073	.88342	20.175		
benzo(g,h,i)Perylene	.77940	.78175	.91787	1.06478	1.05852	1.089	.92046	15.271		

- Response Factor (Subscript is amount in ug/l)
- Average Relative Retention Time (RT Std/RT Istd)
- Average Response Factor
- SD - Percent Relative Standard Deviation
- CC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

TOTAL ION CHROMATOGRAM



Data File: >C1221::D4
Name: 120PPM BNA STD
Misc: 051293

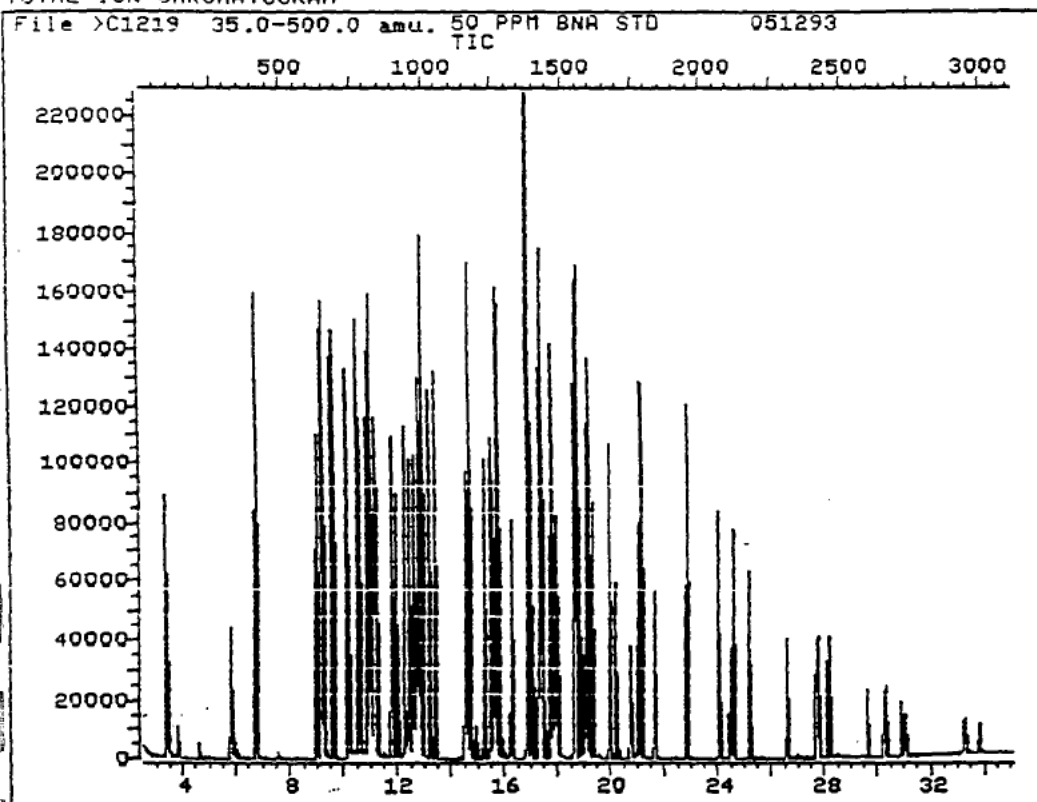
Quant Output File: ^C1221::ED

BTL# 4

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930511 10:26

Operator ID: JEFF
Quant Time: 930512 08:51
Injected at: 930512 08:13

TOTAL ION CHROMATOGRAM



Data File: >C1219::D4
Name: 50 PPM BNA STD
Misc: 051293

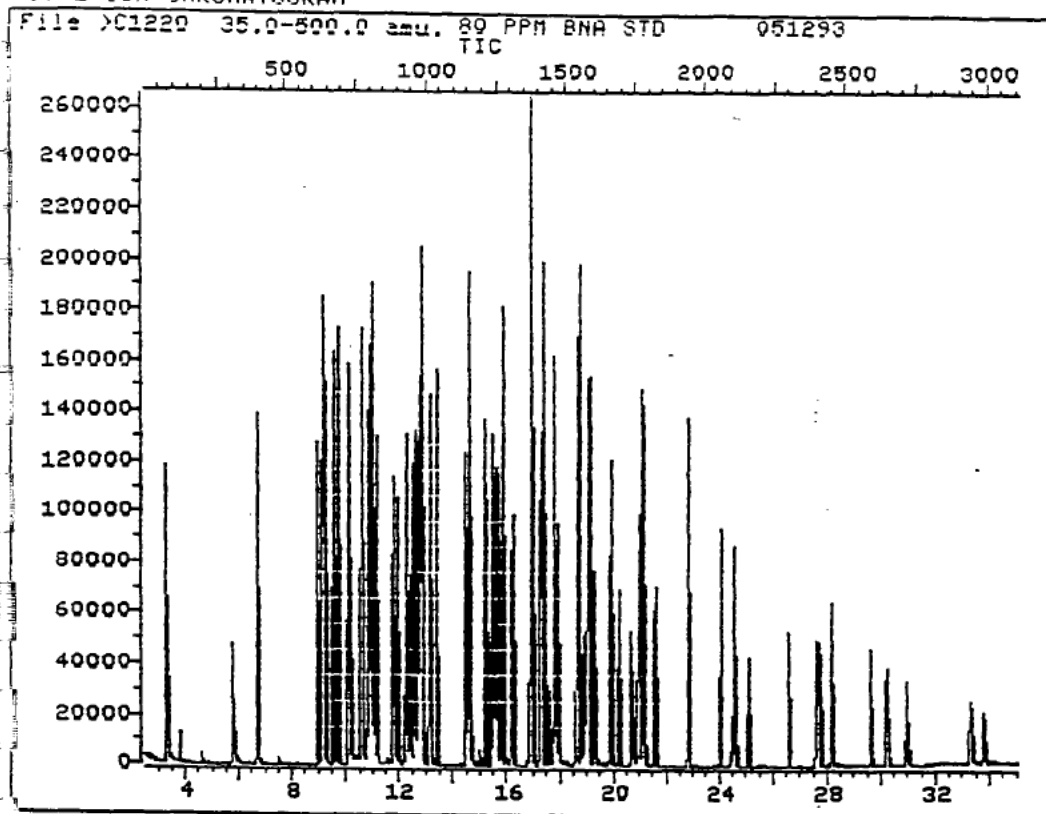
Quant Output File: ^C1219::ED

BTL# 2

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930511 10:26

Operator ID: JEFF
Quant Time: 930512 07:18
Injected at: 930512 06:40

TOTAL ION CHROMATOGRAM



Data File: >C1220::D4
Name: 80 PPM BNA STD
Misc: 051293

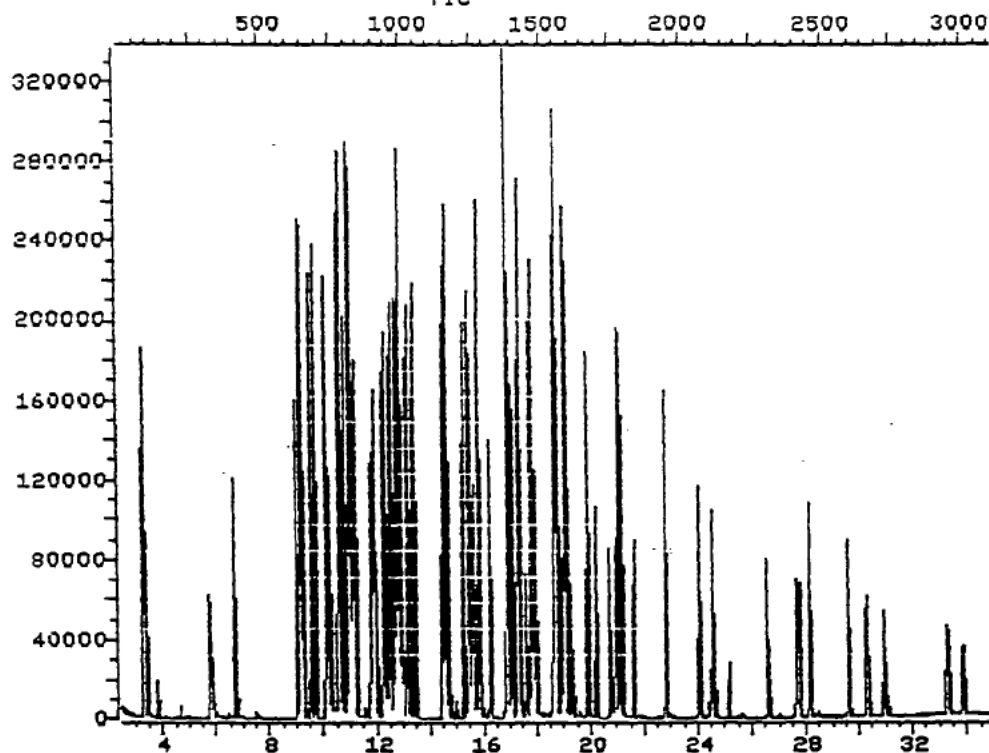
Quant Output File: ^C1220::QT

BTL# 3

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930511 10:26

Operator ID: JEFF
Quant Time: 930512 08:06
Injected at: 930512 07:27

TOTAL ION CHROMATOGRAM

File >C1222 35.0-500.0 amu. 160PPM BNA STD 051293
TIC

Data File: >C1222::D4
Name: 160PPM BNA STD
Misc: 051293

Quant Output File: ^C1222::ED

BTL# 5

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930511 10:26

Operator ID: JEFF
Quant Time: 930512 09:38
Injected at: 930512 09:00

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: 21st Century Environmental Inc.

