Copy given to Andy Crosslund for review & comment 10/15/99

HOT SPOT B AND HOT SPOT C
SUBSURFACE LEAD INVESTIGATION

L.E.CARPENTER
WHARTON, NEW JERSEY

October 1999

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346055

Final

CERTIFICATION

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In accordance with N.J.A.C. 7:26C-1.2(b):

"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 civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personably liable for the penalties."

In accordance with N.J.A.C. 7:26C-1.2(c):

"I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

Mr. Christopher R. Anderson
PRINTED NAME

Director of Environmental Affairs
TITLE

L.E Carpenter Company
COMPANY

Christopher Anderson
SIGNATURE

10/1/99
DATE

Table of Contents

1 Introduction 1
1.1 Introduction 1
1.2 Background 1
1.1.1 RI Excavation Activities 2
1.1.2 Current Activities at Hot Spot B and Hot Spot C 3
1.3 Purpose and Scope 4

2 Results of Soil Sampling 5
Soil Sampling 5
2.2 Soil Results and Estimated Areas of Impact 6
2.2.1 Hot Spot B and Hot Spot C 8
2.2.2 Soil Pile 8

3 Conclusions 10

4 References 11

List of Tables

Table 1 Analytical Results 6

List of Figures

Figure 1 Site Map
Figure 2 Areas of Concern
Figure 3 Lead Concentrations

List of Appendices

Appendix A Historical Drawings
Appendix B Weston Lead Soils Data Compilation Report
Appendix C Laboratory Analytical Results

Section 1
Introduction

1.1 Introduction

L.E. Carpenter has been conducting subsurface investigation and remedial action activities at their facility located at 170 North Main Street in Wharton, New Jersey (Figure 1), in accordance with the New Jersey Department of Environmental Protection (NJDEP) Amended Administrative Consent Order (ACO) issued in 1986. Subsurface investigations and remedial action activities performed at the facility since that time have included soil, sediment and groundwater investigations and the installation of a free-product recovery system. In April 1994 the NJDEP issued a Record of Decision (ROD) for the L.E. Carpenter site. The ROD required the remediation of groundwater and excavation and disposal of "hot spot" soils.

Several areas have been addressed during the Remedial Investigation (RI) conducted by Roy F. Weston (Weston), however, there is still further investigation and corrective action at the site. This report provides the results of the subsurface investigation performed at Hot Spot B and Spot C.

1.2 Background

Hot Spot B and Hot Spot C are located in the central portion of the site, adjacent to former Building 14 on the east half of the property (Figure 2). The building referred to as former Building 14 is actually the footprint of two former operations, the northern half contained Building 14, Coating Department, and the southern half contained Building 13, Compounding Department (with Raw Material Bag and Drum Storage). Two drawings, Shallow Soil Quality Concentration Map and Deep Soil Quality Concentration Map, developed by Geoengineering in 1990 show detail of the buildings (Appendix A).

The significant features include three loading docks, one on the northwest side, a second on the southwest side (near Hot Spot B) and one large loading dock on the south end. The pipe lines from the former tank farm located to the west enter the building on the east side (near Hot Spot C). A floor drain system was in place with floor drains from Building 14 discharging at the north end and floor drains from Building 13 discharging at the southeast corner (Hot Spot C).

The buildings were prepared for demolition beginning in 1989 when an extensive asbestos removal operation was completed at Building 13 and Building 14. Drummed raw materials were also removed from the site at that time. The process piping, tanks and appurtenances in

Building 13 were decontaminated and disposed of off-site in September 1991, with both Buildings demolished in December 1991.

1.1.1 RI Excavation Activities

Hot Spot B and Hot Spot C were investigated during the RI to determine the impact of loading and unloading practices at the building. Based on the results of soil sampling conducted during the RI, excavation and removal of these soils were conducted in November and December 1994. The work was completed by Weston according to the Phase I ROD Implementation Workplan also prepared by Weston. Several phases of excavation were required to attempt to achieve site specific cleanup goals. The hot spots are described below:

- Hot Spot B Area is approximately 70 feet by 110 feet in size to a depth of 4 feet bgs and is located immediately southwest of former Building 14. An excavation approximately 41 feet by 38 feet by 4 feet deep was completed to remove lead impacted soil. The total volume excavated was estimated at 175 cubic yards.
- Hot Spot C Area is approximately 50 feet by 90 feet in size to a depth of 2 feet bgs and is located immediately southeast of former Building 13. An excavation approximately 38 feet by 43 feet by 4 feet deep was completed to remove lead-impacted soil. The total volume excavated was estimated at 109 cubic yards.

Confirmation sampling was conducted to verify that soils containing elevated lead concentrations had been removed. The confirmation sampling indicated that a substantial volume of lead-impacted soil was present outside of the anticipated excavation boundaries. Subsequently, excavation activities were suspended, pending additional investigation. The soil was staged on-site to determine disposal options. (It should be noted that RMT has not reviewed any documentation that confirms the excavated soils were removed from the site. RMT has assumed off-site disposal at an appropriate facility was completed by Weston.)

In December 1995, Weston submitted the Lead in Soils Data Compilation Report to propose an explanation of the widespread presence and random distribution of lead in the soil above the site-specific cleanup objective of 600 mg/kg. A copy of the report is provided as Appendix B. The report sites the historical mining operations that took place on site as a potential source of pervasive lead levels in the soils. Weston concluded that elevated levels of lead in the soil east of the railroad right-of-way were the result of using mine tailings as historic fill material. A request for NJDEP to consider an Explanation of Significant Difference (ESD) for site-wide lead contamination was proposed by Weston at that time. In addition, Weston submitted a

Contaminant Delineation Plan to perform soil borings to further delineate the extent of lead-impacted soils.

Additional soil sampling, as described in the Contaminant Delineation Plan, was conducted by Weston in May of 1996 to determine the extent of lead-impact at Hot Spot B and Hot Spot C and to estimate the volume of soil remaining in-place which exceeded the site specific cleanup objective. Sampling results indicated that the extent was much larger than originally anticipated. The extent of impact was not delineated to the east, northeast and southeast of Hot Spot B or to the west, northwest and southwest of Hot Spot C.

Weston provides a summary of the investigative activities and an evaluation of the results in the Second Quarter Progress Report dated August 1996. In the report, Weston concluded:

- The concentration of lead ranged from 77 mg/kg to 2,630 mg/kg in the shallow fill material (approximately surface to 2.5 feet below ground surface (bgs)).
- The concentration of lead ranged from 8.1 mg/kg to 2,830 mg/kg in the deeper fill material (approximately 2.5 bgs to 4.5 bgs).
- The presence of lead in the soil is indicative of the fill material present at the site based on the sampling results which indicate random distribution of lead in the soil which is pervasive at both Hot Spot locations.
- Groundwater was not impacted by the presence of the lead contaminated soil based on the results of groundwater samples collected at each Hot Spot and the overall site groundwater evaluation.

The August 1996 Quarterly Report also described historical mining operations conducted in the area. Weston concluded that the lead impacted soils were a result of the fill historically deposited at the site and not a result of activities conducted by L.E. Carpenter (LEC).

1.1.2 Current Activities at Hot Spot B and Hot Spot C

The NJDEP provided comments on Weston's August 1996 report on January 20, 1998. NJDEP acknowledged that the levels of lead may be indicative of background concentrations in the area and provided two potential approaches:

- Determine the background concentration of lead in the soils by collection of off-site samples (20 sample minimum).
- Develop a revised risk assessment and a focused feasibility study to address a capping option which would allow soils with an acceptable risk level to be left in place.

RMT prepared a scope of work to address the NJDEP comments. Additional soil delineation was proposed to attempt to determine the extent of the lead impact. Based on the sampling results and evaluation of the extent of impact, remedial options were to be proposed.

1.3 Purpose and Scope

The purpose of this investigation is to delineate the extent of lead impacted soil above the 600 mg/kg non-residential clean-up objective at Hot Spot B and Hot Spot C. The work was conducted according the to Workplan to Implement Further Investigative and Remedial Action at MW19/Hot Spot 1, Hot Spot B and C, and Hot Spot 4 dated November 1998.

The scope of the work was modified based on the results of the geoprobe sampling, comparison to the data obtained during the RI, and the approaches described in the NJDEP letter dated January 20, 1998. RMT proposed to delineate the extent of lead impacted soil. The extent has generally been determined, with several areas identified as exceeding the 600 mg/kg level, consistent with the Weston data. In addition, analysis to determine whether the lead-impacted soils are characterized as hazardous was not completed because it is not appropriate at this time. The characterization may be completed following evaluation of remedial options, if off-site disposal is a viable option.

Section 2
Results of Soil Sampling

The soil sampling locations for this investigation were proposed based on historical lead analytical data. Figure 3 illustrates current site features and the extent of lead impact developed with information provided in the RI including the concentration of lead detected in the soil, the removal actions (excavation of Hot Spots), and significant site features. The figure was revised after the field activities were completed and modified to reflect current site conditions. The RI sampling locations are approximate, although field measurements were taken by RMT to confirm areas of excavation. It should be noted, that several site features that prohibited sampling may have been present during the RI. Also, RMT has not reviewed any documentation that confirms the excavated soils during the RI were removed from the site. RMT has assumed off-site disposal at an appropriate facility was completed by Weston.

2.1 Soil Sampling

RMT delineated the horizontal and vertical extent of impact at Hot Spot B and Hot Spot C utilizing push probe sampling procedures (Geoprobe) on a 20 feet by 20 feet grid. Samples were collected at 2.5 feet below ground surface (bgs) and 5.0 feet bgs. Ten samples were submitted for lead analysis for each of the two hot spots. The samples were analyzed for total lead (USEPA SW846 Method 6010) by STL Envirotech, Inc., Edison, NJ a NJDEP certified laboratory.

RMT established the 20 feet by 20 feet grid to delineate the extent of impact which primarily included the area east of Hot Spot B and west of Hot Spot C, including the footprint of the former Building 14. The sampling grid was laid out and RI sampling locations and excavation areas were located based on figures developed during the RI. Several prominent site features were noted which prohibited sampling, primarily large volumes of building rubble at the center of former building, between Hot Spot B and Hot Spot C (Figure 3). A large soil pile, estimated to be 4 feet to 6 feet high, surrounded the rubble. The RI excavation of both hot spots extended to the soil pile. The depth of RI excavation at Hot Spot B is approximately 4 feet bgs, therefore the face of the east wall of the Hot Spot is 8 feet high. Similarly, the depth of RI excavations Hot Spot C is approximately 2 feet bgs and the west wall of the excavation is 6 feet high.

The presence of the rubble may be the reason the extent of lead impacted soil did not appear to be delineated by Weston at Hot Spot B to the east and at Hot Spot C to the west. RMT's sampling locations adjacent to the rubble coincided with RI sampling locations in several areas.

RMT proposed in the Workplan to conduct sampling between Hot Spot B and Hot Spot C , but was unable to because of the rubble.

During the drilling at Hot Spot C, a gray material exhibiting a solvent odor was observed at Geoprobe location, GPC-15. The soil sample collected from this location was submitted for analysis for to determine the chemical composition. The sample was collected in an area shown by previous investigation to contain soil with lead concentration below site specific cleanup levels. Additional discussion of the results is provided in the following section.

2.2 Soil Results and Estimated Areas of Impact

The levels of lead detected in the samples were consistent with concentrations detected in the shallow fill material and deeper fill material by Weston during the RI. The extent of impact was determined at each of the Hot Spots as described below. The analytical data is summarized in Table 1. The concentration of lead detected during this investigation, and RI analytical data, is provided on Figure 3. Laboratory analytical results are provided in Appendix C.

Ten soil samples were analyzed at Hot Spot B (GPB samples). The extent of lead impacted surficial soil extents east of Hot Spot B to the fence line, as confirmed by GPC-13 (892 mg/kg). It is estimated that approximately 120 cubic yards (25ft. wide, 60 ft. long, 2 ft. deep) of soil with levels of lead exceeding 600 mg/kg are present to the east of Hot Spot B.

Several samples were analyzed to the north of this area including GPB-11 (90.4 mg/kg) and GPB-14 (418 mg/kg) to delineate the volume of lead impacted soil. Based on the data, it is estimated that there is approximately 40 cubic yards (25 ft. wide, 20 ft. long, 2 ft, deep) of lead impacted soil adjacent to Hot Spot B to the north.

As described previously, the building rubble limited the extent of investigation east of Hot Spot B. The soil pile is directly adjacent to Hot Spot B. The building rubble is the western boundary of the soil pile. The results of the analysis of samples collected from the soil are discussed later in this section.

Ten soil samples were collected at Hot Spot C (GPC samples). The extent of lead impact at the area south of Hot Spot C was confirmed by GPC-10 (110 mg/kg). It is estimated that approximately 45 cubic yards (15 ft. wide, 40 ft. long, 2 ft. deep) of impacted soil is present south of Hot Spot C. The area to the north of Hot Spot C was delineated by Weston during the RI and confirmed by RMT with sample GPC-14 (53.7 mg/kg and 471 mg/kg). (Note: RI sampling location, C-7, north of Hot Spot C is assumed to be included as the soil pile.)

Sample GPC-15B (5-6 feet bgs) was collected approximately 20 feet north of the limits of the excavation. As discussed previously, the sample was a gray material that was observed at only this location. The material was analyzed to determine the levels of volatiles, semivolatiles and lead. The results indicate the presence of toluene (470 mg/kg), ethylbenzene (10,000 mg/kg), xylene (42,000 mg/kg), butylbenzylphthalate (530 mg/kg), bis(2-Ethylhexyl) phthalate (20,000 mg/kg) and lead (8,222 mg/kg). The laboratory analytical data is provided in Appendix C. Based on field observations and the results of the soil sample collected north of this location, GPC-14, the material appears to be limited. Since the material was only observed at one location, and has not been reported during any previous sampling activities, it is estimated that approximately one to five cubic yards of impacted material is present in the vicinity of GPC-15. This material will be excavated along with the soil removal activities at Hot Spot 4 under a separate scope of work.

The results of sampling from the soil pile is consistent with the RI analytical data. Based on the data collected by RMT from this area at Hot Spot B and Hot Spot C, combined with the results obtained by Weston, the entire soil pile likely contains lead-impacted soil. As discussed previously, the soil is piled around the building rubble that remains following the demolition of Building 13 and Building 14. The volume of the rubble is estimated at approximately 1245 cubic yards (north end: 60 ft. wide, 35 ft. long, 4 ft. deep, and, between soil piles: 35 ft. wide, 180 ft. long, 4 ft. deep). The soil piles surround the rubble on the east, west and south.

The soil pile and rubble pile are at the same elevation: both piles are reported to be four feet deep. It is unclear where the soil originated, although there is no indication it was brought from off-site. The entire area is included in the enhanced fluid recovery (EFR) system with part of the free product plume existing beneath the soil piles. There are three EFR wells located in the soil pile.

The analytical results are consistent with the results obtained during the RI and indicate the entire soil pile is likely impacted. The level of lead detected in the soil pile ranges from below the 600 mg/kg objective to approximately 2,500 mg/kg. The soils collected between 4 feet to 6 feet bgs generally indicate levels of lead less than 600 mg/kg indicating the probable base of the pile. There are no levels of lead less than 600 mg/kg at any depth except the deepest sample at a location. There is an exception at location GPB-10 (1540 mg/kg) at the northwest end of the pile. At this location, lead-impacted soil extends to depths of nine feet bgs.

The volume of impacted soil in the pile is estimated to be approximately 1940 cubic yards. The dimension of the pile are as follows: the west side is 30 ft. wide, 100 ft. long, 5 ft. deep, the south pile is 35 ft. wide, 35 ft. long, 5 ft. deep, and the east side is 25 ft. wide, 150 ft. long, 5 ft. deep.

To summarize, the volumes of lead impacted soil at each location defined in the subsurface investigation include:

Location of Soil	Estimated Volume	Range of Lead Concentration
Hot Spot B	160 cubic yards	94.2 to 2410 mg/kg
Hot Spot C	45 cubic yards	110 to 1250 mg/kg
Soil Pile (Does not include rubble)	1,800 cubic yards	27.5 to 5040 mg/kg

2.2.1 Hot Spot B and Hot Spot C

The vertical and horizontal extent of lead-impacted soil has been defined (assuming the soil pile is considered a separate area) at Hot Spot B and Hot Spot C. The data indicates that there is no discernable pattern to the spatial distribution of lead at the Hot Spots. For example, the sampling locations exhibiting the highest and lowest level of lead at both Hot Spot B and Hot Spot C were adjacent to each other. At Hot Spot B the samples were within 15 feet of each other and at Hot Spot C the samples were collected within less than 10 feet of each other. This indicates the source of lead-impacted soil at these areas may no longer be attributed to loading and unloading practices.

2.2.2 Soil Pile

The level of lead impacted soil in the soil pile is generally greater than 1000 mg/kg, with some consistency of similar levels detected throughout the pile. For example, the level of lead at GP2-A (1750 mg/kg) and GP2-B (1920 mg/kg) is similar at both sampling depths. This is indicative of lead-impacted soil throughout the entire pile, it does not appear to be related to site operations at this location.

Table 1
Summary of Soil Results

Sample Location	Sample Depth	Concentration of Total Lead
GPB-2A	1 -2 feet bgs	1750 mg/kg
GPB-2B	5 - 6 feet bgs	1920 mg/kg
GPB-6A	1 -2 feet bgs	2130 mg/kg
GPB-6B	5 - 6 feet bgs	1270 mg/kg
GPB-10A	1 -2 feet bgs	1590 mg/kg
GPB-10C	8 - 9 feet bgs	1540 mg/kg
GPB-11A	1 -2 feet bgs	90.4 mg/kg
GPB-13A	1 -2 feet bgs	892 mg/kg
GPB-14A	1 -2 feet bgs	418 mg/kg
GPB-16A	1 -2 feet bgs	162 mg/kg
GPC-2A	1 -2 feet bgs	2770 mg/kg
GPC-2B	5 - 6 feet bgs	1330 mg/kg
GPC-4A	1 -2 feet bgs	1970 mg/kg
GPC-4B	5 - 6 feet bgs	27.5 mg/kg
GPC-6A	1 -2 feet bgs	1740 mg/kg
GPC-6B	5 - 6 feet bgs	705 mg/kg
GPC-10A	1 -2 feet bgs	110 mg/kg
GPC-10B	5 - 6 feet bgs	17.0 mg/kg
GPC-14A	1 -2 feet bgs	53.7 mg/kg
GPC-14B	5 - 6 feet bgs	471 mg/kg

Section 3
Conclusions

The results of the soil sampling at Hot Spot B and Hot Spot C identified three areas of soil containing lead concentrations above the 600 mg/kg clean up objective. These areas include west/northwest of Hot Spot B (160 cubic yards), south of Hot Spot C (45 cubic yards) and the soil pile located at the former Building 14 (1800 cubic yards). The total volume of lead-impacted soil is approximately 2005 cubic yards. In addition, there is approximately 1245 cubic yards or rubble surrounded by lead-impacted soil. Due to the large volume of impacted material, it does not appear reasonable to excavate soils for off-site disposal.

The NJDEP has previously acknowledged that the levels of lead may be indicative of background concentrations. NJDEP suggested a revised risk assessment be prepared and a focused feasibility study conducted to address a capping option which would allow soils with an acceptable risk level to be left in place under a soil cover. Based on the available data, soil capping appears to be the most reasonable option. RMT, on behalf of LEC, is currently evaluating an alternative risk-based site specific soil cleanup objective for lead. The area requiring capping will be determined based on a comparison of the available analytical results with the proposed risk-based soil cleanup objective. This information along with a proposed plan for soil capping will be submitted to NJDEP in the near future.

Section 4
References

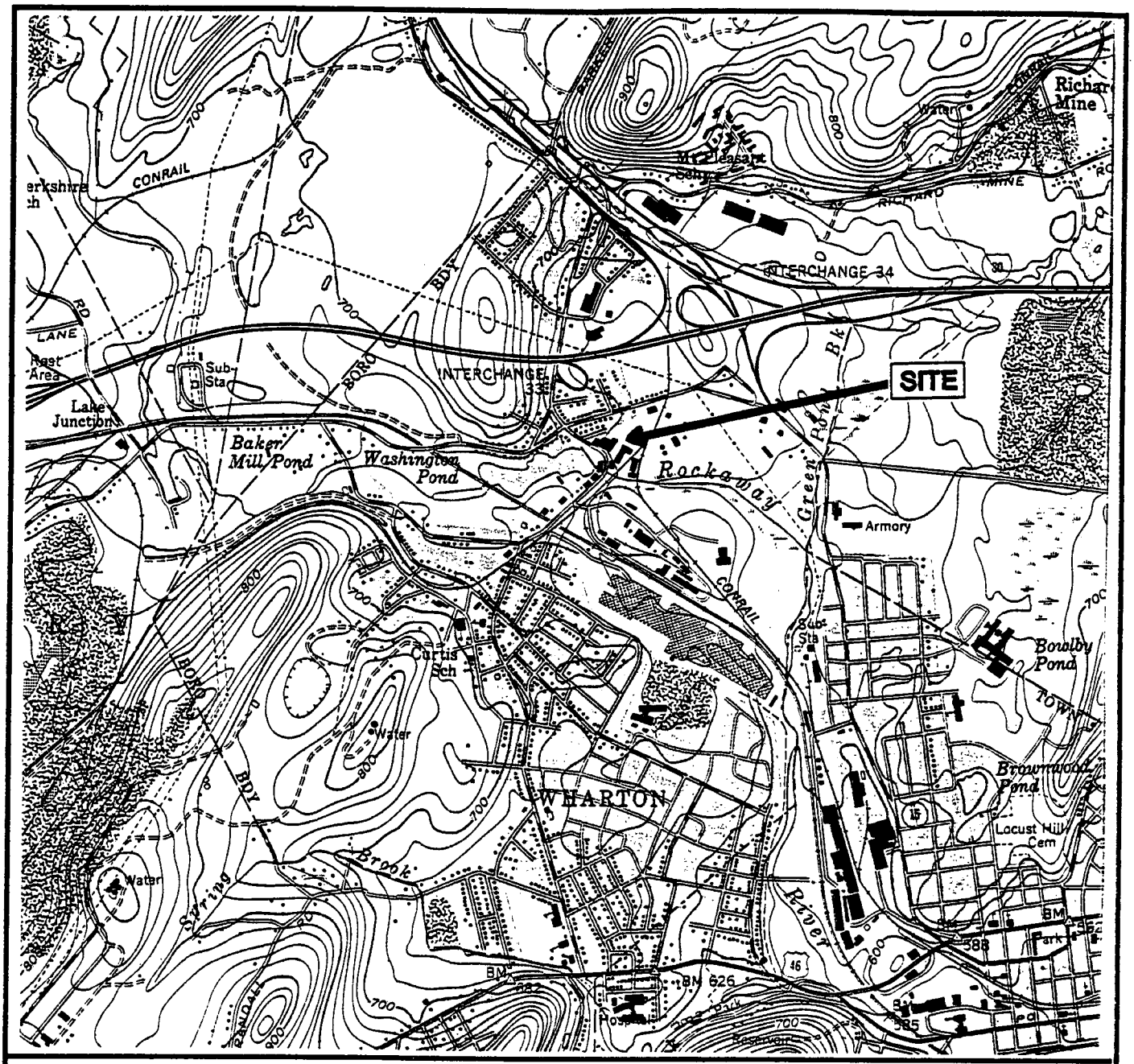
Quarterly Progress Report, L.E. Carpenter Site, Wharton, New Jersey, Roy F.Weston Inc., April 1995.

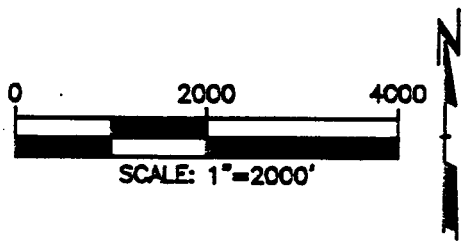
Quarterly Progress Report, L.E. Carpenter Site, Wharton, New Jersey, Roy F.Weston Inc., August 1996.

Lead in Soils Data Compliation, L.E. Carpenter and Company, Roy F. Weston, December 21, 1995.

Workplan for Phase I ROD Implementation, L.E. Carpenter and Company, Roy F. Weston, October 1994.

Letter to Cristopher Anderson, L.E. Carpenter and Company, from Gwen Barunas, New Jersey Department of the Environment, L.E. Carpenter Superfund Site, dated January 20, 1998.





QUADRANGLE LOCATION

SOURCE: BASE MAP FROM DOVER, NEW JERSEY, 7.5 MINUTE USGS QUADRANGLE, DATED 1981.

SITE LOCATOR MAP

LE. CARPENTER
WHARTON, NEW JERSEY

RMT INC.

DWN. BY:	DFL
APPROVED BY:	
DATE:	APRIL 1998
PROJ.#	3868.02
FILE #	38680208

FIGURE 1

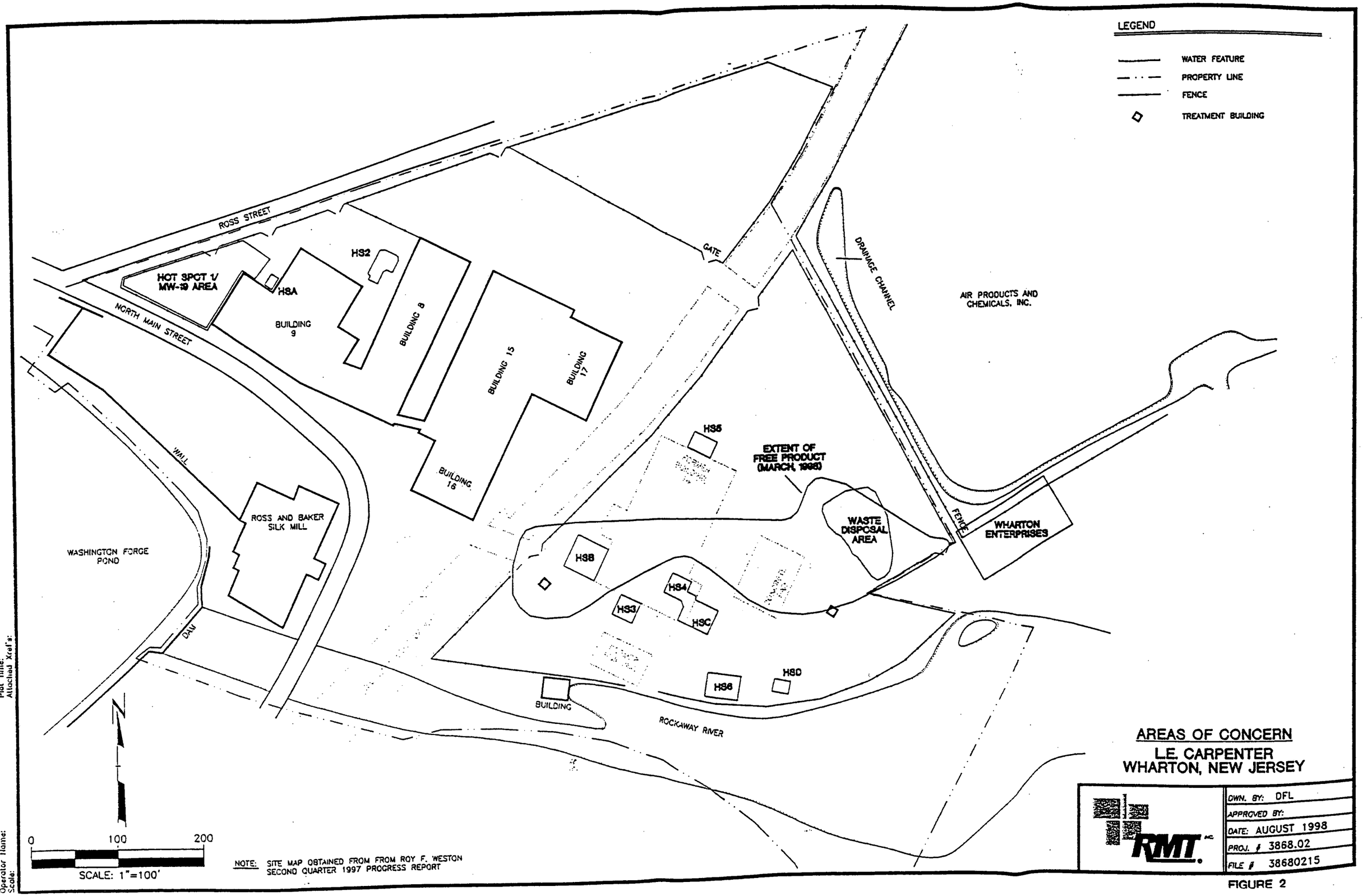

LEGEND
WATER FEATURE
PROPERTY LINE
FENCE
TREATMENT BUILDING
ROSS STREET
NORTH MAIN STREET
HOT SPOT 1/
MW-19 AREA
HS2
HSA
BUILDING 9
BUILDING 8
BUILDING 15
BUILDING 17
BUILDING 16
GATE
DRAINAGE CHANNEL
AIR PRODUCTS AND
CHEMICALS, INC.
HS5
EXTENT OF
FREE PRODUCT
(MARCH, 1996)
WASTE
DISPOSAL
AREA
FENCE
WHARTON
ENTERPRISES
WALL
ROSS AND BAKER
SILK MILL
WASHINGTON FORGE
POND
DAM
HSB
HS4
HS3
HSC
HS6
HSD
BUILDING
ROCKAWAY RIVER
N
0
100
200
SCALE: 1"=100'
NOTE: SITE MAP OBTAINED FROM FROM ROY F. WESTON
SECOND QUARTER 1997 PROGRESS REPORT
AREAS OF CONCERN
L.E. CARPENTER
WHARTON, NEW JERSEY
RMT INC.
DWN. BY: DFL
APPROVED BY:
DATE: AUGUST 1998
PROJ. # 3868.02
FILE # 38680215
Dwg Size:
Plot Date:
Plot Time:
Attached Xref's:
PLOT DATA
Drawing Name:
Operator Name:
Scale:

FIGURE 2

Appendix A
Historical Drawings

LEGEND

- PROPERTY LINE
- TEST PIT LOCATION
- HAND AUGER SAMPLE LOCATION
- SURFACE WATER(SW)/STEAM SEDIMENT(SS) SAMPLE LOCATION
- [ ] DUPLICATE RESULTS IN BRACKETS

REMEDIAL INVESTIGATION SOIL SAMPLE RESULTS

TOTAL VOLATILE ORGANICS >1,000 ppb
TOTAL BASE NEUTRALS >10,000 ppb
TOTAL PCB'S >1,000 ppb
TPH >100 ppm

NT NOT TESTED

SUPPLEMENTAL SOIL SAMPLING RESULTS

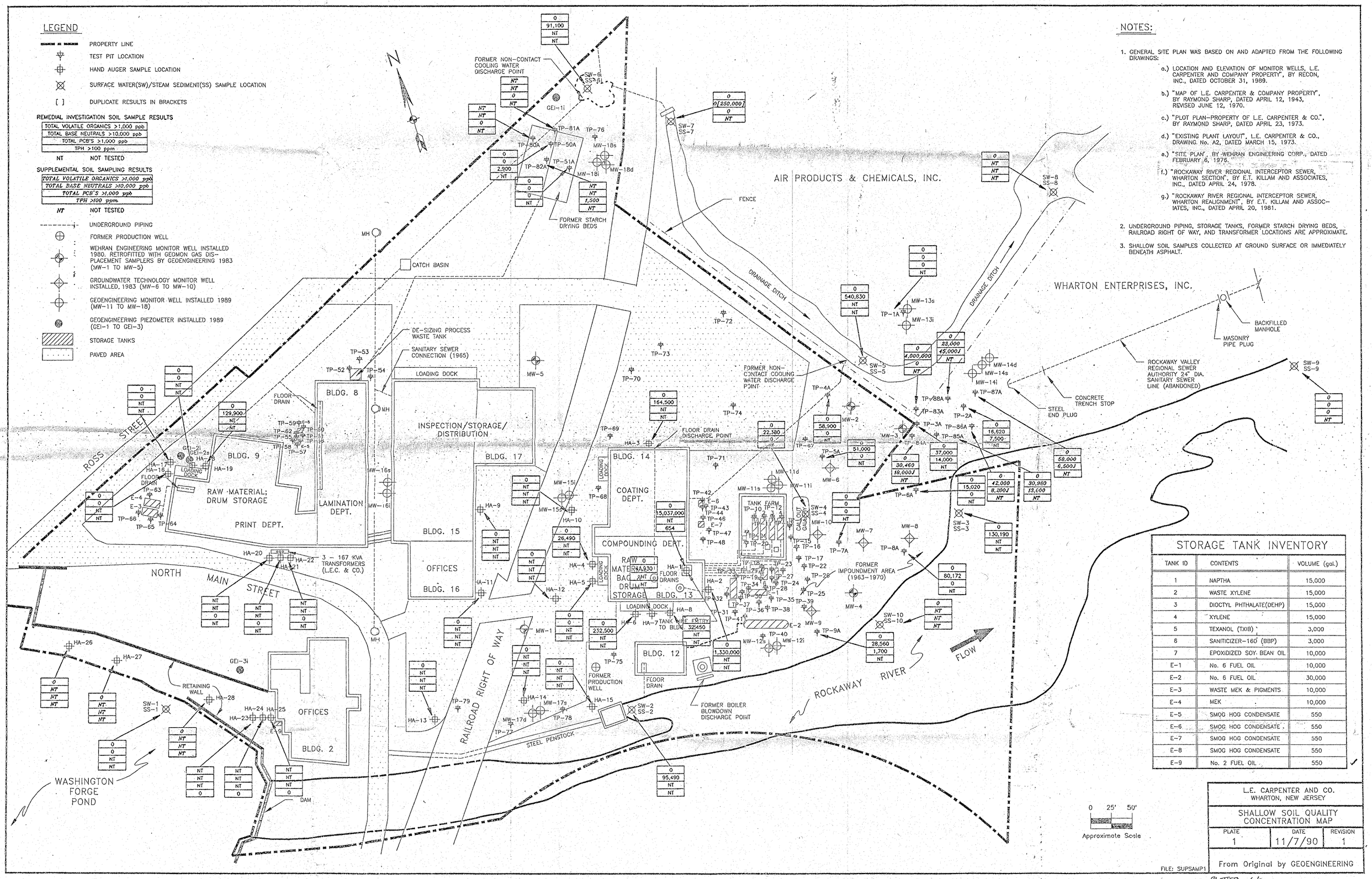
TOTAL VOLATILE ORGANICS >1,000 ppb
TOTAL BASE NEUTRALS >10,000 ppb
TOTAL PCB'S >1,000 ppb
TPH >100 ppm

NT NOT TESTED

- UNDERGROUND PIPING
- FORMER PRODUCTION WELL
- WEHRAN ENGINEERING MONITOR WELL INSTALLED 1980. RETROFITTED WITH GEOMON GAS DISPLACEMENT SAMPLERS BY GEOENGINEERING 1983 (MW-1 TO MW-5)
- GROUNDWATER TECHNOLOGY MONITOR WELL INSTALLED, 1983 (MW-6 TO MW-10)
- GEOENGINEERING MONITOR WELL INSTALLED 1989 (MW-11 TO MW-18)
- GEOENGINEERING PIEZOMETER INSTALLED 1989 (GEI-1 TO GEI-3)
- STORAGE TANKS
- PAVED AREA

NOTES:

1. GENERAL SITE PLAN WAS BASED ON AND ADAPTED FROM THE FOLLOWING DRAWINGS:
   - a.) LOCATION AND ELEVATION OF MONITOR WELLS, L.E. CARPENTER AND COMPANY PROPERTY", BY RECON, INC., DATED OCTOBER 31, 1989.
   - b.) "MAP OF L.E. CARPENTER & COMPANY PROPERTY", BY RAYMOND SHARP, DATED APRIL 12, 1943, REVISED JUNE 12, 1970.
   - c.) "PLOT PLAN-PROPERTY OF L.E. CARPENTER & CO.", BY RAYMOND SHARP, DATED APRIL 23, 1973.
   - d.) "EXISTING PLANT LAYOUT", L.E. CARPENTER & CO., DRAWING No. A2, DATED MARCH 15, 1973.
   - e.) "SITE PLAN", BY WEHRAN ENGINEERING CORP., DATED FEBRUARY 6, 1976.
   - f.) "ROCKAWAY RIVER REGIONAL INTERCEPTOR SEWER, WHARTON SECTION", BY E.T. KILLAM AND ASSOCIATES, INC., DATED APRIL 24, 1978.
   - g.) "ROCKAWAY RIVER REGIONAL INTERCEPTOR SEWER, WHARTON REALIGNMENT", BY E.T. KILLAM AND ASSOCIATES, INC., DATED APRIL 20, 1981.
2. UNDERGROUND PIPING, STORAGE TANKS, FORMER STARCH DRYING BEDS, RAILROAD RIGHT OF WAY, AND TRANSFORMER LOCATIONS ARE APPROXIMATE.
3. SHALLOW SOIL SAMPLES COLLECTED AT GROUND SURFACE OR IMMEDIATELY BENEATH ASPHALT.



STORAGE TANK INVENTORY

TANK ID	CONTENTS	VOLUME (gal.)
1	NAPTHA	15,000
2	WASTE XYLENE	15,000
3	DIOCTYL PHTHALATE(DEHP)	15,000
4	XYLENE	15,000
5	TEXANOL (TXIB)	3,000
6	SANITICIZER-160 (BBP)	3,000
7	EPOXIDIZED SOY BEAN OIL	10,000
E-1	No. 6 FUEL OIL	10,000
E-2	No. 6 FUEL OIL	30,000
E-3	WASTE MEK & PIGMENTS	10,000
E-4	MEK	10,000
E-5	SMOG HOG CONDENSATE	550
E-6	SMOG HOG CONDENSATE	550
E-7	SMOG HOG CONDENSATE	550
E-8	SMOG HOG CONDENSATE	550
E-9	No. 2 FUEL OIL	550

L.E. CARPENTER AND CO.
WHARTON, NEW JERSEY

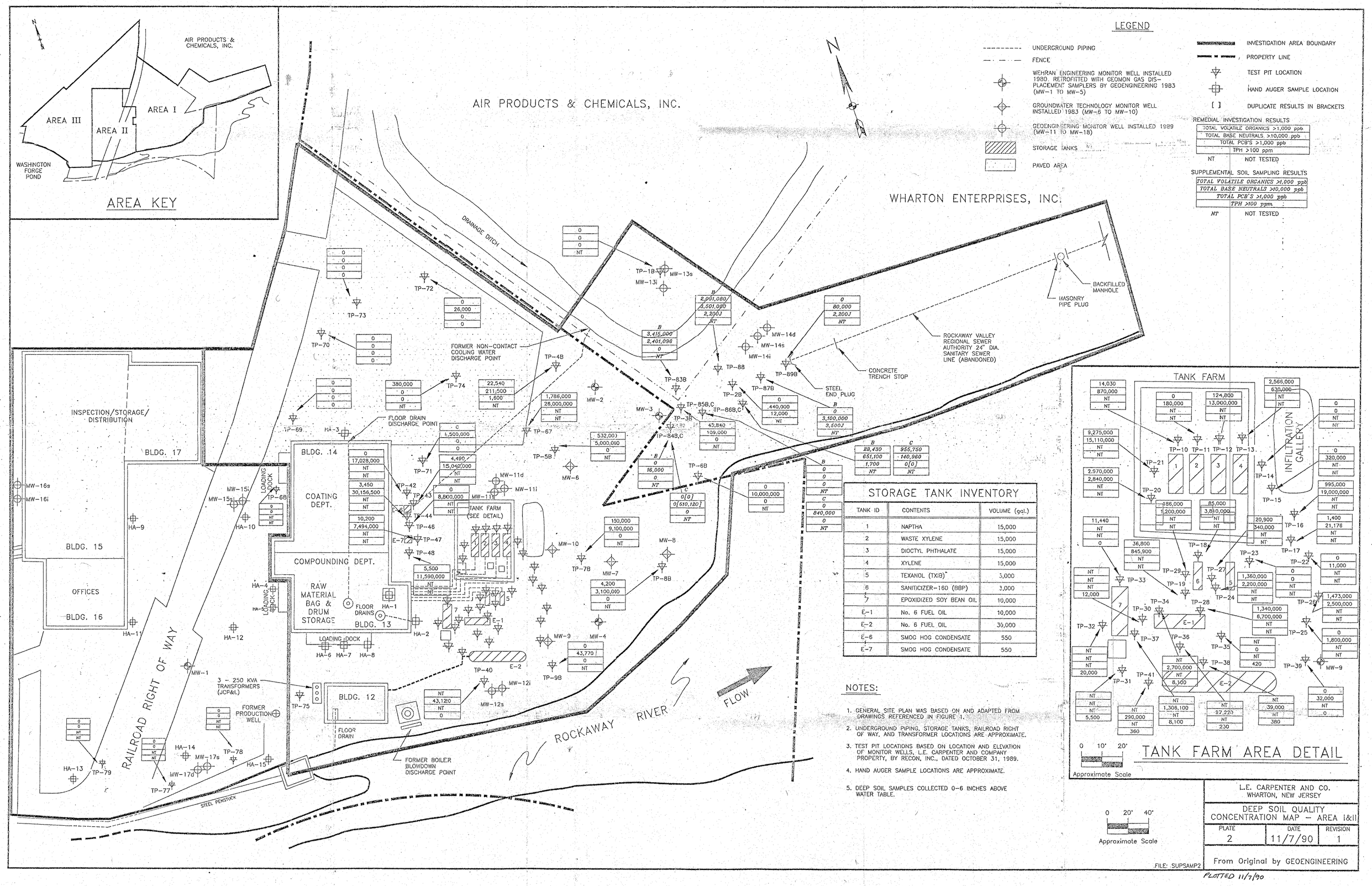
SHALLOW SOIL QUALITY CONCENTRATION MAP

PLATE	DATE	REVISION
1	11/7/90	1

From Original by GEOENGINEERING

FILE: SUPSAMP1

PLOTTED 11/7/90



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1	NAPTHA	15,000
2	WASTE XYLENE	15,000
3	DIOCTYL PHTHALATE	15,000
4	XYLENE	15,000
5	TEXANOL (TXIB)	3,000
6	SANITICIZER-160 (BBP)	3,000
7	EPOXIDIZED SOY BEAN OIL	10,000
E-1	No. 6 FUEL OIL	10,000
E-2	No. 6 FUEL OIL	30,000
E-6	SMOG HOG CONDENSATE	550
E-7	SMOG HOG CONDENSATE	550

NOTES:

1. GENERAL SITE PLAN WAS BASED ON AND ADAPTED FROM DRAWINGS REFERENCED IN FIGURE 1.
2. UNDERGROUND PIPING, STORAGE TANKS, RAILROAD RIGHT OF WAY, AND TRANSFORMER LOCATIONS ARE APPROXIMATE.
3. TEST PIT LOCATIONS BASED ON LOCATION AND ELEVATION OF MONITOR WELLS, L.E. CARPENTER AND COMPANY PROPERTY, BY RECON, INC., DATED OCTOBER 31, 1989.
4. HAND AUGER SAMPLE LOCATIONS ARE APPROXIMATE.
5. DEEP SOIL SAMPLES COLLECTED 0-6 INCHES ABOVE WATER TABLE.