Contract No.:

Lab Code:

Case No:

SAS No.:

SDG No.:

LAB ID FILE (BLANK): >A1356

DATE ANALYZED: 04/27/93

INSTRUMENT ID: A

TIME ANALYZED: 10:47

Matrix: WATER

Level:(low/med) LOW

Column:(pack/cap)

Sample ID: BLANK

THIS BLANK APPLIES TO THE FOLLOWING SAMPLES,MS AND MSD

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	A1633	>A1361	04/27/93	13:59
2	A1636	>A1364	04/27/93	15:46
3	A1637	>A1365	04/27/93	16:21
4	A1638	>A1366	04/27/93	16:56
5	A1639	>A1367	04/27/93	17:32
6	A1634	>A1368	04/27/93	18:07
7	A1635	>A1370	04/27/93	19:18
8	A1632	>A1371	04/27/93	19:53
9				
10				
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25				

COMMENTS:

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NUMBER	BLANK	DILUTION FACTOR	1.00
CLIENT ID	042793 METHOD BLANK	QA BATCH	
DATA FILE	>A1356	DATE ANALYZED	04/27/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	4.8 J	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	ND	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m,p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	95.8	76 - 114	OK
Toluene-d8	97.2	88 - 110	OK
Bromofluorobenzene	96.6	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BLANK

Job Name: 21st Century Environmental Contract: N/A

Job Code: Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix: (soil/water) WATER

Lab Sample ID: BLANK

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1356

Level: (low/med) LOW

Date Received: NA

Moisture: NA

Date Analyzed: 04/27/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----
	No Unknowns			

FORM I VOA-TIC

1/87 Rev.