L.E. CARPENTER AND CO.
WHARTON, NEW JERSEY

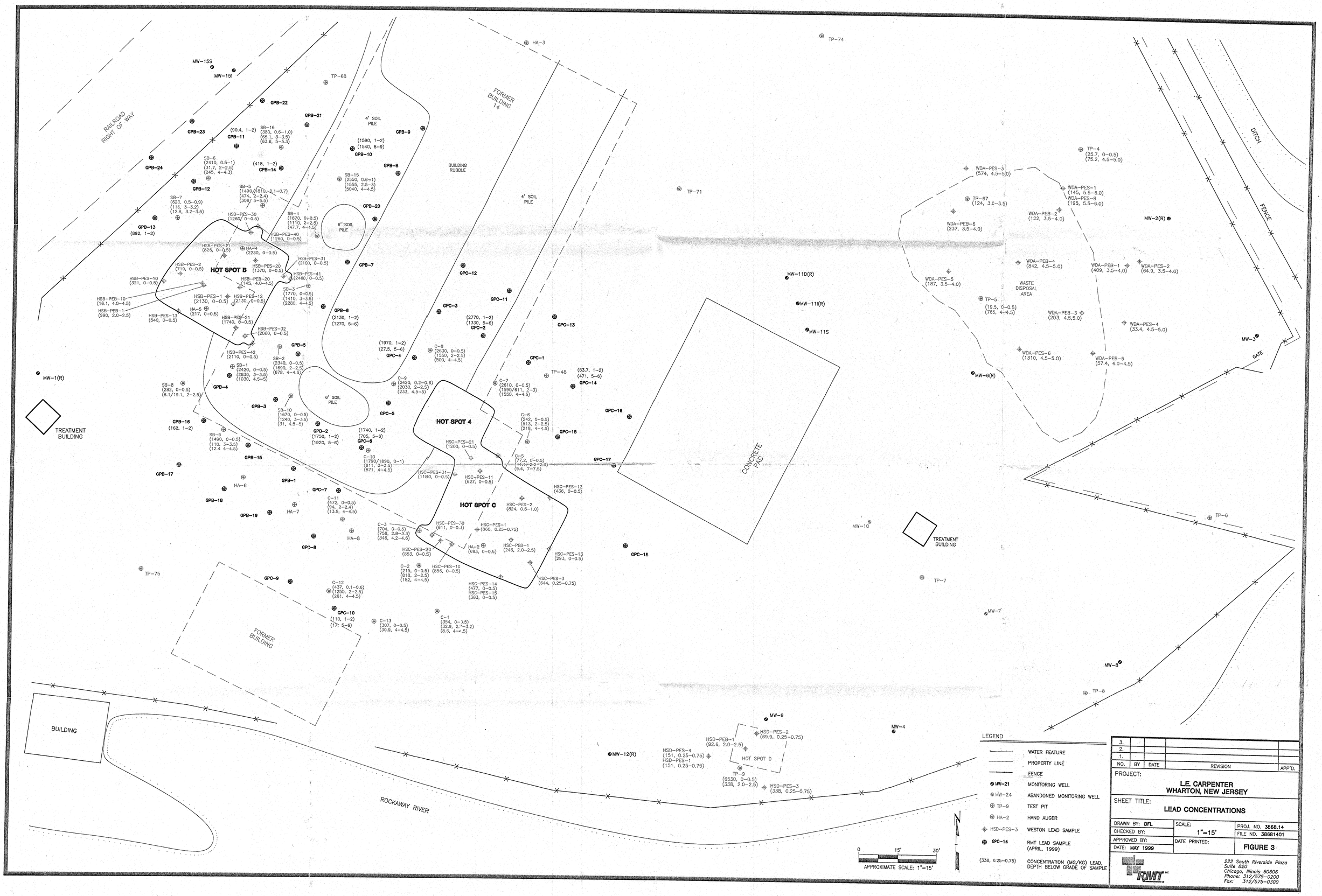
DEEP SOIL QUALITY CONCENTRATION MAP – AREA I&II

PLATE	DATE	REVISION
2	11/7/90	1

From Original by GEOENGINEERING

FILE: SUPSAMP2

PLOTTED 11/7/90



LEGEND

	WATER FEATURE
	PROPERTY LINE
	FENCE
MW-21	MONITORING WELL
MW-24	ABANDONED MONITORING WELL
TP-9	TEST PIT
HA-2	HAND AUGER
HSD-PES-3	WESTON LEAD SAMPLE
GPC-14	RMT LEAD SAMPLE (APRIL, 1999)
(338, 0.25-0.75)	CONCENTRATION (MG/KG) LEAD, DEPTH BELOW GRADE OF SAMPLE

NO.	BY	DATE	REVISION	APP'D.
3.				
2.				
1.				

PROJECT:

L.E. CARPENTER
WHARTON, NEW JERSEY

SHEET TITLE:

LEAD CONCENTRATIONS

DRAWN BY: DFL	SCALE: 1"=15'	PROJ. NO. 3868.14
CHECKED BY:		FILE NO. 38681401
APPROVED BY:	DATE PRINTED:	**FIGURE 3**
DATE: MAY 1999		

RMT INC.
222 South Riverside Plaza
Suite 820
Chicago, Illinois 60606
Phone: 312/575-0200
Fax: 312/575-0300

Appendix B
Weston Lead Soils Compilation Report

Roy F. Weston, Inc.
Raritan Plaza I
Raritan Center, 4th Floor
Edison, New Jersey 08837-3616
908-417-5800 • Fax 908-417-5801

21 December 1995

Ms. Gwen Barunas, Case Manager
New Jersey Department of Environmental Protection
Bureau of Federal Case Management
Division of Responsible Party Site Remediation
CN 028
Trenton, New Jersey 08625-0028

Work Order No.: 06720-020-002-0009

RE: LEAD IN SOILS DATA COMPILATION
L.E. CARPENTER & COMPANY
WHARTON, NEW JERSEY

Dear Ms. Barunas:

Roy F. Weston, Inc. (WESTON®), on behalf of L.E. Carpenter and Company (L.E. Carpenter), would like to respond to the New Jersey Department of Environmental Protection's (NJDEP's) request for additional information and clarification of our previous requests regarding the widespread presence and random distribution of lead in soil at the L.E. Carpenter site in Wharton, New Jersey. This letter will present a review of relevant historical site information as well as summarize the lead data collected during the Remedial Investigation (RI), supplemental RI, and remedial action field efforts. Your November 21, 1995 letter appears to be based upon information presented in the April 1995 quarterly report only and did not consider historical sampling results. Again, WESTON requests that the NJDEP consider an alternate cleanup standard for lead given the facts presented herein. In order to comply with your request for a delineation plan for Hot Spots "B" and "C", WESTON has included a proposed plan as Attachment #1 to this correspondence.

Historical Site Use

The Dover Magnetite District in one of the oldest mining districts in the country and has been intermittently active since the early part of the 18th century. Most of this activity took place prior to 1940. The Mount Hope Mine, which was the last operating mine in the district, ceased operations in the mid 1980's. Ores found in the vicinity of Wharton, New Jersey make up what is known as the Wharton ore belt. The Washington Forge Mine was located directly on what is now the L.E. Carpenter property. The West Mount Pleasant Mine was also located on what is also part of the L.E. Carpenter property, approximately 170 feet northeast of the Washington Forge Mine.

The Mount Pleasant iron ore deposit consists predominantly of the metallic mineral magnetite, which is a magnetic iron oxide (FeO). Sulfide minerals, such as pyrite, chalcopyrite and pyrrhotite, are also reported ores from the Wharton ore belt. These minerals are important sources of arsenic, copper, lead and zinc. Although abundant chemical analyses of the ore exist in the literature, all of the analyses of ores in the vicinity of L.E. Carpenter property were made prior to 1908. Due to deficiencies in the analytical technology of the time, these analyses do not include constituents of the ore, such as lead, chromium, nickel, zinc and arsenic.

All of the ore that was shipped from the district prior to 1893 was hand cobbed or hand picked, and that shipped between 1893 and 1916 was in part hand cobbed and in part concentrated on dry magnetic separators. In 1903, a magnetic concentrator was installed at the Orchard Mine, directly across the Rockaway River from the Washington Forge and West Mount Pleasant Mines (and the present location of the L.E. Carpenter property). Since this was a magnetic separation process, non-magnetic minerals, (pyrite, chalcopyrite and pyrrhotite) containing lead, chromium, nickel, zinc, and arsenic would have been enriched in the tailings.

Summary of Existing Data

Figures 1 through 5, present a summary of all the samples collected during the RI and remedial action (post excavation) phase of the project. Figure 1 shows the distribution of lead data (sample location, depth and concentration) at the site. More recently, 46 post-excavation soil samples were collected for lead analysis from hot spots B, C, D and the waste disposal area following excavation of what had been thought to be isolated elevated concentrations of lead in soils.

A total of 99 samples were collected during the RI and post excavation sampling activities and analyzed for lead. A review of the data which are summarized in Table 1 indicate that lead concentrations ranged from 2.6 mg/kg to 6,530 mg/kg, with a mean concentration of 500 mg/kg, and a standard deviation of 848 mg/kg. The data distribution indicate that these "isolated" elevated concentrations were more extensive than anticipated, suggesting that lead is not associated with the historical operational issues, but rather may be associated with the naturally occurring lead concentrations found in the fill deposited over the eastern portion of the site.

In general, areas in which lead concentrations are elevated are limited to the eastern portion of the site. A review of the 18 samples collected west of the railroad right-of-way indicate that the lead concentrations range from 2.6 mg/kg to 258 mg/kg, with a mean concentration of only 62.6 mg/kg. This fact is supportive of the hypothesis that lead found in elevated concentrations on-site is associated with the historical deposition of mine spoils which were used as fill in the

WESTON

TABLE 1

LEAD DATA SUMMARY
L.E. CARPENTER AND COMPANY

Sample Number	Lead Concentration (mg/kg)	Feet Below Grade
Test Pit Data - Remedial Investigation		
TP-1A	6.0	0.0 - 0.5
TP-1B	43.0	4.0 - 4.5
TP-2A	63.4	0.0 - 0.5
TP-2B	79.6	1.7
TP-3A	31.2	0.0 - 0.5
TP-3B	12.1	4.5 - 5.0
TP-4A	25.7	0.0 - 0.5
TP-4B	75.2	4.5 - 5.0
TP-5A	19.5	0.0 - 0.5
TP-5B	765	4.0 - 4.5
TP-6A	14.7	0.0 - 0.5
TP-6B	21.7	3.5 - 4.0
TP-7A	12.7	0.0 - 0.5
TP-7B	30.3	4.5 - 5.0
TP-8A	31.5	0.0 - 0.5
TP-8B	166	2.5 - 3.0
TP-9A	6530	0.0 - 0.5
TP-9B	338	2.0 - 2.5
TP-48	36.4	5.5 - 6.0
TP-50A	166	0.0 - 0.5
TP-50B	124	3.0 - 3.5
TP-51A	85.0	0.0 - 0.5
TP-51B	77.8	3.5 - 4.0
TP-52A	17.5	4.0 - 4.5
TP-53	39.9	2.5 - 3.0

WESTON

TABLE 1 (CONTINUED)

LEAD DATA SUMMARY
L.E. CARPENTER AND COMPANY

Sample Number	Lead Concentration (mg/kg)	Feet Below Grade
TP-54	146	2.0 - 2.5
TP-63	21.6	7.5 - 8.0
TP-64	8.7	8.5 - 9.0
TP-65	8.6	8.5 - 9.0
TP-66	2.6	7.5 - 8.0
TP-67	124	3.0 - 3.5
TP-68	36.8	7.5 - 8.0
TP-69	204	5.5 - 6.0
TP-70	97.2	7.5 - 8.0
TP-71	229	5.0 - 5.5
TP-72	203	6.0 - 6.5
TP-73	9.5	7.5 - 8.0
TP-74	154	6.5 - 7.0
TP-75	7.2	7.5 - 8.0
Hand Auger Data - Remedial Investigation		
HA-2	693	0.0 - 0.5
HA-3	215	0.0 - 0.5
HA-4	2230	0.0 - 0.5
HA-5	217	0.0 - 0.5
HA-6	276	0.0 - 0.5
HA-7	108	0.0 - 0.5
HA-8	85.5	0.0 - 0.5
HA-16	3.9	0.0 - 0.5
HA-17	10.0	0.0 - 0.5
HA-18	4.1	0.0 - 0.5
HA-19	14.4	0.0 - 0.5

WESTON

TABLE 1 (CONTINUED)

LEAD DATA SUMMARY
L.E. CARPENTER AND COMPANY

Sample Number	Lead Concentration (mg/kg)	Feet Below Grade
HA-26	94.8	0.0 - 0.5
HA-27	44.7	0.0 - 0.5
HA-28	258	0.0 - 0.5
Post-Excavation Data - Remedial Action		
HSB-PES-1	1230	0.0 - 0.5
HSB-PES-2	719	0.0 - 0.5
HSB-PEB-1	990	2.0 - 2.5
HSB-PES-10	321	0.0 - 0.5
HSB-PES-11	826	0.0 - 0.5
HSB-PES-12	2130	0.0 - 0.5
HSB-PES-13	540	0.0 - 0.5
HSB-PEB-10	16.1	4.0 - 4.5
HSB-PEB-20	145	4.0 - 4.5
HSB-PES-20	1370	0.0 - 0.5
HSB-PES-21	1740	0.0 - 0.5
HSB-PES-30	1260	0.0 - 0.5
HSB-PES-31	2100	0.0 - 0.5
HSB-PES-32	2060	0.0 - 0.5
HSB-PES-40	1260	0.0 - 0.5
HSB-PES-41	2460	0.0 - 0.5
HSB-PES-42	2110	0.0 - 0.5
HSC-PES-1	860	0.0 - 0.5
HSC-PES-2	824	0.0 - 0.5
HSC-PES-3	644	0.0 - 0.5
HSC-PEB-1	246	2.0 - 2.5
HSC-PES-10	856	0.0 - 0.5

WESTON

TABLE 1 (CONTINUED)

LEAD DATA SUMMARY
L.E. CARPENTER AND COMPANY

Sample Number	Lead Concentration (mg/kg)	Feet Below Grade
HSC-PES-11	627	0.0 - 0.5
HSC-PES-12	436	0.0 - 0.5
HSC-PES-13	293	0.0 - 0.5
HSC-PES-14, HSC-PES-15	477, 363	0.0 - 0.5
HSC-PES-20	853	0.0 - 0.5
HSC-PES-21	1200	0.0 - 0.5
HSC-PES-30	611	0.0 - 0.5
HSC-PES-31	1180	0.0 - 0.5
HSD-PES-1, HSD-PES-4	151, 151	0.25 - 0.75
HSD-PES-2	69.9	0.25 - 0.75
HSD-PES-3	338	0.25 - 0.75
HSD-PEB-1	92.6	2.0 - 2.5
WDA-PEB-1	409	3.5 - 4.0
WDA-PEB-2	122	3.5 - 4.0
WDA-PES-1, WDA-PES-8	145, 195	5.5 - 6.0
WDA-PES-2	64.9	3.5 - 4.0
WDA-PEB-3	203	4.5 - 5.0
WDA-PEB-4	842	4.5 - 5.0
WDA-PES-3	574	4.5 - 5.0
WDA-PES-4	33.4	4.5 - 5.0
WDA-PEB-5	57.4	4.0 - 4.5
WDA-PEB-6	237	3.5 - 4.0
WDA-PES-5	187	3.5 - 4.0
WDA-PES-6	1310	3.5 - 4.0

eastern portion of the site. Soil boring, test pit, and hot spot excavation soil profiles presented in previous reports provided to the NJDEP clearly indicate that fill is prevalent to the east of the railroad right-of-way.

Further, after reviewing all of the data and calculating the average and standard deviation of the surface versus deep (>2 ft.) samples (refer to Table 2), WESTON would like to note the following:

TABLE 2

SUMMARY OF LEAD DATA

Sampling Interval	# of Samples	Mean Lead Concentration (mg/kg)	Standard Deviation
Surface (0-2 ft.)	55	749	1055
Deep (>2.0 ft.)	44	198	282

Table 2 indicates the mean lead concentration in the surface interval (0-2 ft.) is 749 mg/kg, while the mean concentration in the deep soils (>2 ft.) is 198 mg/kg. The standard deviation for both of these data sets indicates considerable variability in lead concentrations throughout the site, which would be expected with fill material.

In consideration of the future use restrictions being placed on the property, and the fact that the source of the elevated lead concentration detected on-site was the mine tailings placed as historic

fill, WESTON still requests that NJDEP consider an Explanation of Significant Difference (ESD) for site-wide lead concentrations. To that end and consistent with your request for further delineation of Hot Spots "B" and "C", WESTON has included a proposed delineation plan as Attachment #1 to this correspondence.

Should you have questions regarding this letter or the delineation plan, please call me at (908) 417-5830 at your earliest convenience.

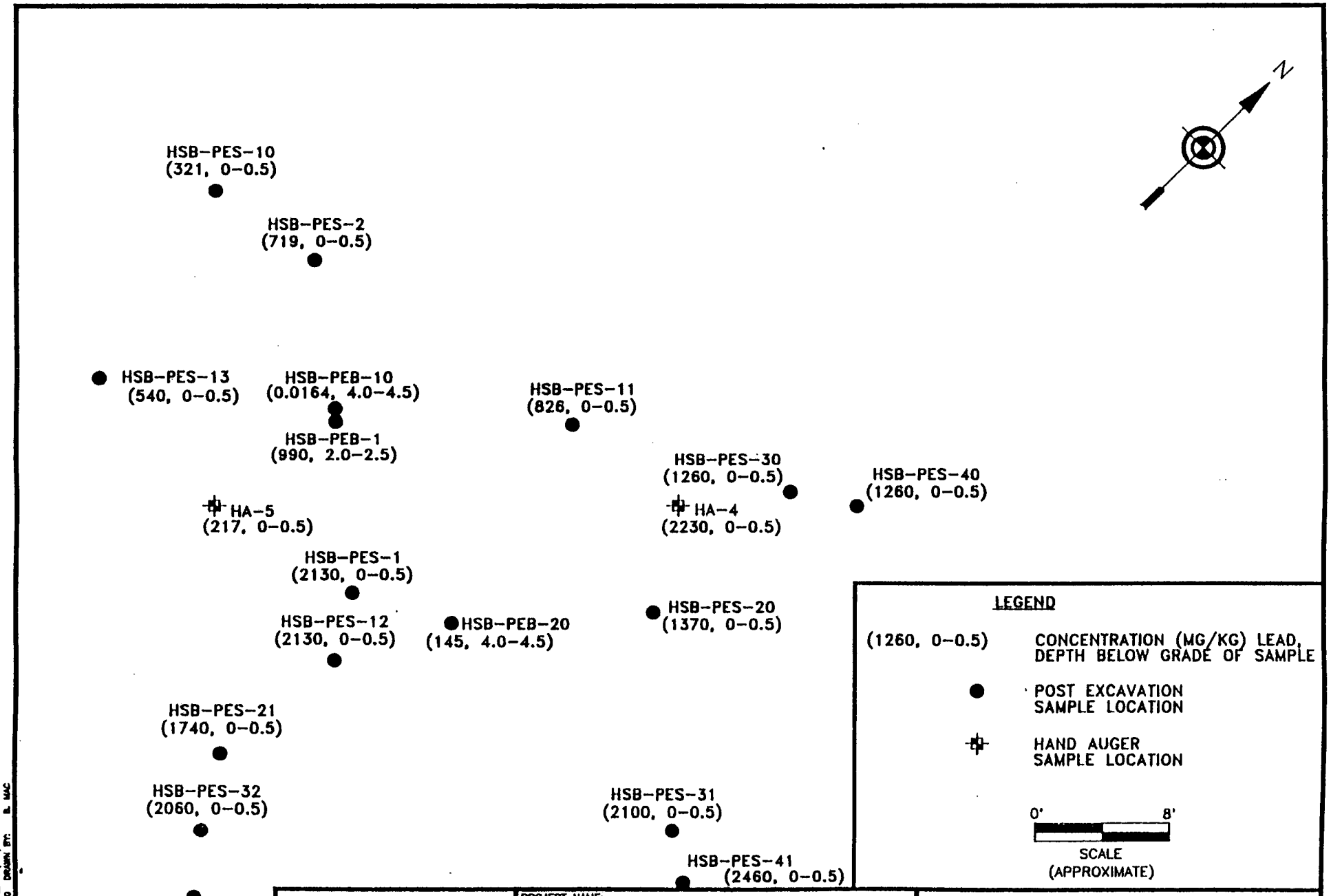
Very Truly Yours

ROY F. WESTON, INC.

Martin J. O'Neill, CIH, CHMM
Project Director

cc: C. Anderson, L.E. Carpenter
J. Predergast, NJDEP
D. Van Voorhis, WESTON
L. Amend-Babcock, WESTON

nk(lf)\Oneill\Bar-1221.Ltr



WESTON
MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME: LEAD IN SOIL DATA COMPILATION

WHARTON, NEW JERSEY

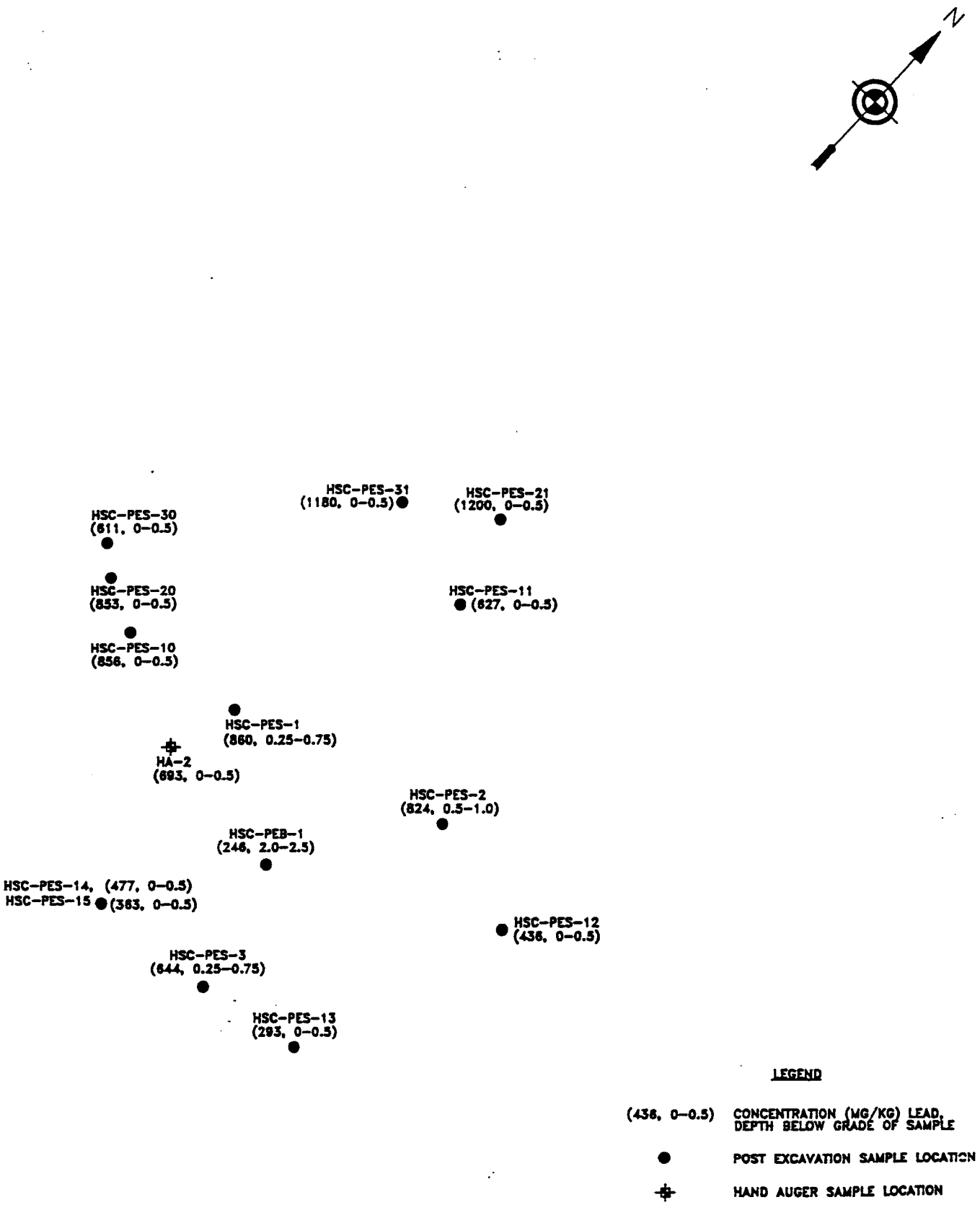
CLIENT NAME: L.E. CARPENTER AND COMPANY

LEAD CONCENTRATIONS IN SOIL SAMPLES

DATE: NOVEMBER 1995

FIGURE #: 2

REVISION #: 1 DATE: 11/14/95
FILE NAME: HOT-PTS.DWG DRAWN BY: B. MAC



WESTON
MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME: LEAD IN SOIL DATA COMPILATION

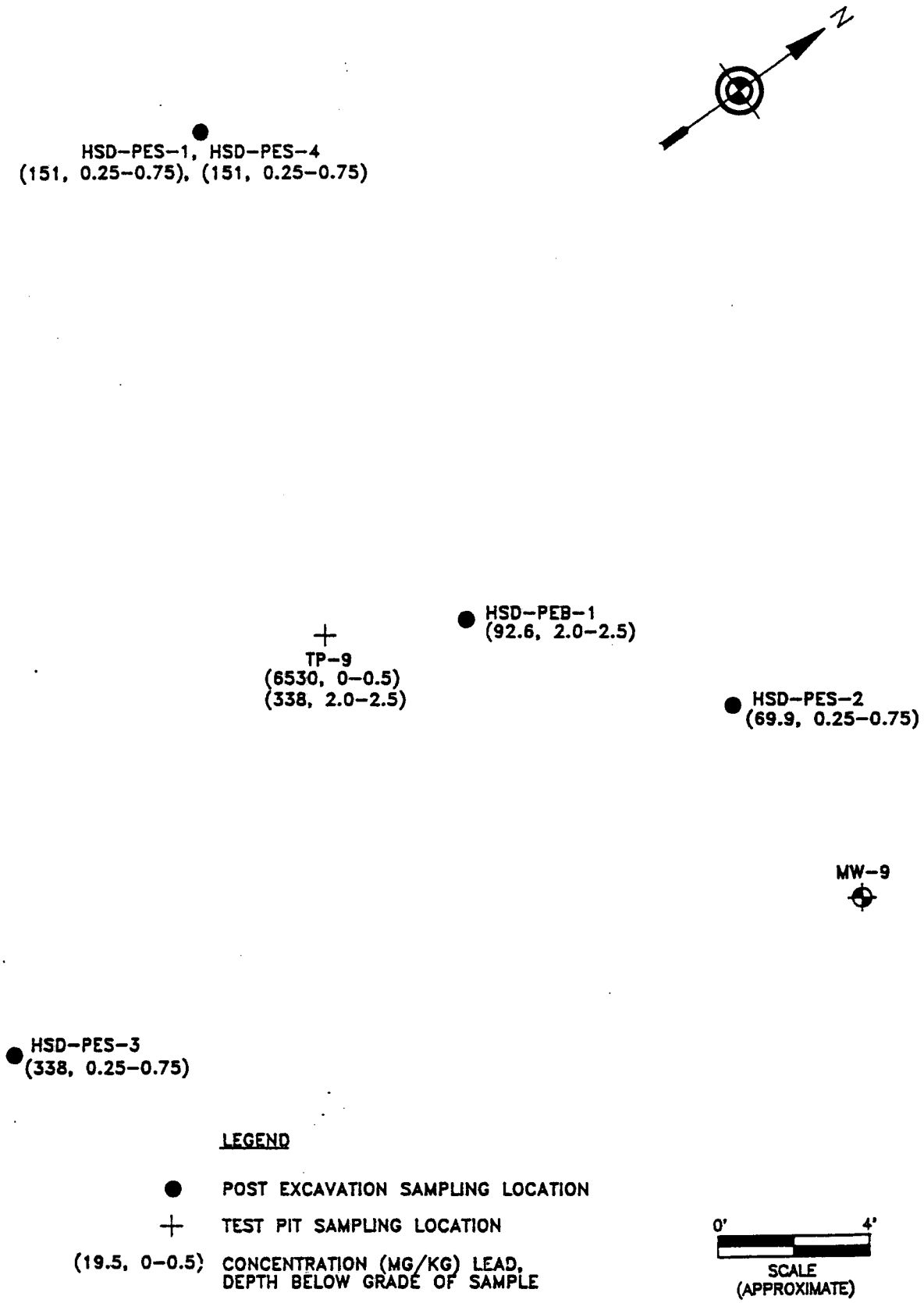
WHARTON, NEW JERSEY

CLIENT NAME: L.E. CARPENTER AND COMPANY

LEAD CONCENTRATIONS IN SOIL SAMPLES

DATE: NOVEMBER 1995

FIGURE #: 3



WESTON
MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME: LEAD IN SOIL DATA COMPILATION

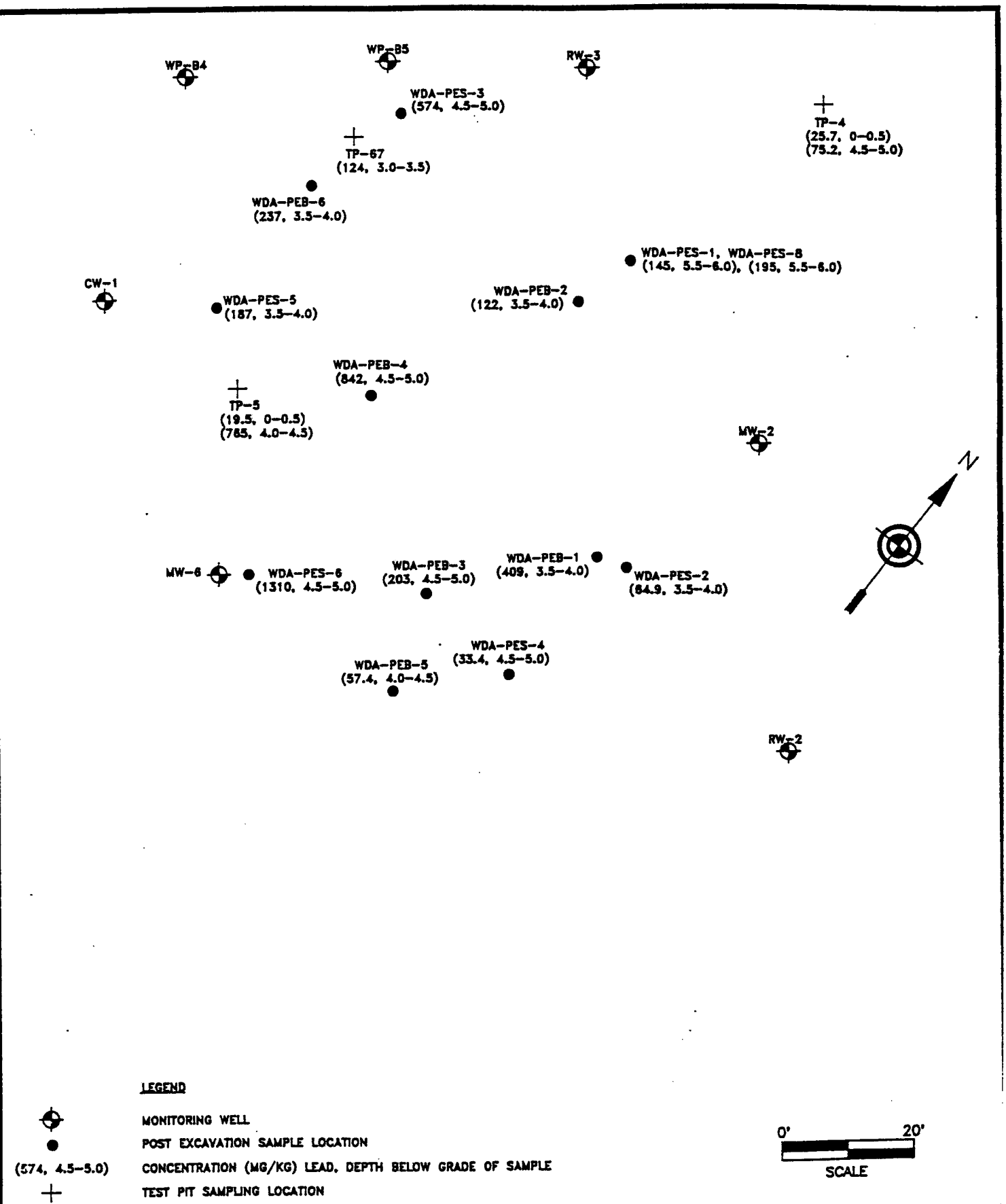
WHARTON, NEW JERSEY

CLIENT NAME: L.E. CARPENTER AND COMPANY

LEAD CONCENTRATIONS IN SOIL SAMPLES

DATE: NOVEMBER 1995

FIGURE #: 4



WESTON
MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME: LEAD IN SOIL DATA COMPILATION

WHARTON, NEW JERSEY

CLIENT NAME: L.E. CARPENTER AND COMPANY

LEAD CONCENTRATIONS IN SOIL SAMPLES

DATE: NOVEMBER 1995

FIGURE #: 5

WESTON

ATTACHMENT #1

CONTAMINANT DELINEATION PLAN - HOT SPOTS B AND C
L.E. CARPENTER & COMPANY, WHARTON, NEW JERSEY

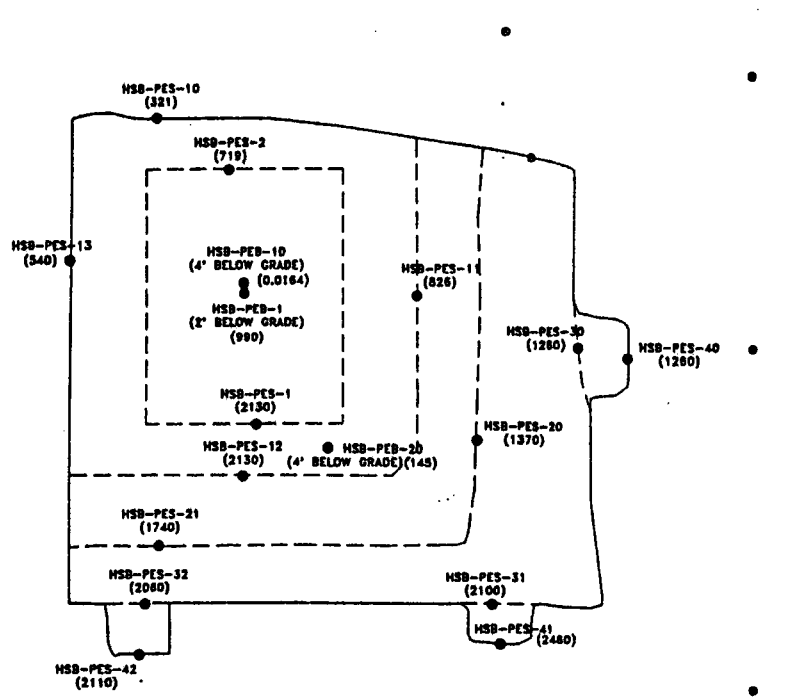
On behalf of L.E. Carpenter and Company, Roy F. Weston, Inc .(WESTON®) proposes to perform 17 soil boring in association with Hot Spot B. The locations of the proposed samples are presented in Figure 1. WESTON also proposed to perform 14 soil borings in association with Hot Spot C at the locations depicted on Figure 2. The method(s) used to perform the soil borings will be appropriate for the subsurface conditions encountered.

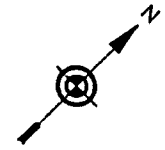
Each soil boring will be sampled at three distinct depths: 0.0 to 0.5 feet below grade, 2.0 to 2.5 feet below grade, and 4.0 to 4.5 feet below grade. All soil samples will be submitted to an NJDEP-Certified laboratory. Analysis for the soil samples will be limited to lead.

Analysis of the samples sent to the laboratory will be phased; initial analysis will be performed on the delineation samples located closest to post-excavation samples that did not comply with the cleanup criterion. If necessary, additional samples will be analyzed to determine the lateral and horizontal extent of lead in excess of 600 mg/kg.

Field procedures will be consistent with the *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the *field Sampling Procedures Manual* (NJDEP, May 1992). Blind field duplicates will be collected at a frequency of one duplicate for every 20 samples. Consistent with the requirements of the *Field Sampling Procedures Manual*, rinsate blanks will not be collected, since the soil samples will not be analyzed for volatile organic compounds. Matrix spike/matrix spike duplicate samples will be performed at the frequency required by the analytical method used.

The sampling frequencies presented in Figures 1 and 2 are consistent with the frequencies required for post-excavation sample collection specified in the *Technical Requirements for Site Remediation*. Therefore, WESTON proposes using the delineation samples to meet the requirements of post-excavation samples, if additional excavation is required.



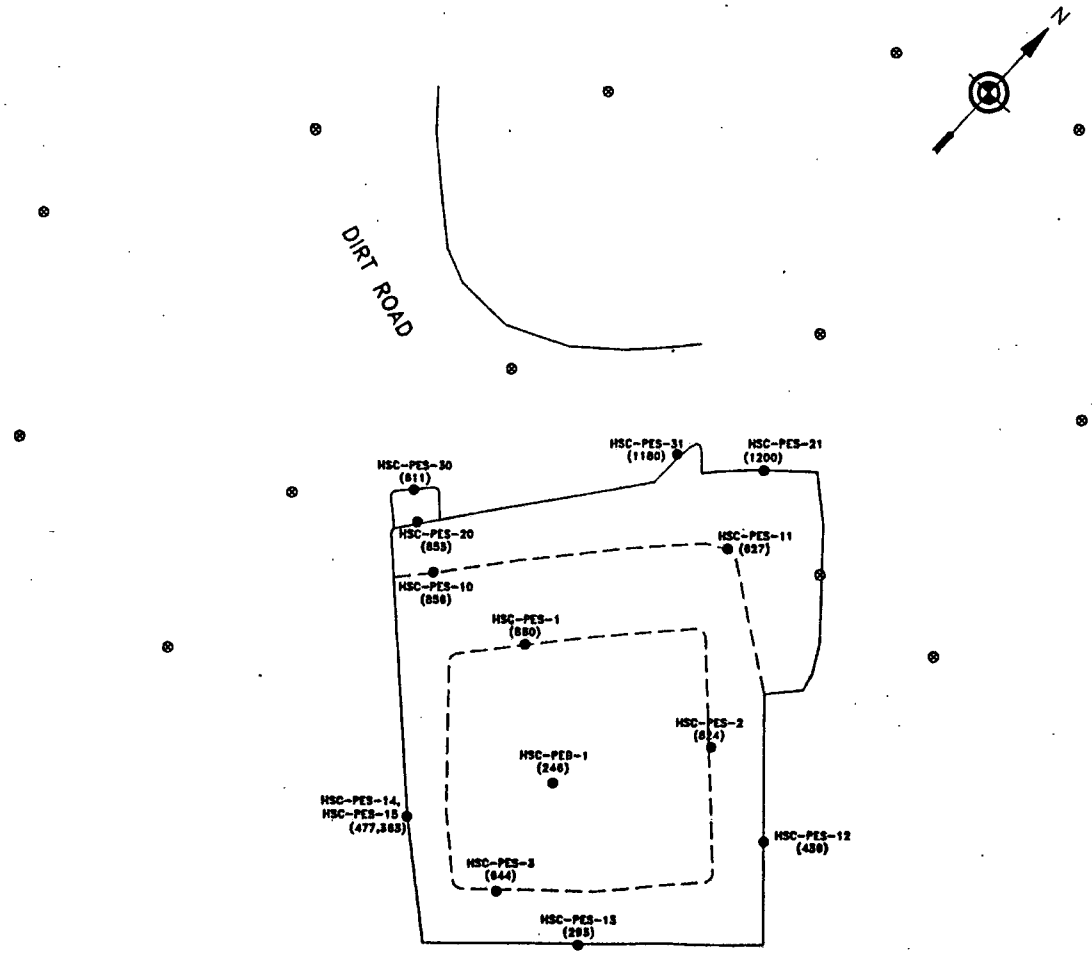


LEGEND

- ● DELINEATION SAMPLE LOCATION
- (1280) CONCENTRATION (MG/KG) LEAD
- ● POST EXCAVATION SAMPLE LOCATION
- LIMIT OF REMEDIAL EXCAVATION

0' 10'
SCALE
(APPROXIMATE)

WESTON	PROJECT NAME: PHASE I REMEDIAL ACTION WHARTON, NEW JERSEY CLIENT NAME: L.E. CARPENTER AND COMPANY	LIMIT OF EXCAVATION HOT SPOT B DATE: 12/15/95 FIGURE #: 1



LEGEND

- LIMIT OF REMEDIAL ACTION EXCAVATION
- DELINEATION SAMPLE LOCATION
- POST EXCAVATION SAMPLE LOCATION
- (1180) CONCENTRATION (MG/KG) LEAD

0' 12'
SCALE
(APPROXIMATE)

WESTON
MANAGERS ENGINEERS/CONSULTANTS

PROJECT NAME: PHASE I REMEDIAL ACTION
WHARTON, NEW JERSEY
CLIENT NAME: L.E. CARPENTER AND COMPANY

PROPOSED DELINEATION SAMPLE LOCATIONS HOT SPOT C

DATE: 12/15/95
FIGURE #: 2

Appendix C
Laboratory Analytical Results

STL Envirotech
a division of Severn Trent Laboratories, Inc.

STL Envirotech
777 New Durham Road
Edison, NJ 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.stl-inc.com

May 14, 1999

Residuals Management Technologies, Inc.
222 South Riverside Plaza
Suite 280
Chicago, IL 60606

RECEIVED
MAY 21 1999
N.C. Mail

Attention: Mr. Nick Clevett

Re: Job No. N804 - L.E. Carpenter

Dear Mr. Clevett:

Enclosed are the results you requested for the following sample(s) received at our laboratory on April 23, 1999:

Lab No.	Client ID	Analysis Required
127009	GPB-2A	Pb
127010	GPB-2B	Pb
127017	GPB-6A	Pb
127018	GPB-6B	Pb
127026	GPB-10A	Pb
127028	GPB-10C	Pb
127029	GPB-11A	Pb
127031	GPB-13A	Pb
127032	GPB-14A	Pb
127035	GPB-16A	Pb
127044	GPC-2A	Pb
127045	GPC-2B	Pb
127048	GPC-4A	Pb
127049	GPC-4B	Pb
127052	GPC-6A	Pb
127053	GPC-6B	Pb
127060	GPC-10A	Pb

STL Envirotech
a division of Severn Trent Laboratories, Inc.

Lab No.	Client ID	Analysis Required
127061	GPC-10B	Pb
127074	GPC-14A	Pb
127075	GPC-14B	Pb

If you have any questions please contact your Project Manager, Paul Simms, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

Envirotech
a division of Severn Trent Laboratories, Inc.

TABLE OF CONTENTS

	Section	Page
Analytical Results Summary	1	1
General Information	2	
Chain of Custody		21
Laboratory Chronicles		29
Methodology Review		49
Data Reporting Qualifiers		52
Non-Conformance Summary		53
Metals Forms and Data	3	
Analytical Results Summary		55
Blank Results Summary		75
Calibration Summary		77
ICP Interference Check Results Summary		79
Spike Sample Recovery Summary		80
Sample and MS Duplicate Results Summary		83
Laboratory Control Sample Results Summary		86
Serial Dilution Summary		87
Analysis Run Log		88

Client ID: **GPB-2A**
Site: **L.E. Carpenter**

Lab Sample No: 127009
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 14.4

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1750	11.9		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPB-2B**
Site: **L.E. Carpenter**

Lab Sample No: 127010
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 14.0

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1920	11.9		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPB-6A**
Site: **L.E. Carpenter**

Lab Sample No: 127017
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.4

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	2130	11.6		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPB-6B**
Site: **L.E. Carpenter**

Lab Sample No: 127018
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 13.6

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1270	11.8		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPB-10A**
Site: **L.E. Carpenter**

Lab Sample No: 127026
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.0

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1590	11.6		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPB-10C**
Site: **L.E. Carpenter**

Lab Sample No: 127028
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.4

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1540	10.6		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPB-11A**
Site: **L.E. Carpenter**

Lab Sample No: 127029
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 21.8

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	90.4	5.2		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPB-13A**
Site: **L.E. Carpenter**

Lab Sample No: 127031
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 8.9

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	892	11.2		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPB-14A**
Site: **L.E. Carpenter**

Lab Sample No: 127032
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 10.3

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	418	11.4		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPB-16A**
Site: **L.E. Carpenter**

Lab Sample No: 127035
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 17.3

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	162	4.9		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-2A**
Site: **L.E. Carpenter**

Lab Sample No: 127044
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 13.1

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	2770	11.7		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-2B**
Site: **L.E. Carpenter**

Lab Sample No: 127045
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 10.0

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1330	11.3		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-4A**
Site: **L.E. Carpenter**

Lab Sample No: 127048
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.8

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1970	11.7		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-4B**
Site: **L.E. Carpenter**

Lab Sample No: 127049
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 22.1

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	27.5	13.1	B	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-6A**
Site: **L.E. Carpenter**

Lab Sample No: 127052
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.7

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1740	11.7		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-6B**
Site: **L.E. Carpenter**

Lab Sample No: 127053
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.2

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	705	11.6		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-10A**
Site: **L.E. Carpenter**

Lab Sample No: 127060
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.0

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	110	4.6		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-10B**
Site: **L.E. Carpenter**

Lab Sample No: 127061
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 15.2

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	17.0	12.0	B	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-14A**
Site: **L.E. Carpenter**

Lab Sample No: 127074
Lab Job No: N804

Date Sampled: 04/23/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 10.5

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	53.7	4.6		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPC-14B**
Site: **L.E. Carpenter**

Lab Sample No: 127075
Lab Job No: N804

Date Sampled: 04/23/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 28.6

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	471	14.3		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

STL - Envirotech
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice) Rae Mindock / RMT Inc.	Samplers Name (Printed) D. Leslie	Site/Project Identification 3868. / L.E. Carpenter
Company 222 S. Riverside Plaza Ste 820	P.O. #	State (Location of site): NJ: ☒ NY: ☐ / Other:
		Regulatory Program:
Address	Analysis Turnaround Time: Standard ☐	ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)
City Chicago State IL	Rush Charges Authorized For: 2 Week ☐	
Phone 312.575.0200 Fax 312.575.0300	1 Week ☐ Other ☐	

LAB USE ONLY
Project No:
Job No: N 804

Sample Identification	Date	Time	Matrix	No. of. Cont.	HOLD	Lead										Sample Numbers
GPB-1A	4.22.99	8:00	Soil	1	X											127008
GPB-2A		8:10				*										127009
GPB-2B		8:15				*										127010
GPB-3A		8:20														127011
GPB-3B		8:30														127012
GPB-4A		8:35														127013
GPB-4B		8:40														127014
GPB-5A		8:50														127015
GPB-5B		8:55														127016
GPB-6A		9:00				*										127017

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions

Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	RMT	4.23.99 12:40	1) [signature]	STL-ENVIROTECH WAYNE CLARK
2) [signature]	STL-ENVIROTECH WAYNE CLARK	4/23/99 16:10	2) [signature]	STL-ENVIROTECH HOWARD SCHULZE
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).
Massachusetts (M-NJ312), North Carolina (No. 578)

* Lead activated as per Rae Mindock 5/5

21

STL - Envirotech
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): Rae Mindock	Samplers Name (Printed): D. Leshure	Site/Project Identification: L.E. Carpenter
Company: RMT Inc	P.O. # 38168	State (Location of site): NJ: ☒ NY: ☐ Other:
		Regulatory Program:
Address: 222 S. Riverside Plaza Ste 820	Analysis Turnaround Time: Standard ☐	LAB USE ONLY Project No:
City: Chicago State: IL 60606	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	Job No: N804
Phone: 312.575.0200 Fax: 312.575-0340		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	Hold	Lead										Sample Numbers
GPB-6B	4.22.99	9:05	Soil	1	X	*										127018
GPB-7A	↓	9:10	↓	↓	↓											127019
GPB-7B		9:15														127020
GPB-8A		9:20														127021
GPB-8B		9:30														127022
GPB-8C		9:35														127023
GPB-9A		9:45														127024
GPB-9B		9:55														127025
GPB-10A		10:00				*										127026
GPB-10B	↓	10:10	↓	↓	↓											127027

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions _____ Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	RMT	4.23.99 12:00	1) [signature]	STL-ENVIRO WAYNE CLARK
2) [signature]	STL-ENVIROTECH WAYNE CLARK	4/23/99 16:10	2) [signature]	STL-ENVIROTECH HOWARD SCHULZE
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

Massachusetts NJ31 North Carolina 578

22

STL - Envirotech
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): Rae Mindock
Company: RMT Inc.
Address: 222 S. Riverside Plaza Suite 820
City: Chicago IL State: 60606
Phone: 312.575.0200 Fax: 312.575.0340

Samplers Name (Printed): D. Laskowe
P.O. #:

Site/Project Identification: L.E. Carpenter
State (Location of site): NJ: [X] NY: [ ] Other:
Regulatory Program:

Analysis Turnaround Time
Standard [ ]
Rush Charges Authorized For:
2 Week [ ]
1 Week [ ]
Other [ ] _____

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

LAB USE ONLY
Project No:
Job No: N 804

Sample Identification	Date	Time	Matrix	No. of. Cont.	40 LD	Lead	Sample Numbers
GPB-10C	4.22.99	10:15	Soil	1	x	*	127028
GPB-11A	↓	10:25	↓	↓	↓	*	127029
GPB-12A		10:30					127030
GPB-13A		10:40				*	127031
GPB-14A		10:45				*	127032
GPB-15A		10:50					127033
GPB-15B		14:00					127034
GPB-16A		14:15				*	127035
GPB-16B		14:30					127036
GPB-17A	↓	14:45	↓	↓	↓		127037

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions

Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	RMT	4.23.99 12:40	1) [signature]	STL-ENVIROTECH WAYNE CLARK
2) [signature]	STL-ENVIROTECH WAYNE CLARK	4/23/99 1610	2) [signature]	STL-ENVIROTECH HOWARD SCHULZE
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132), Massachusetts (M-NJ312), North Carolina (No. 578)

STL - Envirotech
777 New Durham Road
Edison, New Jersey 08817
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CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): Rae Minlook	Samplers Name (Printed): D. Laskowe	Site/Project Identification: L.C. Carpenter
Company: RMT Inc.	P.O. #:	State (Location of site): NJ: [X] NY: [ ] Other:
		Regulatory Program:
Address: 222 S. Riverside Plaza Ste 870	Analysis Turnaround Time: Standard [ ]	ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)
City: Chicago State: IL 60606	Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]	LAB USE ONLY Project No:
Phone: 312.575.0200 Fax: 312.575.0400		Job No: N804

Sample Identification	Date	Time	Matrix	No. of. Cont.	HOLD	Lead										Sample Numbers
GPB-17B	4.22.99	15:00	Soil	1	x											127038
GPB-18A		15:20														127039
GPB-19A		15:40														127040
GPB-19B		16:00														127041
GPC-1A		11:00														127042
GPC-1B		11:10														127043
GPC-2A		11:20				*										127044
GPC-2B		11:25				*										127045
GPC-3A		11:30														127046
GPC-3B		11:40														127047

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions _____ Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	RMT	4 23 99 / 12:40	1) [signature]	STL-ENVIROTECH WAYNE CLARK
2) [signature]	STL-ENVIROTECH WAYNE CLARK	4/23/99 / 1610	2) [signature]	STL-ENVIROTECH HOWARD SCHULZE
3)		/	3)	
4)		/	4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

Massachusetts (M-NJ310), North Carolina (No. 578)

24

STL - Envirotech
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): Rae Minlock	Samplers Name (Printed): D. Leskovb	Site/Project Identification: L.E. Carpenter
Company: RMT Inc	P.O. #	State (Location of site): NJ: ☒ NY: ☐ Other:
		Regulatory Program:
Address: 222 S. Riverside Plaza Ste 820	Analysis Turnaround Time: Standard ☐	ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)
City: Chicago State: IL	Rush Charges Authorized For: 2 Week ☐	LAB USE ONLY Project No:
Phone: 312.575.0200 Fax: 312.575.0300	1 Week ☐ Other ☐	Job No: N804

Sample Identification	Date	Time	Matrix	No. of Cont.	Hold	Lead									Sample Numbers
GPC-4A	4.22.99	11:50	Soil	1	X	*									127048
GPC-4B		12:00				*									127049
GPC-5A		12:10													127050
GPC-5B		12:15													127051
GPC-6A		12:20				*									127052
GPC-6B		12:30				*									127053
GPC-7A		12:40													127054
GPC-7B		12:50													127055
GPC-8A		13:00													127056
GPC-8B		13:10													127057

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions _____ Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1)	RMT	4-23-99 12:00	1)	STL-ENVIRO WAYNE CLARK
2)	WAYNE CLARK	4/23/99 16:10	2)	STL-ENVIROTECH HOWARD SCHULZE
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

[redacted]

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Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice) Rae Mindrick	Samplers Name (Printed) D. Leskovec	Site/Project Identification L.E. Carpenter
Company RMT Inc.	P.O. #	State (Location of site): NJ: ☒ NY: ☐ Other:
		Regulatory Program:
Address 222 S. Riverside Plaza Ste 820	Analysis Turnaround Time: Standard ☐	LAB USE ONLY Project No:
City Chicago IL State 60606	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	Job No: N804
Phone 312.575.0200 Fax 312.575.0300		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of. Cont.	HOLD	Lead									Sample Numbers
GPC-9A	4.22.99	13:15	Soil	1	✓										127058
GPC-9B	↓	13:20	↓	↓	↓										127059
GPC-10A	↓	13:30	↓	↓	↓	*									127060
GPC-10B	↓	13:35	↓	↓	↓	*									127061
GPC-11A	↓	13:40	↓	↓	↓										127062
GPC-11B	↓	13:45	↓	↓	↓										127063
GPB-20A	4.23.99	8:00	↓	↓	↓										127064
GPB-20B	↓	8:10	↓	↓	↓										127065
GPB-21A	↓	8:20	↓	↓	↓										127066
GPB-22A	↓	8:30	↓	↓	↓										127067

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions _____ Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	RMT	4.23.99 12:10	1) [signature]	STL-ENVI... WAYNE CLARK
2) [signature]	DELENV... WAYNE CLARK	4/23/99 16:10	2) [signature]	STL-ENVIROTECH HOWARD SCHULZE
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

[redacted]sac[redacted]ts (M[redacted]12), [redacted]th C[redacted]a (N[redacted]8)

STL - Envirotech
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice) Rae Mindock	Samplers Name (Printed) D. Leclove	Site/Project Identification L.E. Carpenter
Company RMT Inc	P.O. #	State (Location of site): NJ: ☑ NY: ☐ Other:
		Regulatory Program:
Address 222 S. Riverside Plaza Ste 820	Analysis Turnaround Time: Standard ☐	LAB USE ONLY Project No:
City Chicago State IL 60606	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	Job No: N804
Phone 312-575-020 Fax 312-575-030		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of. Cont.	Hold	Lead										Sample Numbers
GPB-23A	4-23-99	8:40	Soil	1	✓											127068
GPB-24A	↓	8:50	↓	↓	↓											127069
GPC-12A		9:00														127070
GPC-12B		9:10														127071
GPC-13A		9:20														127072
GPC-13B		9:30														127073
GPC-14A		9:40				*										127074
GPC-14B		9:50				*										127075
GPC-15A		10:00		↓												127076
GPC-15B.	↓	10:10	↓	2	↓											127077

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions _____ Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	RMT	4-23-99 12:00	1) [signature]	STL-ENVIROTECH WAYNE CLARK
2) [signature]	STL-ENVIROTECH WAYNE CLARK	4/23/99 1 16 10	2) [signature]	STL-ENVIROTECH HOWARD SCHILLER
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).
Massachusetts (M-NJ312), North Carolina (No. 578)

N 804

QC Inc.
1205 Industrial Blvd.
Southampton, PA 18966-0514
Voice: (215) 355-3900
Fax: (215) 355-7231

CHAIN OF CUSTODY

Page 8 of 8

Lab LIMS No:

Client/Acct. No. RMT Inc.
Address 222 S. Riverside Plaza Suite 820
City/State/Zip Chicago IL 60606
Phone/Fax 312-575-0220
Client Contact Rae Mindak

Bill to/Report to: (if different)

Sampling Site Address: (if different) L.E. Carpenter

P.O. No.

QC Contact

LAB USE ONLY:

___ Ascorbic/HCl Vials # ___ HCl Vials
___ $Na_2S_2O_3$
___ Na OH/Zn acetate pH
___ HNO_3 pH
___ H_2SO_4 pH
___ NaOH pH
___ Unpreserved

MATRIX CODES

DW: DRINKING WATER
GW: GROUND WATER
WW: WASTEWATER
SO: SOIL
SL: SLUDGE
OIL: OIL
SOL: NON SOIL SOLID
MI: MISCELLANEOUS
X: OTHER

PROJECT

FIELD ID	Collection Date	Collection Military Time	GRAB	COMP	Matrix Code	Number of Containers Total	H_2SO_4	HCl	VOTS	HNO_3	NaOH	ZnAc	Unpres	Bact	ANALYSIS REQUESTED	Field pH, Temp (C or F), DO, Cl_2, S. Cond. etc.
GPC-16A	4-23-99	10:20			Soil	1									HOLD	127078
GPC-16B		10:30														127079
GPC-17A		10:40														127080
GPC-17B		10:50														127081
GPC-18A		11:00														127082
GPC-18B		11:20														127083

SAMPLED BY: (Name/Company) D. Lastovel/RMT

Verbal/fax data due: ___/___/___
Hardcopy due: ___/___/___

Report Format: ☐ Standard ☐ Forms ☐ Standard + QC ☐ NJ Reduced ☐ Disk

Please call for pricing and availability on rush (<14-21 day) turnaround and on all but standard format.

Field Parameters Analyzed By:
Sig:
Date/Time:

SAMPLE CUSTODY EXCHANGES MUST BE DOCUMENTED BELOW. USE FULL LEGAL SIGNATURE, DATE AND MILITARY TIME (24 HOUR CLOCK, I.E. 8AM IS 0800, 4 PM IS 1600)

RELINQUISHED BY SAMPLER	DATE	TIME	RECEIVED BY	DATE	TIME
1	4-23-99	12:00	1	4-23-99	1200
RELINQUISHED BY 2 WAYNE CLARK	4/23/99	1610	RECEIVED BY 2	4/23/99	1610
RELINQUISHED BY 3	DATE	TIME	RECEIVED BY 3	DATE	TIME
RELINQUISHED BY 4	DATE	TIME	RECEIVED BY 4	DATE	TIME
RELINQUISHED BY 5	DATE	TIME	RECEIVED BY 5	DATE	TIME

DELIVERY METHOD: ☐ QC COURIER ☐ CLIENT ☐ UPS ☐ FEDEX ☐ OTHER___

Custody Seal Number

COMMENTS: STL-ENVIROTECH HOWARD SCHULZE

FOR EXAMPLE TO AID COMPLETION, SEE REVERSE SIDE.

28

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127009	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BOR	5/11/99	KN	2457

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127010	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BJT	5/11/99	KW	7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127017	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BTC	6/21/99	HCW	7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127018	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BDK	5/11/99	KN	7454

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127026	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BOR	5/11/99	ICW	7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127028	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BDR			7959

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127029	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BOR	5/11/99	ICN	7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127031	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	[illegible]	5/11/99	ICN	7957

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	Site:	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	Date Sampled:	4/22/1999
Sample No.:	127032	Date Received:	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BDR	5/11/99	ICN	7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127035	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BOR	5/11/99	ICW	7959

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127044	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BGR	5/11/99	KN	7959

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127045	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BJR			7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127048	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BOR	5/11/99	KN	7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127049	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BTR	5/11/99	KW	7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127052	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BTR	6/11/99	KW	7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	Site:	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	Date Sampled:	4/22/1999
Sample No.:	127053	Date Received:	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BDR	5/11/99	KN	7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127060	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BOR	5/11/99	ICN	7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	N804	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/22/1999
Sample No.:	127061	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BSR	5/11/99	KW	7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No: N804

Client: Residuals Management Technologies, Inc.

Sample No.: 127074

Site: L.E. Carpenter

Date Sampled: 4/23/1999

Date Received: 4/23/1999

Matrix: SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BJR	5/11/99	KN	7954

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No: N804

Client: Residuals Management Technologies, Inc.

Sample No.: 127075

Site: L.E. Carpenter

Date Sampled: 4/23/1999

Date Received: 4/23/1999

Matrix: SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	5/11/99	BJR	5/11/99	KN	7954

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

	Water Test Method		Solid Test Method	
Element	Flame	Furnace	Flame	Furnace
Aluminum	202.1	202.2	7020	--
Antimony	204.1	204.2	7040	7041
Arsenic	--	206.2	--	7060
Barium	208.1	--	7080	--
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1	--	7140	--
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	7200	7201
Copper	220.1	220.2	7210	--
Iron	236.1	236.2	7380	--
Lead	239.1	239.2	7420	7421
Magnesium	242.1	--	7450	--
Manganese	243.1	243.2	7460	--
Nickel	249.1	249.2	7520	--
Potassium	258.1	--	7610	--
Selenium	--	270.2	--	7740
Silver	272.1	272.2	7760	--
Sodium	273.1	--	7770	--
Tin	283.1	283.2	7870	--
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	--

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

ORGANIC DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

INORGANIC DATA REPORTING QUALIFIERS (SW-846 METHODS ONLY)

ND - The compound was not detected at the indicated concentration.

B - Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.

E - The reported value is estimated because of the presence of interference. See explanatory note in the Nonconformance Summary if the problem applies to all of the samples or on the individual Inorganic Analysis Data Sheet if the problem is isolated.

M - Duplicate injection precision not met on the Furnace Atomic Absorption analysis.

N - The spiked sample recovery is not within control limits.

S - The reported value was determined by the Method of Standard Additions (MSA).

* - Duplicate Analysis is not within control limits.

W - Post digestion spike for Furnace Atomic Absorption analysis is out of control.

\+ - Correlation coefficient for MSA is less than 0.995.

M Column - Method Qualifiers

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).

A - Flame Atomic Absorption Spectroscopy (FAA).

F - Graphite Furnace Atomic Absorption Spectroscopy (GFAA).

CV - Cold Vapor Atomic Absorption Spectroscopy.

NON-CONFORMANCE SUMMARY

STL Envirotech Job Number: N804

Volatile Organics Analysis:

All data conforms with method requirements _____; or
Analysis was not requested ___✓___; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

_____

See continuation page if checked ( )

Base/Neutral and/or Acid Extractable Organics:

All data conforms with method requirements _____; or
Analysis was not requested ___✓___; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

_____

See continuation page if checked ( )

PCBs and/or Organochlorine Pesticides:

All data conforms with method requirements _____; or
Analysis was not requested ___✓___; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

_____

See continuation page if checked ( )

Non-conformance Summary, Page 2 of 2
STL Envirotech Job Number: N804

Metals Analysis:

All data conforms with method requirements ✓; or
Analysis was not requested _____; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Total Petroleum Hydrocarbons:

All data conforms with method requirements _____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

General Chemistry/Disposal Parameters:

All data conforms with method requirements _____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

See continuation page if checked ( )

Signature of
Laboratory Manager: [signature] Date: 5/18/99

Client ID: **GPB-2A**
Site: **L.E. Carpenter**

Lab Sample No: 127009
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 14.4

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1750	11.9		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPB-2B**
Site: **L.E. Carpenter**

Lab Sample No: 127010
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 14.0

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1920	11.9		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPB-6A**
Site: **L.E. Carpenter**

Lab Sample No: 127017
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.4

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	2130	11.6		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPB-6B**
Site: **L.E. Carpenter**

Lab Sample No: 127018
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 13.6

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1270	11.8		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPB-10A**
Site: **L.E. Carpenter**

Lab Sample No: 127026
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.0

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1590	11.6		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPB-10C**
Site: **L.E. Carpenter**

Lab Sample No: 127028
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.4

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1540	10.6		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPB-11A**
Site: **L.E. Carpenter**

Lab Sample No: 127029
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 21.8

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	90.4	5.2		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPB-13A**
Site: **L.E. Carpenter**

Lab Sample No: 127031
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 8.9

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	892	11.2		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPB-14A**
Site: **L.E. Carpenter**

Lab Sample No: 127032
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 10.3

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	418	11.4		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPB-16A**
Site: **L.E. Carpenter**

Lab Sample No: 127035
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 17.3

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	162	4.9		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPC-2A**
Site: **L.E. Carpenter**

Lab Sample No: 127044
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 13.1

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	2770	11.7		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPC-2B**
Site: **L.E. Carpenter**

Lab Sample No: 127045
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 10.0

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1330	11.3		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPC-4A**
Site: **L.E. Carpenter**

Lab Sample No: 127048
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.8

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1970	11.7		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: GPC-4B
Site: L.E. Carpenter

Lab Sample No: 127049
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 22.1

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	27.5	13.1	B	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: GPC-6A
Site: L.E. Carpenter

Lab Sample No: 127052
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.7

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	1740	11.7		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPC-6B**
Site: **L.E. Carpenter**

Lab Sample No: 127053
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.2

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	705	11.6		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPC-10A**
Site: **L.E. Carpenter**

Lab Sample No: 127060
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 12.0

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	110	4.6		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPC-10B**
Site: **L.E. Carpenter**

Lab Sample No: 127061
Lab Job No: N804

Date Sampled: 04/22/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 15.2

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	17.0	12.0	B	P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPC-14A**
Site: **L.E. Carpenter**

Lab Sample No: 127074
Lab Job No: N804

Date Sampled: 04/23/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 10.5

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	53.7	4.6		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

Client ID: **GPC-14B**
Site: **L.E. Carpenter**

Lab Sample No: 127075
Lab Job No: N804

Date Sampled: 04/23/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 28.6

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	471	14.3		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

BLANKS

Lab Name: STL_ENVIROTECH

Lab Code: 12543_ Lab Job No.: _N804 Batch No.: 7954__

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead	22.6	B	20.4	U	20.4	U	20.4	U	2.040	U	P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Molybdenu											NR

BLANKS

Lab Name: STL_ENVIROTECH_____ _____

Lab Code: 12543_ Lab Job No.: _N804 _____ Batch No.: 7954__

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead			20.4	U							P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Molybdenu											NR

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: N804 Batch No.: 7954

Initial Calibration Source: INORG VENT

Continuing Calibration Source: INORG VENT

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead	10000.0	9782.40	97.8	10000.0	10016.10	100.2	9900.28	99.0	P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Molybdenu									NR

(1) Control Limits: Mercury 80-120; ICP Metals 90-110; Furnace AA Metals 80-120

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: N804 Batch No.: 7954

Initial Calibration Source: INORG VENT

Continuing Calibration Source: INORG VENT

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead				10000.0	9802.32	98.0	9829.54	98.3	P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Molybdenu									NR

(1) Control Limits: Mercury 80-120; ICP Metals 90-110; Furnace AA Metals 80-120

ICP INTERFERENCE CHECK SAMPLE

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: N804 Batch No.: 7954

ICP ID Number: TJA- 61E ICS Source: INORG VENT

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	500000	500000	472856	466841.3	93.4	477095	463816.1	92.8
Antimony		1000		897.8	89.8		948.5	94.8
Arsenic		1000		907.7	90.8		964.3	96.4
Barium		500		459.9	92.0		459.2	91.8
Beryllium		500		447.4	89.5		442.2	88.4
Cadmium		500		464.1	92.8		460.7	92.1
Calcium	500000	500000	457477	449975.8	90.0	456127	444296.5	88.9
Chromium		500		443.7	88.7		438.5	87.7
Cobalt		500		438.2	87.6		430.8	86.2
Copper		500		482.7	96.5		478.6	95.7
Iron	200000	200000	176017	174378.0	87.2	176018	172136.4	86.1
Lead		500		440.8	88.2		443.7	88.7
Magnesium	500000	500000	478808	471703.4	94.3	474928	461582.4	92.3
Manganese		500		444.4	88.9		439.2	87.8
Mercury								
Nickel		500		439.1	87.8		430.4	86.1
Potassium		10000		9826.0	98.3		9728.4	97.3
Selenium		1000		883.1	88.3		847.4	84.7
Silver		500		466.1	93.2		465.9	93.2
Sodium		10000		10277.3	102.8		10262.9	102.6
Thallium		1000		928.5	92.8		865.1	86.5
Vanadium		500		454.5	90.9		451.3	90.3
Zinc		500		471.9	94.4		467.2	93.4

LAB SAMPLE NO.

SPIKE SAMPLE RECOVERY

BSS051199

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: N804 Batch No.: 7954

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead	75-125	43.2368		2.0400	U	50.00	86.5		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Molybdenu									NR

Comments:

LAB SAMPLE NO.

SPIKE SAMPLE RECOVERY

127052MS

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: N804 Batch No.: 7954

Matrix (soil/water): SOIL Level (low/med): LOW

Solids for Sample: 87.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead		1436.7136		1736.3912		57.27	-523.3		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Molybdenu									NR

Comments:

LAB SAMPLE NO.

SPIKE SAMPLE RECOVERY

127052MSD

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: N804 Batch No.: 7954

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 87.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead		1648.4227		1736.3912		57.27	-153.6		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Molybdenu									NR

Comments:

LAB SAMPLE NO.

DUPLICATES

LCSS-240-D___

Lab Name: STL_ENVIROTECH_____

Lab Code: 12543_ Lab Job No.: __N804 _____ Batch No.: 7954__

Matrix (soil/water): SOIL_ Level (low/med): _LOW__

Solids for Sample: 100.0 % Solids for Duplicate: _100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead		48.4892		53.4318		9.7		P
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Molybdenu								NR

LAB SAMPLE NO.

DUPLICATES

127052D

Lab Name: STL_ENVIROTECH

Lab Code: 12543_ Lab Job No.: N804 Batch No.: 7954

Matrix (soil/water): SOIL_ Level (low/med): LOW

% Solids for Sample: 87.3 % Solids for Duplicate: 87.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead		1736.3912		1526.7669		12.8		P
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Molybdenu								NR

LAB SAMPLE NO.

DUPLICATES

127052MS/MS___

Lab Name: STL_ENVIROTECH_____

Lab Code: 12543_ Lab Job No.: __N804 _____ Batch No.: 7954__

Matrix (soil/water): SOIL_ Level (low/med): _LOW__

Solids for Sample: _87.3 % Solids for Duplicate: __87.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead		1436.7136		1648.4227		13.7		P
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Molybdenu								NR

LABORATORY CONTROL SAMPLE

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: N804 Batch No.: 7954

Solid LCS Source: ERA 240

Aqueous LCS Source:

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.2	48.5		35.7	64.7	96.6
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Molybdenu									

LAB SAMPLE NO.

ICP SERIAL DILUTION

127052L

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: N804 Batch No.: 7954

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium							NR
Cobalt							NR
Copper							NR
Iron							NR
Lead	3031.74		3055.34		0.8		P
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							NR

ANALYSIS RUN LOG

Lab Name: STL_ENVIROTECH_____ Contract: _____

Lab Code: 12543_ Case No.: _____ SAS No.: _____ SDG No.:7954__

Instrument ID Number: TJA- 61E_____ Method: P_

Start Date: 05/11/99 End Date: 05/11/99

Lab Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	MO
D1-BLANK	1.00	1417		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	X
STD2	1.00	1422		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	X
STD3	1.00	1426		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	X
STD4	1.00	1431		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	X
ZZZZZZ	1.00	1436		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ICV/CCV	1.00	1441		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
ICB/CCB	1.00	1445		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
ICSA	1.00	1449		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
ICSAB	1.00	1454		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
MCL	1.00	1458		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	1502		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	10.00	1507		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	10.00	1511		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
SS051199	1.00	1516		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
BS051199	1.00	1520		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
LCSS-240	2.00	1524		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
SS-240-D	2.00	1529		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
CCV	1.00	1533		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
CCB	1.00	1537		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
127052D	5.00	1545		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
127052	5.00	1549		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
127052L	5.00	1554		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
127052MS	5.00	1558		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
27052MSD	5.00	1602		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	5.00	1607		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
127009	5.00	1611		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
127010	5.00	1616		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
127017	5.00	1620		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
127018	5.00	1624		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
CCV	1.00	1629		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
CCB	1.00	1633		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
127026	5.00	1637		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
				_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_

ANALYSIS RUN LOG

Lab Name: STL_ENVIROTECH_____ Contract: _____

Lab Code: 12543_ Case No.: _____ SAS No.: _____ SDG No.:7954__

Instrument ID Number: TJA- 61E_____ Method: P_

Start Date: 05/11/99 End Date: 05/11/99

Lab Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	MO
ZZZZZZ	2.00	1642		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
127029	2.00	1646		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127031	5.00	1652		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127032	5.00	1657		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127035	2.00	1701		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127044	5.00	1706		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127045	5.00	1710		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127048	5.00	1714		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127049	5.00	1719		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCV	1.00	1723		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCB	1.00	1727		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127053	5.00	1732		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127060	2.00	1736		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127061	5.00	1741		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127074	2.00	1745		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127075	5.00	1749		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
127028	5.00	1754		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
ICSA	1.00	1758		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
ICSAB	1.00	1802		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCV	1.00	1807		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
CCB	1.00	1811		-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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STL Envirotech
a division of Severn Trent Laboratories, Inc.

RECEIVED
JUL 02 1999
RM mail

STL Envirotech
777 New Durham Road
Edison, NJ 08817
Tel: (732) 549-3900
Fax: (732) 549-3679
www.stl-inc.com

June 23, 1999

Residuals Management Technologies, Inc.
222 South Riverside Plaza
Suite 280
Chicago, IL 60606

Attention: Ms. Rae Mindock

Re: Job No. Q043 - L.E. Carpenter

Dear Ms. Mindock:

Enclosed are the results you requested for the following sample(s) received at our laboratory on April 23, 1999:

Lab No.	Client ID	Analysis Required
135061	GPC-15B	PP VOA+10, PP BNA+25, Pb

If you have any questions please contact your Project Manager, Paul Simms, at (732) 549-3900.

Very truly yours,

Michael J. Urban
Laboratory Manager

STL Envirotech
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TABLE OF CONTENTS

	Section	Page
Analytical Results Summary	1	1
General Information	2	
Chain of Custody		8
Laboratory Chronicles		9
Methodology Review		12
Data Reporting Qualifiers		15
Non-Conformance Summary		16
GC/MS Forms and Data	3	
Results Summary and Chromatograms		18
Tuning Results Summary		42
Method Blank Results Summary		68
Calibration Summary		84
Surrogate Compound Recovery Summary		105
Spike Recovery Summary		107
Internal Standard Area Summary		110
Metals Forms and Data	4	
Analytical Results Summary		115
Blank Results Summary		116
Calibration Summary		118
ICP Interference Check Results Summary		120
Spike Sample Recovery Summary		122
Sample and MS Duplicate Results Summary		125
Laboratory Control Sample Results Summary		128
Serial Dilution Summary		129
Analysis Run Log		130

STL Envirotech
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Client ID: **GPC-15B**
Site: L.E. Carpenter

Lab Sample No: **135061**
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99
Date Analyzed: 06/06/99
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e9667.d

Matrix: SOIL
Level: HIGH
Sample Weight: 5.0 g
Methanol Ext. Volume: 10.0 ml
Ext. Dilution Factor: 50000.0
% Moisture: 26

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	270000
Bromomethane	ND	270000
Vinyl Chloride	ND	270000
Chloroethane	ND	270000
Methylene Chloride	ND	400000
Trichlorofluoromethane	ND	270000
1,1-Dichloroethene	ND	270000
1,1-Dichloroethane	ND	670000
trans-1,2-Dichloroethene	ND	670000
cis-1,2-Dichloroethene	ND	670000
Chloroform	ND	670000
1,2-Dichloroethane	ND	270000
1,1,1-Trichloroethane	ND	670000
Carbon Tetrachloride	ND	270000
Bromodichloromethane	ND	130000
1,2-Dichloropropane	ND	130000
cis-1,3-Dichloropropene	ND	670000
Trichloroethene	ND	130000
Dibromochloromethane	ND	670000
1,1,2-Trichloroethane	ND	400000
Benzene	ND	130000
trans-1,3-Dichloropropene	ND	670000
2-Chloroethyl Vinyl Ether	ND	670000
Bromoform	ND	530000
Tetrachloroethene	ND	130000
1,1,2,2-Tetrachloroethane	ND	130000
Toluene	470000 J	670000
Chlorobenzene	ND	670000
Ethylbenzene	10000000	530000
Xylene (Total)	42000000	670000

Client ID: **GPC-15B**
Site: L.E. Carpenter

Lab Sample No: **135061**
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99
Date Extracted: 06/07/99
Date Analyzed: 06/10/99
GC Column: DB-5
Instrument ID: BNAMS4.i
Lab File ID: u8897.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 25.0 ml
Dilution Factor: 200.0
% Moisture: 26

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Phenol	ND	1100000
2-Chlorophenol	ND	1100000
2-Nitrophenol	ND	1100000
2,4-Dimethylphenol	ND	1100000
2,4-Dichlorophenol	ND	1100000
4-Chloro-3-methylphenol	ND	1100000
2,4,6-Trichlorophenol	ND	1100000
2,4-Dinitrophenol	ND	4500000
4-Nitrophenol	ND	4500000
4,6-Dinitro-2-methylphenol	ND	4500000
Pentachlorophenol	ND	4500000

STL Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-15B**
Site: L.E. Carpenter

Lab Sample No: **135061**
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99
Date Analyzed: 06/06/99
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e9667.d

Matrix: SOIL
Level: HIGH
Sample Weight: 5.0 g
Methanol Ext. Volume: 10.0 ml
Ext. Dilution Factor: 50000.0
% Moisture: 25.7

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. Naphthalene	17.55	900000	
2. Methylnaphthalene isomer	18.83	3100000	
3. Methylnaphthalene isomer	19.08	2300000	
4.			
5.			
6.			
7.			
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29.			
30.			

TOTAL ESTIMATED CONCENTRATION 6300000

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-15B**
Site: L.E. Carpenter

Lab Sample No: **135061**
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99
Date Extracted: 06/07/99
Date Analyzed: 06/10/99
GC Column: DB-5
Instrument ID: BNAMS4.i
Lab File ID: u8897.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 25.0 ml
Dilution Factor: 200.0
% Moisture: 26

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
N-Nitrosodimethylamine	ND	1100000
bis(2-Chloroethyl)ether	ND	110000
1,3-Dichlorobenzene	ND	1100000
1,4-Dichlorobenzene	ND	1100000
1,2-Dichlorobenzene	ND	1100000
bis(2-chloroisopropyl)ether	ND	1100000
N-Nitroso-di-n-propylamine	ND	110000
Hexachloroethane	ND	110000
Nitrobenzene	ND	110000
Isophorone	ND	1100000
bis(2-Chloroethoxy)methane	ND	1100000
1,2,4-Trichlorobenzene	ND	110000
Naphthalene	ND	1100000
Hexachlorobutadiene	ND	220000
Hexachlorocyclopentadiene	ND	1100000
2-Chloronaphthalene	ND	1100000
Dimethylphthalate	ND	1100000
Acenaphthylene	ND	1100000
2,6-Dinitrotoluene	ND	220000
Acenaphthene	ND	1100000
2,4-Dinitrotoluene	ND	220000
Diethylphthalate	ND	1100000
4-Chlorophenyl-phenylether	ND	1100000
Fluorene	ND	1100000
N-Nitrosodiphenylamine	ND	1100000
4-Bromophenyl-phenylether	ND	1100000
Hexachlorobenzene	ND	110000
Phenanthrene	ND	1100000
Anthracene	ND	1100000
Di-n-butylphthalate	ND	1100000
Fluoranthene	ND	1100000
Pyrene	ND	1100000
Benzidine	ND	4500000
Butylbenzylphthalate	530000 J	1100000

Client ID: **GPC-15B**
Site: L.E. Carpenter

Lab Sample No: **135061**
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99
Date Extracted: 06/07/99
Date Analyzed: 06/10/99
GC Column: DB-5
Instrument ID: BNAMS4.i
Lab File ID: u8897.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 25.0 ml
Dilution Factor: 200.0
% Moisture: 26

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
3,3'-Dichlorobenzidine	ND	2200000
Benzo(a)anthracene	ND	110000
Chrysene	ND	1100000
bis(2-Ethylhexyl)phthalate	20000000	1100000
Di-n-octylphthalate	ND	1100000
Benzo(b)fluoranthene	ND	110000
Benzo(k)fluoranthene	ND	110000
Benzo(a)pyrene	ND	110000
Indeno(1,2,3-cd)pyrene	ND	110000
Dibenz(a,h)anthracene	ND	110000
Benzo(g,h,i)perylene	ND	1100000

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-15B**
Site: L.E. Carpenter

Lab Sample No: **135061**
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99
Date Extracted: 06/07/99
Date Analyzed: 06/10/99
GC Column: DB-5
Instrument ID: BNAMS4.i
Lab File ID: u8897.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 25.0 ml
Dilution Factor: 200.0
% Moisture: 25.7

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. Benzene, ethyl-	10.24	9100000	
2. Xylene isomer	10.45	24000000	
3. Xylene isomer	10.93	10000000	
4. Unknown	18.71	1000000	
5.			
6.			
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30.			

TOTAL ESTIMATED CONCENTRATION 44100000

Envirotech
a division of Severn Trent Laboratories, Inc.

Client ID: **GPC-15B**
Site: **L.E. Carpenter**

Lab Sample No: 135061
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 25.7

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	8220	11.0		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

STL - Envirotech
777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice) Rae Mindock	Samplers Name (Printed) D. Leclove	Site/Project Identification L.E. Carpenter
Company RMT Inc	P.O. #	State (Location of site): NJ: ☑ NY: ☐ Other:
		Regulatory Program:
Address 222 S. Riverside Plaza Ste 820	Analysis Turnaround Time: Standard ☐	LAB USE ONLY Project No:
City Chicago State IL 60606	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	Job No: N804
Phone 312-575-0200 Fax 312-575-0300		

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of. Cont.	Hold	8260 MNO+10 *	8270 BNA+25 *	Total Pb *								Sample Numbers
GPB-23A	4-23-99	8:40	Soil	1	✓											127068
GPB-24A	↓	8:50	↓	↓	↓											127069
GPC-12A	↓	9:00	↓	↓	↓											127070
GPC-12B	↓	9:10	↓	↓	↓											127071
GPC-13A	↓	9:20	↓	↓	↓											127072
GPC-13B	↓	9:30	↓	↓	↓											127073
GPC-14A	↓	9:40	↓	↓	↓											127074
GPC-14B	↓	9:50	↓	↓	↓											127075
GPC-15A	↓	10:00	↓	↓	↓											127076
GPC-15B.	↓	10:10	↓	2	↓	X	X	X				139061				127077

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH
6 = Other _____, 7 = Other _____

Soil:
Water:

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	RMT	4-23-99 12:00	1) [signature]	STL-ENVIROTECH WAYNE CLARK
2) [signature]	STL-ENVIROTECH WAYNE CLARK	4/23/99 1/6 10	2) [signature]	STL-ENVIROTECH HOWARD SCHLEIER
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132), Massachusetts (M-NJ312), North Carolina (No. 578)

* Analysis added as per Nick Clevett 6/1/99

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No: Q043 **Site:** L.E. Carpenter

Client: Residuals Management Technologies, Inc.

VOAMS

SOLID - 8260B

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
135061	4/23/1999	4/23/1999			6/6/99	JXZ	8950

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No: Q043 **Site:** L.E. Carpenter

Client: Residuals Management Technologies, Inc.

BNAMS

SOLID - 8270C

Lab Sample ID	Date Sampled	Date Received	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
135061	4/23/1999	4/23/1999	6-7-99	JP	6/10/99	WB	5480

INTERNAL CUSTODY RECORD
AND
LABORATORY CHRONICLE
STL Envirotech

777 New Durham Road, Edison, New Jersey
08817

Job No:	Q043	**Site:**	L.E. Carpenter
Client:	Residuals Management Technologies, Inc.	**Date Sampled:**	4/23/1999
Sample No.:	135061	**Date Received:**	4/23/1999
		Matrix:	SOLID

METALS

Analytic Parameter	Preparation Date	Technician's Name	Analysis Date	Analyst's Name	QA Batch
LEAD	6/3/99	BJR	6/15/99	KW	8057

Analytical Methodology Summary

Volatile Organics:

Unless otherwise specified, water samples are analyzed for volatile organics by purge and trap GC/MS as specified in EPA Method 624. Drinking water samples are analyzed by EPA Method 524.2. Solid samples are analyzed for volatile organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8260B. Water samples are analyzed for volatile organics by purge and trap GC/PID and GC/ELCD as specified in EPA Methods 601 and 602. Solid samples are analyzed by GC/PID and GC/ELCD in accordance with SW-846, 3rd Edition Method 8021B.

Acid and Base/Neutral Extractable Organics:

Unless otherwise specified, water samples are analyzed for acid and/or base/neutral extractable organics by GC/MS in accordance with EPA Method 625. Solids are analyzed for acid and/or base/neutral extractable organics as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8270C.

GC/MS Nontarget Compound Analysis:

Analysis for nontarget compounds is conducted, upon request, in conjunction with GC/MS analyses by EPA Methods 624, 625, 8260B and 8270C. Nontarget compound analysis is conducted using a forward library search of the EPA/NIH/NBS mass spectral library of compounds at the greatest apparent concentration (10% or greater of the nearest internal standard) in each organic fraction (15 for volatile, 15 for base/neutrals and 10 for acid extractables).