00158

QUANT REPORT

Operator ID: JEFF
 Output File: ^A1356::QT
 Data File: >A1356::D2
 Name: BLANK
 Desc: 042793 METHOD BLANK

Quant Rev: 6 Quant Time: 930427 11:49
 Injected at: 930427 10:47
 Dilution Factor: 1.00000

5mL

File: ID0127::M1
 Title: USEPA 624 VOLATILES
 Last Calibration: 930427 11:07

	Compound	R.T.	Scan#	Area	Conc	Units	q
[]	*Bromochloromethane	9.09	706	35637	50.00	UG/L	100
[]	Acetone	6.20	414	3144	4.79	UG/L	80
[]	1,2-Dichloroethane-d4	9.97	795	69254	47.90	UG/L	100
[]	*1,4-Difluorobenzene	10.63	862	172551	50.00	UG/L	100
[]	Toluene-d8	12.95	1096	174786	48.61	UG/L	100
[]	*Chlorobenzene-d5	15.36	1339	141820	50.00	UG/L	100
[]	Bromofluorobenzene	17.42	1547	84465	48.30	UG/L	100

Compound is ISTD

QUANT REPORT

Operator ID: JEFF
 Output File: MA1356::QT
 Data File: >A1356::D2
 Name: BLANK
 Misc: 042793 METHOD BLANK

Quant Rev: 6 Quant Time: 930430 15:15
 Injected at: 930427 10:47
 Dilution Factor: 1.00000

5mL

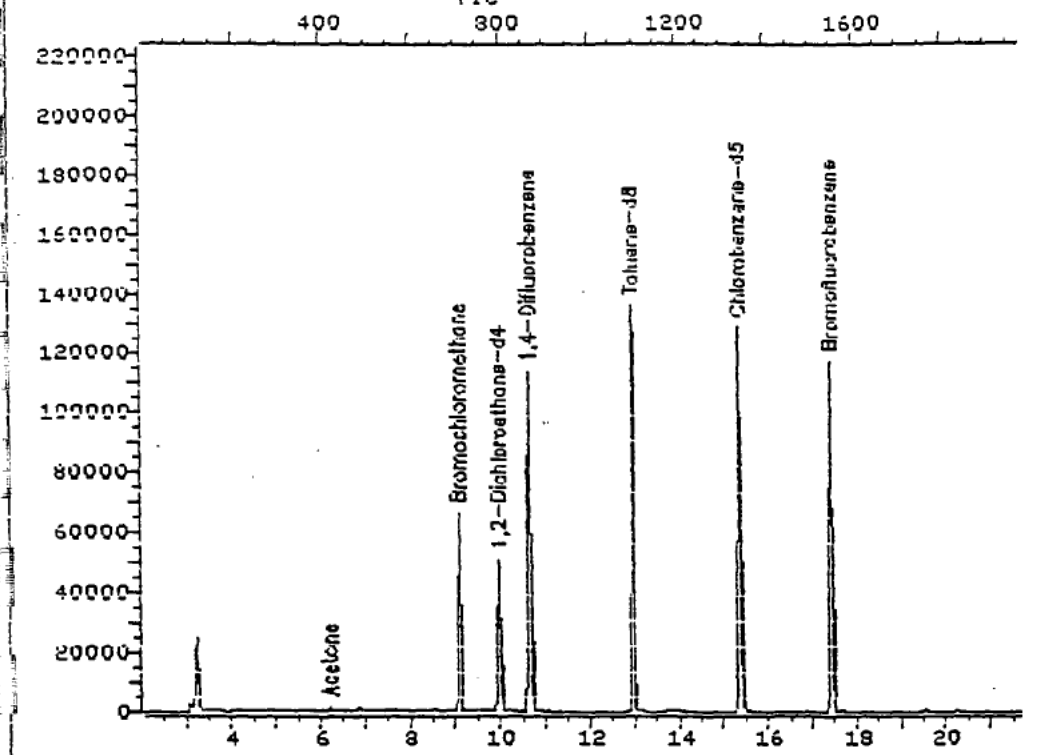
File: IDAUXA::M1
 Title: INST A AUX. COMPOUNDS
 Last Calibration: 930430 15:14

Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	9.09	706	35637	50.00	ug/L	100

* Compound is ISTD

TOTAL ION CHROMATOGRAM

File >A1356 35.0-260.0 amu. BLANK TIC 042793 METHOD BLANK



Data File: >A1356::D2

Quant Output File: ^A1356::QT

Name: BLANK

Misc: 042793 METHOD BLANK

5mL

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930427 11:07

Operator ID: JEFF

Quant Time: 930427 11:49

Injected at: 930427 10:47

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: 21st Century Environmental Inc.