Organochlorine Pesticides and PCBs:

Unless otherwise specified, water samples are analyzed for organochlorine pesticides and PCBs by dual column gas chromatography with electron capture detectors as specified in EPA Method 608. Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition) Method 8081A for organochlorine pesticides and Method 8082 for PCBs.

Total Petroleum Hydrocarbons:

Water samples are analyzed for petroleum hydrocarbons by I.R. using EPA Method 418.1. Solid samples are prepared for analysis by soxhlet extraction consistent with the March 1990 N.J. DEP "Remedial Investigation Guide" Appendix A, page 52, and analyzed by U.S. EPA Method 418.1

Metals Analysis:

Metals analyses are performed by any of four techniques specified by a Method Code provided on each data report page, as follows:

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP)

A - Flame Atomic Absorption

F - Furnace Atomic Absorption

CV - Manual Cold Vapor (Mercury)

Water samples are digested and analyzed using EPA methods provided in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid samples are analyzed as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition); samples are digested according to Method 3050B "Acid Digestion of Soil, Sediments and Sludges."

Specific method references for ICP analyses are water Method 200.7 and solid Method 6010B. Mercury analyses are conducted by the manual cold vapor technique specified by water Method 245.1 and solid Method 7471A. Other specific Atomic Absorption method references are as follows:

	Water Test Method		Solid Test Method	
Element	Flame	Furnace	Flame	Furnace
Aluminum	202.1	202.2	7020	--
Antimony	204.1	204.2	7040	7041
Arsenic	--	206.2	--	7060
Barium	208.1	--	7080	--
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Calcium	215.1	--	7140	--
Chromium, Total	218.1	218.2	7190	7191
Chromium, (+6)	218.4	218.5	7197	7195
Cobalt	219.1	219.2	7200	7201
Copper	220.1	220.2	7210	--
Iron	236.1	236.2	7380	--
Lead	239.1	239.2	7420	7421
Magnesium	242.1	--	7450	--
Manganese	243.1	243.2	7460	--
Nickel	249.1	249.2	7520	--
Potassium	258.1	--	7610	--
Selenium	--	270.2	--	7740
Silver	272.1	272.2	7760	--
Sodium	273.1	--	7770	--
Tin	283.1	283.2	7870	--
Thallium	279.1	279.2	7840	7841
Vanadium	286.1	286.2	7910	7911
Zinc	289.1	289.2	7950	--

Cyanide:

Water samples are analyzed for cyanide using EPA Method 335.3. Cyanide is determined in solid samples as specified in the EPA Contract Laboratory Program IFB dated July 1988, revised February 1989.

Phenols:

Water samples are analyzed for total phenols using EPA Method 420.2. Total phenols are determined in solid samples by preparing the sample as outlined in the EPA Contract Laboratory Program IFB for cyanide, followed by a phenols determination using EPA Method 420.1.

Cleanup of Semivolatile Extracts:

Upon request Method 3611B Alumina Column Cleanup and/or Method 3650B Acid-Base Partition Cleanup are performed to improve detection limits by the removal of saturated hydrocarbon interferences.

Hazardous Waste Characteristics:

Samples for hazardous waste characteristics are analyzed as specified in the U.S. EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

Ignitability	- Method 1020A
Corrosivity	- Water pH Method 9040B Soil pH Method 9045C
Reactivity	- Chapter 7, Section 7.3.3 and 7.3.4 respectively for hydrogen cyanide and hydrogen sulfide release
Toxicity	- TCLP Method 1311

Miscellaneous Parameters:

Additional analyses performed on both aqueous and solid samples are in accordance with methods published in the following references:

- Test Methods for Evaluating Solid Wastes, SW-846 3rd Edition, November 1986.
- Standard Methods for the Examination of Water and Wastewater, 17th Edition.
- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, 1979.

ORGANIC DATA REPORTING QUALIFIERS

ND - The compound was not detected at the indicated concentration.

J - Mass spectral data indicates the presence of a compound that meets the identification criteria. The result is less than the specified quantitation limit but greater than zero. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

P - For dual column analysis, the percent difference between the quantitated concentrations on the two columns is greater than 40%.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

INORGANIC DATA REPORTING QUALIFIERS (SW-846 METHODS ONLY)

ND - The compound was not detected at the indicated concentration.

B - Reported value is less than the Method Detection Limit but greater than or equal to the Instrument Detection Limit.

E - The reported value is estimated because of the presence of interference. See explanatory note in the Nonconformance Summary if the problem applies to all of the samples or on the individual Inorganic Analysis Data Sheet if the problem is isolated.

M - Duplicate injection precision not met on the Furnace Atomic Absorption analysis.

N - The spiked sample recovery is not within control limits.

S - The reported value was determined by the Method of Standard Additions (MSA).

* - Duplicate Analysis is not within control limits.

W - Post digestion spike for Furnace Atomic Absorption analysis is out of control.

+ - Correlation coefficient for MSA is less than 0.995.

M Column - Method Qualifiers

P - Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).

A - Flame Atomic Absorption Spectroscopy (FAA).

F - Graphite Furnace Atomic Absorption Spectroscopy (GFAA).

CV - Cold Vapor Atomic Absorption Spectroscopy.

NON-CONFORMANCE SUMMARY

STL Envirotech Job Number: 8043

Volatile Organics Analysis:

All data conforms with method requirements ✓; or
Analysis was not requested _____; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

_____

See continuation page if checked ( )

Base/Neutral and/or Acid Extractable Organics:

All data conforms with method requirements ✓; or
Analysis was not requested _____; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

_____

See continuation page if checked ( )

PCBs and/or Organochlorine Pesticides:

All data conforms with method requirements _____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

_____

See continuation page if checked ( )

Non-conformance Summary, Page 2 of 2
STL Envirotech Job Number: 9043

Metals Analysis:

All data conforms with method requirements ✓; or
Analysis was not requested _____; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

_____

_____

See continuation page if checked ( )

Total Petroleum Hydrocarbons:

All data conforms with method requirements _____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

See continuation page if checked ( )

General Chemistry/Disposal Parameters:

All data conforms with method requirements _____; or
Analysis was not requested ✓; or
Non-conformance for the specific samples listed is as follows:

_____

_____

_____

See continuation page if checked ( )

Signature of
Laboratory Manager: _____ Date: 6/28/99

Client ID: **GPC-15B**
Site: L.E. Carpenter

Lab Sample No: **135061**
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99
Date Analyzed: 06/06/99
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e9667.d

Matrix: SOIL
Level: HIGH
Sample Weight: 5.0 g
Methanol Ext. Volume: 10.0 ml
Ext. Dilution Factor: 50000.0
% Moisture: 26

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	270000
Bromomethane	ND	270000
Vinyl Chloride	ND	270000
Chloroethane	ND	270000
Methylene Chloride	ND	400000
Trichlorofluoromethane	ND	270000
1,1-Dichloroethene	ND	270000
1,1-Dichloroethane	ND	670000
trans-1,2-Dichloroethene	ND	670000
cis-1,2-Dichloroethene	ND	670000
Chloroform	ND	670000
1,2-Dichloroethane	ND	270000
1,1,1-Trichloroethane	ND	670000
Carbon Tetrachloride	ND	270000
Bromodichloromethane	ND	130000
1,2-Dichloropropane	ND	130000
cis-1,3-Dichloropropene	ND	670000
Trichloroethene	ND	130000
Dibromochloromethane	ND	670000
1,1,2-Trichloroethane	ND	400000
Benzene	ND	130000
trans-1,3-Dichloropropene	ND	670000
2-Chloroethyl Vinyl Ether	ND	670000
Bromoform	ND	530000
Tetrachloroethene	ND	130000
1,1,2,2-Tetrachloroethane	ND	130000
Toluene	470000 J	670000
Chlorobenzene	ND	670000
Ethylbenzene	10000000	530000
Xylene (Total)	42000000	670000

Client ID: **GPC-15B**
Site: L.E. Carpenter

Lab Sample No: **135061**
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99
Date Extracted: 06/07/99
Date Analyzed: 06/10/99
GC Column: DB-5
Instrument ID: BNAMS4.i
Lab File ID: u8897.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 25.0 ml
Dilution Factor: 200.0
% Moisture: 26

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Phenol	ND	1100000
2-Chlorophenol	ND	1100000
2-Nitrophenol	ND	1100000
2,4-Dimethylphenol	ND	1100000
2,4-Dichlorophenol	ND	1100000
4-Chloro-3-methylphenol	ND	1100000
2,4,6-Trichlorophenol	ND	1100000
2,4-Dinitrophenol	ND	4500000
4-Nitrophenol	ND	4500000
4,6-Dinitro-2-methylphenol	ND	4500000
Pentachlorophenol	ND	4500000

Client ID: **GPC-15B**
Site: L.E. Carpenter

Lab Sample No: **135061**
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99
Date Analyzed: 06/06/99
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e9667.d

Matrix: SOIL
Level: HIGH
Sample Weight: 5.0 g
Methanol Ext. Volume: 10.0 ml
Ext. Dilution Factor: 50000.0
% Moisture: 25.7

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. Naphthalene	17.55	900000	
2. Methylnaphthalene isomer	18.83	3100000	
3. Methylnaphthalene isomer	19.08	2300000	
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.			

TOTAL ESTIMATED CONCENTRATION 6300000

Data File: /chem/BNAMS4.i/8270/06-07-99/09jun99A.b/u8897.d
Report Date: 10-Jun-1999 08:12

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS4.i/8270/06-07-99/09jun99A.b/u8897.d
Lab Smp Id: 135061 Client Smp ID: GPC-15B
Inj Date : 10-JUN-1999 00:37
Operator : BNAMS 4 Inst ID: BNAMS4.i
Smp Info : 135061;30;25;200;25.7
Misc Info : Q043;PPBNA+25;5480;115
Comment :
Method : /chem/BNAMS4.i/8270/06-07-99/09jun99A.b/8270Cb.m
Meth Date : 09-Jun-1999 21:47 B Quant Type: ISTD
Cal Date : 07-JUN-1999 15:46 Cal File: u8828.d
Als bottle: 6
Dil Factor: 200.00000
Integrator: HP RTE Compound Sublist: PPBNAb.sub
Target Version: 3.40
Processing Host: hpd1

Concentration Formula: Amt * DF * Uf*1000*Vt/(Ws*(100-M)/100)

Name	Value	Description
DF	200.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	25.000	Volume of final extract (ml)
Ws	30.000	Weight of sample extracted (g)
M	25.700	% Moisture

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/Kg)
* 79 1,4-Dichlorobenzene-d4	152	12.966	12.973	(1.000)	356474	40.0000	
* 80 Naphthalene-d8	136	15.141	15.155	(1.000)	1341070	40.0000	
* 82 Acenaphthene-d10	164	18.069	18.083	(1.000)	928119	40.0000	
* 83 Phenanthrene-d10	188	20.540	20.555	(1.000)	2072949	40.0000	
59 Butylbenzylphthalate	149	23.922	23.946	(0.959)	75935	2.37083	530000(a)
63 bis(2-Ethylhexyl)phthalate	149	24.872	24.882	(0.997)	3462266	89.4318	20000000(M)
* 81 Chrysene-d12	240	24.952	24.983	(1.000)	1579711	40.0000	
* 84 Perylene-d12	264	28.470	28.508	(1.000)	1539657	40.0000	

QC Flag Legend

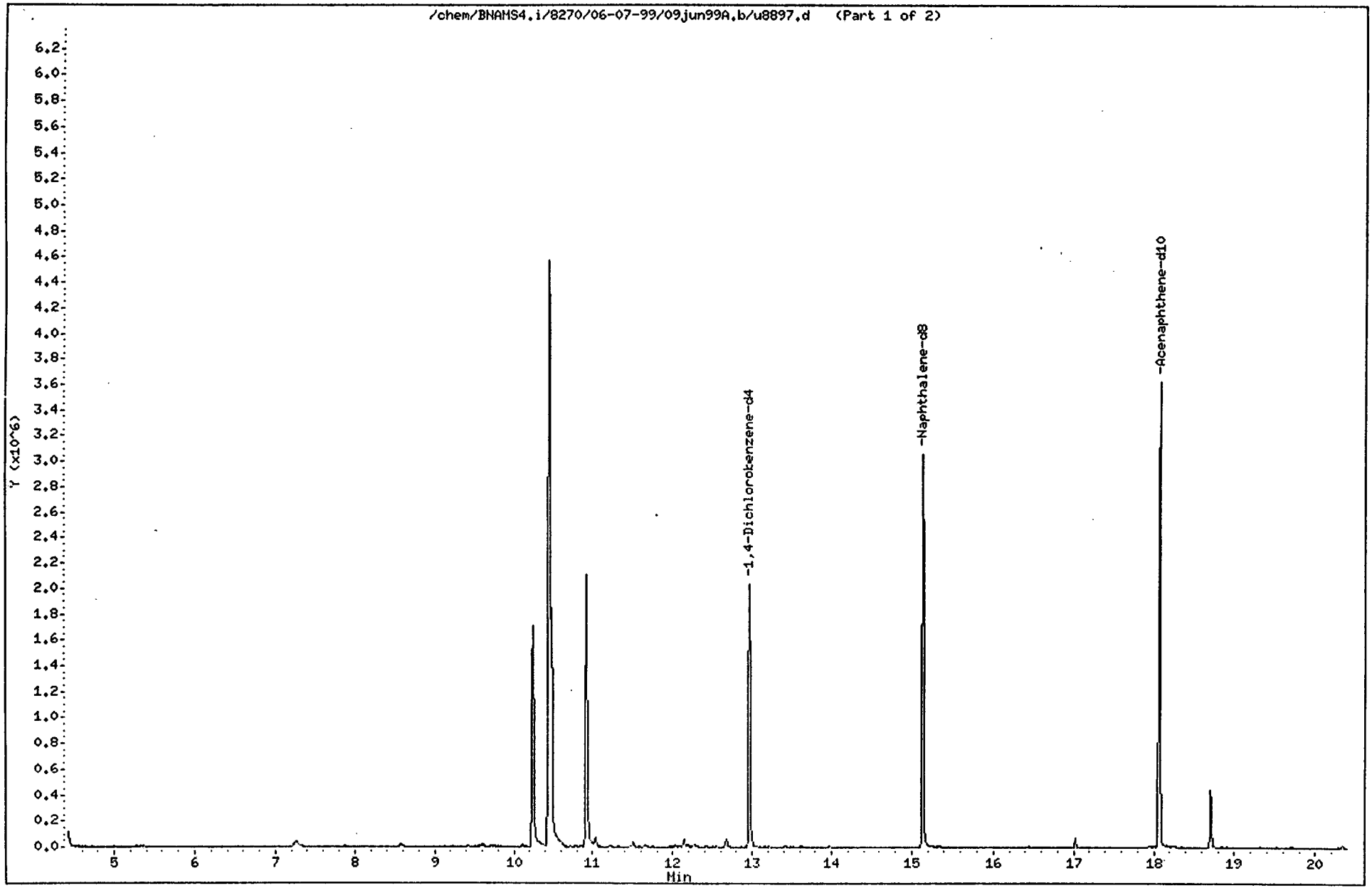
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: /chem/BNAMS4.i/8270/06-07-99/09jun99A.b/u8897.d
Date : 10-JUN-1999 00:37
Client ID: GPC-15B
Sample Info: 135061;30;25;200;25.7

Instrument: BNAMS4.i

Operator: BNAMS 4
Column diameter: 0.25

Column phase: DB-5



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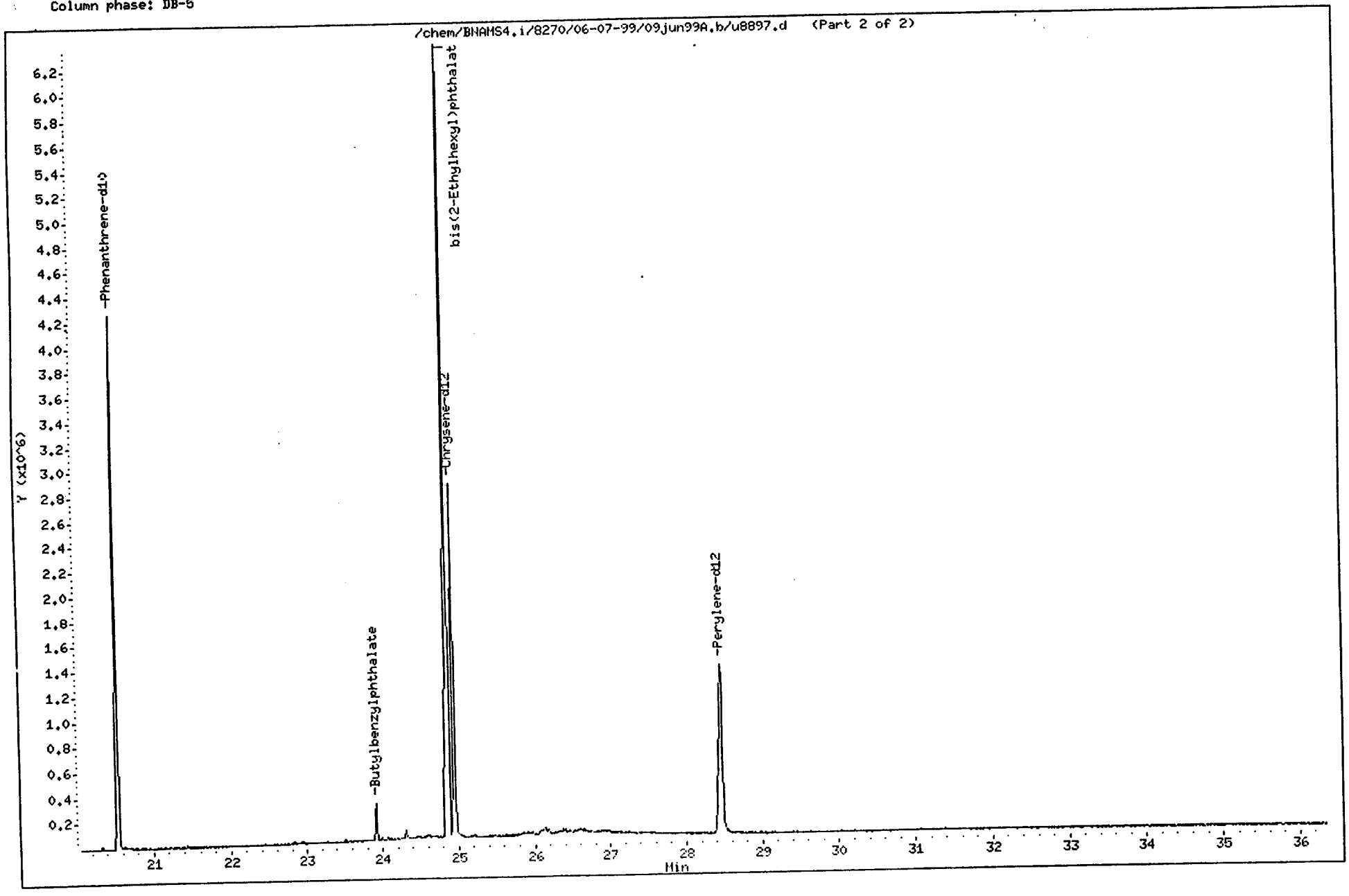
Date : 10-JUN-1999 00:37
Client ID: GPC-15B
Sample Info: 135061;30;25;200;25.7

Instrument: BNAMS4.i

Operator: BNAMS 4
Column diameter: 0.25

Column phase: DB-5



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Date : 10-JUN-1999 00:37

Client ID: GPC-15B

Instrument: BNAMS4.i

Sample Info: 135061;30;25;200;25.7

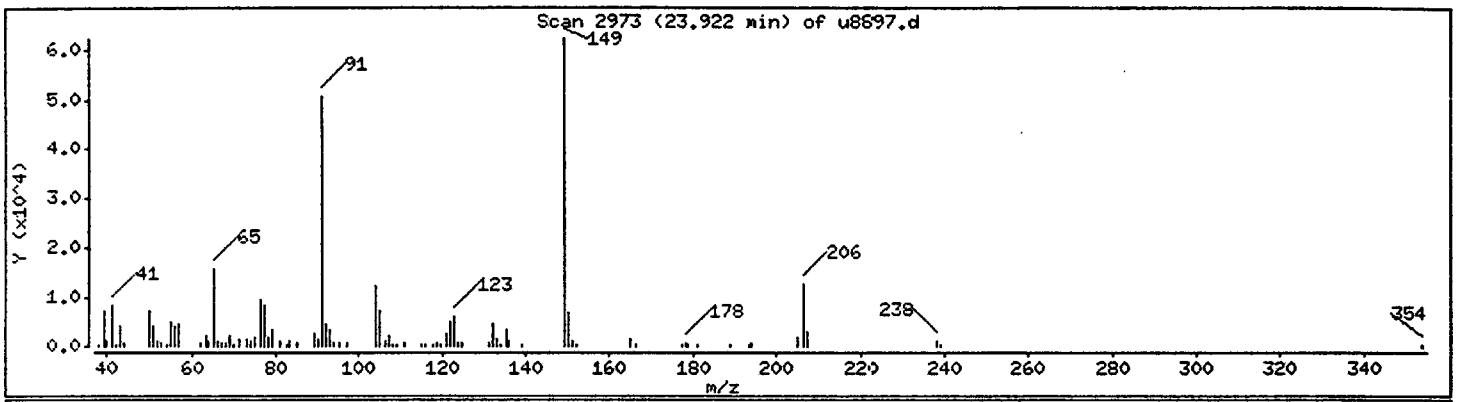
Operator: BNAMS 4

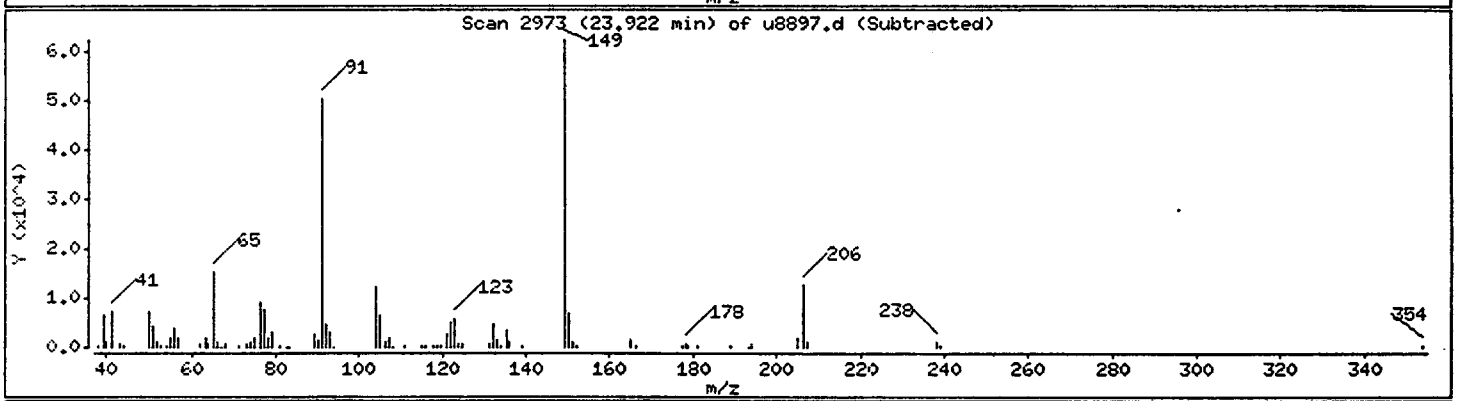
Column phase: DB-5

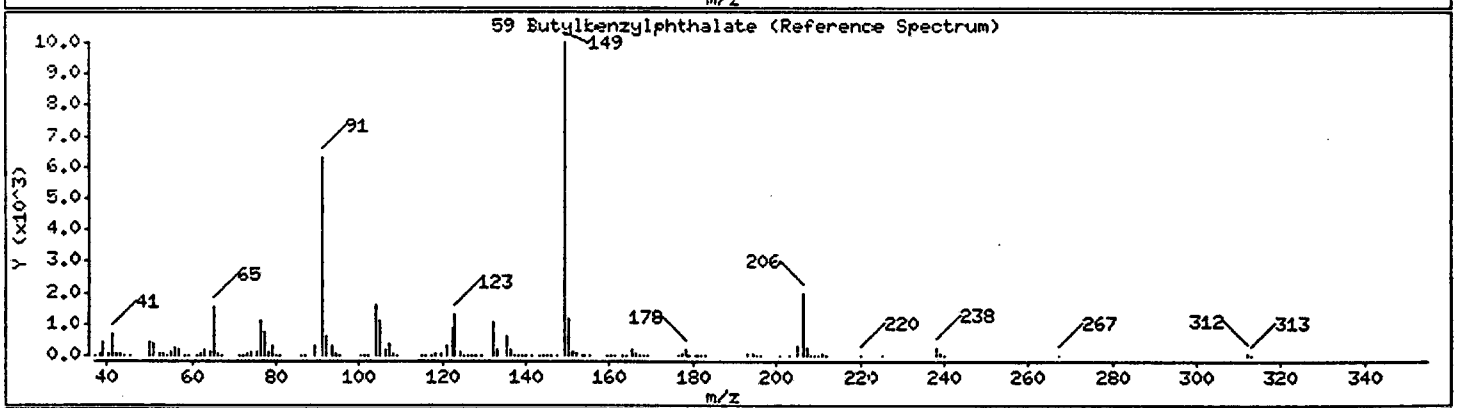
Column diameter: 0.25

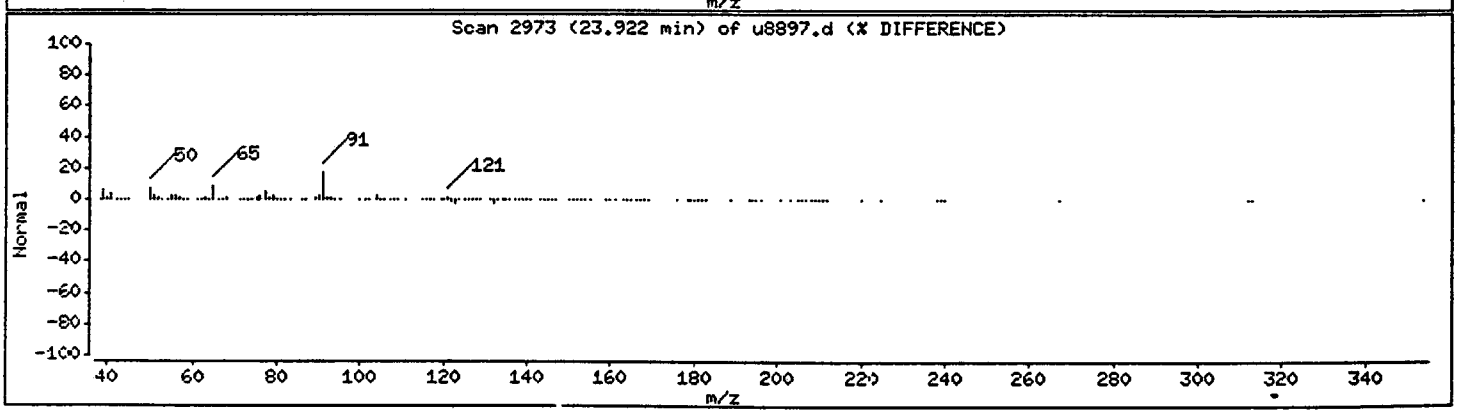
59 Butylbenzylphthalate

Concentration: 530000 ug/Kg









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Date : 10-JUN-1999 00:37

Client ID: GPC-15B

Instrument: BNAMS4.i

Sample Info: 135061;30;25;200;25.7

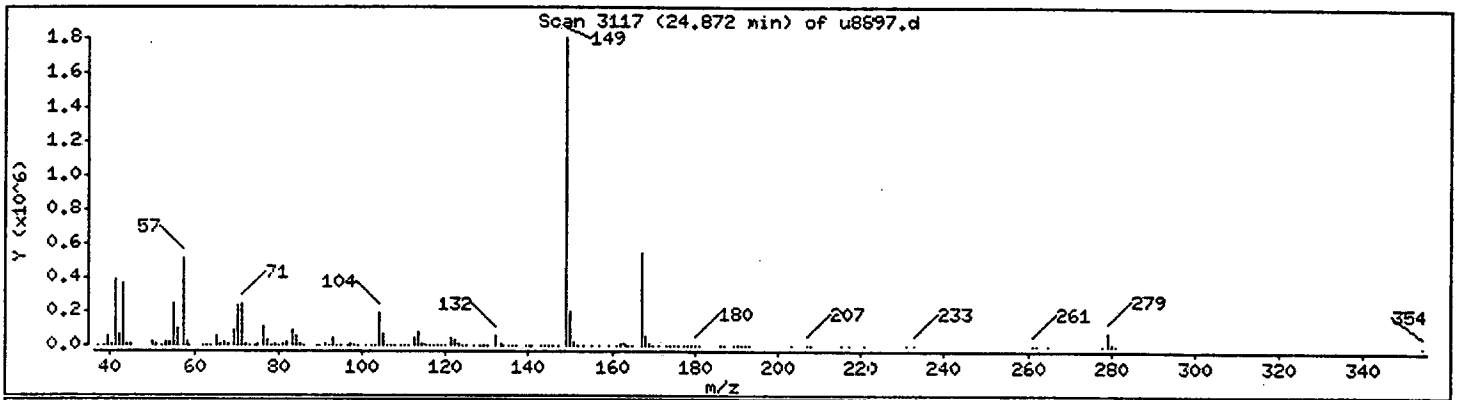
Operator: BNAMS 4

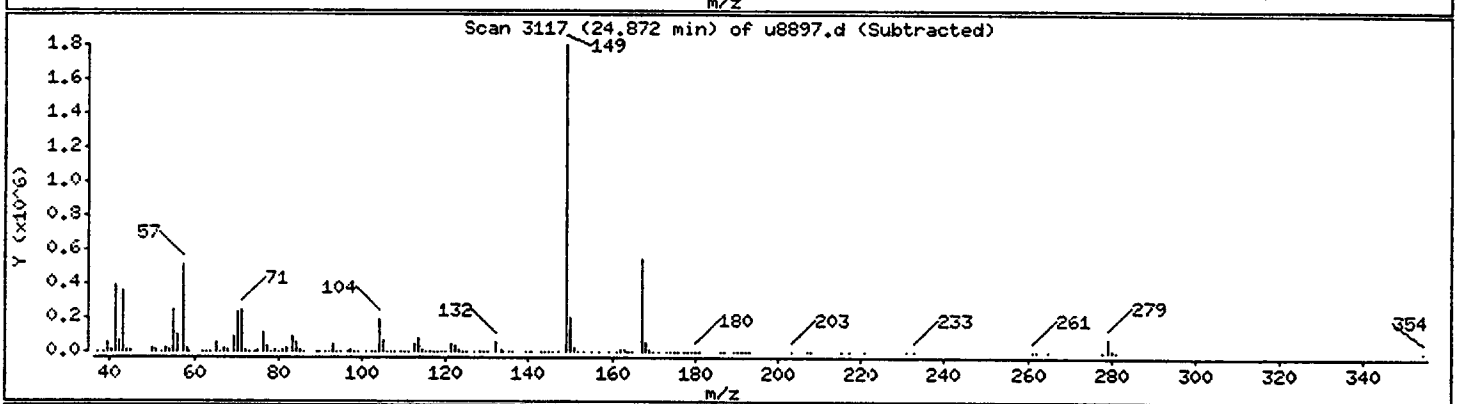
Column phase: DB-5

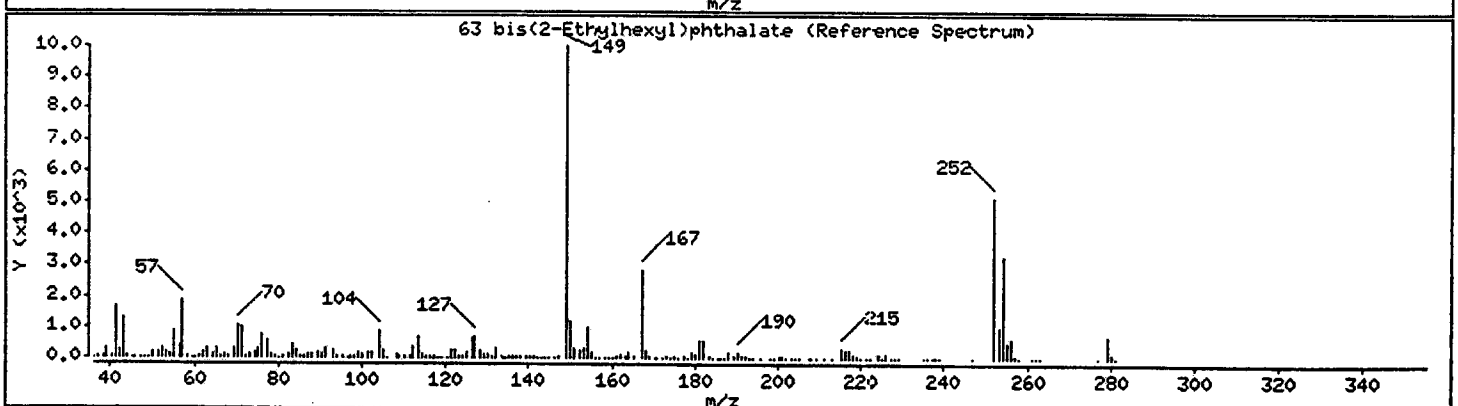
Column diameter: 0.25

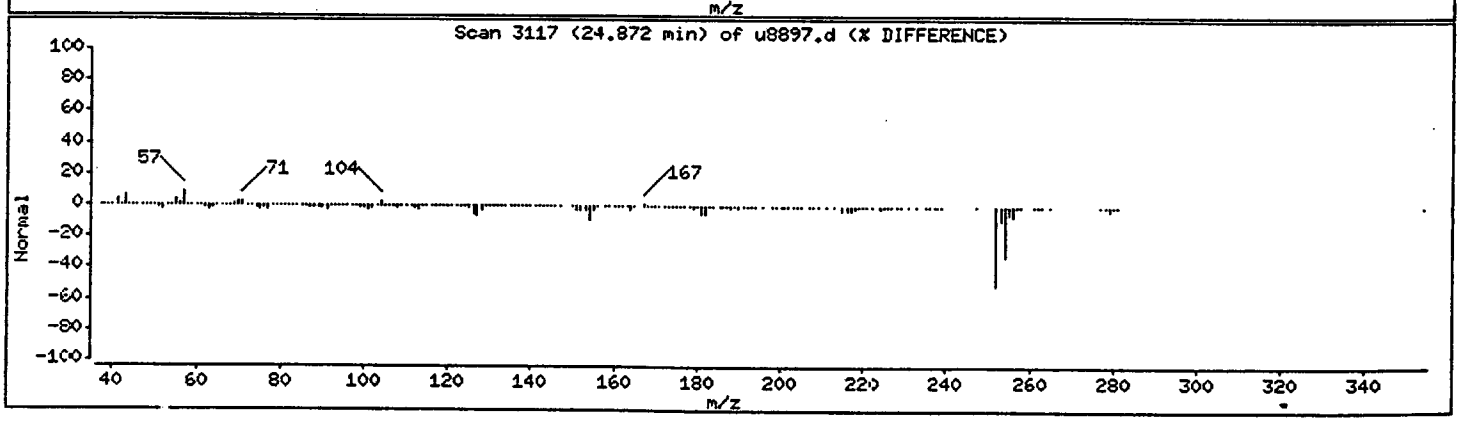
63 bis(2-Ethylhexyl)phthalate

Concentration: 20000000 ug/Kg









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Date : 10-JUN-1999 00:37

Client ID: GPC-15B

Instrument: BNAMS4.i

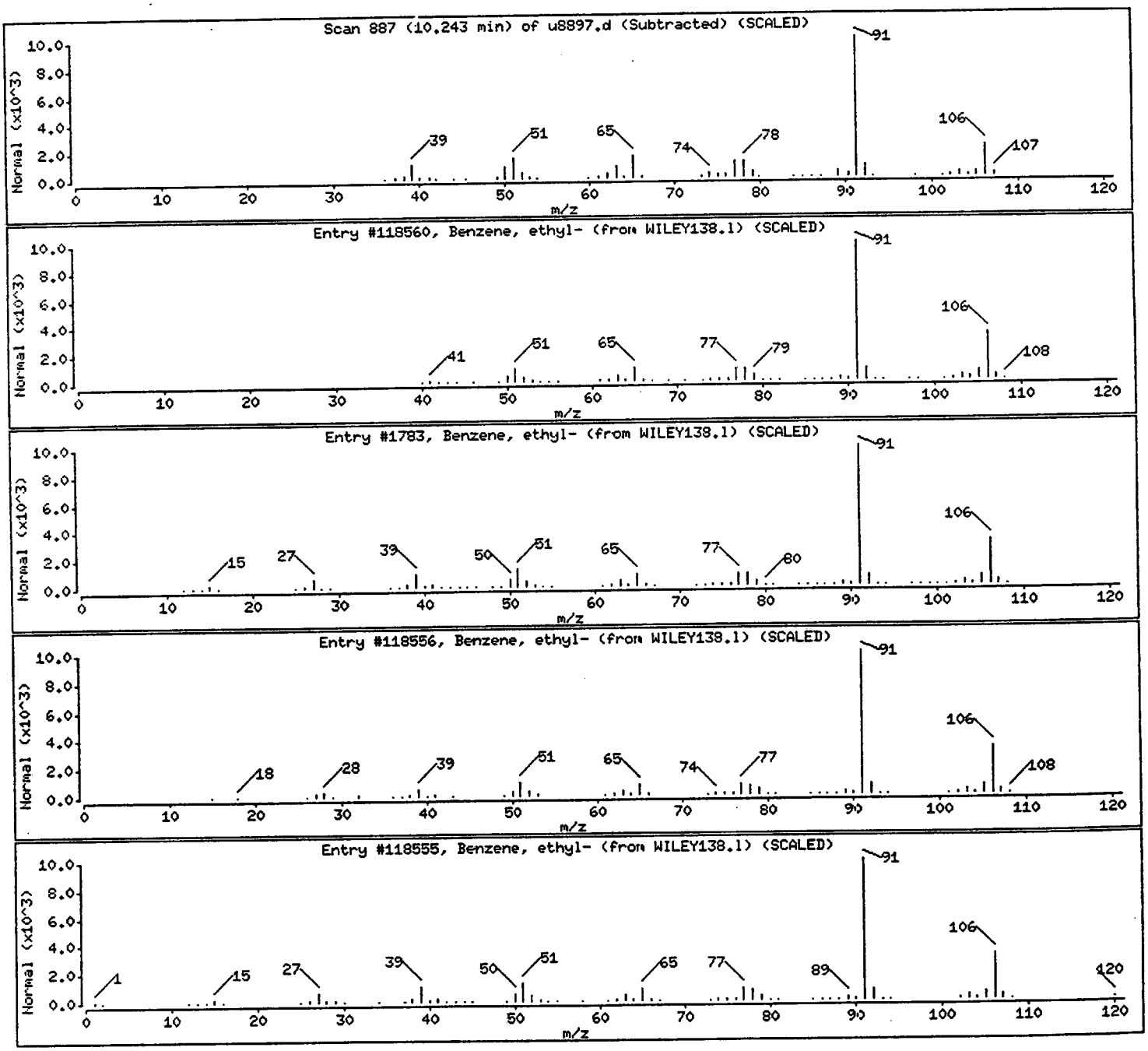
Sample Info: 135061;30;25;200;25.7

Operator: BNAMS 4

Column phase: DB-5

Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Xylene isomer						
Benzene, ethyl-	100-41-4	WILEY138.1	118560	94	C8H10	106
Benzene, ethyl-	100-41-4	WILEY138.1	1783	91	C8H10	106
Benzene, ethyl-	100-41-4	WILEY138.1	118556	91	C8H10	106
Benzene, ethyl-	100-41-4	WILEY138.1	118555	91	C8H10	106



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Date : 10-JUN-1999 00:37

Client ID: GPC-15B

Instrument: BNAMS4.i

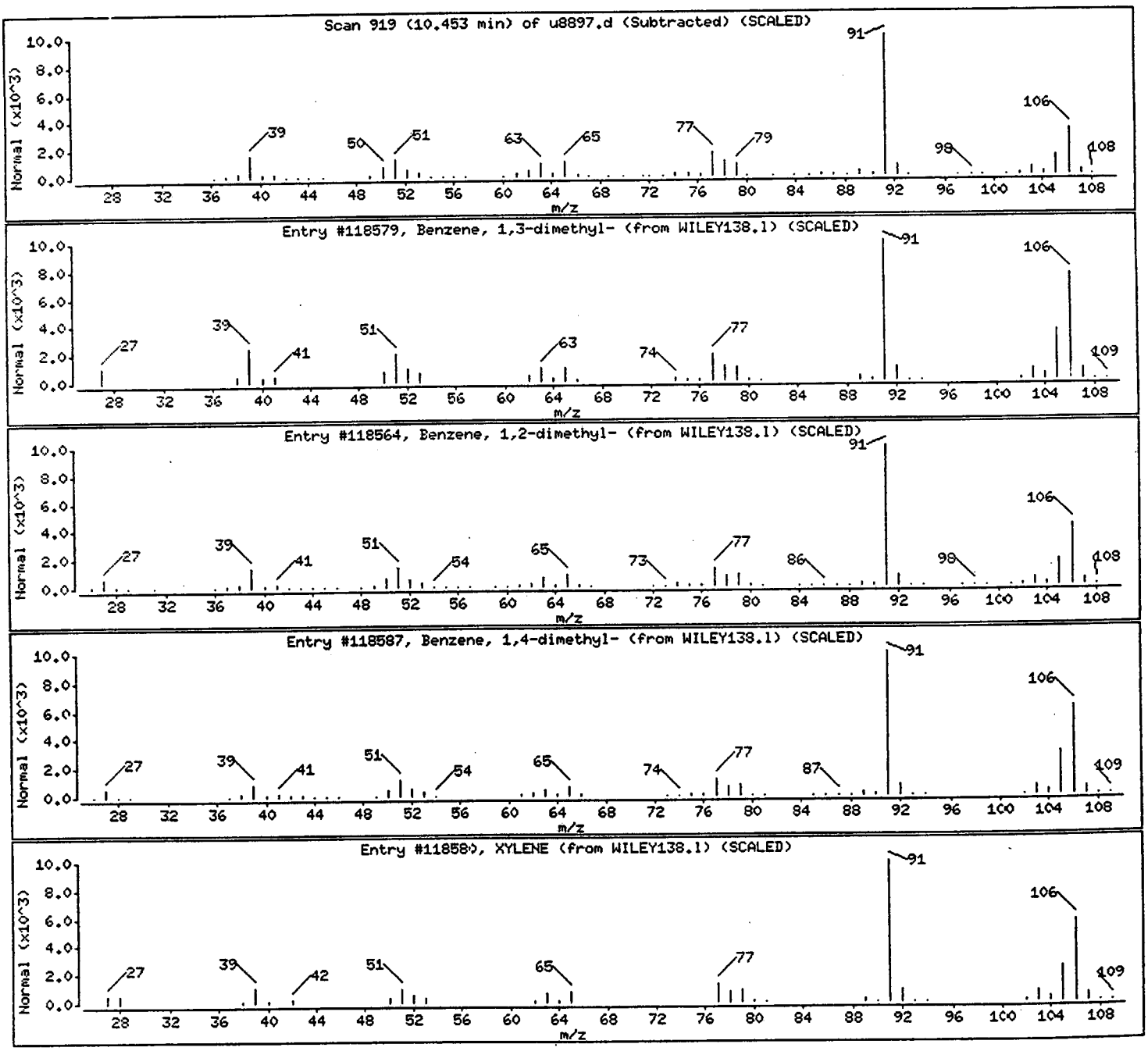
Sample Info: 135061;30;25;200;25.7

Operator: BNAMS 4

Column phase: DB-5

Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Xylene isomer						
Benzene, 1,3-dimethyl-	108-38-3	WILEY138.1	118579	96	C8H10	106
Benzene, 1,2-dimethyl-	95-47-6	WILEY138.1	118564	94	C8H10	106
Benzene, 1,4-dimethyl-	106-42-3	WILEY138.1	118587	94	C8H10	106
XYLENE	1330-20-7	WILEY138.1	118580	94	C8H10	106