Contract No.:

Lab Code:

Case No:

SAS No.:

SDG No.:

LAB ID FILE (BLANK): >A1374

DATE ANALYZED: 04/28/93

INSTRUMENT ID: A

TIME ANALYZED: 11:01

Matrix: WATER

Level: (low/med) LOW

Column: (pack/cap)

Sample ID: BLANK

THIS BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	A1627	>A1375	04/28/93	11:37
2	A1584	>A1380	04/28/93	14:34
3	A1585	>A1381	04/28/93	15:10
4	A1583	>A1382	04/28/93	15:49
5	A1628	>A1383	04/28/93	16:25
6	A1629	>A1384	04/28/93	17:00
7	A1630	>A1385	04/28/93	17:36
8	A1631	>A1386	04/28/93	18:11
9				
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25				

COMMENTS:

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NUMBER	BLANK	DILUTION FACTOR	1.00
CLIENT ID	042893 METHOD BLANK	QA BATCH	
DATA FILE	>A1374	DATE ANALYZED	04/28/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	3.6 JB	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	3.1 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

<u>SURROGATE COMPOUNDS</u>	<u>% RECOVERY</u>	<u>LIMITS</u>	<u>STATUS</u>
1,2-Dichloroethane-d4	97.7	76 - 114	OK
Toluene-d8	98.3	88 - 110	OK
Bromofluorobenzene	96.6	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

00163

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BLANK

Lab Name: 21st Century Environmental Contract: N/A

Lab Code: NJ 08555 Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix: (soil/water) WATER

Lab Sample ID: BLANK

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1374

Level: (low/med) LOW

Date Received: NA

% Moisture: NA

Date Analyzed: 04/28/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	No Unknowns			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

FORM I VOA-TIC

1/87 Rev.

00164

QUANT REPORT

Operator ID: JEFF
 Output File: ^A1374::D7
 Data File: ^A1374::D3

Quant Rev: 6 Quant Time: 930428 11:32
 Injected at: 930428 11:01
 Dilution Factor: 1.00000

Name: BLANK
 Yesc: 042893 METHOD BLANK

5.0mL

ID File: ID0127::M1
 Title: USEPA 624 VOLATILES
 Last Calibration: 930428 10:56

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	704	35869	50.00	UG/L	100
9)	Acetone	6.16	415	2039	3.66	UG/L	76
1)	Methylene Chloride	6.78	478	5323	3.07	UG/L	76
21)	1,2-Dichloroethane-d4	9.90	793	70140	48.87	UG/L	100
22)	*1,4-Difluorobenzene	10.56	859	175089	50.00	UG/L	100
3)	Toluene-d8	12.88	1093	176086	49.14	UG/L	100
5)	*Chlorobenzene-d5	15.27	1335	144398	50.00	UG/L	100
46)	Bromofluorobenzene	17.33	1543	86076	48.29	UG/L	100

Compound is ISTD

QUANT REPORT

Operator ID: JEFF
 Output File: MA1374::QT
 Data File: >A1374::03
 Name: BLANK
 Misc: 042893 METHOD BLANK

Quant Rev: 6 Quant Time: 930520 13:37
 Injected at: 930428 11:01
 Dilution Factor: 1.00000
 5.0mL

File: IDAUXA::M1
 Title: INST A AUX. COMPOUNDS
 Last Calibration: 930520 13:36

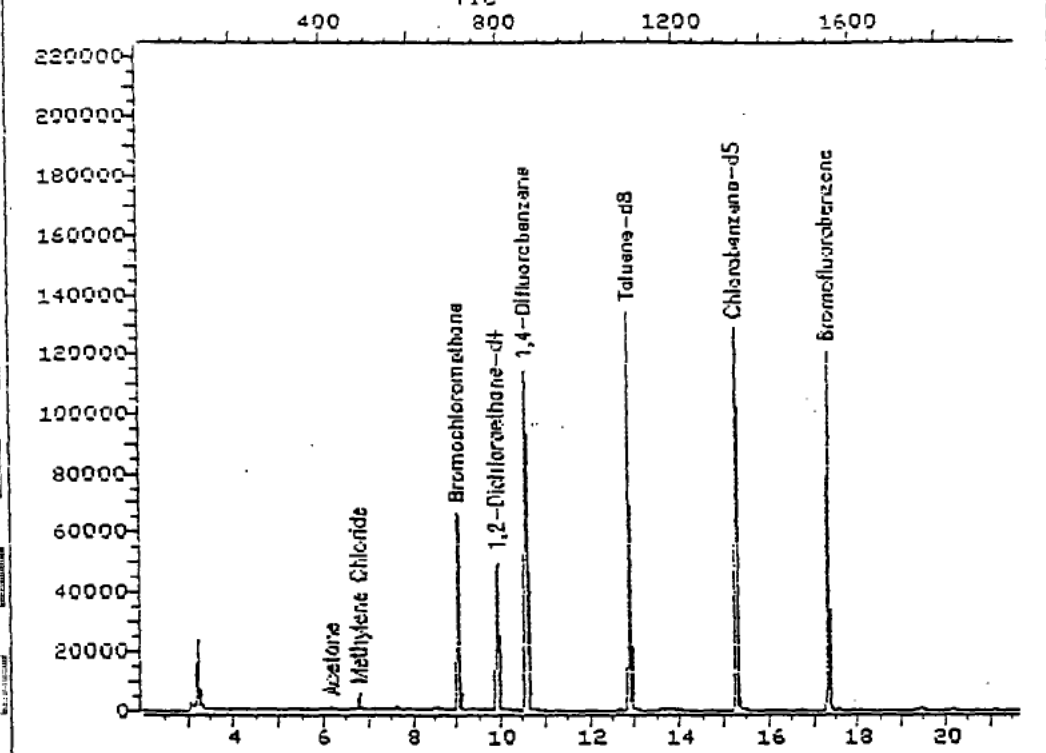
Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	9.02	704	35869	50.00	ug/L	100

Compound is ISTD

TOTAL ION CHROMATOGRAM

File >A1374 35.0-260.0 amu. BLANK
TIC

042893 METHOD BLANK



Data File: >A1374::D3

Quant Output File: ^A1374::D7

Name: BLANK

Misc: 042893 METHOD BLANK

5.0mL

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930428 10:56

Operator ID: JEFF

Quant Time: 930428 11:32

Injected at: 930428 11:01

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: 21st Century Environmental Inc.

Contract No.:

Lab Code:

Case No:

SAS No.:

SDG No.:

LAB ID FILE (BLANK): >A1390

DATE ANALYZED: 04/29/93

INSTRUMENT ID: A

TIME ANALYZED: 11:06

Matrix: WATER

Level: (low/med) LOW

Column: (pack/cap)

Sample ID: BLANK

THIS BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	A1630	>A1391	04/29/93	11:47
2	A1631	>A1392	04/29/93	12:23
3	A1700	>A1397	04/29/93	15:22
4	A1498	>A1401	04/29/93	17:44
5	A1701	>A1403	04/29/93	18:56
6				
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COMMENTS:

00168

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NUMBER	BLANK	DILUTION FACTOR	1.00
CLIENT ID	042993 METHOD BLANK	QA BATCH	
DATA FILE	>A1390	DATE ANALYZED	04/29/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	4.1 J	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m,p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

<u>SURROGATE COMPOUNDS</u>	<u>% RECOVERY</u>	<u>LIMITS</u>	<u>STATUS</u>
1,2-Dichloroethane-d4	95.3	76 - 114	OK
Toluene-d8	98.2	88 - 110	OK
Bromofluorobenzene	96.1	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BLANK

Lab Name: 21st Century Environmental Contract: N/A

Lab Code: NJ 08555 Case No.: N/A SAS No.: N/A SDG No.: N/A

Matrix: (soil/water) WATER

Lab Sample ID: BLANK

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1390

Level: (low/med) LOW

Date Received: NA

% Moisture: NA

Date Analyzed: 04/29/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	No Unknowns			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

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1/87 Rev.

00170

QUANT REPORT

Operator ID: JEFF
 Output File: ^A1390::D7
 Data File: >A1390::D3
 Name: BLANK
 Misc: 042993 METHOD BLANK

Quant Rev: 6 Quant Time: 930429 11:37
 Injected at: 930429 11:06
 Dilution Factor: 1.00000

5ml

ID File: ID0127::M1
 Title: USEPA 624 VOLATILES
 Last Calibration: 930429 11:27

Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	9.02	704	33575	50.00	UG/L	100
13) Methylene Chloride	6.80	479	5685	4.11	UG/L	79
1) 1,2-Dichloroethane-d4	9.91	793	63997	47.66	UG/L	100
2) *1,4-Difluorobenzene	10.57	860	160980	50.00	UG/L	100
31) Toluene-d8	12.89	1094	163170	49.09	UG/L	100
3) *Chlorobenzene-d5	15.29	1337	132918	50.00	UG/L	100
6) Bromofluorobenzene	17.37	1547	80776	48.06	UG/L	100

* Compound is ISTD

QUANT REPORT

Operator ID: JEFF
 Output File: MA1390::QT
 Data File: >A1390::D3
 Name: BLANK
 Misc: 042993 METHOD BLANK

Quant Rev: 6 Quant Time: 930520 15:55
 Injected at: 930429 11:06
 Dilution Factor: 1.00000

5ml

File: IDAUXA::M1
 Title: INST A AUX. COMPOUNDS
 Last Calibration: 930520 15:54

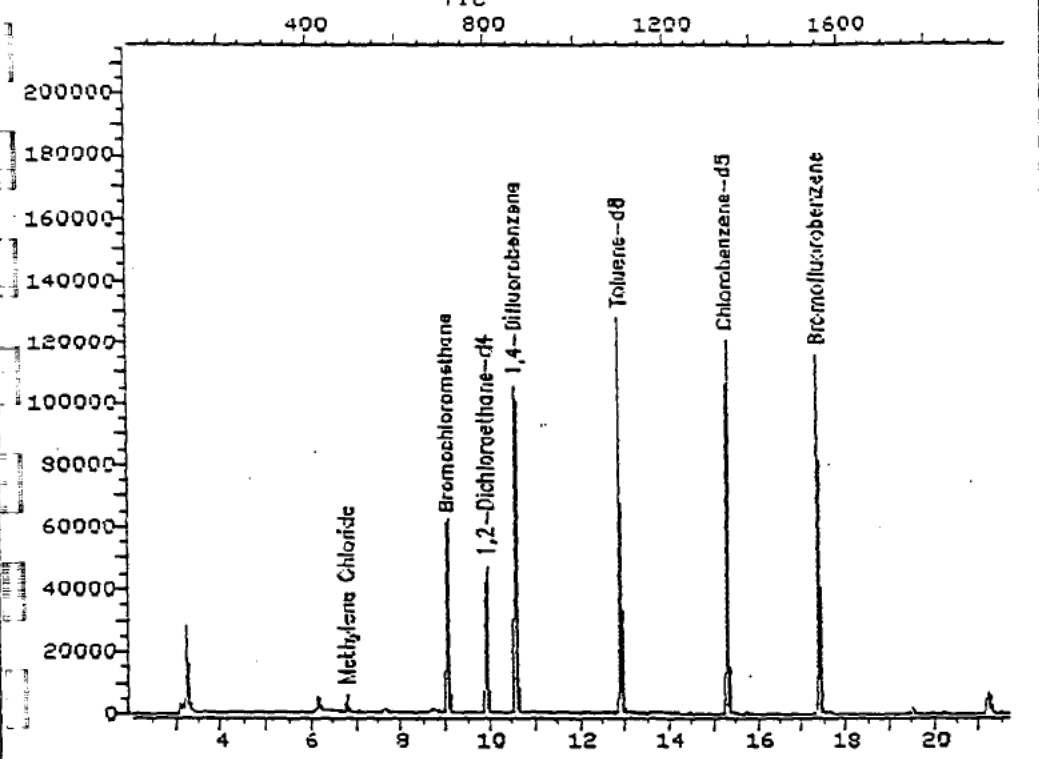
Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	9.02	704	33575	50.00	ug/L	100