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Date : 10-JUN-1999 00:37

Client ID: GPC-15B

Instrument: BNAMS4.i

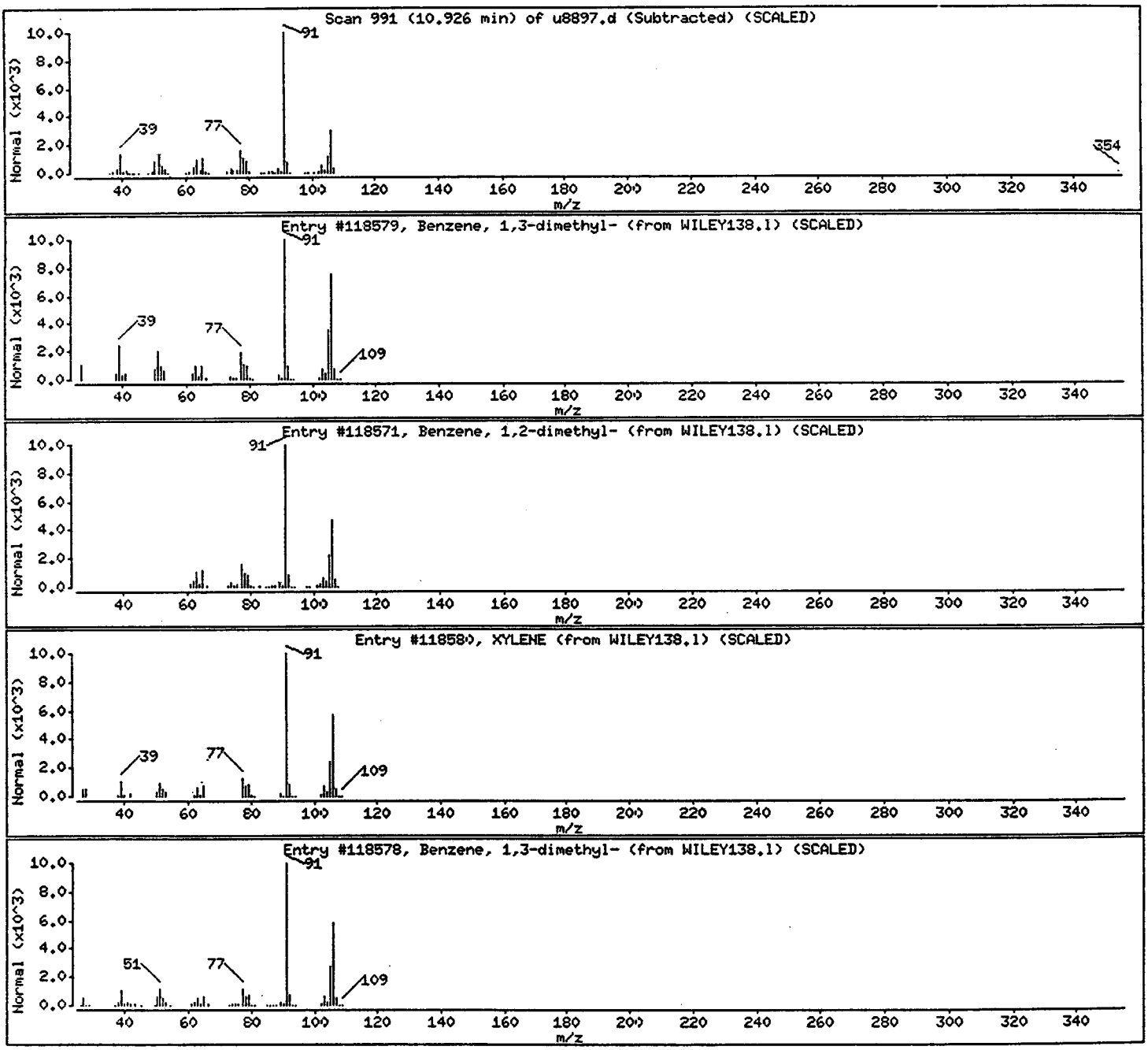
Sample Info: 135061;30;25;200;25.7

Operator: BNAMS 4

Column phase: DB-5

Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Xylene isomer						
Benzene, 1,3-dimethyl-	108-38-3	WILEY138.1	118579	96	C8H10	106
Benzene, 1,2-dimethyl-	95-47-6	WILEY138.1	118571	94	C8H10	106
XYLENE	1330-20-7	WILEY138.1	118580	94	C8H10	106
Benzene, 1,3-dimethyl-	108-38-3	WILEY138.1	118578	94	C8H10	106



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Date : 10-JUN-1999 00:37

Client ID: GPC-15B

Instrument: BNAMS4.i

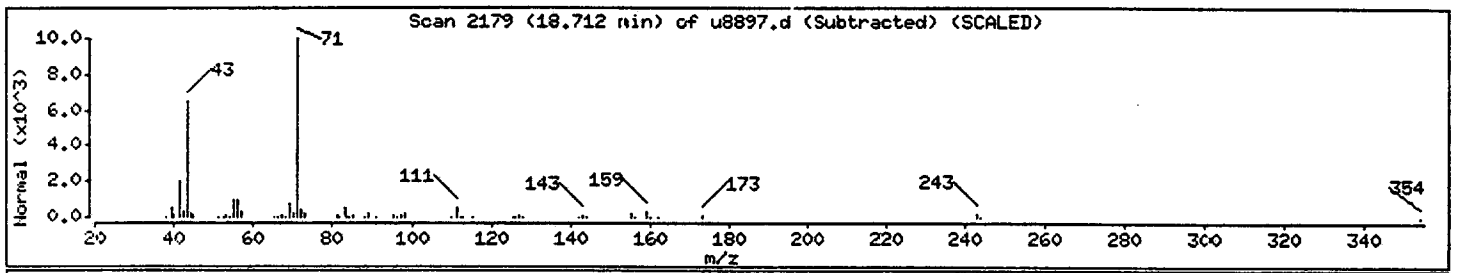
Sample Info: 135061;30;25;200;25.7

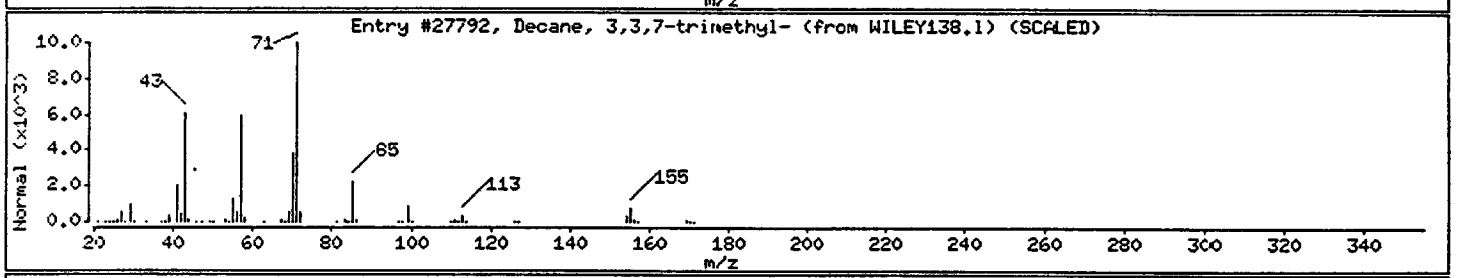
Operator: BNAMS 4

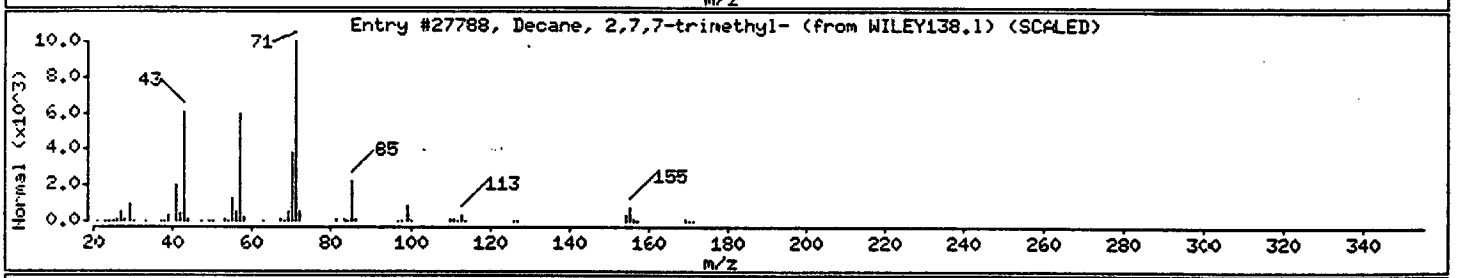
Column phase: DB-5

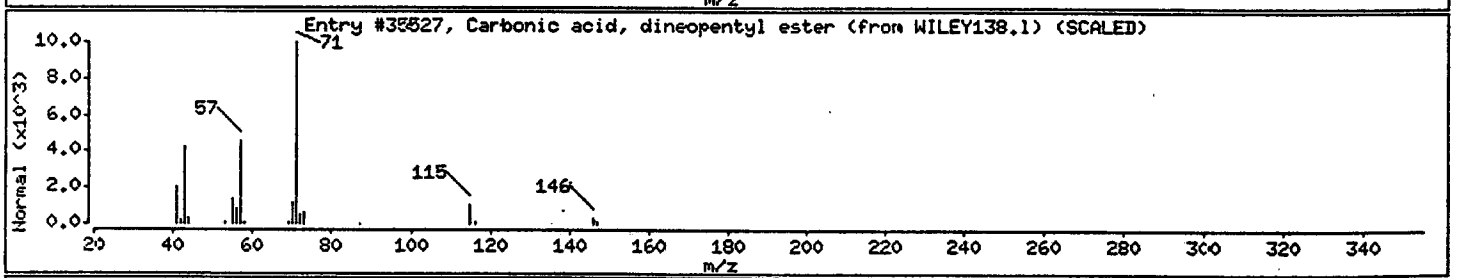
Column diameter: 0.25

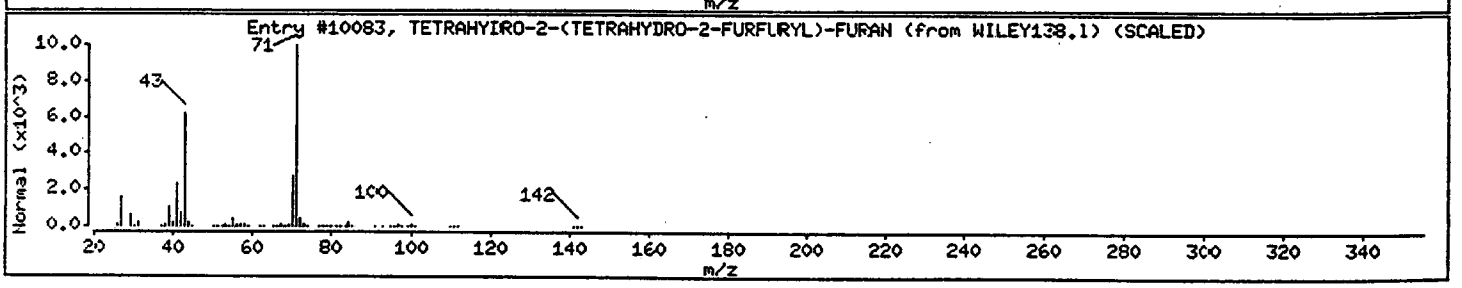
Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Decane, 3,3,7-trimethyl-	0-00-0	WILEY138.1	27792	39	C13H28	184
Decane, 2,7,7-trimethyl-	62338-15-2	WILEY138.1	27788	39	C13H28	184
Carbonic acid, dineopentyl ester	13183-14-7	WILEY138.1	35527	39	C11H2203	202
TETRAHYDRO-2-(TETRAHYDRO-2-FURFURYL)-FUR	0-00-0	WILEY138.1	10083	38	C8H1402	142











Client ID: **GPC-15B**
Site: L.E. Carpenter

Lab Sample No: **135061**
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99
Date Extracted: 06/07/99
Date Analyzed: 06/10/99
GC Column: DB-5
Instrument ID: BNAMS4.i
Lab File ID: u8897.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 25.0 ml
Dilution Factor: 200.0
% Moisture: 26

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
N-Nitrosodimethylamine	ND	1100000
bis(2-Chloroethyl)ether	ND	110000
1,3-Dichlorobenzene	ND	1100000
1,4-Dichlorobenzene	ND	1100000
1,2-Dichlorobenzene	ND	1100000
bis(2-chloroisopropyl)ether	ND	1100000
N-Nitroso-di-n-propylamine	ND	110000
Hexachloroethane	ND	110000
Nitrobenzene	ND	110000
Isophorone	ND	1100000
bis(2-Chloroethoxy)methane	ND	1100000
1,2,4-Trichlorobenzene	ND	110000
Naphthalene	ND	1100000
Hexachlorobutadiene	ND	220000
Hexachlorocyclopentadiene	ND	1100000
2-Chloronaphthalene	ND	1100000
Dimethylphthalate	ND	1100000
Acenaphthylene	ND	1100000
2,6-Dinitrotoluene	ND	220000
Acenaphthene	ND	1100000
2,4-Dinitrotoluene	ND	220000
Diethylphthalate	ND	1100000
4-Chlorophenyl-phenylether	ND	1100000
Fluorene	ND	1100000
N-Nitrosodiphenylamine	ND	1100000
4-Bromophenyl-phenylether	ND	1100000
Hexachlorobenzene	ND	110000
Phenanthrene	ND	1100000
Anthracene	ND	1100000
Di-n-butylphthalate	ND	1100000
Fluoranthene	ND	1100000
Pyrene	ND	1100000
Benzidine	ND	4500000
Butylbenzylphthalate	530000 J	1100000

Client ID: **GPC-15B**
Site: L.E. Carpenter

Lab Sample No: **135061**
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99
Date Extracted: 06/07/99
Date Analyzed: 06/10/99
GC Column: DB-5
Instrument ID: BNAMS4.i
Lab File ID: u8897.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 25.0 ml
Dilution Factor: 200.0
% Moisture: 26

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
3,3'-Dichlorobenzidine	ND	2200000
Benzo(a)anthracene	ND	110000
Chrysene	ND	1100000
bis(2-Ethylhexyl)phthalate	20000000	1100000
Di-n-octylphthalate	ND	1100000
Benzo(b)fluoranthene	ND	110000
Benzo(k)fluoranthene	ND	110000
Benzo(a)pyrene	ND	110000
Indeno(1,2,3-cd)pyrene	ND	110000
Dibenz(a,h)anthracene	ND	110000
Benzo(g,h,i)perylene	ND	1100000

Client ID: **GPC-15B**
Site: L.E. Carpenter

Lab Sample No: **135061**
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99
Date Extracted: 06/07/99
Date Analyzed: 06/10/99
GC Column: DB-5
Instrument ID: BNAMS4.i
Lab File ID: u8897.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 25.0 ml
Dilution Factor: 200.0
% Moisture: 25.7

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. Benzene, ethyl-	10.24	9100000	
2. Xylene isomer	10.45	24000000	
3. Xylene isomer	10.93	10000000	
4. Unknown	18.71	1000000	
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.			

TOTAL ESTIMATED CONCENTRATION 44100000

Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9667.d
Report Date: 07-Jun-1999 13:01

STL Envirotech

VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9667.d
Lab Smp Id: 135061 Client Smp ID: GPC-15B
Inj Date : 06-JUN-1999 21:13
Operator : VOAMS 5 Inst ID: VOAMS5.i
Smp Info : 135061;50000;25.7;5.04;10
Misc Info : Q043;8950;JXZ
Comment : AT
Method : /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/8260H_99.m
Meth Date : 06-Jun-1999 15:45 cak Quant Type: ISTD
Cal Date : 16-MAY-1999 17:11 Cal File: e9139.d
Als bottle: 18
Dil Factor: 50000.00000
Integrator: HP RTE Compound Sublist: PPVOA.sub
Target Version: 3.40
Processing Host: hpd2

Concentration Formula: Amt * DF * (Vt/Ws)/((100-M)/100)

Name	Value	Description
DF	50000.000	Dilution Factor
Vt	10.000	Volume of final extract (mL)
Ws	5.040	Weight of sample extracted (g)
M	25.700	% Moisture (not decanted)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/Kg)
* 19 Fluorobenzene	96	9.086	9.094	(1.000)	2600179	50.0000	
38 Toluene	91	11.143	11.138	(0.874)	172538	3.55739	470000(a)
* 32 Chlorobenzene-d5	117	12.748	12.744	(1.000)	2105237	50.0000	
40 Ethylbenzene	106	12.873	12.869	(1.010)	1302925	76.6061	10000000
M 45 Xylene (Total)	100				6870013	315.902	42000000
* 91 1,4-Dichlorobenzene-d4	152	15.227	15.227	(1.000)	1064092	50.0000	
43 m+p-Xylene	106	12.998	12.994	(1.020)	5102129	230.835	31000000
44 o-Xylene	106	13.435	13.447	(1.054)	1767884	84.0407	11000000

QC Flag Legend

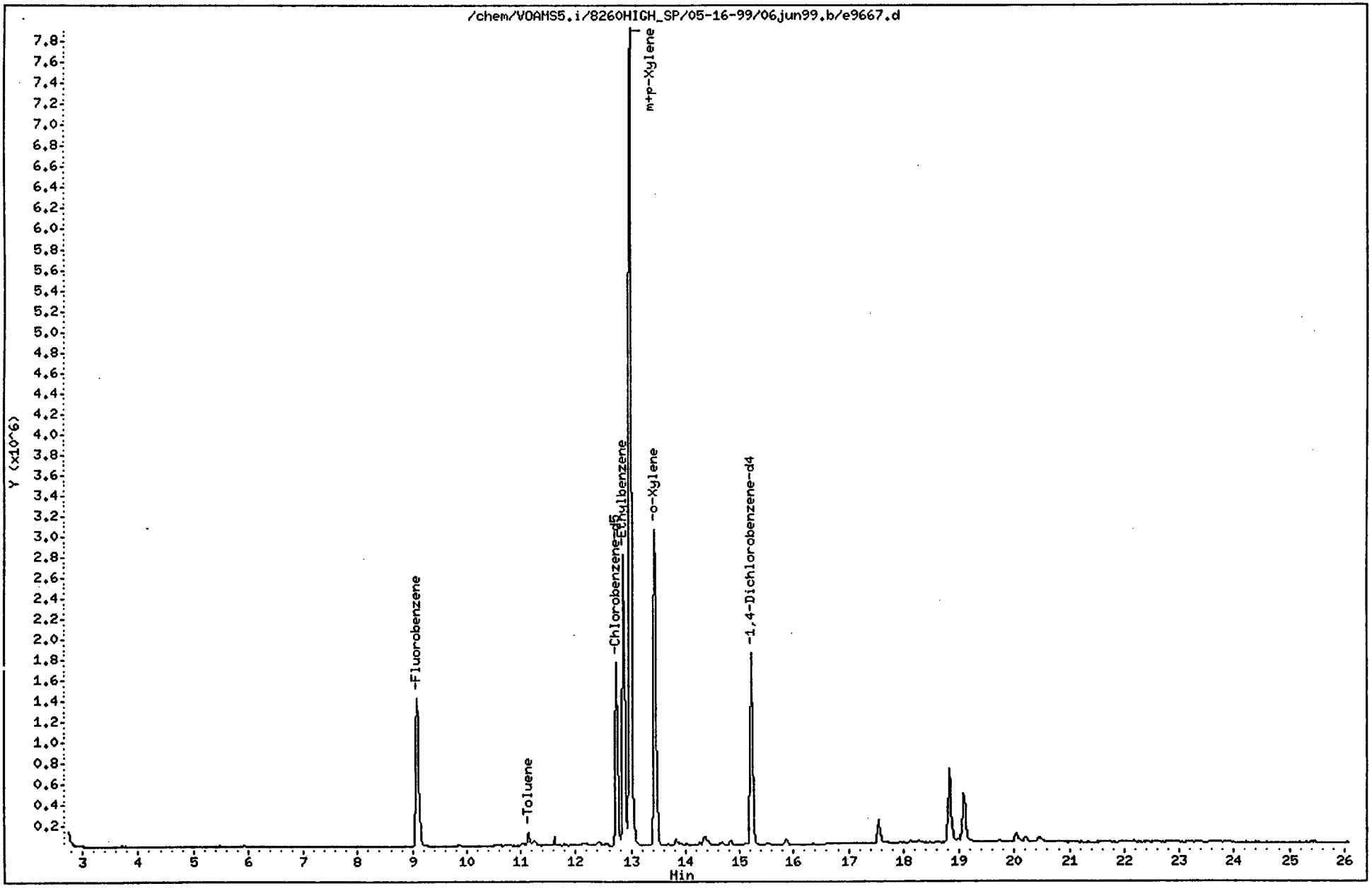
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9667.d
Date : 06-JUN-1999 21:13
Client ID: GPC-15B
Sample Info: 135061;50000;25.7;5.04;10