Compound is ISTD

TOTAL ION CHROMATOGRAM

File >A1390 35.0-260.0 amu. BLANK
TIC

042993 METHOD BLANK



Data File: >A1390::D3

Quant Output File: ^A1390::D7

Name: BLANK

Misc: 042993 METHOD BLANK

5ml

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930429 11:27

Operator ID: JEFF

Quant Time: 930429 11:37

Injected at: 930429 11:06

00173

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: 21st Century Environmental

Contract No.:

Lab Code:

Case No:

SAS No.:

SDG No.:

LAB ID FILE (BLANK): >C1239

DATE ANALYZED: 05/13/93

INSTRUMENT ID: C

TIME ANALYZED: 13:55

Matrix: WATER

Level: (low/med) LOW

Column: (pack/cap)

Date Extracted: 04/24/93

Extraction: (Sepf/Cont/Sonc) SEPF

Sample ID: AQ BLNK 0

THIS BLANK APPLIES TO THE FOLLOWING SAMPLES,MS AND MSD

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	A1627	>C1240	05/13/93	14:41
2	A1628	>C1241	05/13/93	15:27
3	A1629	>C1242	05/13/93	16:13
4	A1630	>C1243	05/13/93	17:00
5	A1631	>C1246	05/13/93	19:17
6	A1632	>C1247	05/13/93	20:05
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COMMENTS:

00174

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ
 SAMPLE NUMBER AQ BLNK 04/24
 CLIENT ID BLOG 750
 DATA FILE >C1239

MATRIX Water
 DILUTION FACTOR 1.00
 COMMENTS NJDEP 92-05-07-1600-3
 DATE ANALYZED 05/13/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(J) Indicates detected below MDL
 (B) Indicates also present in blank
 (ND) Indicates compound not detected

E1
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLANK

Client: US ARMY, FT. MONMOUTH, NJ

Comments: BLDG 750

Matrix: (soil/water) WATER

Lab Sample ID: BLANK

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1239

Level: LOW

Date Received: 04/24/93

% Moisture: 100

Date Analyzed 05/13/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 04/24/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 0

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	TEST CONC
NO UNKNOWN COMPOUNDS IDENTIFIED			

00176

QUANT REPORT

Operator ID: JEFF
 Output File: ^C1239::DA
 Data File: >C1239::D4
 Name: AQ BLNK 04/24
 Disc: 051393

Quant Rev: 6 Quant Time: 930513 14:33
 Injected at: 930513 13:55
 Dilution Factor: 1.00000

BTL# 4

ID File: IDHSLC::D3
 Title: hSL BNA STD
 Last Calibration: 930513 11:38

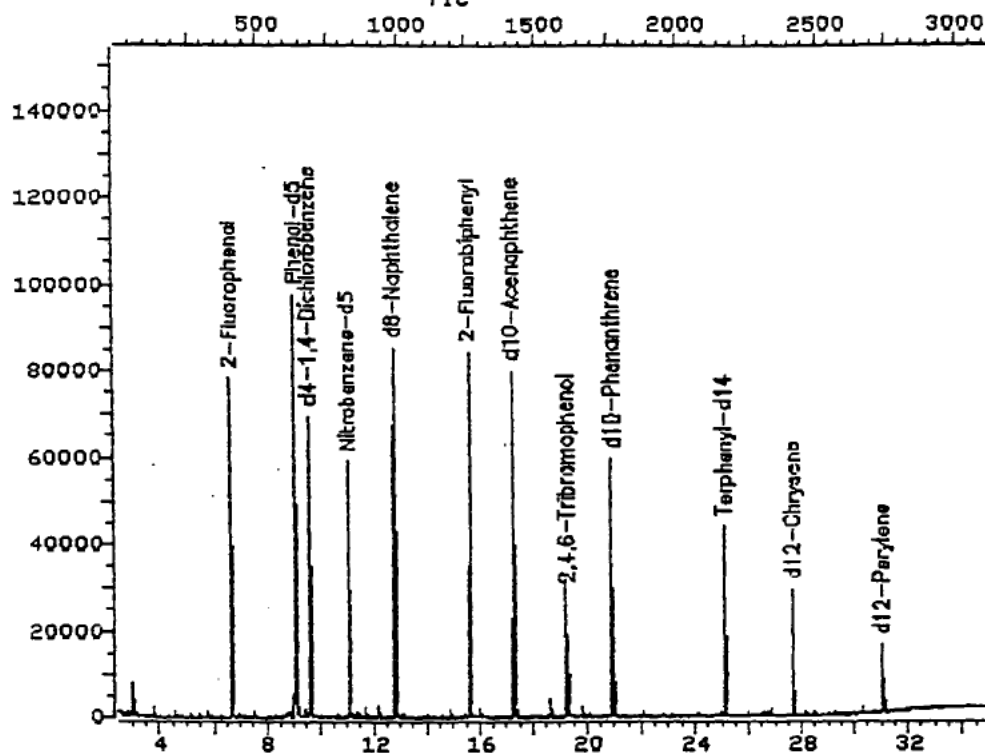
	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.58	677	31756	40.00	UG/L	95
4)	2-Fluorophenol	6.66	397	37408	66.91	UG/L	95
5)	Phenol-d5	9.07	628	68230	86.21	UG/L	86
8)	*d8-Naphthalene	12.75	981	72733	40.00	UG/L	87
19)	Nitrobenzene-d5	11.04	817	33721	39.18	UG/L	90
33)	*d10-Acenaphthene	17.21	1409	37747	40.00	UG/L	98
38)	2-Fluorobiphenyl	15.61	1255	53081	40.12	UG/L	93
53)	*d10-Phenanthrene	20.91	1763	47874	40.00	UG/L	99
56)	2,4,6-Tribromophenol	19.23	1602	6138	48.72	UG/L	88
64)	*d12-Chrysene	27.63	2407	23631	40.00	UG/L	97
69)	Terphenyl-d14	25.08	2163	35062	42.54	UG/L	91
73)	*d12-Perylene	30.99	2729	14711	40.00	UG/L	94

Compound is ISTD

TOTAL ION CHROMATOGRAM

File >C1239 35.0-500.0 amu. AQ BLNK 04/24
TIC

051393



Data File: >C1239::D4

Quant Output File: ^C1239::DA

Name: AQ BLNK 04/24

Misc: 051393

BTL# 4

Id File: IDHSLC::D3

Title: HSL BNA STD

Last Calibration: 930513 11:38

Operator ID: JEFF

Quant Time: 930513 14:33

Injected at: 930513 13:55

MONITORING WELL DATA

CLIENT FT MONMOUTH

DATE 4/21/93

ADDRESS BLDG #750

WELL ID MW 3

CASING DIAMETER 4 inches LENGTH OF CASING ABOVE GROUND NA

DEPTH TO WATER LEVEL 3.68 ft

DEPTH TO WELL BOTTOM 13.92 ft

COLUMN VOLUME 10.24 gal

PURGE VOLUME 21.55 gal

PUMP RATE 0.5 gpm

TOTAL PURGE TIME 43.0 min

PURGE TIME PUMP ON 13:54 PUMP OFF 14:37

ACTUAL PURGE VOLUME 22.0 gal

PARAMETERS: 624+15,XYLENE,625+15

COMMENTS: _____

WEATHER CONDITIONS: SUNNY

PH 6.10 TEMP 13.6 CONDUCTIVITY 180

HNU READING 0.0

00179

MONITORING WELL DATA

CLIENT FT MONMOUTH

DATE 4/21/93

ADDRESS BLDG #750

WELL ID MW 2

CASING DIAMETER 4 inches LENGTH OF CASING ABOVE GROUND NA

DEPTH TO WATER LEVEL 4.25 ft

DEPTH TO WELL BOTTOM 14.45 ft

COLUMN VOLUME 10.20 gal

PURGE VOLUME 21.55 gal

PUMP RATE 0.5 gpm

TOTAL PURGE TIME 43.0 min

PURGE TIME PUMP ON 14:45 PUMP OFF 15:27

ACTUAL PURGE VOLUME 22.0 gal

PARAMETERS: 624+15, XYLENE, 625+15

COMMENTS: _____

WEATHER CONDITIONS: SUNNY

PH 6.70 TEMP 13.6 CONDUCTIVITY 440

HNU READING 1.3

00180

MONITORING WELL DATA

CLIENT FT MONMOUTH

DATE 4/21/93

ADDRESS BLDG #750

WELL ID MW 4

CASING DIAMETER 4 inches LENGTH OF CASING ABOVE GROUND NA

DEPTH TO WATER LEVEL 4.00 ft

DEPTH TO WELL BOTTOM 13.45 ft

COLUMN VOLUME 9.45 gal

PURGE VOLUME 13.06 gal

PUMP RATE 0.5 gpm

TOTAL PURGE TIME 27.0 min

PURGE TIME PUMP ON 15:00 PUMP OFF 15:27

ACTUAL PURGE VOLUME 13.5 gal

PARAMETERS: 624+15,XYLENE,625+15

COMMENTS: _____

WEATHER CONDITIONS: SUNNY

PH 5.35 TEMP 13.1 CONDUCTIVITY 140

HNU READING 20.2

00182

The sampling event for Building 750 occurred on April 21, 1993. Use of laboratory decontaminated, field decontaminated and/or dedicated sampling equipment is as stated in NJDEPE Field Sampling Procedures Manual, May 1992. Non-conformances of NJDEPE Field Sampling Procedures included incomplete well information and field parameters only taken after sampling.