Instrument: VOAMS5.i

Operator: VOAMS 5
Column diameter: 0.53

Column phase: DB624



34

Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9667.d

Date : 06-JUN-1999 21:13

Client ID: GPC-15B

Instrument: VOAMS5.i

Sample Info: 135061;50000;25.7;5.04;10

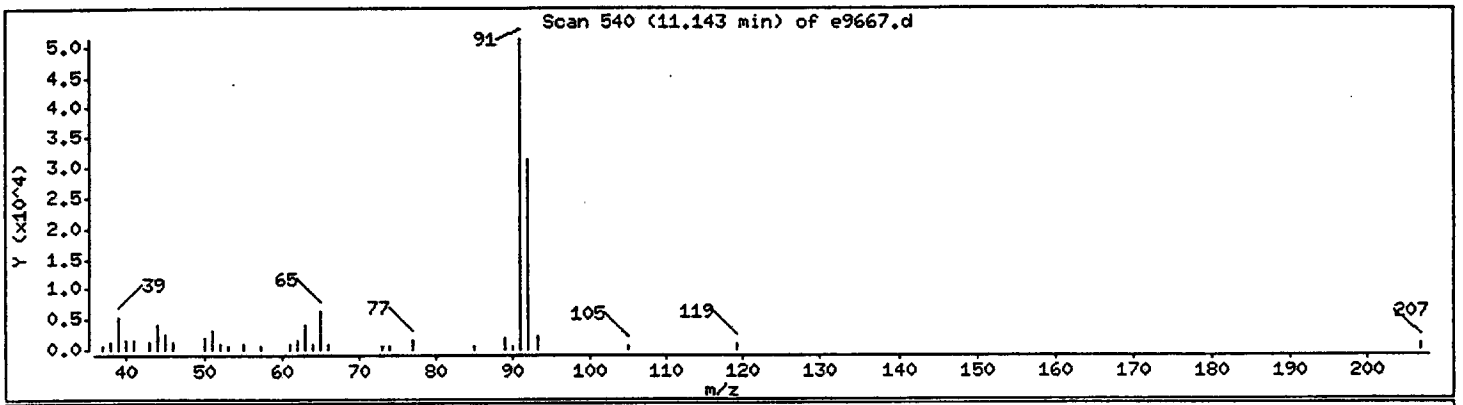
Operator: VOAMS 5

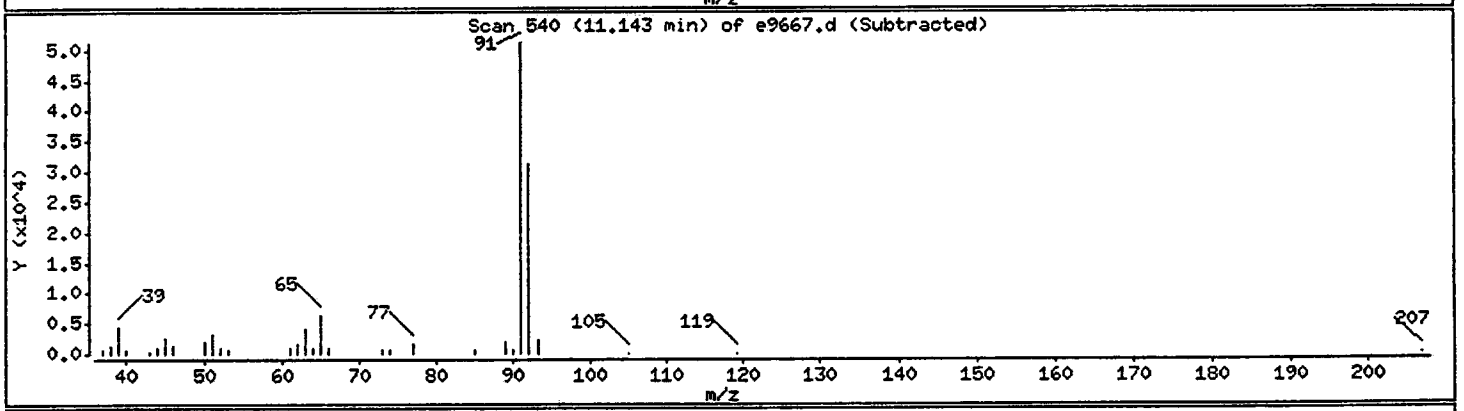
Column phase: DB624

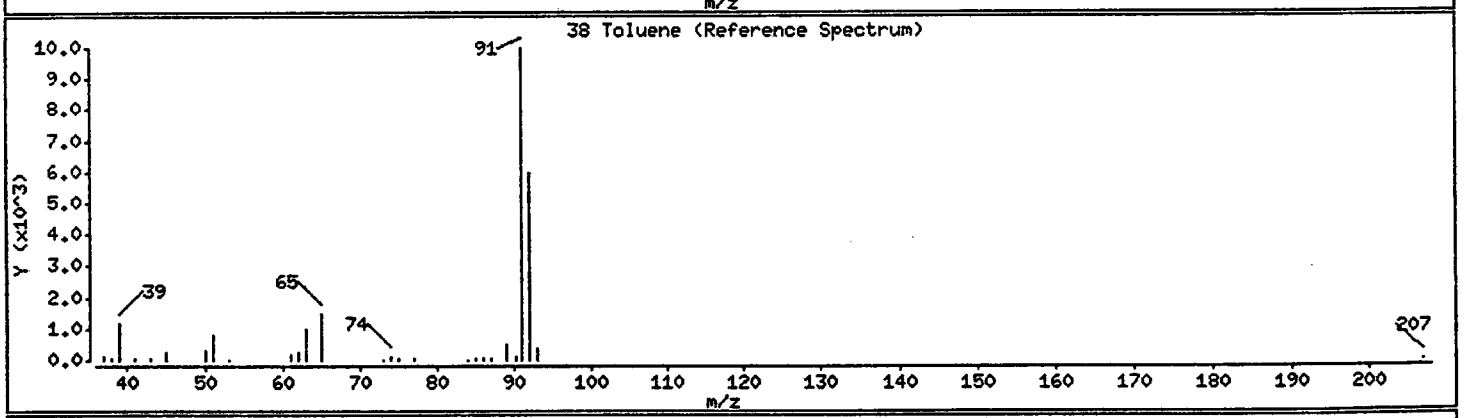
Column diameter: 0.53

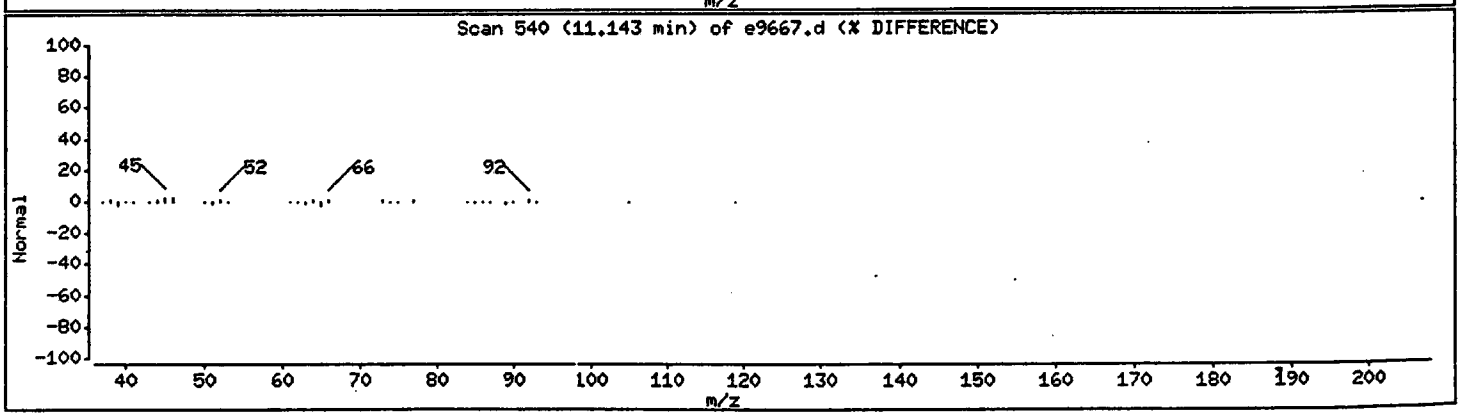
38 Toluene

Concentration: 470000 ug/Kg









Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9667.d

Date : 06-JUN-1999 21:13

Client ID: GPC-15B

Instrument: VOAMS5.i

Sample Info: 135061;50000;25.7;5.04;10

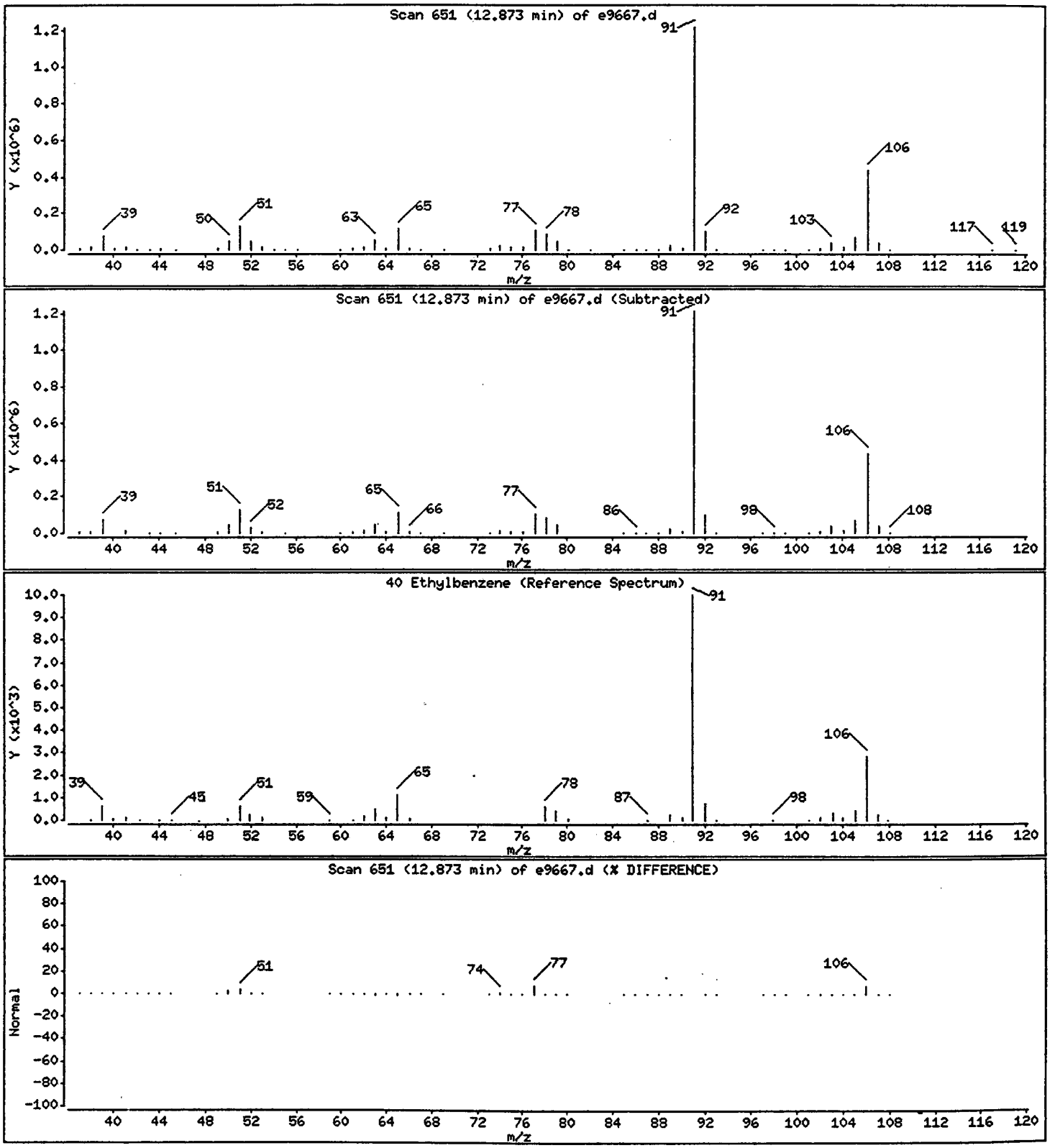
Operator: VOAMS 5

Column phase: DB624

Column diameter: 0.53

40 Ethylbenzene

Concentration: 10000000 ug/Kg



Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9667.d

Date : 06-JUN-1999 21:13

Client ID: GPC-15B

Instrument: VOAMS5.i

Sample Info: 135061;50000;25.7;5.04;10

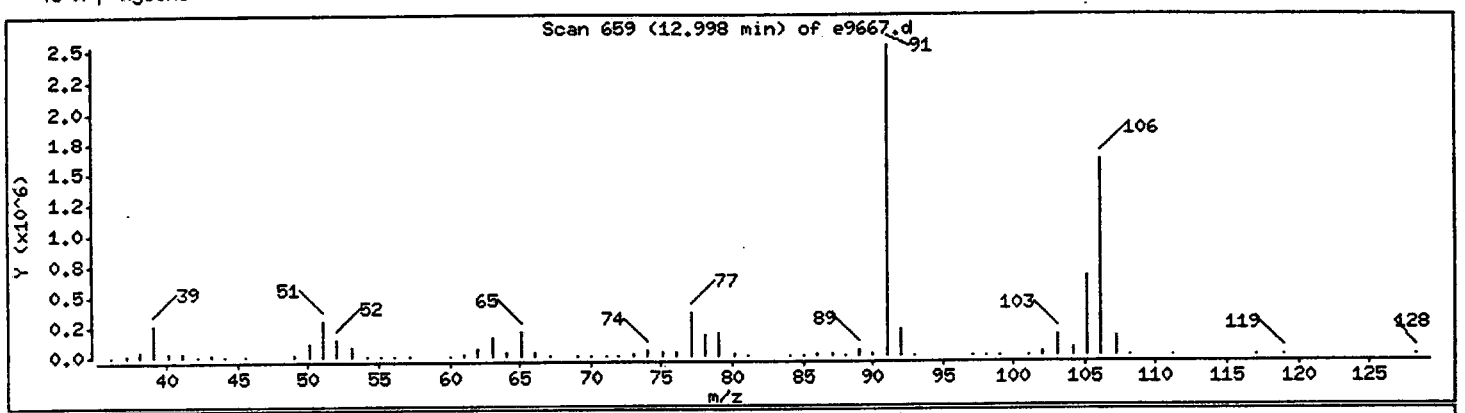
Operator: VOAMS 5

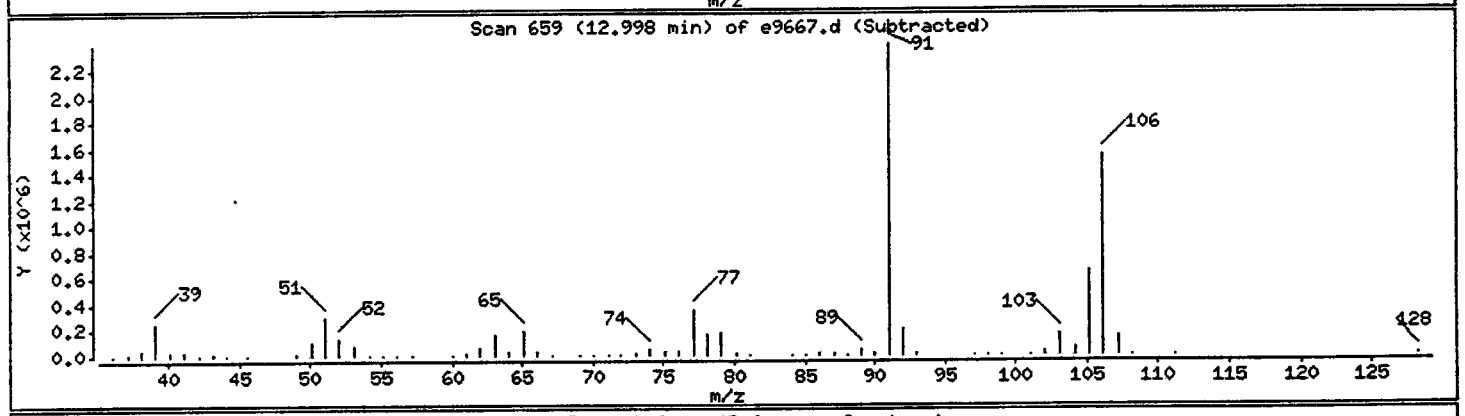
Column phase: DB624

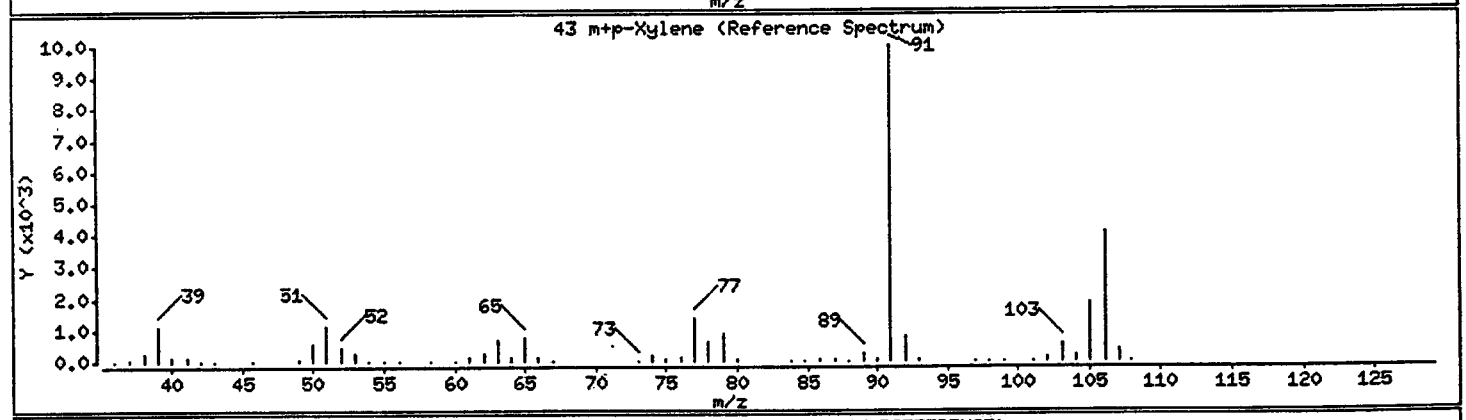
Column diameter: 0.53

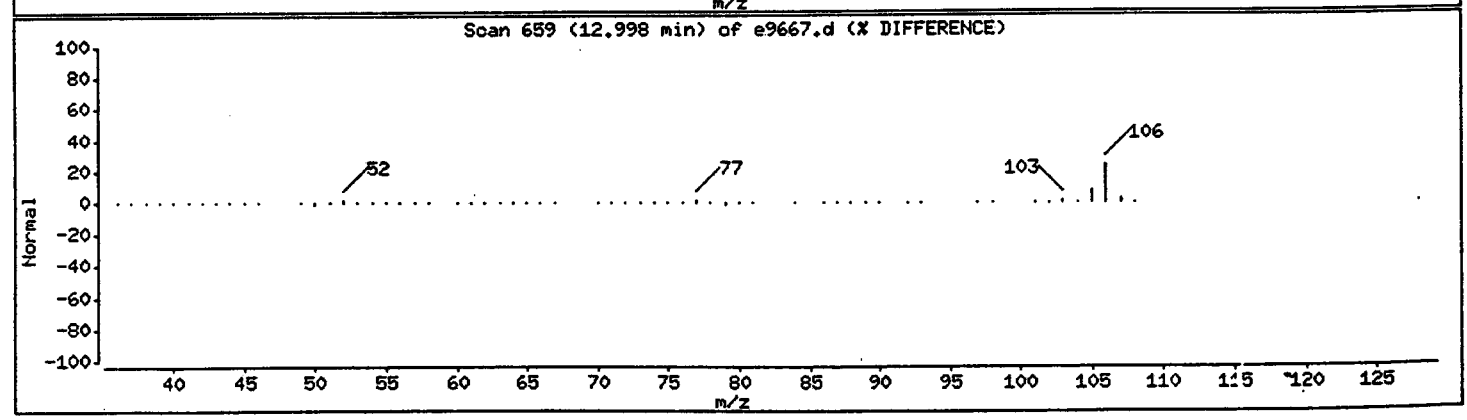
43 m+p-Xylene

Concentration: 31000000 ug/Kg









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Date : 06-JUN-1999 21:13

Client ID: GPC-15B

Instrument: VOAMS5.i

Sample Info: 135061;50000;25.7;5.04;10

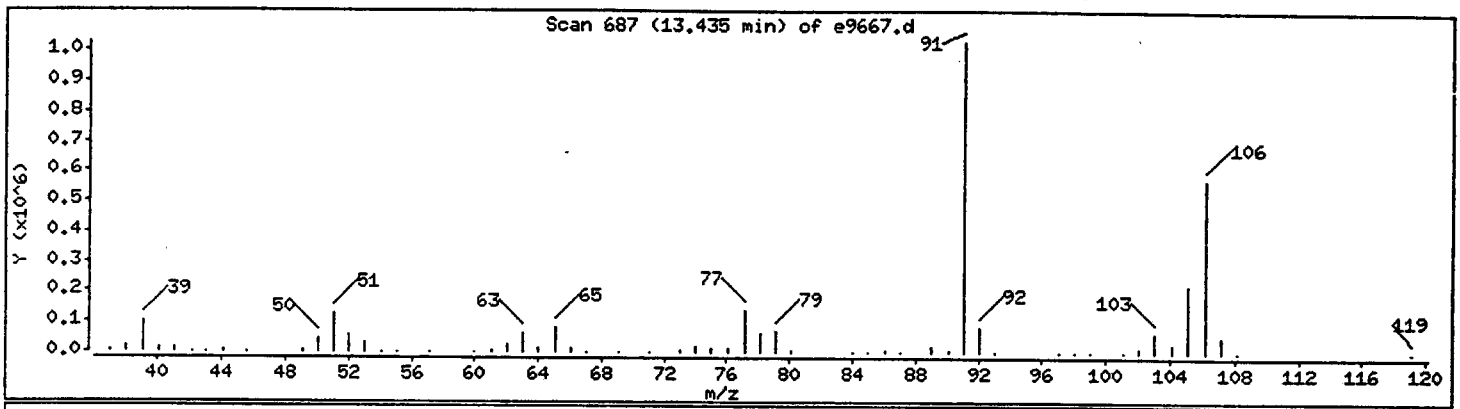
Operator: VOAMS 5

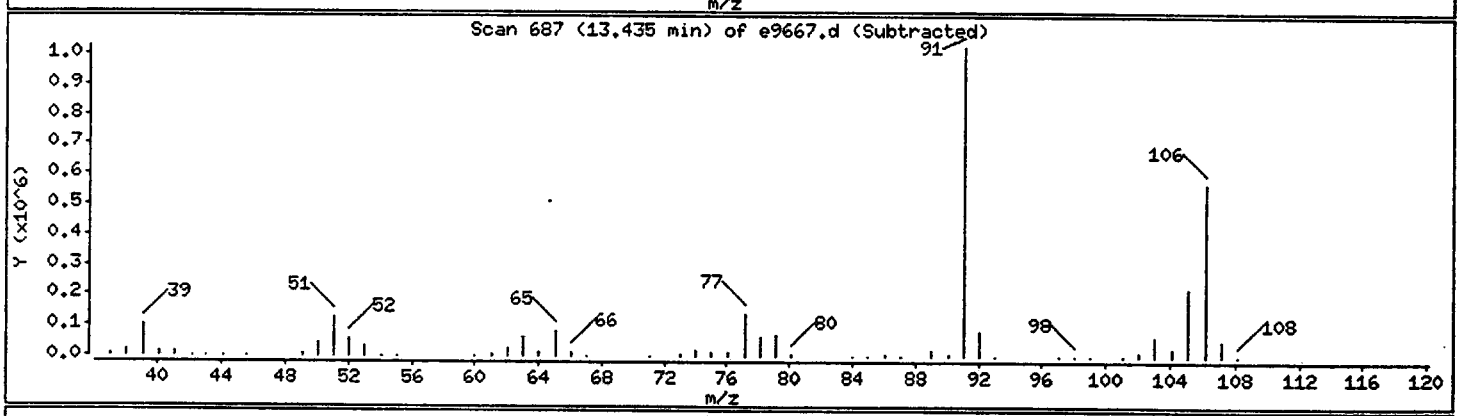
Column phase: DB624

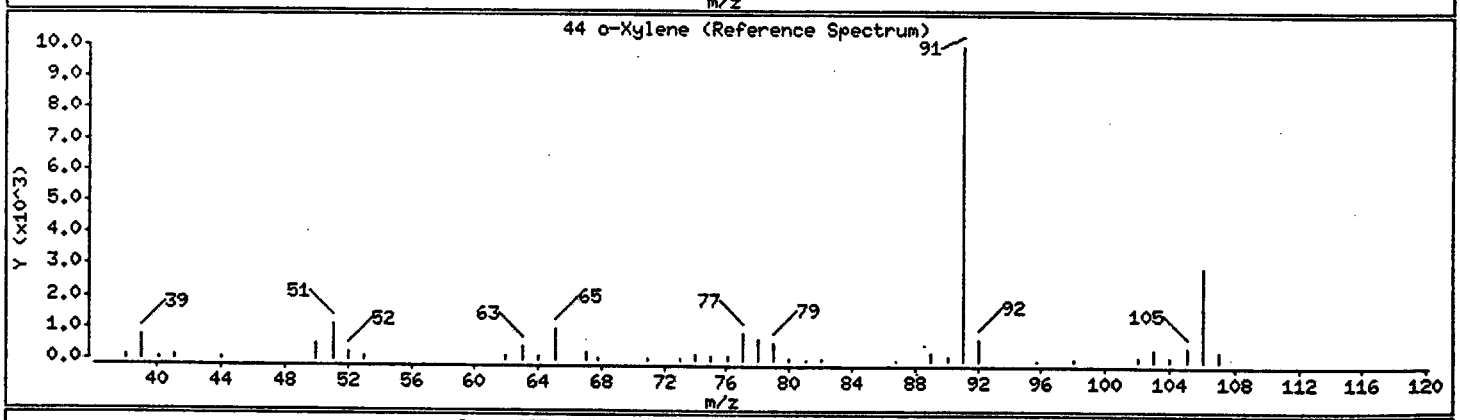
Column diameter: 0.53

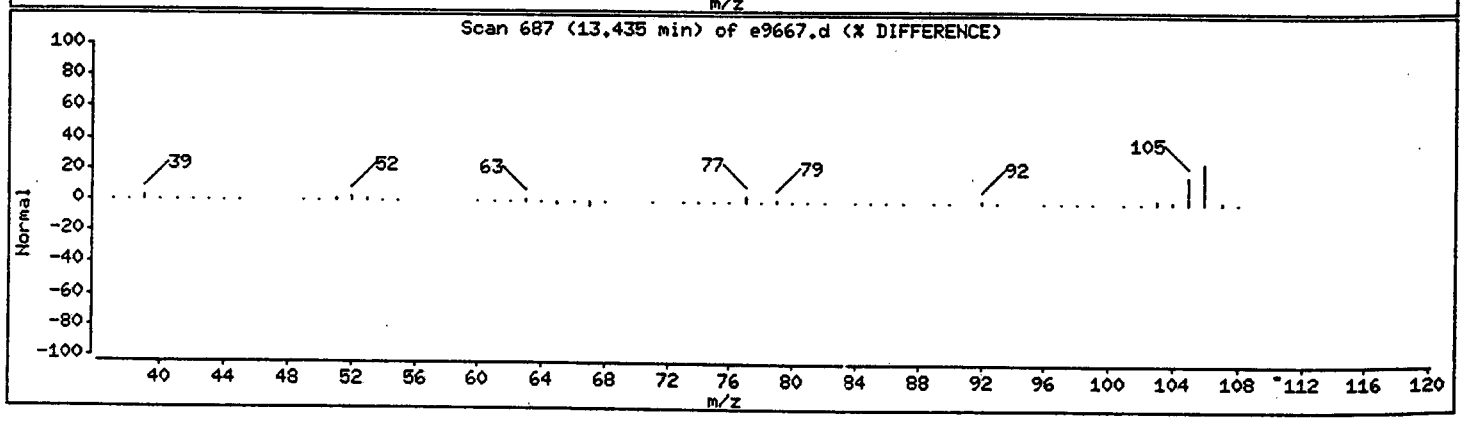
44 o-Xylene

Concentration: 11000000 ug/Kg









Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9667.d

Date : 06-JUN-1999 21:13

Client ID: GPC-15B

Instrument: VOAMS5.i

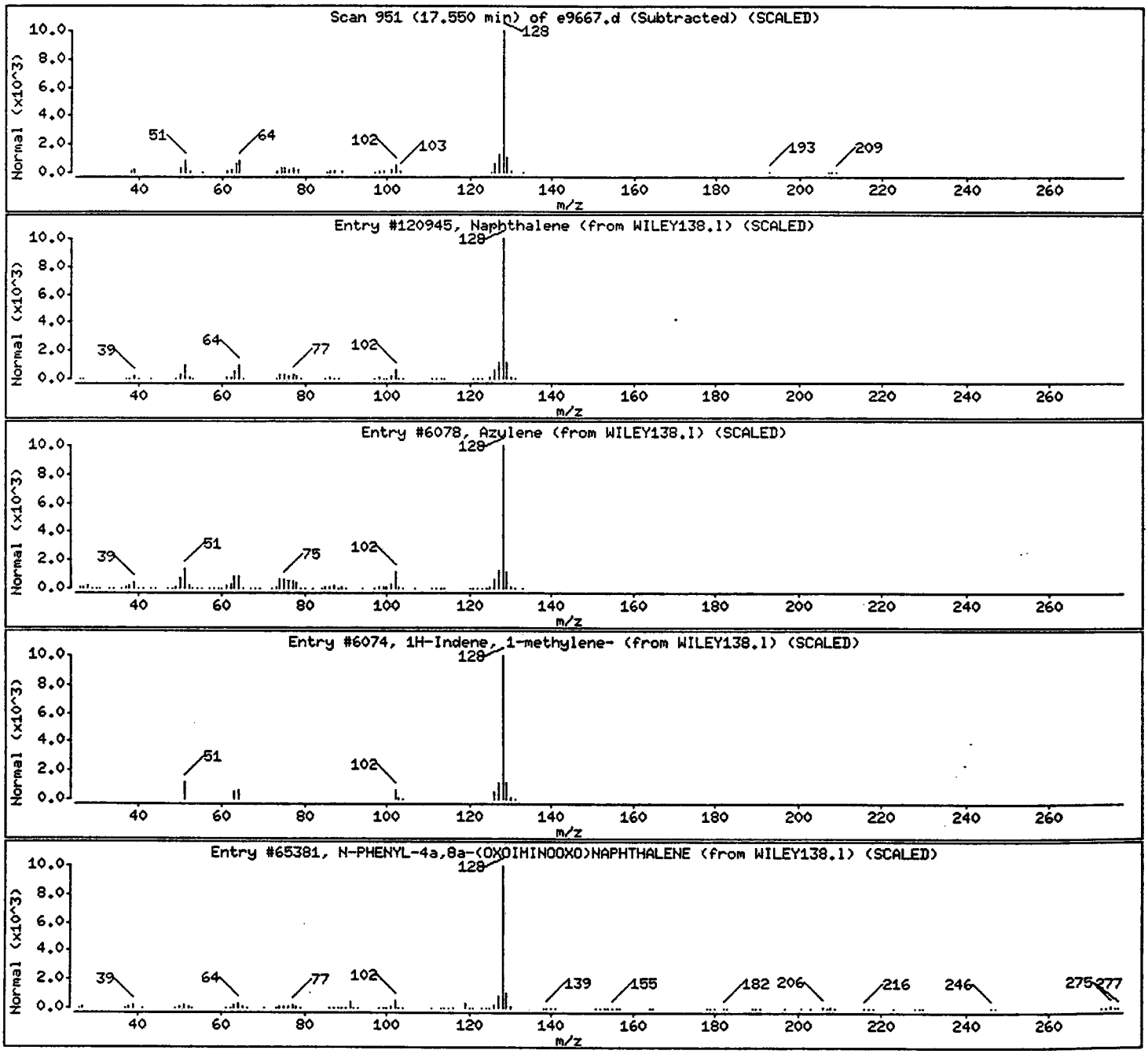
Sample Info: 135061;50000;25.7;5.04;10

Operator: VOAMS 5

Column phase: DB624

Column diameter: 0.53

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Naphthalene	91-20-3	WILEY138.1	120945	95	C10H8	128
Azulene	275-51-4	WILEY138.1	6078	94	C10H8	128
1H-Indene, 1-methylene-	2471-84-3	WILEY138.1	6074	87	C10H8	128
N-PHENYL-4a,8a-(OXOIMINOOXO)NAPHTHALENE	0-00-0	WILEY138.1	65381	74	C18H13NO2	275



Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9667.d

Date : 06-JUN-1999 21:13

Client ID: GPC-15B

Instrument: VOAMS5.i

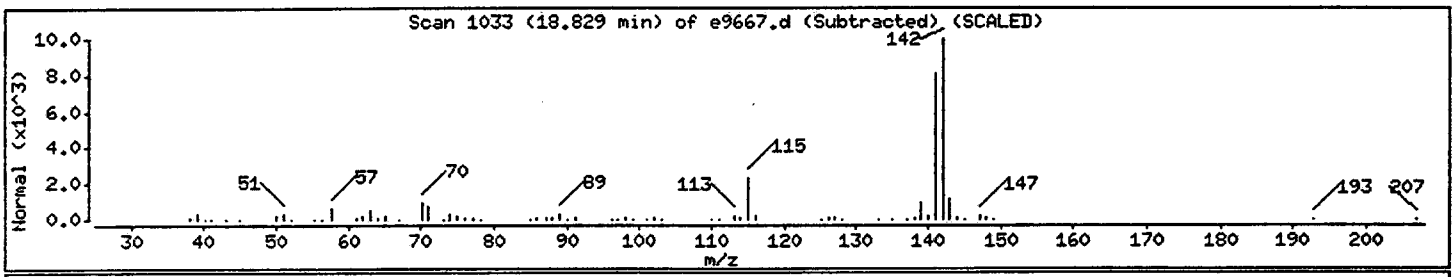
Sample Info: 135061;50000;25.7;5.04;10

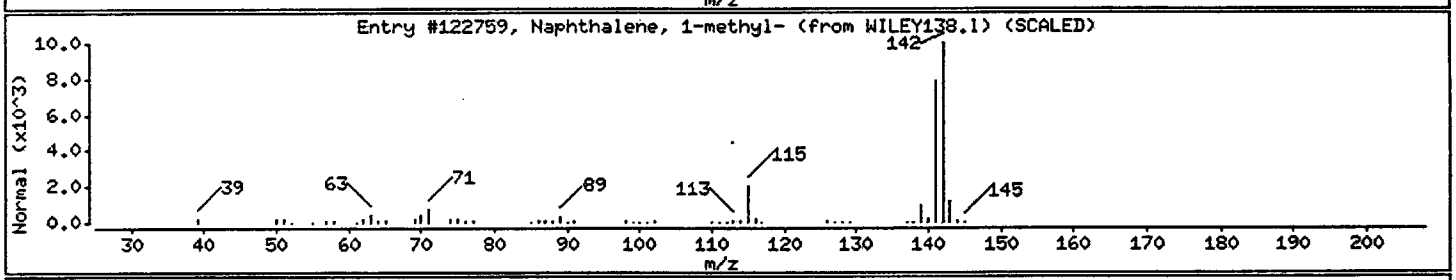
Operator: VOAMS 5

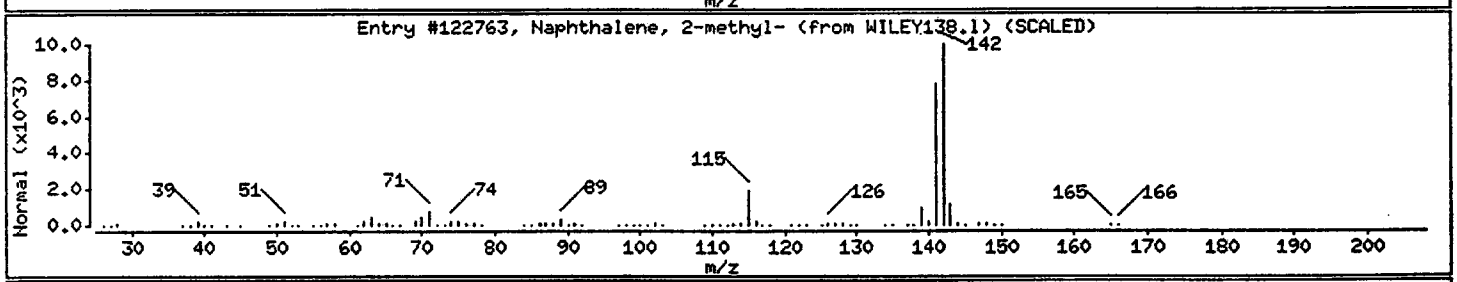
Column phase: DB624

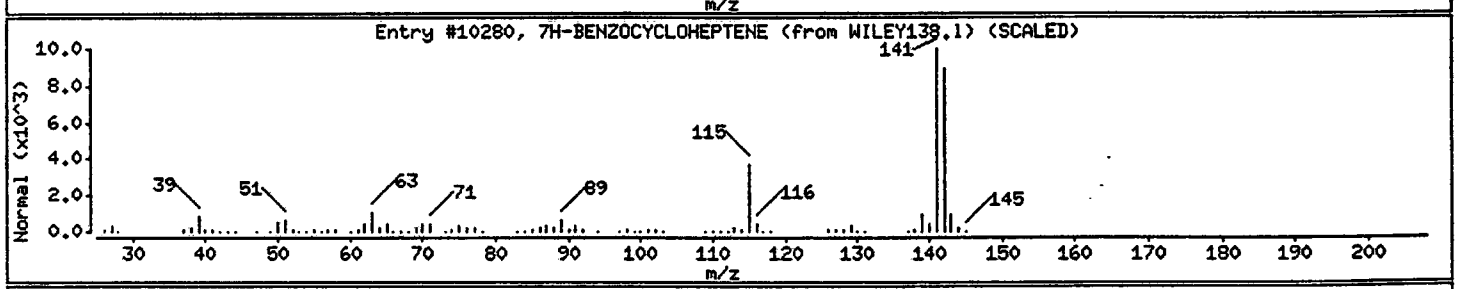
Column diameter: 0.53

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methylnaphthalene isomer						
Naphthalene, 1-methyl-	90-12-0	WILEY138.l	122759	97	C11H10	142
Naphthalene, 2-methyl-	91-57-6	WILEY138.l	122763	95	C11H10	142
7H-BENZOCYCLOHEPTENE	0-00-0	WILEY138.l	10280	90	C11H10	142









Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9667.d

Date : 06-JUN-1999 21:13

Client ID: GPC-15B

Instrument: VOAMS5.i

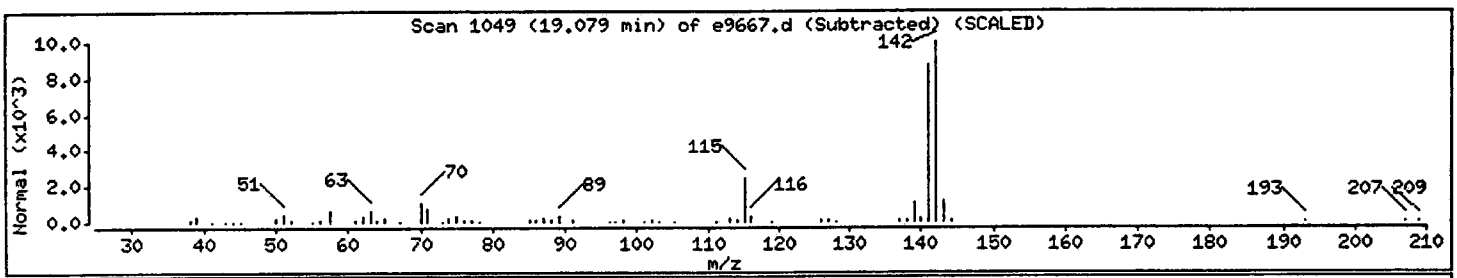
Sample Info: 135061;50000;25.7;5.04;10

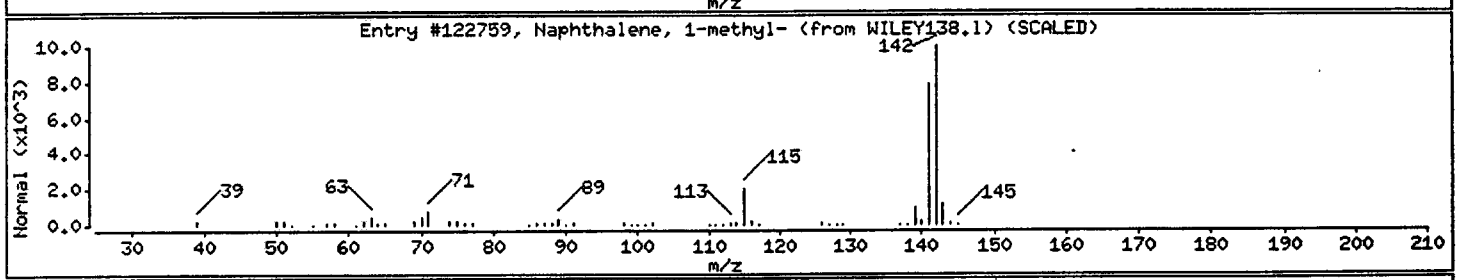
Operator: VOAMS 5

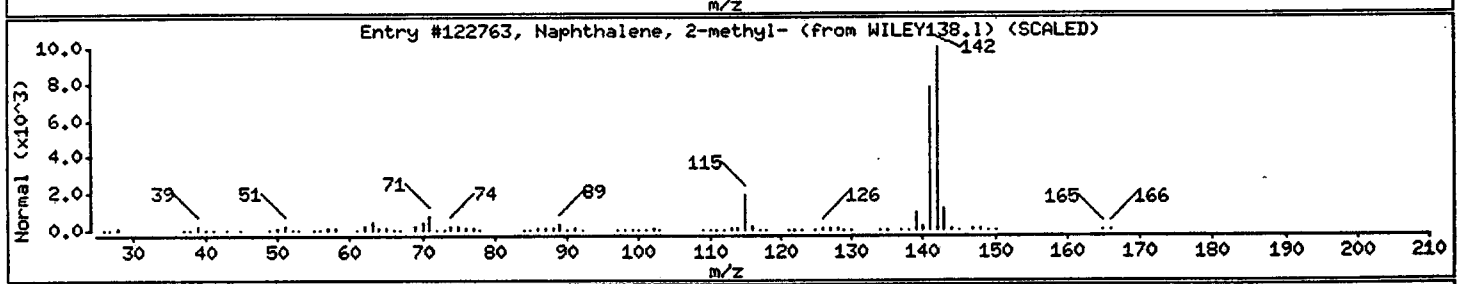
Column phase: DB624

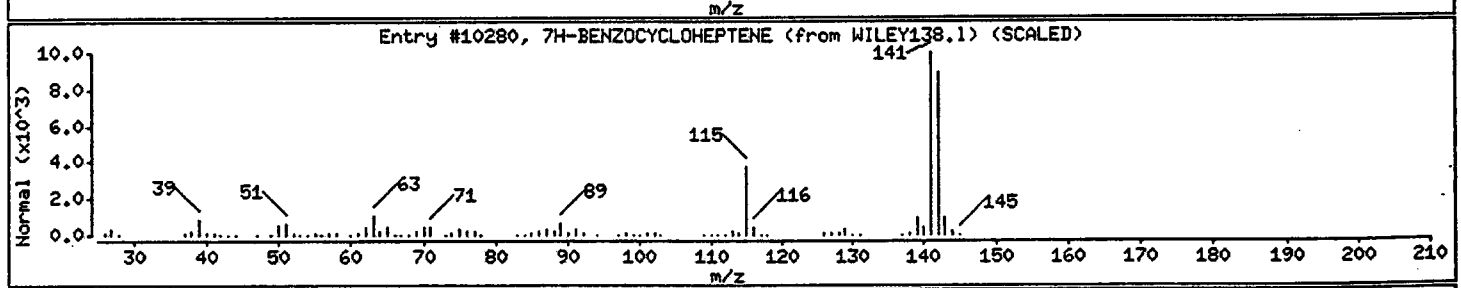
Column diameter: 0.53

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Methylnaphthalene isomer						
Naphthalene, 1-methyl-	90-12-0	WILEY138.1	122759	97	C11H10	142
Naphthalene, 2-methyl-	91-57-6	WILEY138.1	122763	95	C11H10	142
7H-BENZOCYCLOHEPTENE	0-00-0	WILEY138.1	10280	90	C11H10	142









VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab File ID: E9133

BFB Injection Date: 05/16/99

Instrument ID: VOAMS5

BFB Injection Time: 1434

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.4
75	30.0 - 60.0% of mass 95	43.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.2 (0.2)1
174	50.0 - 100.0% of mass 95	89.4
175	5.0 - 9.0% of mass 174	6.5 (7.2)1
176	95.0 - 101.0% of mass 174	88.0 (98.4)1
177	5.0 - 9.0% of mass 176	5.6 (6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT ID	LAB SAMPLE No.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	ESTD005	ESTD005	E9135	05/16/99	1517
02	ESTD020	ESTD020	E9136	05/16/99	1545
03	ESTD050	ESTD050	E9137	05/16/99	1614
04	ESTD100	ESTD100	E9138	05/16/99	1642
05	ESTD200	ESTD200	E9139	05/16/99	1711
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/16may99.b/e9133.d

Date : 16-MAY-1999 14:34

Client ID: EBFB136 50ng

Instrument: VOAMS5.i

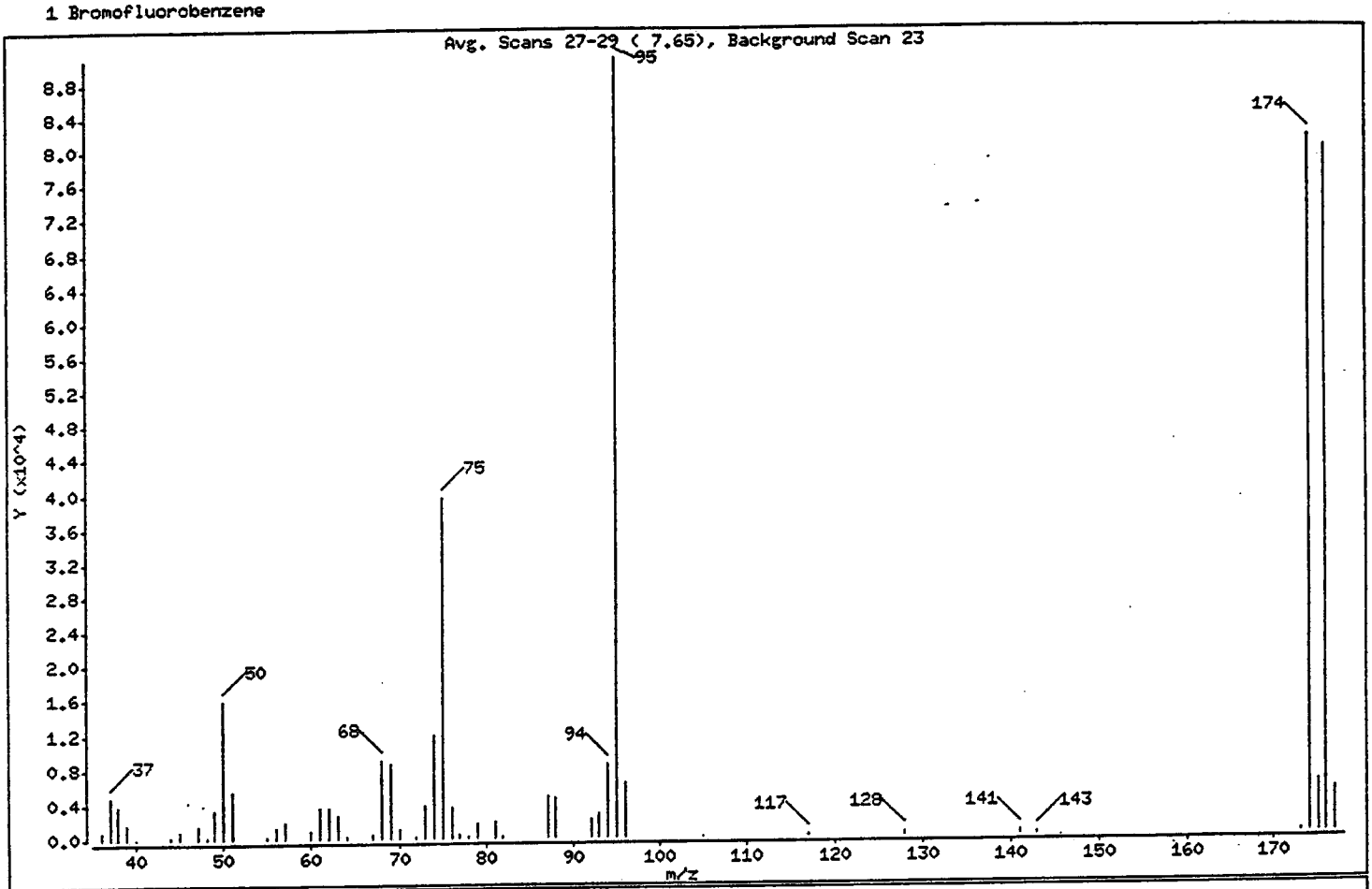
Sample Info: EBFB136 50ng

Operator: VOAMS 5

Column phase: DB-624

Column diameter: 0.53

1 Bromofluorobenzene



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.40
75	30.00 - 60.00% of mass 95	43.35
96	5.00 - 9.00% of mass 95	7.00
173	Less than 2.00% of mass 174	0.22 (0.25)
174	50.00 - 100.00% of mass 95	89.41
175	5.00 - 9.00% of mass 174	6.47 (7.24)
176	95.00 - 101.00% of mass 174	87.95 (98.37)
177	5.00 - 9.00% of mass 176	5.60 (6.36)

Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/16may99.b/e9133.d

Date : 16-MAY-1999 14:34

Client ID: EBFB136 50ng

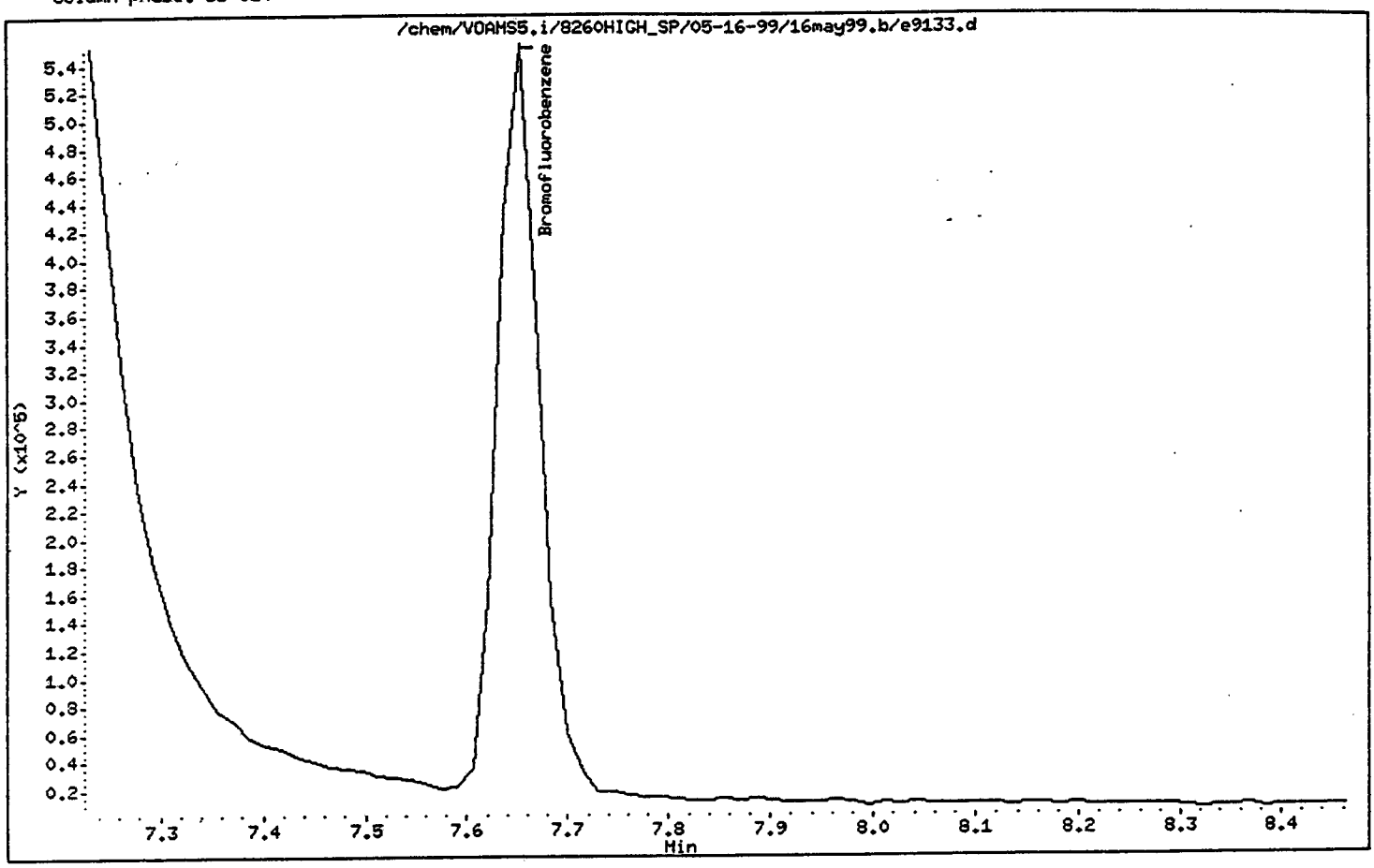
Instrument: VOAMS5.i

Sample Info: EBFB136 50ng

Operator: VOAMS 5

Column phase: DB-624

Column diameter: 0.53



Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/16may99.b/e9133.d

Date : 16-MAY-1999 14:34

Client ID: EBFB136 50ng

Instrument: VOAMS5.i

Sample Info: EBFB136 50ng

Operator: VOAMS 5

Column phase: DB-624

Column diameter: 0.53

Data File: e9133.d
Spectrum: Avg. Scans 27-29 (7.65), Background Scan 23
Location of Maximum: 95.00
Number of points: 51

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	922	56.00	1324	74.00	11811	95.00	90880
37.00	4710	57.00	1800	75.00	39392	96.00	6363
38.00	3784	60.00	773	76.00	3592	105.00	90
39.00	1624	61.00	3646	77.00	442	117.00	237
40.00	80	62.00	3490	78.00	298	128.00	487
44.00	213	63.00	2802	79.00	1638	141.00	319
45.00	932	64.00	221	81.00	1813	143.00	224
47.00	1539	67.00	410	82.00	222	173.00	201
48.00	216	68.00	9014	87.00	4821	174.00	81248
49.00	3302	69.00	8518	88.00	4665	175.00	5884
50.00	15810	70.00	1137	92.00	2002	176.00	79928
51.00	5435	72.00	251	93.00	2694	177.00	5087
55.00	272	73.00	3753	94.00	8409		

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab File ID: E9649

BFB Injection Date: 06/06/99

Instrument ID: VOAMS5

BFB Injection Time: 1106

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.3
75	30.0 - 60.0% of mass 95	43.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.2 (0.3)1
174	50.0 - 100.0% of mass 95	80.9
175	5.0 - 9.0% of mass 174	5.8 (7.2)1
176	95.0 - 101.0% of mass 174	79.4 (98.1)1
177	5.0 - 9.0% of mass 176	5.4 (6.8)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT ID	LAB SAMPLE No.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	ESTD157	ESTD157	E9650	06/06/99	1137
02	EV157	EV157	E9653	06/06/99	1348
03	GPC-15B	135061	E9667	06/06/99	2113
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9649.d

Date : 06-JUN-1999 11:06

Client ID:

Sample Info: EBFB157 50ng

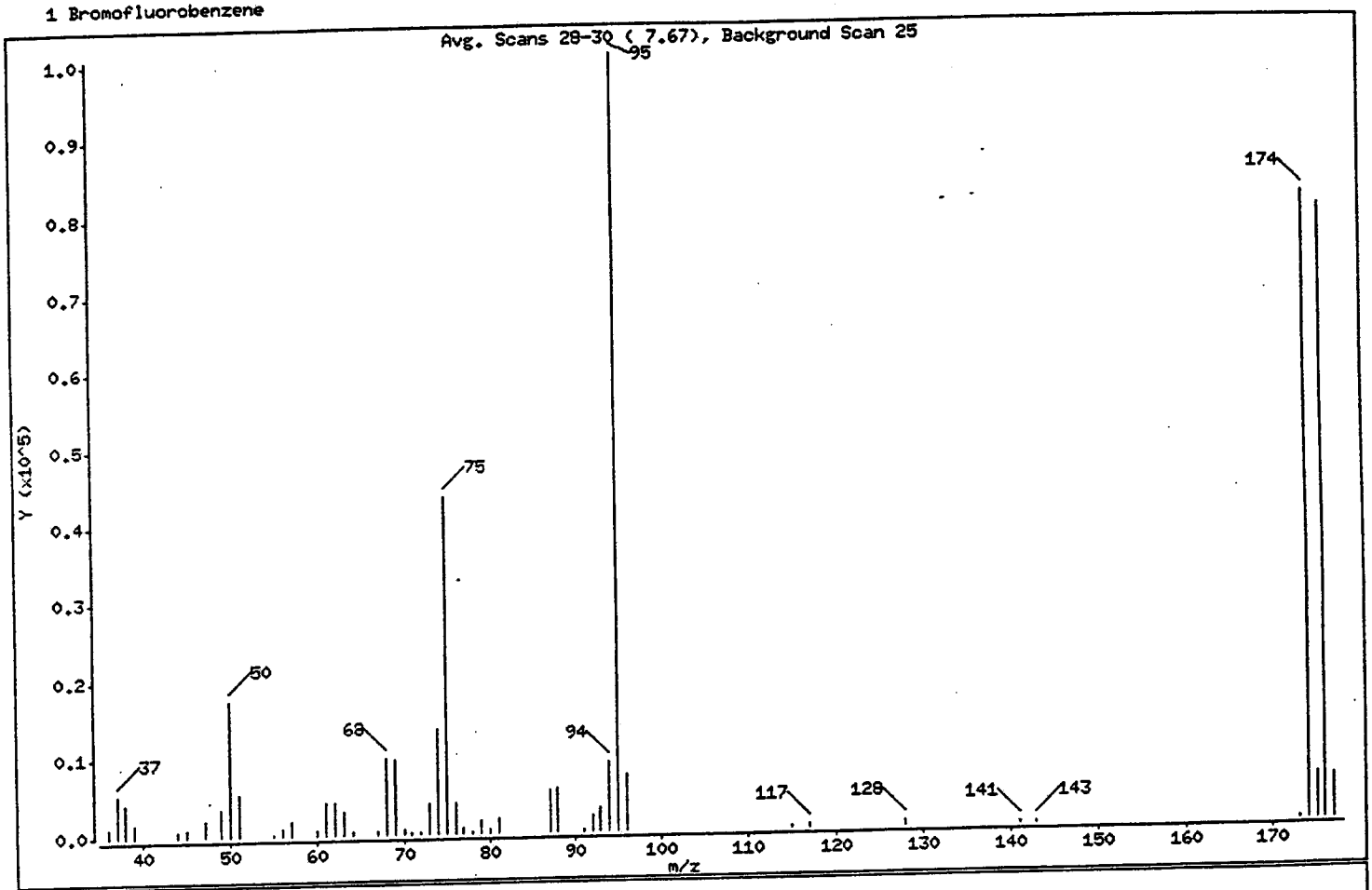
Instrument: VOAMS5.i

Operator: VOAMS 5

Column phase: DB-624

Column diameter: 0.53

1 Bromofluorobenzene



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.34
75	30.00 - 60.00% of mass 95	43.29
96	5.00 - 9.00% of mass 95	7.10
173	Less than 2.00% of mass 174	0.24 (0.29)
174	50.00 - 100.00% of mass 95	80.86
175	5.00 - 9.00% of mass 174	5.83 (7.22)
176	95.00 - 101.00% of mass 174	79.35 (98.13)
177	5.00 - 9.00% of mass 176	5.42 (6.83)

Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9649.d

Date : 06-JUN-1999 11:06

Client ID:

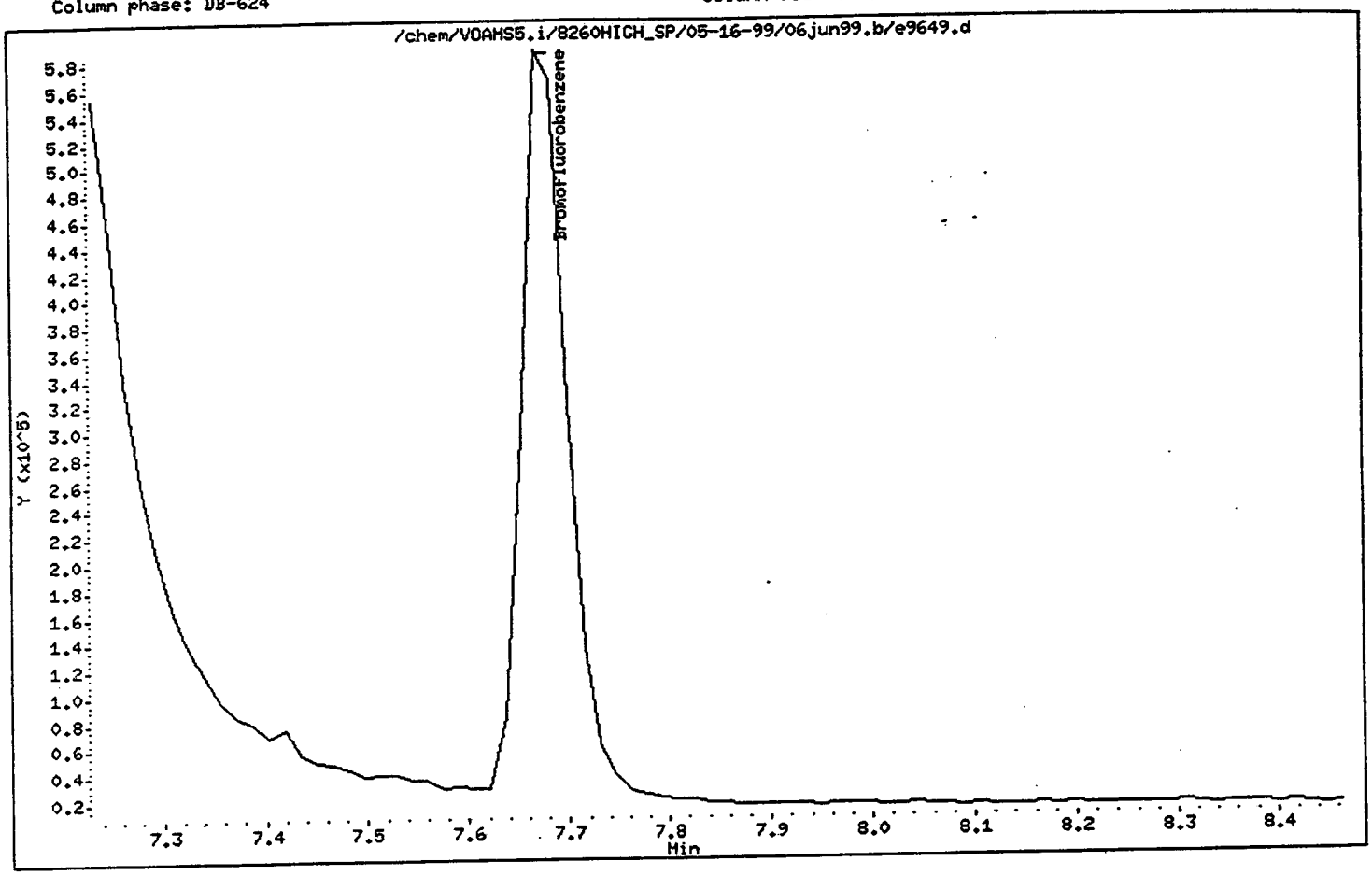
Instrument: VOAMS5.i

Sample Info: EBFB157 50ng

Operator: VOAMS 5

Column phase: DB-624

Column diameter: 0.53



Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9649.d

Date : 06-JUN-1999 11:06

Client ID:

Instrument: VOAMS5.i

Sample Info: EBFB157 50ng

Operator: VOAMS 5

Column phase: DB-624

Column diameter: 0.53

Data File: e9649.d
Spectrum: Avg. Scans 28-30 (7.67), Background Scan 25
Location of Maximum: 95.00
Number of points: 51

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1127	60.00	610	75.00	43608	95.00	100728
37.00	5332	61.00	4173	76.00	3895	96.00	7151
38.00	4208	62.00	4209	77.00	588	115.00	127
39.00	1710	63.00	3033	78.00	340	117.00	438
44.00	629	64.00	554	79.00	1722	128.00	670
45.00	897	67.00	461	80.00	446	141.00	229
47.00	2014	68.00	9823	81.00	1891	143.00	222
49.00	3562	69.00	9536	87.00	5231	173.00	237
50.00	17464	70.00	580	88.00	5473	174.00	81448
51.00	5260	71.00	195	91.00	273	175.00	5877
55.00	149	72.00	235	92.00	2055	176.00	79928
56.00	886	73.00	3990	93.00	3060	177.00	5461
57.00	1825	74.00	13494	94.00	8859		

SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: U8823

DFTPP Injection Date: 06/07/99

Instrument ID: BNAMS4

DFTPP Injection Time: 1221

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	45.9
68	Less than 2.0% of mass 69	0.9 (1.5)1
69	Mass 69 relative abundance	58.4
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	40.0 - 60.0% of mass 198	44.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	17.6
365	Greater than 1.0% of mass 198	2.64
441	0.0 - 100.0% of mass 443	5.9 (75.5)2
442	40.0 - 110.0% of mass 198	41.6
443	17.0 - 23.0% of mass 442	7.8 (18.6)3

1-Value is % mass 69 2-Value is % mass 443
3-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT ID	LAB SAMPLE No.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	USTD050	USTD050	U8824	06/07/99	1242
02	USTD120	USTD120	U8825	06/07/99	1328
03	USTD080	USTD080	U8826	06/07/99	1414
04	USTD020	USTD020	U8827	06/07/99	1500
05	USTD05	USTD05	U8828	06/07/99	1546
06					
07					
08					
09					
10					
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12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS4.i/8270/06-07-99/07jun99.b/u8823.d

Date : 07-JUN-1999 12:21

Client ID:

Instrument: BNAMS4.i

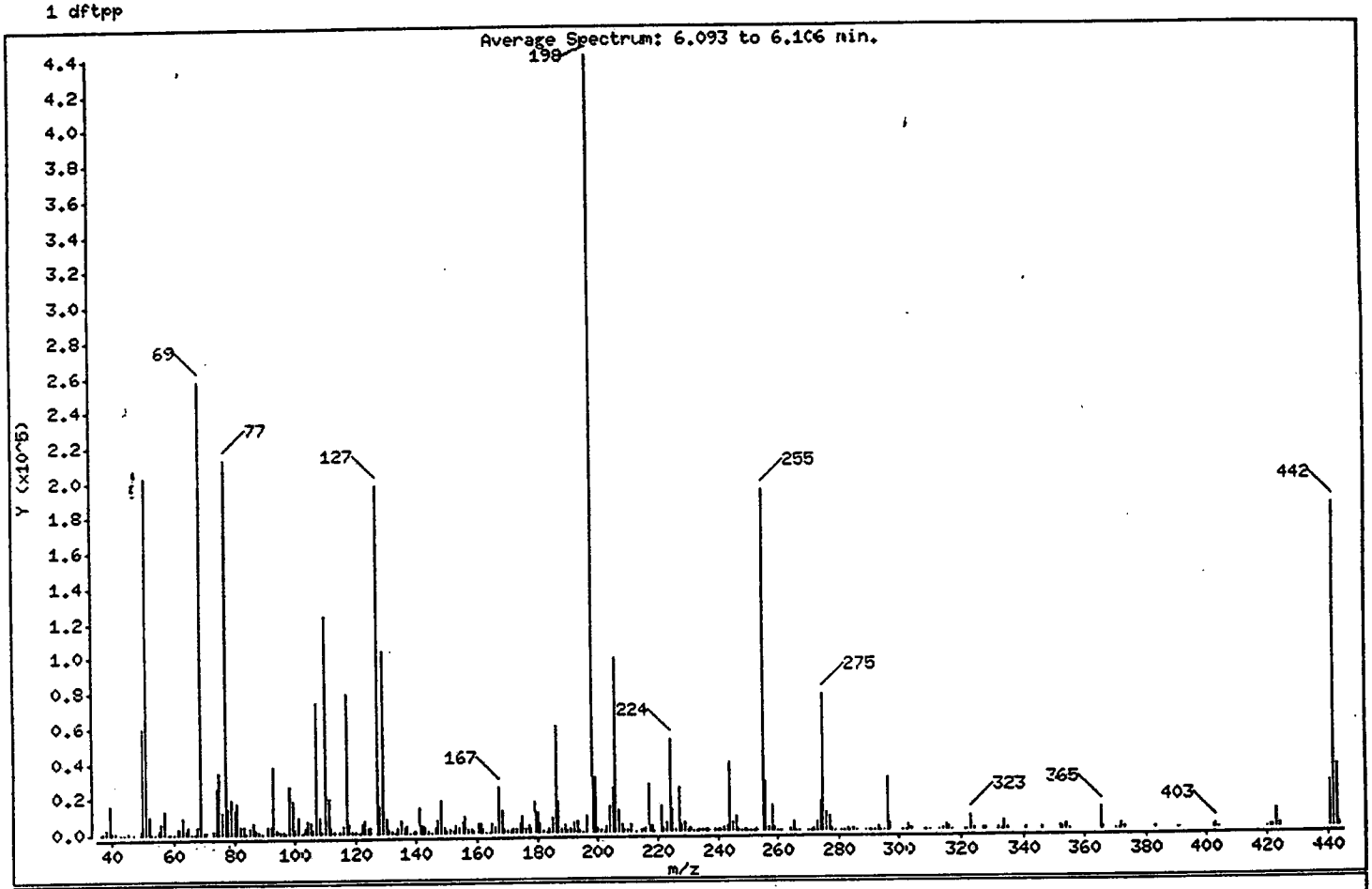
Sample Info: UDFT158

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	45.88
68	Less than 2.00% of mass 69	0.87 (1.49)
69	Mass 69 relative abundance	58.43
70	Less than 2.00% of mass 69	0.28 (0.47)
127	40.00 - 60.00% of mass 198	44.89
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.82
275	10.00 - 30.00% of mass 198	17.56
365	Greater than 1.00% of mass 198	2.64
441	0.01 - 100.00% of mass 443	5.86 (75.49)
442	40.00 - 110.00% of mass 198	41.62
443	17.00 - 23.00% of mass 442	7.76 (18.64)

Data File: /chem/BNAMS4.i/8270/06-07-99/07jun99.b/u8823.d

Date : 07-JUN-1999 12:21

Client ID:

Instrument: BNAMS4.i

Sample Info: UDFT158

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25

Data File: u8823.d

Spectrum: Average Spectrum: 6.093 to 6.106 min.

Location of Maximum: 198.00

Number of points: 291

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	129	115.00	1074	189.00	4392	272.00	631
37.00	1111	116.00	4423	190.00	786	273.00	4913
38.00	3347	117.00	78976	191.00	1743	274.00	16202
39.00	16254	118.00	5420	192.00	5531	275.00	77456
40.00	754	119.00	615	193.00	5678	276.00	10504
41.00	831	120.00	822	194.00	1243	277.00	8545
43.00	417	121.00	305	195.00	302	278.00	1431
44.00	151	122.00	5127	196.00	9183	279.00	249
45.00	611	123.00	7440	198.00	441024	281.00	102
47.00	136	124.00	3186	199.00	30080	282.00	142
49.00	2092	125.00	2593	200.00	1962	283.00	1039
50.00	60240	127.00	198016	201.00	1139	284.00	495
51.00	202304	128.00	15055	202.00	177	285.00	1059
52.00	10165	129.00	103104	203.00	3119	286.00	104
53.00	161	130.00	8459	204.00	14644	289.00	308
54.00	121	131.00	1576	205.00	24592	290.00	137
55.00	1919	132.00	923	206.00	97984	291.00	121
56.00	6148	133.00	262	207.00	12450	292.00	260
57.00	13528	134.00	3012	208.00	4205	293.00	1736
58.00	465	135.00	7266	209.00	1372	294.00	357
59.00	103	136.00	3291	210.00	1294	295.00	301
60.00	235	137.00	3860	211.00	3902	296.00	29032
61.00	3393	138.00	354	213.00	257	297.00	3761
62.00	2907	139.00	517	215.00	1181	301.00	163
63.00	9370	140.00	1387	216.00	1762	302.00	372
64.00	1791	141.00	14268	217.00	26176	303.00	3405
65.00	3753	142.00	3704	218.00	3165	304.00	694
66.00	447	143.00	2723	219.00	211	308.00	174
67.00	287	144.00	719	221.00	14341	309.00	149
68.00	3827	145.00	403	222.00	2171	310.00	225
69.00	257664	146.00	2761	223.00	5405	313.00	147
70.00	1213	147.00	6810	224.00	52168	314.00	1201
71.00	554	148.00	18200	225.00	12363	315.00	3069
73.00	2113	149.00	2976	226.00	1245	316.00	1550
74.00	25824	150.00	844	227.00	24560	317.00	129

Data File: /chem/BNAHS4.i/8270/06-07-99/07jun99.b/u8823.d

Date : 07-JUN-1999 12:21

Client ID:

Sample Info: UDFT158

Instrument: BNAHS4.i

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25

Data File: u8823.d

Spectrum: Average Spectrum: 6.093 to 6.106 min.

Location of Maximum: 198.00

Number of points: 291

m/z	Y	m/z	Y	m/z	Y	m/z	Y
75.00	34624	151.00	1723	228.00	4365	321.00	499
76.00	11897	152.00	581	229.00	4947	322.00	171
77.00	213120	153.00	3667	230.00	875	323.00	7771
78.00	14657	154.00	2956	231.00	1707	324.00	831
79.00	19392	155.00	6303	232.00	285	327.00	1383
80.00	13341	156.00	9154	233.00	462	328.00	593
81.00	17624	157.00	1584	234.00	1272	332.00	547
82.00	4135	158.00	2418	235.00	1459	333.00	398
83.00	4142	159.00	1502	236.00	1466	334.00	5357
84.00	444	160.00	4816	237.00	968	335.00	997
85.00	3528	161.00	4932	239.00	1036	341.00	618
86.00	6196	162.00	1608	240.00	663	346.00	1179
87.00	2375	163.00	374	241.00	1463	352.00	2386
88.00	713	164.00	292	242.00	2482	353.00	1442
89.00	134	165.00	5089	243.00	2874	354.00	2865
91.00	4372	166.00	3460	244.00	38192	355.00	397
92.00	4451	167.00	25808	245.00	5037	365.00	11664
93.00	37736	168.00	12368	246.00	8374	366.00	1315
94.00	2003	169.00	1878	247.00	1442	370.00	107
95.00	740	170.00	1227	248.00	317	371.00	365
96.00	1181	171.00	1036	249.00	656	372.00	3493
97.00	467	172.00	2060	250.00	120	373.00	677
98.00	26776	173.00	2382	251.00	387	383.00	732
99.00	17800	174.00	5001	252.00	344	390.00	292
100.00	1847	175.00	8817	253.00	943	391.00	231
101.00	9184	176.00	1870	255.00	193600	402.00	1448
102.00	493	177.00	4131	256.00	27640	403.00	1796
103.00	3229	178.00	1826	257.00	1835	404.00	460
104.00	6751	179.00	17384	258.00	13802	420.00	168
105.00	6007	180.00	10942	259.00	2058	421.00	1296
106.00	2109	181.00	4833	260.00	155	422.00	1378
107.00	73880	182.00	749	261.00	123	423.00	10037
108.00	9614	183.00	327	264.00	524	424.00	1564
109.00	1150	184.00	1905	265.00	5498	441.00	25824
110.00	123200	185.00	8158	266.00	430	442.00	183552

Data File: /chem/BNAMS4.i/8270/06-07-99/07jun99.b/u8823.d

Date : 07-JUN-1999 12:21

Client ID:

Instrument: BNAMS4.i

Sample Info: UDFT158

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25

Data File: u8823.d

Spectrum: Average Spectrum: 6.093 to 6.106 min.

Location of Maximum: 198.00

Number of points: 291

m/z	Y	m/z	Y	m/z	Y	m/z	Y
111.00	19632	186.00	60272	267.00	111	443.00	34216
112.00	2590	187.00	17544	270.00	296	444.00	2523
113.00	956	188.00	2093	271.00	417		

Data File: /chem/BNAMS4.i/8270/06-07-99/07jun99.b/u8823.d

Date : 07-JUN-1999 12:21

Client ID:

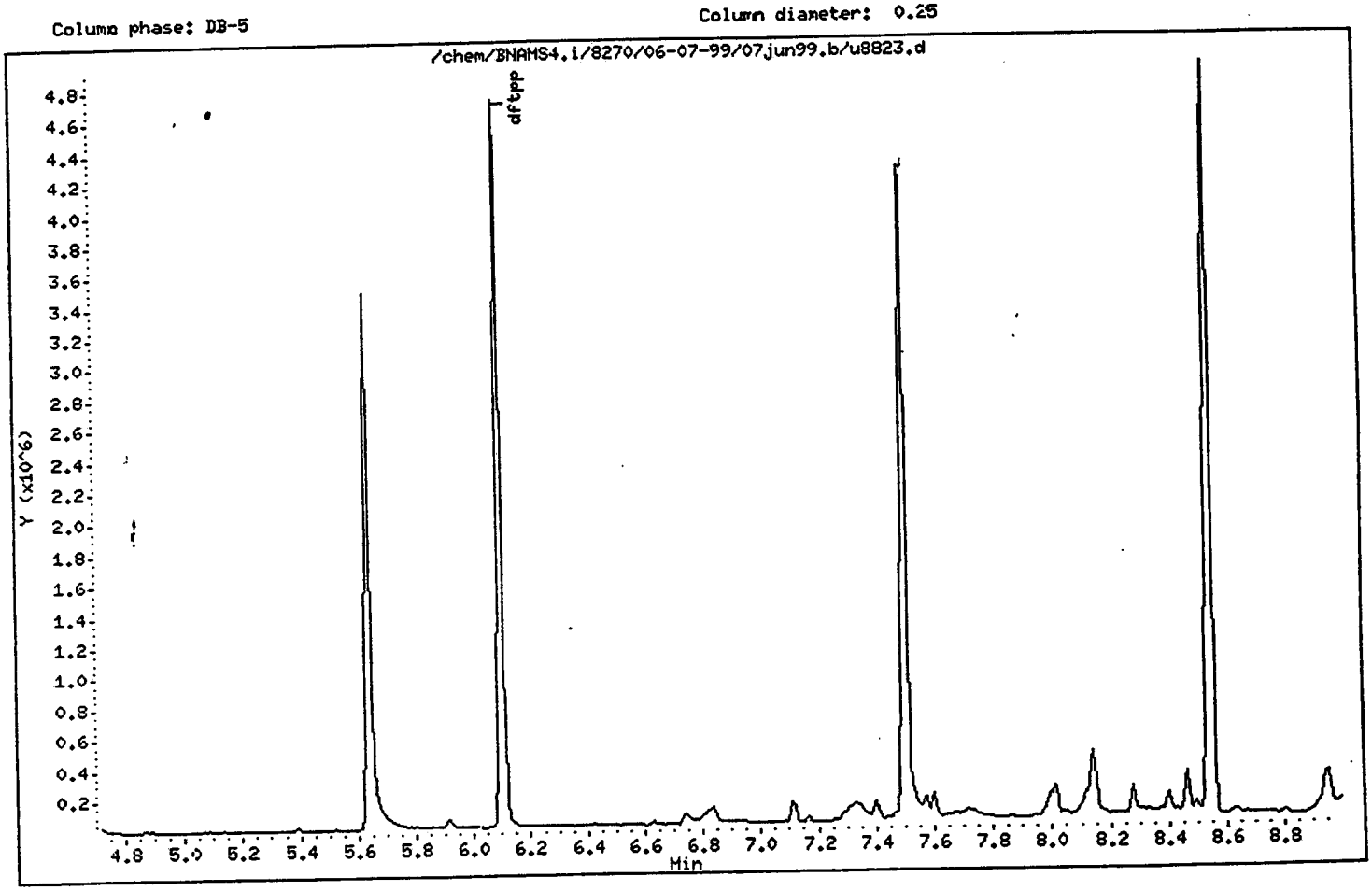
Sample Info: UDFT158

Instrument: BNAMS4.i

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: U8846

DFTPP Injection Date: 06/08/99

Instrument ID: BNAMS4

DFTPP Injection Time: 0804

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	43.5
68	Less than 2.0% of mass 69	0.9 (1.6)1
69	Mass 69 relative abundance	54.1
70	Less than 2.0% of mass 69	0.1 (0.2)1
127	40.0 - 60.0% of mass 198	42.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	18.5
365	Greater than 1.0% of mass 198	2.70
441	0.0 - 100.0% of mass 443	6.9 (76.8)2
442	40.0 - 110.0% of mass 198	46.7
443	17.0 - 23.0% of mass 442	9.0 (19.4)3

1-Value is % mass 69 2-Value is % mass 443
3-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT ID	LAB SAMPLE No.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	USTD159	USTD159	U8847	06/08/99	0826
02	SB158A	SB158A	U8851	06/08/99	1134
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS4.i/8270/06-07-99/08jun99.b/u8846.d

Date : 08-JUN-1999 08:04

Client ID:

Sample Info: UDFT159

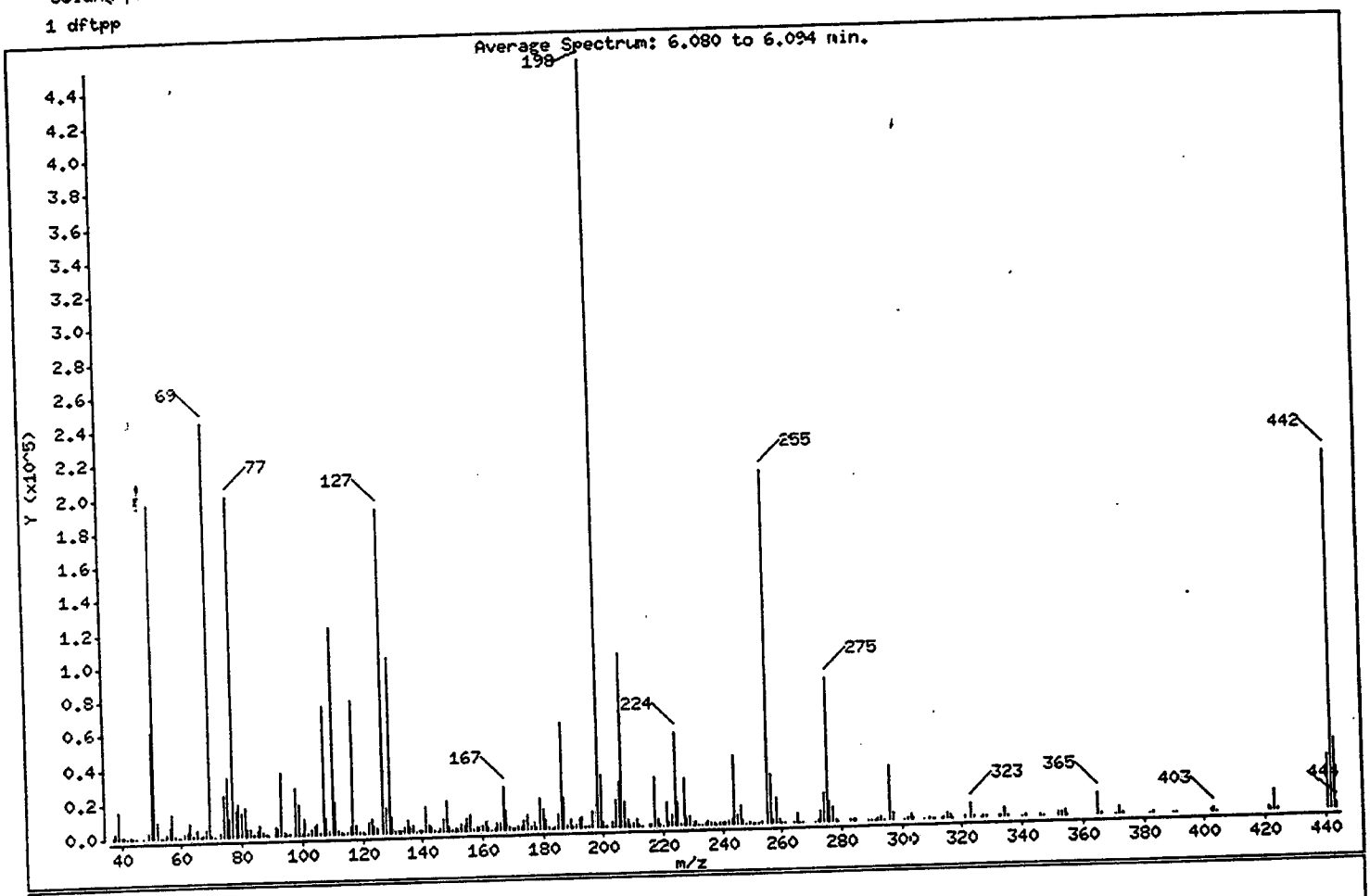
Instrument: BNAMS4.i

Operator: BNA 4

Column diameter: 0.25

Column phase: DB-5

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	43.52
68	Less than 2.00% of mass 69	0.88 (1.63)
69	Mass 69 relative abundance	54.09
70	Less than 2.00% of mass 69	0.13 (0.24)
127	40.00 - 60.00% of mass 198	42.25
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.57
275	10.00 - 30.00% of mass 198	18.53
365	Greater than 1.00% of mass 198	2.70
441	0.01 - 100.00% of mass 443	6.94 (76.78)
442	40.00 - 110.00% of mass 198	46.65
443	17.00 - 23.00% of mass 442	9.04 (19.39)

Data File: /chem/BNAMS4.i/8270/06-07-99/08jun99.b/u8846.d

Date : 08-JUN-1999 08:04

Instrument: INAMS4.i

Client ID:

Sample Info: UDFT159

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25

Data File: u8846.d

Spectrum: Average Spectrum: 6.080 to 6.094 min.

Location of Maximum: 198.00

Number of points: 290

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	1447	115.00	946	189.00	5387	271.00	188
38.00	2992	116.00	4467	190.00	920	272.00	651
39.00	15139	117.00	78056	191.00	2175	273.00	6523
40.00	878	118.00	4696	192.00	5089	274.00	16912
41.00	619	119.00	760	193.00	6242	275.00	83768
42.00	134	120.00	1029	194.00	1073	276.00	10958
43.00	581	121.00	209	195.00	564	277.00	8163
44.00	503	122.00	5949	196.00	9398	278.00	1430
45.00	451	123.00	7799	198.00	452032	279.00	114
47.00	113	124.00	3777	199.00	29688	283.00	1149
49.00	2648	125.00	2607	200.00	2694	284.00	775
50.00	61280	127.00	190976	201.00	1319	285.00	1291
51.00	196736	128.00	14586	203.00	3454	289.00	149
52.00	9761	129.00	102456	204.00	15906	290.00	284
53.00	140	130.00	9270	205.00	26376	291.00	130
54.00	109	131.00	1334	206.00	101856	292.00	590
55.00	1592	132.00	741	207.00	14211	293.00	1685
56.00	6179	133.00	664	208.00	3939	294.00	383
57.00	13312	134.00	3249	209.00	1377	296.00	30720
58.00	597	135.00	7742	210.00	1706	297.00	3863
59.00	159	136.00	2946	211.00	3737	301.00	242
60.00	439	137.00	3670	212.00	550	302.00	604
61.00	2373	138.00	421	213.00	307	303.00	3111
62.00	3556	139.00	813	215.00	1355	304.00	809
63.00	8292	140.00	1330	216.00	1503	307.00	143
64.00	1358	141.00	14129	217.00	28152	309.00	537
65.00	3993	142.00	4159	218.00	3673	310.00	140
66.00	257	143.00	3197	219.00	525	311.00	101
67.00	526	144.00	677	220.00	286	313.00	146
68.00	3982	145.00	323	221.00	13648	314.00	1491
69.00	244544	146.00	2542	222.00	1689	315.00	3084
70.00	580	147.00	6919	223.00	5831	316.00	1657
71.00	101	148.00	17904	224.00	54552	317.00	124
73.00	2570	149.00	2718	225.00	13687	321.00	623
74.00	23680	150.00	695	226.00	1001	323.00	8830

Data File: /chem/BNAMS4.i/8270/06-07-99/08jun99.b/u8846.d

Date : 08-JUN-1999 08:04

Client ID:

Instrument: BNAMS4.i

Sample Info: UDFT159

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25

Data File: u8846.d

Spectrum: Average Spectrum: 6.080 to 6.094 min.

Location of Maximum: 198.00

Number of points: 290

m/z	Y	m/z	Y	m/z	Y	m/z	Y
75.00	34632	151.00	1897	227.00	26576	324.00	733
76.00	10514	152.00	729	228.00	4132	326.00	230
77.00	200640	153.00	4367	229.00	4893	327.00	1324
78.00	14450	154.00	2944	230.00	385	328.00	667
79.00	19192	155.00	6855	231.00	1730	332.00	597
80.00	13554	156.00	9864	232.00	437	333.00	703
81.00	16968	157.00	1554	233.00	197	334.00	5528
82.00	3993	158.00	1986	234.00	1452	335.00	1071
83.00	3762	159.00	1695	235.00	1574	340.00	175
84.00	566	160.00	3391	236.00	1091	341.00	747
85.00	3102	161.00	5245	237.00	1494	346.00	1432
86.00	5810	162.00	1701	238.00	112	347.00	120
87.00	2142	163.00	155	239.00	979	352.00	2465
88.00	745	164.00	679	240.00	579	353.00	1571
89.00	307	165.00	4518	241.00	1499	354.00	2674
91.00	4718	166.00	3954	242.00	2502	355.00	348
92.00	4655	167.00	25416	243.00	3044	365.00	12202
93.00	36544	168.00	11774	244.00	39808	366.00	819
94.00	2364	169.00	2071	245.00	5193	371.00	487
95.00	836	170.00	1074	246.00	10141	372.00	3913
96.00	1162	171.00	888	247.00	1887	373.00	632
98.00	27448	172.00	2202	248.00	488	382.00	185
99.00	17592	173.00	2361	249.00	957	383.00	1016
100.00	1455	174.00	5079	250.00	121	390.00	313
101.00	8889	175.00	8421	251.00	160	391.00	155
102.00	598	176.00	2121	252.00	237	402.00	1525
103.00	3599	177.00	4401	253.00	861	403.00	1825
104.00	5398	178.00	1221	255.00	207744	404.00	353
105.00	6260	179.00	17304	256.00	28312	421.00	1765
106.00	1192	180.00	11292	257.00	2181	422.00	1522
107.00	74912	181.00	4741	258.00	14236	423.00	11649
108.00	9160	182.00	638	259.00	2179	424.00	1531
109.00	1932	183.00	328	260.00	122	441.00	31392
110.00	121288	184.00	1533	261.00	166	442.00	210880
111.00	18856	185.00	8699	264.00	475	443.00	40888

Data File: /chem/BNAMS4.i/8270/06-07-99/08jun99.b/u8846.d

Date : 08-JUN-1999 08:04

Client ID:

Sample Info: UDFT159

Instrument: BNAMS4.i

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25

Data File: u8846.d

Spectrum: Average Spectrum: 6.080 to 6.094 min.

Location of Maximum: 198.00

Number of points: 290

m/z	Y	m/z	Y	m/z	Y	m/z	Y
112.00	2423	186.00	61440	265.00	5493	444.00	2662
113.00	741	187.00	17192	266.00	368		
114.00	237	188.00	1711	267.00	100		

Data File: /chem/BNAMS4.i/8270/06-07-99/08jun99.b/u8846.d

Date : 08-JUN-1999 08:04

Client ID:

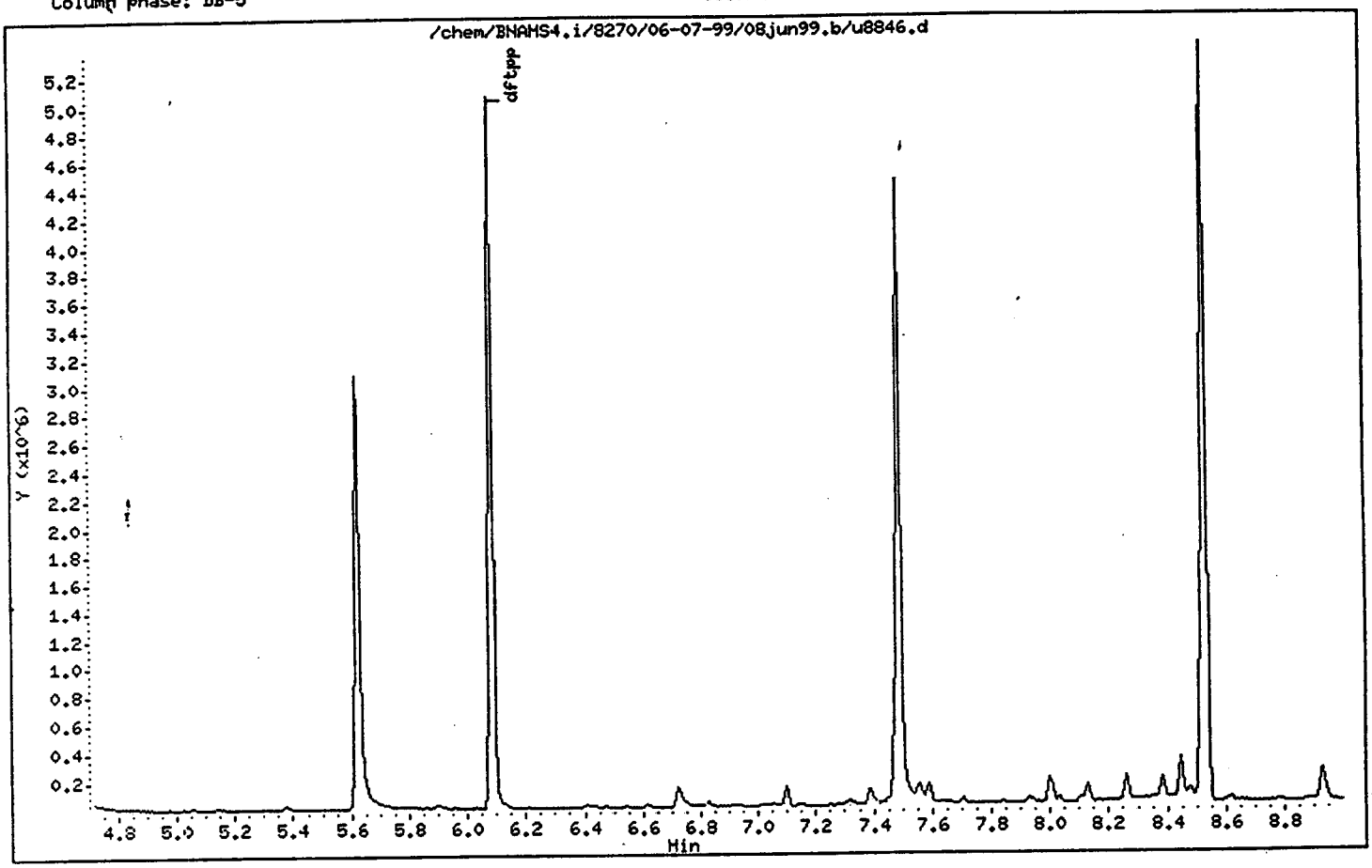
Instrument: BNAMS4.i

Sample Info: UDFT159

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25



SEMI-VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab File ID: U8891

Instrument ID: BNAMS4

DFTPP Injection Date: 06/09/99

DFTPP Injection Time: 2034

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.8
68	Less than 2.0% of mass 69	1.0 (1.7)1
69	Mass 69 relative abundance	57.5
70	Less than 2.0% of mass 69	0.3 (0.4)1
127	40.0 - 60.0% of mass 198	43.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.1
275	10.0 - 30.0% of mass 198	19.1
365	Greater than 1.0% of mass 198	3.15
441	0.0 - 100.0% of mass 443	7.5 (84.0)2
442	40.0 - 110.0% of mass 198	50.1
443	17.0 - 23.0% of mass 442	9.0 (17.9)3

1-Value is % mass 69
2-Value is % mass 443
3-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT ID	LAB SAMPLE No.	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	USTD160A	USTD160A	U8892	06/09/99	2051
02	GPC-15B	135061	U8897	06/10/99	0037
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					

Data File: /chem/BNAMS4.i/8270/06-07-99/09jun99A.b/u8891.d

Date : 09-JUN-1999 20:34

Client ID:

Sample Info: UDFT160A

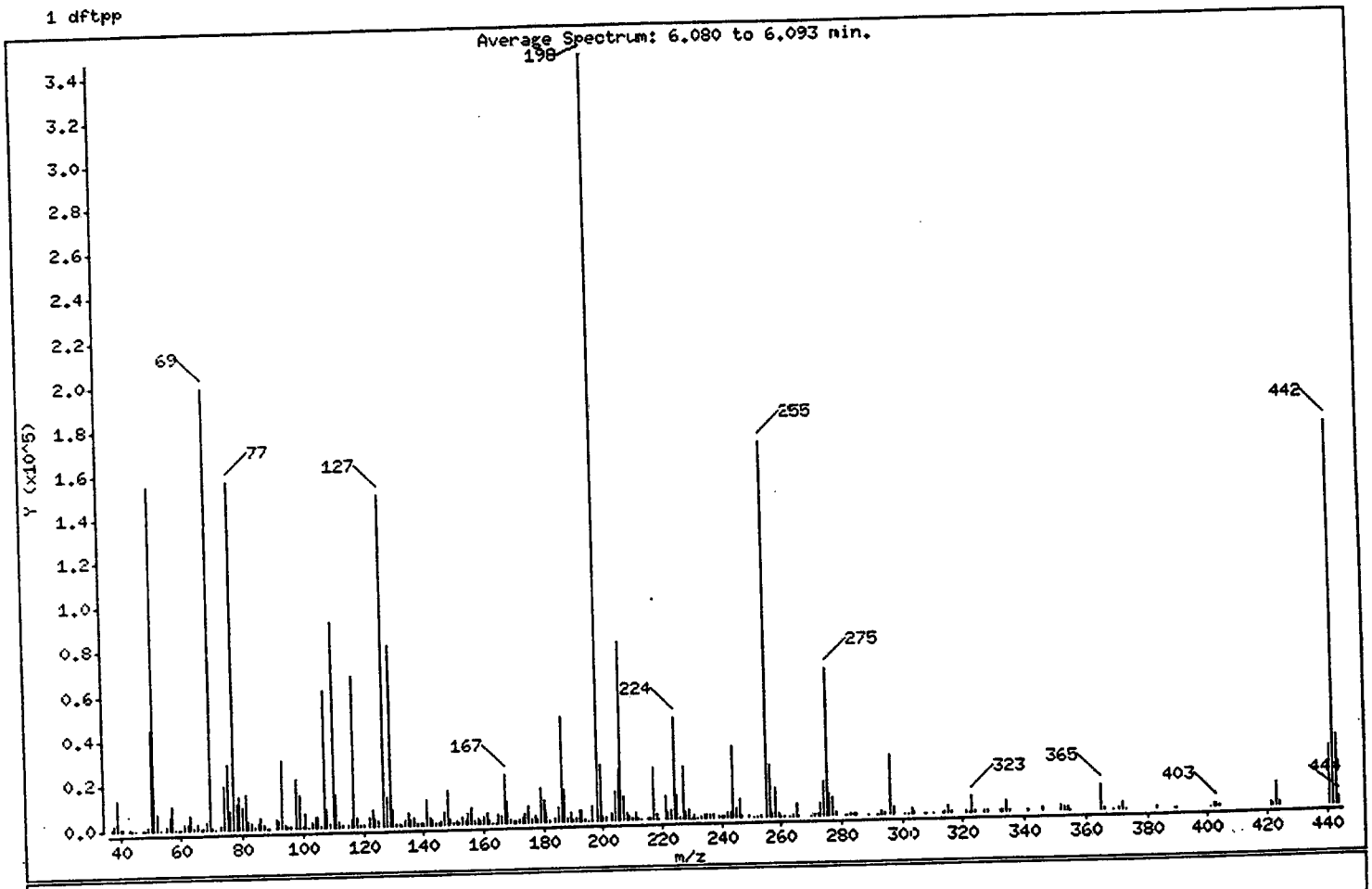
Instrument: BNAMS4.i

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	44.76
68	Less than 2.00% of mass 69	1.00 (1.73)
69	Mass 69 relative abundance	57.45
70	Less than 2.00% of mass 69	0.26 (0.45)
127	40.00 - 60.00% of mass 198	43.20
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	7.14
275	10.00 - 30.00% of mass 198	19.05
365	Greater than 1.00% of mass 198	3.15
441	0.01 - 100.00% of mass 443	7.53 (83.95)
442	40.00 - 110.00% of mass 198	50.05
443	17.00 - 23.00% of mass 442	8.97 (17.92)

Data File: /chem/BNAMS4.i/8270/06-07-99/09jun99A.b/u8891.d

Date : 09-JUN-1999 20:34

Client ID:

Instrument: BNAMS4.i

Sample Info: UDFT160A

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25

Data File: u8891.d

Spectrum: Average Spectrum: 6.080 to 6.093 min.

Location of Maximum: 198.00

Number of points: 279

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	910	113.00	583	187.00	14060	266.00	345
38.00	2061	115.00	705	188.00	1562	270.00	140
39.00	13372	116.00	3200	189.00	4076	271.00	461
40.00	595	117.00	67768	190.00	682	272.00	511
41.00	753	118.00	3976	191.00	1802	273.00	5267
43.00	780	119.00	478	192.00	4554	274.00	14921
44.00	111	120.00	482	193.00	4771	275.00	65960
45.00	268	122.00	4306	194.00	1100	276.00	9190
47.00	101	123.00	7090	195.00	354	277.00	7820
48.00	153	124.00	3080	196.00	6542	278.00	1290
49.00	1985	125.00	2087	198.00	346176	281.00	130
50.00	44944	127.00	149504	199.00	24712	282.00	132
51.00	154944	128.00	12541	200.00	1514	283.00	933
52.00	7223	129.00	81128	201.00	1290	284.00	648
53.00	310	130.00	7208	203.00	2928	285.00	1138
55.00	1681	131.00	1167	204.00	12903	289.00	227
56.00	5365	132.00	726	205.00	21928	292.00	196
57.00	10084	133.00	226	206.00	80384	293.00	1584
58.00	361	134.00	2733	207.00	10658	294.00	444
59.00	167	135.00	5565	208.00	3024	296.00	25888
60.00	252	136.00	2478	209.00	1265	297.00	3289
61.00	2057	137.00	2825	210.00	1074	301.00	258
62.00	2225	138.00	488	211.00	2878	302.00	158
63.00	6500	139.00	459	212.00	674	303.00	2590
64.00	1018	140.00	625	213.00	104	304.00	503
65.00	2391	141.00	11171	215.00	1185	307.00	100
66.00	114	142.00	3258	216.00	1181	308.00	296
67.00	482	143.00	2238	217.00	23400	310.00	136
68.00	3450	144.00	624	218.00	2712	313.00	123
69.00	198912	145.00	408	219.00	361	314.00	894
70.00	890	146.00	1701	221.00	10179	315.00	3248
71.00	111	147.00	5358	222.00	3121	316.00	1124
73.00	1707	148.00	15257	223.00	4343	321.00	622
74.00	19072	149.00	2508	224.00	45144	322.00	240
75.00	28576	150.00	719	225.00	10425	323.00	7551

Data File: /chem/BNAMS4.i/8270/06-07-99/09jun99A.b/u8891.d

Date : 09-JUN-1999 20:34

Client ID:

Instrument: BNAMS4.i

Sample Info: UDFT160A

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25

Data File: u8891.d

Spectrum: Average Spectrum: 6.080 to 6.093 min.

Location of Maximum: 198.00

Number of points: 279

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	7969	151.00	1349	226.00	578	324.00	900
77.00	156416	152.00	455	227.00	23304	327.00	1193
78.00	11027	153.00	3167	228.00	2954	328.00	683
79.00	14709	154.00	1702	229.00	4060	332.00	600
80.00	9510	155.00	5048	230.00	233	333.00	717
81.00	15176	156.00	7267	231.00	1795	334.00	4845
82.00	3428	157.00	1345	232.00	352	335.00	883
83.00	2639	158.00	2057	233.00	554	341.00	495
84.00	805	159.00	1681	234.00	1362	346.00	1388
85.00	2449	160.00	3579	235.00	1568	352.00	2166
86.00	4919	161.00	4633	236.00	1236	353.00	1688
87.00	1694	162.00	1221	237.00	1471	354.00	1959
88.00	381	163.00	185	239.00	957	355.00	172
89.00	142	164.00	276	240.00	692	365.00	10901
91.00	3700	165.00	4223	241.00	1128	366.00	1027
92.00	3436	166.00	2847	242.00	2262	369.00	131
93.00	30064	167.00	21280	243.00	2301	371.00	521
94.00	1745	168.00	9424	244.00	31872	372.00	3313
95.00	1048	169.00	1629	245.00	4323	373.00	373
96.00	755	170.00	653	246.00	7764	383.00	903
98.00	21544	171.00	723	247.00	923	389.00	105
99.00	14061	172.00	1861	249.00	905	390.00	363
100.00	918	173.00	2127	251.00	258	401.00	200
101.00	6655	174.00	3975	252.00	248	402.00	1527
102.00	385	175.00	6976	253.00	671	403.00	1694
103.00	2408	176.00	1771	255.00	169408	404.00	422
104.00	4771	177.00	3416	256.00	23440	421.00	1368
105.00	5043	178.00	1283	257.00	1971	422.00	1136
106.00	1005	179.00	14871	258.00	12811	423.00	10235
107.00	61160	180.00	9750	259.00	1983	424.00	1779
108.00	7860	181.00	4049	260.00	142	441.00	26064
109.00	1325	182.00	520	261.00	251	442.00	173248
110.00	92376	184.00	1517	263.00	387	443.00	31048
111.00	14533	185.00	6606	264.00	431	444.00	3169
112.00	2093	186.00	46896	265.00	5630		

Data File: /chem/BNAMS4.i/8270/06-07-99/09jun99A.b/u8891.d

Date : 09-JUN-1999 20:34

Client ID:

Instrument: BNAMS4.i

Sample Info: UDFT160A

Operator: BNA 4

Column phase: DB-5

Column diameter: 0.25

Data File: u8891.d

Spectrum: Average Spectrum: 6.080 to 6.093 min.