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER US ARMY FT. MONMOUTH NJ
SAMPLE NUMBER A1639
CLIENT ID TRIP BLANK BLDG 2567
DATA FILE A1367

MATRIX Water
DILUTION FACTOR 1.00
COMMENTS HNU NO
DATE ANALYZED 06/27/93

COMPOUND	US/L	MDL	COMPOUND	US/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND B	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	4.8 J	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m,p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	95.9	76 - 114	OK
Toluene-d8	96.9	88 - 110	OK
Bromofluorobenzene	101	86 - 115	OK

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRIP BLANK

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 2567

Matrix: (soil/water) WATER

Lab Sample ID: A1639

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1367

Level: (low/med) LOW

Date Received: 04/21/93

Moisture: NA

Date Analyzed: 04/27/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----
	No Unknowns			

FORM 1 UOA-TIC

1/87 Rev.

00185

QUANT REPORT

Operator ID: JEFF
 Output File: ^A1367::QT
 Data File: >A1367::D3
 Name: A1639

Quant Rev: 6 Quant Time: 930427 18:03
 Injected at: 930427 17:32
 Dilution Factor: 1.00000

Misc: TRIP BLANK BLDG 2567

5mL

ID File: ID0127::M1
 Title: USEPA 624 VOLATILES
 Last Calibration: 930427 11:07

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.08	706	32114	50.00	UG/L	100
2)	Methylene Chloride	6.86	481	7371	4.84	UG/L	76
21)	1,2-Dichloroethane-d4	9.98	796	62488	47.96	UG/L	100
22)	*1,4-Difluorobenzene	10.64	863	153678	50.00	UG/L	100
3)	Toluene-d8	12.98	1099	155209	48.47	UG/L	100
5)	*Chlorobenzene-d5	15.37	1341	126750	50.00	UG/L	100
46)	Bromofluorobenzene	17.44	1550	78811	50.42	UG/L	100

Compound is ISTD

00186

QUANT REPORT

Operator ID: JEFF
 Output File: MA1367::QT
 Data File: >A1367::D3
 Name: A1639

Quant Rev: 6 Quant Time: 930430 15:17
 Injected at: 930427 17:32
 Dilution Factor: 1.00000

Misc: TRIP BLANK BLDG 2567

5mL

ID File: IDAUXA::M1
 Title: INST A AUX. COMPOUNDS
 Last Calibration: 930430 15:14

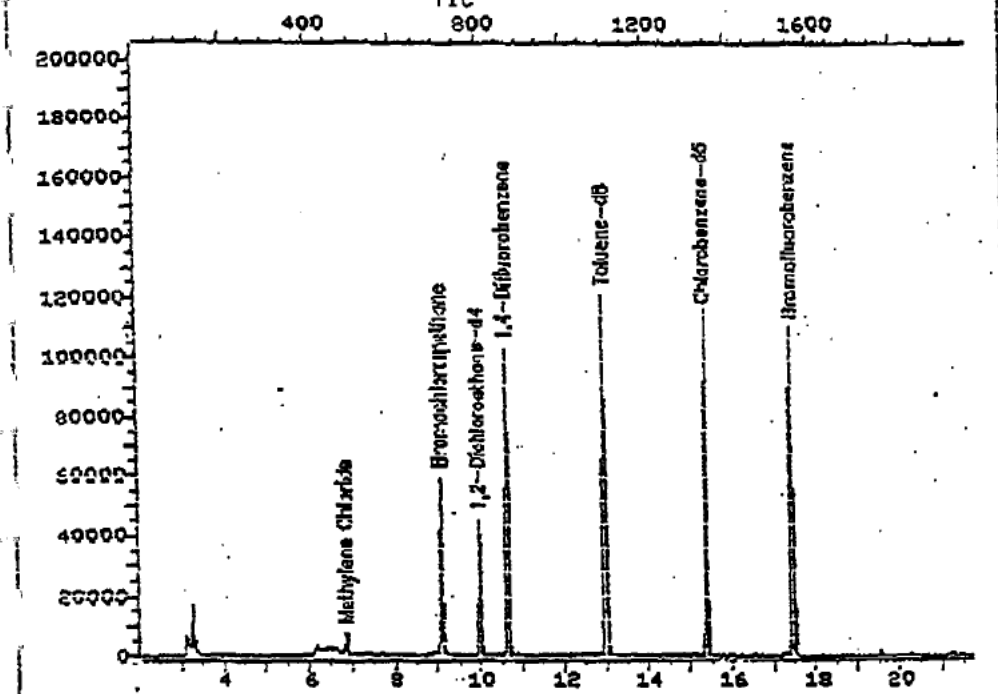
Compound	R.T.	Scan#	Area	Conc	Units	q
*Bromochloromethane	9.08	706	32114	50.00	ug/L	100

* Compound is ISTD

00187

TOTAL ION CHROMATOGRAM

File >A1367 35.0-260.0 amu. A1639 TRIP BLANK BLDG 256
TIC



Data File: >A1367::D3

Quant Output File: ^A1367::QT

Name: A1639

Misc: TRIP BLANK BLDG 2567

5mL

Id File: ID0127::M1

Title: USEPA 624 VOLATILES

Last Calibration: 930427 11:07

Operator ID: JEFF

Quant Time: 930427 18:03

Injected at: 930427 17:32

00188