Location of Maximum: 198.00

Number of points: 279

m/z	Y	m/z	Y	m/z	Y	m/z	Y

Data File: /chem/BNAMS4.i/8270/06-07-99/09jun99A.b/u8891.d

Date : 09-JUN-1999 20:34

Client ID:

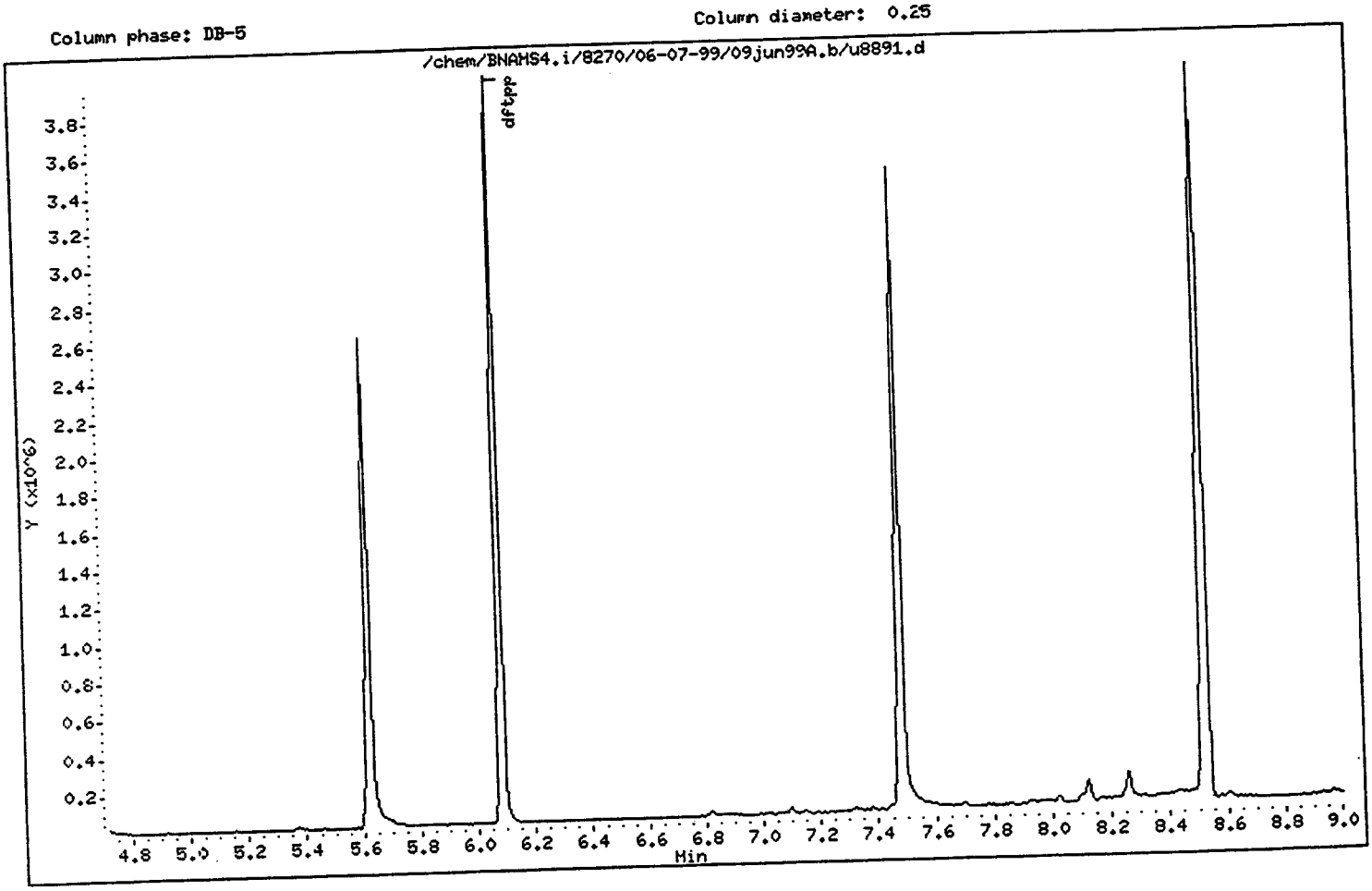
Sample Info: UDFT160A

Instrument: BNAMS4.i

Operator: BNA 4

Column diameter: 0.25

Column phase: DB-5



LAB SAMPLE NO.

EV157

VOLATILE METHOD BLANK SUMMARY

Matrix: SOIL

Level: HIGH

Lab File ID: E9653

Instrument ID: VOAMS5

Date Analyzed: 06/06/99

Time Analyzed: 1348

Heated Purge (Y/N) N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	TIME ANALYZED
01	GPC-15B	135061	E9667	2113
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
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26				
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28				
29				
30				

COMMENTS:

Client ID: **EV157**
Site:

Lab Sample No: **EV157**
Lab Job No: Q043

Date Sampled: _____
Date Received: _____
Date Analyzed: 06/06/99
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e9653.d

Matrix: SOIL
Level: HIGH
Sample Weight: 5.0 g
Methanol Ext. Volume: 10.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0

VOLATILE ORGANICS - GC/MS
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Chloromethane	ND	200
Bromomethane	ND	200
Vinyl Chloride	ND	200
Chloroethane	ND	200
Methylene Chloride	ND	300
Acetone	ND	500
Carbon Disulfide	ND	500
Trichlorofluoromethane	ND	200
1,1-Dichloroethene	ND	200
1,1-Dichloroethane	ND	500
trans-1,2-Dichloroethene	ND	500
cis-1,2-Dichloroethene	ND	500
Chloroform	ND	500
1,2-Dichloroethane	ND	200
2-Butanone	ND	500
1,1,1-Trichloroethane	ND	500
Carbon Tetrachloride	ND	200
Bromodichloromethane	ND	100
1,2-Dichloropropane	ND	100
cis-1,3-Dichloropropene	ND	500
Trichloroethene	ND	100
Dibromochloromethane	ND	500
1,1,2-Trichloroethane	ND	300
Benzene	ND	100
trans-1,3-Dichloropropene	ND	500
2-Chloroethyl Vinyl Ether	ND	500
Bromoform	ND	400
4-Methyl-2-Pentanone	ND	500
2-Hexanone	ND	500
Tetrachloroethene	ND	100
1,1,2,2-Tetrachloroethane	ND	100
Toluene	ND	500
Chlorobenzene	ND	500
Ethylbenzene	ND	400

Client ID: **EV157**
Site:

Lab Sample No: **EV157**
Lab Job No: Q043

Date Sampled: _____
Date Received: _____
Date Analyzed: 06/06/99
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e9653.d

Matrix: SOIL
Level: HIGH
Sample Weight: 5.0 g
Methanol Ext. Volume: 10.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0

VOLATILE ORGANICS - GC/MS (cont'd)
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Styrene	ND	500
Xylene (Total)	ND	500
Ethyl Ether	ND	500
Acrolein	ND	10000
Freon TF	ND	500
Isopropanol	ND	50000
Acetonitrile	ND	10000
TBA	ND	10000
Acrylonitrile	ND	5000
MTBE	ND	500
Hexane	ND	100
DIPE	ND	500
Ethyl Acetate	ND	1000
Vinyl Acetate	ND	500
Tetrahydrofuran	ND	100
Cyclohexane	ND	500
Isobutanol	ND	50000
Isopropyl Acetate	ND	1000
n-Heptane	ND	100
n-Butanol	ND	50000
Propyl Acetate	ND	1000
Butyl Acetate	ND	1000
1,2-Dibromoethane	ND	500
1,3-Dichlorobenzene	ND	500
1,4-Dichlorobenzene	ND	500
1,2-Dichlorobenzene	ND	500
Naphthalene	ND	500
Methylnaphthalene (total)	ND	500
Dimethylnaphthalene (total)	ND	500
Dichlorodifluoromethane	ND	200
1,1-Dichloropropene	ND	500
1,2,4-Trichlorobenzene	ND	500
Hexachlorobutadiene	ND	500
1,4-Dioxane	ND	100000

Client ID: **EV157**
Site:

Lab Sample No: **EV157**
Lab Job No: Q043

Date Sampled: _____
Date Received: _____
Date Analyzed: 06/06/99
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e9653.d

Matrix: SOIL
Level: HIGH
Sample Weight: 5.0 g
Methanol Ext. Volume: 10.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0

VOLATILE ORGANICS - GC/MS (cont'd)
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Methyl Acrylate	ND	100
1,1,1,2-Tetrachloroethane	ND	500
1,2,3-Trichlorobenzene	ND	500
1,2,3-Trichloropropane	ND	500
1,2,4-Trimethylbenzene	ND	500
1,2-Dibromo-3-chloropropane	ND	500
1,3,5-Trimethylbenzene	ND	500
1,3-Dichloropropane	ND	500
2,2-Dichloropropane	ND	500
2-Chlorotoluene	ND	500
4-Chlorotoluene	ND	500
Bromobenzene	ND	500
Bromochloromethane	ND	500
Dibromomethane	ND	500
Isopropylbenzene	ND	500
n-Butylbenzene	ND	500
n-Propylbenzene	ND	500
p-Isopropyltoluene	ND	500
sec-Butylbenzene	ND	500
tert-Butylbenzene	ND	500
Allyl chloride	ND	500
Benzyl chloride	ND	500
Epichlorohydrin	ND	10000
Isoprene	ND	500
Methyl methacrylate	ND	500
n-Pentane	ND	500
Allyl alcohol	ND	100000
Amyl Acetate	ND	1000
2-Octanol	ND	1000
2-Octanone	ND	500
Ethyl Acrylate	ND	500
Butyl Acrylate	ND	500
Butyl Methacrylate	ND	500
Ethyl methacrylate	ND	500

Client ID: **EV157**
Site:

Lab Sample No: **EV157**
Lab Job No: Q043

Date Sampled: _____
Date Received: _____
Date Analyzed: 06/06/99
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e9653.d

Matrix: SOIL
Level: HIGH
Sample Weight: 5.0 g
Methanol Ext. Volume: 10.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0

VOLATILE ORGANICS - GC/MS (cont'd)
METHOD 8260B

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Ethanol	ND	50000
Methyl acetate	ND	500
Methylcyclohexane	ND	500
Cyclohexanone	ND	10000

Client ID: **EV157**
Site:

Lab Sample No: **EV157**
Lab Job No: Q043

Date Sampled: _____
Date Received: _____
Date Analyzed: 06/06/99
GC Column: DB624
Instrument ID: VOAMS5.i
Lab File ID: e9653.d

Matrix: SOIL
Level: HIGH
Sample Weight: 5.0 g
Methanol Ext. Volume: 10.0 ml
Ext. Dilution Factor: 50.0
% Moisture: 0.0

VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8260B

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. NO VOLATILE ORGANIC COMPOUNDS FOUND			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
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22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			

TOTAL ESTIMATED CONCENTRATION 0.0

Data File: /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9653.d
Report Date: 06-Jun-1999 14:19

STL Envirotech

VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9653.d
Lab Smp Id: EV157
Inj Date : 06-JUN-1999 13:48
Operator : VOAMS 5
Smp Info : EV157
Misc Info :
Comment :
Method : /chem/VOAMS5.i/8260HIGH_SP/05-16-99/06jun99.b/8260H_99.m
Meth Date : 06-Jun-1999 12:09 V
Cal Date : 16-MAY-1999 17:11
Als bottle: 4
Dil Factor: 50.00000
Integrator: HP RTE
Target Version: 3.40
Processing Host: hpd2

Inst ID: VOAMS5.i

Quant Type: ISTD
Cal File: e9139.d
QC Sample: BLANK

Compound Sublist: all.sub

Concentration Formula: Amt * DF * (Vt/Ws)/((100-M)/100)

Name	Value	Description
DF	50.000	Dilution Factor
Vt	10.000	Volume of final extract (mL)
Ws	5.000	Weight of sample extracted (g)
M	0.000	% Moisture (not decanted)

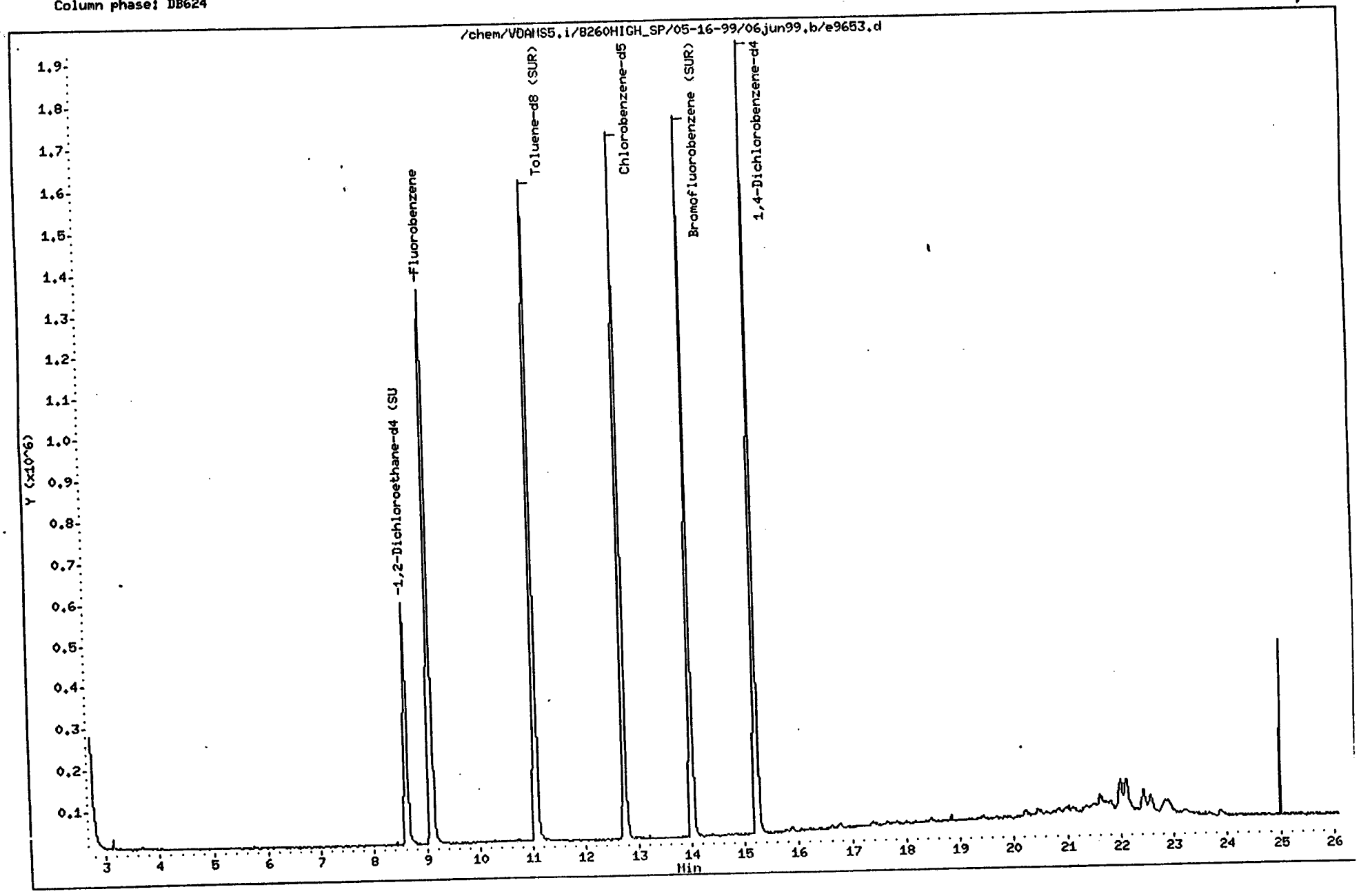
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/Kg)
$ 16 1,2-Dichloroethane-d4 (SUR)	65	8.618	8.626	(0.949)	665290	50.6283	5100
* 19 Fluorobenzene	96	9.086	9.094	(1.000)	2508715	50.0000	
$ 37 Toluene-d8 (SUR)	98	11.049	11.059	(0.867)	1871280	49.0760	4900
* 32 Chlorobenzene-d5	117	12.747	12.744	(1.000)	2050922	50.0000	
$ 41 Bromofluorobenzene (SUR)	174	14.009	14.024	(0.920)	971280	49.8404	5000
* 91 1,4-Dichlorobenzene-d4	152	15.224	15.227	(1.000)	1027329	50.0000	

Data File: /chem/VOAHS5.i/8260HIGH_SP/05-16-99/06jun99.b/e9653.d
Date : 06-JUN-1999 13:48
Client ID:
Sample Info: EV157

Column phase: DB624

Instrument: VOAHS5.i

Operator: VOAHS 5
Column diameter: 0.53



LAB SAMPLE NO.

SB158A

SEMIVOLATILE METHOD BLANK SUMMARY

Matrix: SOIL

Level: LOW

Instrument ID: BNAMS4

Date Analyzed: 06/08/99

Time Analyzed: 1134

Lab File ID: U8851

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT ID.	LAB SAMPLE NO	LAB FILE ID	DATE ANALYZED
01	GPC-15B	135061	U8897	06/10/99
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
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14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

Client ID: **SB158A**
Site:

Lab Sample No: **SB158A**
Lab Job No: Q043

Date Sampled: _____
Date Received: _____
Date Extracted: 06/07/99
Date Analyzed: 06/08/99
GC Column: DB-5
Instrument ID: BNAMS4.i
Lab File ID: u8851.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Phenol	ND	330
2-Chlorophenol	ND	330
2-Methylphenol	ND	330
4-Methylphenol	ND	330
2-Nitrophenol	ND	330
2,4-Dimethylphenol	ND	330
2,4-Dichlorophenol	ND	330
4-Chloro-3-methylphenol	ND	330
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2,4-Dinitrophenol	ND	1300
4-Nitrophenol	ND	1300
4,6-Dinitro-2-methylphenol	ND	1300
Pentachlorophenol	ND	1300
Benzoic Acid	ND	330
N-Nitrosodimethylamine	ND	330
bis(2-Chloroethyl)ether	ND	33
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
1,2-Dichlorobenzene	ND	330
bis(2-chloroisopropyl)ether	ND	330
N-Nitroso-di-n-propylamine	ND	33
Hexachloroethane	ND	33
Nitrobenzene	ND	33
Isophorone	ND	330
bis(2-Chloroethoxy)methane	ND	330
1,2,4-Trichlorobenzene	ND	33
Naphthalene	ND	330
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	67
2-Methylnaphthalene	ND	330
Hexachlorocyclopentadiene	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	670

Client ID: **SB158A**
Site:

Lab Sample No: **SB158A**
Lab Job No: Q043

Date Sampled: _____
Date Received: _____
Date Extracted: 06/07/99
Date Analyzed: 06/08/99
GC Column: DB-5
Instrument ID: BNAMS4.i
Lab File ID: u8851.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Dimethylphthalate	ND	330
Acenaphthylene	ND	330
2,6-Dinitrotoluene	ND	67
3-Nitroaniline	ND	670
Acenaphthene	ND	330
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	67
Diethylphthalate	ND	330
4-Chlorophenyl-phenylether	ND	330
Fluorene	ND	330
4-Nitroaniline	ND	670
N-Nitrosodiphenylamine	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	33
Phenanthrene	ND	330
Anthracene	ND	330
Carbazole	ND	330
Di-n-butylphthalate	ND	330
Fluoranthene	ND	330
Pyrene	ND	330
Benzidine	ND	1300
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	670
Benzo(a)anthracene	ND	33
Chrysene	ND	330
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	33
Benzo(k)fluoranthene	ND	33
Benzo(a)pyrene	ND	33
Indeno(1,2,3-cd)pyrene	ND	33
Dibenz(a,h)anthracene	ND	33
Benzo(g,h,i)perylene	ND	330
Pyridine	ND	330

Client ID: **SB158A**
Site:

Lab Sample No: **SB158A**
Lab Job No: Q043

Date Sampled: _____
Date Received: _____
Date Extracted: 06/07/99
Date Analyzed: 06/08/99
GC Column: DB-5
Instrument ID: BNAMS4.i
Lab File ID: u8851.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 0

SEMI-VOLATILE ORGANICS - GC/MS
METHOD 8270C

Parameter	Analytical Results Units: ug/kg (Dry Weight)	Quantitation Limit Units: ug/kg
Aniline	ND	330
Benzyl Alcohol	ND	330
1,2-Diphenylhydrazine	ND	330
Diphenyl	ND	330
Diphenyl Ether	ND	330
Acetophenone	ND	330
1,4-Dioxane	ND	330
N,N-Dimethylaniline	ND	33
2,3,7,8-TCDD (Screen)	ND	33
Benzaldehyde	ND	330
Caprolactam	ND	330
Atrazine	ND	330

Client ID: **SB158A**
Site:

Lab Sample No: **SB158A**
Lab Job No: Q043

Date Sampled: _____
Date Received: _____
Date Extracted: 06/07/99
Date Analyzed: 06/08/99
GC Column: DB-5
Instrument ID: BNAMS4.i
Lab File ID: u8851.d

Matrix: SOIL
Level: LOW
Sample Weight: 30.0 g
Extract Final Volume: 2.0 ml
Dilution Factor: 1.0
% Moisture: 0.0

SEMI-VOLATILE ORGANICS - GC/MS
TENTATIVELY IDENTIFIED COMPOUNDS
METHOD 8270C

COMPOUND NAME	RT	EST. CONC. ug/kg	Q
1. Unknown Aldol Condensate	9.14	740	
2. Unknown Aldol Condensate	9.89	33000	
3. Unknown Aldol Condensate	11.36	1300	
4.			
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TOTAL ESTIMATED CONCENTRATION 35040

Data File: /chem/BNAMS4.i/8270/06-07-99/08jun99.b/u8851.d
Report Date: 08-Jun-1999 17:15

STL Envirotech

SEMI-VOLATILE ORGANIC COMPOUND ANALYSIS

Data file : /chem/BNAMS4.i/8270/06-07-99/08jun99.b/u8851.d
Lab Smp Id: SB158A Client Smp ID: BNA
Inj Date : 08-JUN-1999 11:34
Operator : BNAMS 4 Inst ID: BNAMS4.i
Smp Info : SB158A;30;2;1;
Misc Info : SB158A;BNA;;;;
Comment :
Method : /chem/BNAMS4.i/8270/06-07-99/08jun99.b/8270Cb.m
Meth Date : 08-Jun-1999 11:04 B Quant Type: ISTD
Cal Date : 07-JUN-1999 15:46 Cal File: u8828.d
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.40
Processing Host: hpd1

Concentration Formula: Amt * DF * Uf*1000*Vt/(Ws*(100-M)/100)

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	2.000	Volume of final extract (ml)
Ws	30.000	Weight of sample extracted (g)
M	0.000	% Moisture

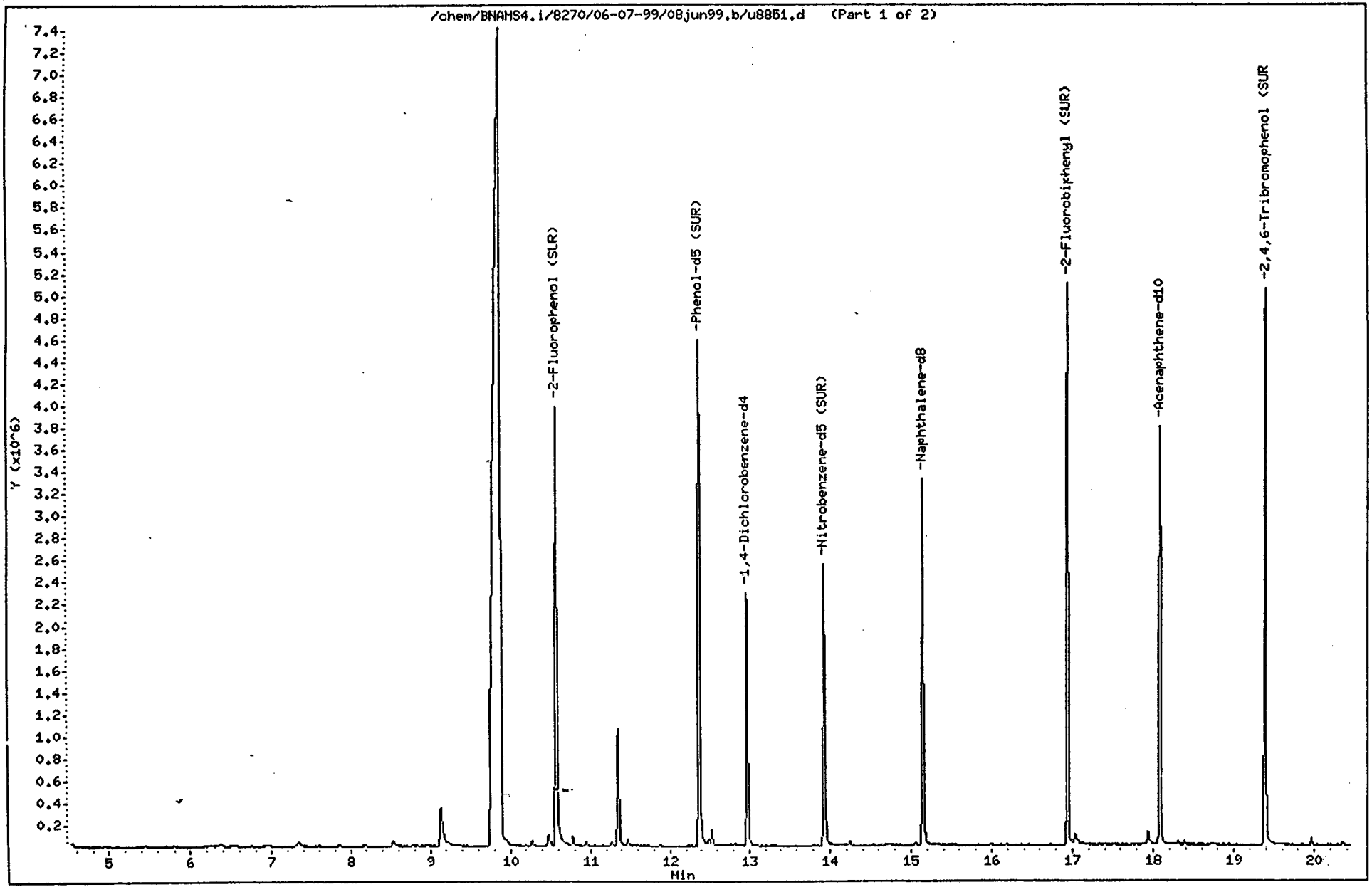
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/Kg)
$ 16 2-Fluorophenol (SUR)	112	10.580	10.567	(0.815)	1172358	94.2469	6300
$ 17 Phenol-d5 (SUR)	99	12.379	12.384	(0.953)	1571894	97.2415	6500
* 79 1,4-Dichlorobenzene-d4	152	12.983	12.983	(1.000)	411037	40.0000	
$ 76 Nitrobenzene-d5 (SUR)	82	13.941	13.952	(0.920)	1147980	46.2010	3100
* 80 Naphthalene-d8	136	15.154	15.164	(1.000)	1540669	40.0000	
$ 77 2-Fluorobiphenyl (SUR)	172	16.944	16.954	(0.937)	1849571	48.4815	3200
* 82 Acenaphthene-d10	164	18.086	18.092	(1.000)	1066721	40.0000	
$ 18 2,4,6-Tribromophenol (SUR)	330	19.398	19.405	(1.073)	704893	89.0929	5900
* 83 Phenanthrene-d10	188	20.553	20.565	(1.000)	2233899	40.0000	
$ 78 Terphenyl-d14 (SUR)	244	23.169	23.177	(0.928)	2773413	50.5696	3400
* 81 Chrysene-d12	240	24.968	24.989	(1.000)	2315313	40.0000	
* 84 Perylene-d12	264	28.496	28.521	(1.000)	2136824	40.0000	

Data File: /chem/BNAMS4.i/8270/06-07-99/08jun99.b/u8851.d
Date : 08-JUN-1999 11:34
Client ID: BNA
Sample Info: SB158A;30;2;1;

Instrument: BNAMS4.i

Operator: BNAMS 4
Column diameter: 0.25

Column phase: DB-5

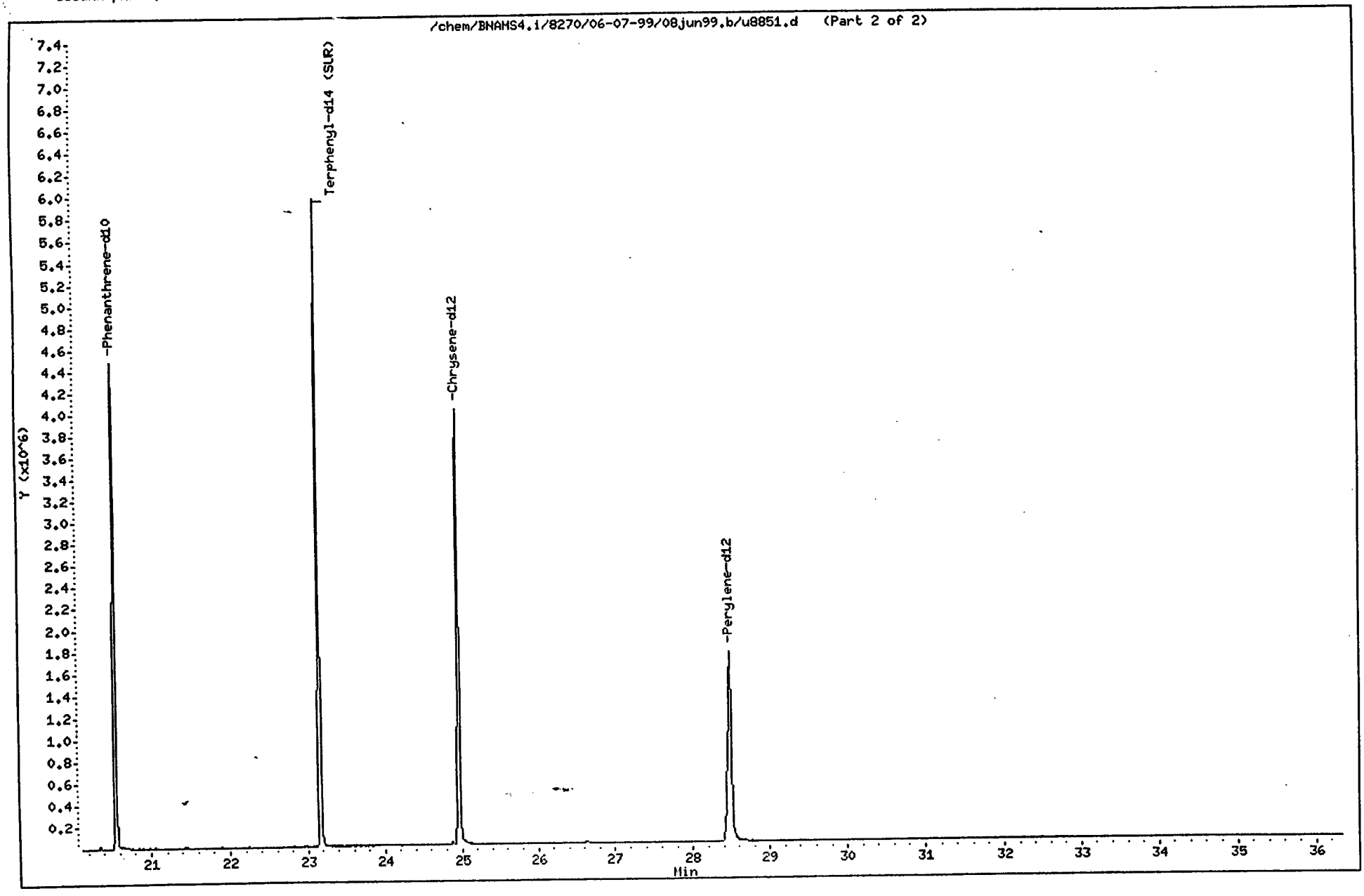


Data File: /chem/BNAMS4.i/8270/06-07-99/08jun99.b/u8851.d
Date : 08-JUN-1999 11:34
Client ID: BNA
Sample Info: SB158A;30;2;1;

Instrument: BNAMS4.i

Operator: BNAMS 4
Column diameter: 0.25

Column phase: DB-5



VOLATILE ORGANICS INITIAL CALIBRATION DATA
METHOD 8260B

Instrument ID: VOAMS5 Calibration Date(s): 05/16/99 05/16/99

Heated Purge: (Y/N) N Calibration Time(s): 1517 1711

LAB FILE ID: RRF5: E9135 RRF20: E9136 RRF50: E9137
RRF100: E9138 RRF200: E9139

COMPOUND	RRF5	RRF20	RRF50	RRF100	RRF200
Chloromethane	0.242	0.235	0.249	0.239	0.222
Bromomethane	0.241	0.205	0.218	0.213	0.195
Vinyl Chloride	0.290	0.282	0.287	0.278	0.263
Chloroethane	0.203	0.190	0.194	0.191	0.176
Methylene Chloride	0.336	0.283	0.284	0.275	0.272
Acetone	0.070	0.051	0.047	0.046	0.045
Carbon Disulfide	0.808	0.803	0.824	0.833	0.800
Trichlorofluoromethane	0.289	0.293	0.304	0.308	0.298
1,1-Dichloroethene	0.289	0.262	0.263	0.249	0.242
1,1-Dichloroethane	0.673	0.644	0.629	0.594	0.580
trans-1,2-Dichloroethene	0.314	0.305	0.308	0.292	0.289
cis-1,2-Dichloroethene	0.338	0.351	0.347	0.326	0.321
Chloroform	0.548	0.515	0.506	0.488	0.481
1,2-Dichloroethane	0.310	0.322	0.306	0.290	0.280
2-Butanone	0.024	0.028	0.029	0.030	0.030
1,1,1-Trichloroethane	0.390	0.379	0.375	0.358	0.347
Carbon Tetrachloride	0.392	0.378	0.375	0.357	0.348
Bromodichloromethane	0.542	0.516	0.511	0.490	0.481
1,2-Dichloropropane	0.521	0.446	0.431	0.406	0.395
cis-1,3-Dichloropropene	0.606	0.569	0.552	0.532	0.517
Trichloroethene	0.374	0.325	0.315	0.300	0.293
Dibromochloromethane	0.668	0.663	0.667	0.639	0.646
1,1,2-Trichloroethane	0.330	0.350	0.339	0.326	0.326
Benzene	1.219	0.949	0.932	0.889	0.863
trans-1,3-Dichloropropene	0.594	0.572	0.565	0.544	0.551
2-Chloroethyl Vinyl Ether	0.291	0.302	0.299	0.298	0.274
Bromoform	0.375	0.434	0.440	0.429	0.434
4-Methyl-2-Pentanone	0.289	0.302	0.308	0.310	0.300
2-Hexanone	0.219	0.235	0.241	0.242	0.237
Tetrachloroethene	0.539	0.473	0.462	0.432	0.435
1,1,2,2-Tetrachloroethane	1.444	1.160	1.130	1.093	1.070
Toluene	1.307	1.191	1.144	1.057	1.060
Chlorobenzene	0.997	0.928	0.911	0.851	0.851
Ethylbenzene	0.422	0.416	0.410	0.389	0.383
Styrene	0.908	0.922	0.897	0.846	0.829
Xylene (Total)	0.535	0.534	0.523	0.494	0.496
Ethyl Ether	0.242	0.230	0.241	0.237	0.229
Acrolein	0.026	0.026	0.026	0.026	0.026
Freon TF	0.460	0.404	0.482	0.453	0.441

VOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 8260B

Instrument ID: VOAMS5 Calibration Date(s): 05/16/99 05/16/99

Heated Purge: (Y/N) N Calibration Time(s): 1517 1711

LAB FILE ID: RRF5: E9135 RRF20: E9136 RRF50: E9137
RRF100: E9138 RRF200: E9139

COMPOUND	RRF5	RRF20	RRF50	RRF100	RRF200
Isopropanol					
Acetonitrile	0.011	0.014	0.016	0.016	0.015
TBA	0.019	0.020	0.020	0.020	0.020
Acrylonitrile	0.066	0.071	0.072	0.075	0.074
MTBE	0.806	0.793	0.778	0.772	0.736
Hexane	0.032	0.031	0.032	0.030	0.028
DIPE	1.399	1.277	1.341	1.282	1.219
Ethyl Acetate	0.336	0.340	0.348	0.305	0.302
Vinyl Acetate	0.611	0.566	0.644	0.606	0.574
Tetrahydrofuran					
Cyclohexane	0.397	0.352	0.413	0.389	0.379
Isobutanol					
Isopropyl Acetate					
n-Heptane					
n-Butanol					
Propyl Acetate	0.559	0.525	0.520	0.499	0.470
Butyl Acetate					
1,2-Dibromoethane	0.573	0.572	0.554	0.527	0.525
1,3-Dichlorobenzene	1.582	1.556	1.437	1.394	1.378
1,4-Dichlorobenzene	1.737	1.544	1.566	1.486	1.406
1,2-Dichlorobenzene	1.522	1.456	1.388	1.338	1.280
Naphthalene	1.005	0.900	0.920	0.936	0.956
Methylnaphthalene (total)					
Dimethylnaphthalene (total)					
Dichlorodifluoromethane	0.281	0.303	0.332	0.333	0.314
1,1-Dichloropropene	0.449	0.446	0.442	0.414	0.409
1,2,4-Trichlorobenzene	0.552	0.529	0.536	0.521	0.520
Hexachlorobutadiene	0.430	0.394	0.386	0.377	0.368
1,4-Dioxane	0.002	0.002	0.002	0.002	0.002
Methyl Acrylate					
1,1,1,2-Tetrachloroethane	0.488	0.491	0.484	0.458	0.456
1,2,3-Trichlorobenzene	0.336	0.270	0.283	0.287	0.291
1,2,3-Trichloropropane	0.926	0.906	0.868	0.837	0.812
1,2,4-Trimethylbenzene	1.874	1.748	1.676	1.589	1.529
1,2-Dibromo-3-chloropropane	0.132	0.138	0.139	0.137	0.140
1,3,5-Trimethylbenzene	1.790	1.649	1.602	1.522	1.469
1,3-Dichloropropane	0.683	0.686	0.677	0.635	0.638
2,2-Dichloropropane	0.410	0.398	0.383	0.357	0.342
2-Chlorotoluene	1.750	1.762	1.713	1.639	1.583

VOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 8260B

Instrument ID: VOAMS5 Calibration Date(s): 05/16/99 05/16/99

Heated Purge: (Y/N) N Calibration Time(s): 1517 1711

LAB FILE ID: RRF5: E9135 RRF20: E9136 RRF50: E9137
RRF100: E9138 RRF200: E9139

COMPOUND	RRF5	RRF20	RRF50	RRF100	RRF200
4-Chlorotoluene	2.065	1.959	1.944	1.827	1.747
Bromobenzene	1.100	1.024	0.984	0.948	0.923
Bromochloromethane	0.253	0.241	0.241	0.232	0.227
Dibromomethane	0.296	0.288	0.281	0.272	0.266
Isopropylbenzene	0.856	1.189	1.157	1.086	1.064
n-Butylbenzene	1.430	1.404	1.389	1.331	1.275
n-Propylbenzene	2.504	2.599	2.523	2.408	2.341
p-Isopropyltoluene	1.899	1.883	1.836	1.746	1.664
sec-Butylbenzene	2.039	1.828	1.798	1.720	1.669
tert-Butylbenzene	1.992	1.883	1.828	1.738	1.667
Allyl chloride	0.188	0.172	0.192	0.188	0.190
Benzyl chloride	1.351	1.366	1.421	1.371	1.307
Epichlorohydrin	0.031	0.031	0.032	0.031	0.029
Isoprene	0.340	0.302	0.372	0.347	0.348
Methyl methacrylate	0.285	0.271	0.325	0.319	0.308
n-Pentane	0.055	0.048	0.058	0.052	0.053
Allyl alcohol					
Amyl Acetate					
2-Octanol					
2-Octanone					
Ethyl Acrylate					
Butyl Acrylate					
Butyl Methacrylate					
Ethyl methacrylate					
Ethanol					
Methyl acetate	0.328	0.354	0.340	0.343	0.334
Methylcyclohexane	0.275	0.241	0.276	0.262	0.258
Cyclohexanone					
1,2-Dichloroethane-d4 (SUR)	0.282	0.287	0.263	0.242	0.234
Toluene-d8 (SUR)	1.027	0.963	0.952	0.857	0.848
Bromoflucrobenzene (SUR)	1.042	0.994	0.960	0.883	0.864

VOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 8260B

Instrument ID: VOAMS5 Calibration Date(s): 05/16/99 05/16/99

Heated Purge: (Y/N) N Calibration Time(s): 1517 1711

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Chloromethane	AVRG	0.23739232	4.2**
Bromomethane	AVRG	0.21463184	7.9*
Vinyl Chloride	AVRG	0.28027791	3.8*
Chloroethane	AVRG	0.19082742	5.0*
Methylene Chloride	AVRG	0.28975126	9.0*
Acetone	AVRG	0.05199178	20.5*
Carbon Disulfide	AVRG	0.81376443	1.8*
Trichlorofluoromethane	AVRG	0.29841767	2.6*
1,1-Dichloroethene	AVRG	0.26106709	6.9*
1,1-Dichloroethane	AVRG	0.62435792	6.0**
trans-1,2-Dichloroethene	AVRG	0.30171299	3.6*
cis-1,2-Dichloroethene	AVRG	0.33653303	3.8*
Chloroform	AVRG	0.50761910	5.2*
1,2-Dichloroethane	AVRG	0.30163271	5.4*
2-Butanone	AVRG	0.02826907	9.2*
1,1,1-Trichloroethane	AVRG	0.36992222	4.6*
Carbon Tetrachloride	AVRG	0.37000208	4.8*
Bromodichloromethane	AVRG	0.50811821	4.7*
1,2-Dichloropropane	AVRG	0.44006991	11.2*
cis-1,3-Dichloropropene	AVRG	0.55551175	6.2*
Trichloroethene	AVRG	0.32152689	9.9*
Dibromochloromethane	AVRG	0.65677344	2.0*
1,1,2-Trichloroethane	AVRG	0.33443102	3.2*
Benzene	AVRG	0.97035703	14.7*
trans-1,3-Dichloropropene	AVRG	0.56531300	3.5*
2-Chloroethyl Vinyl Ether	AVRG	0.29297921	4.0*
Bromoform	AVRG	0.42254061	6.3**
4-Methyl-2-Pentanone	AVRG	0.30194745	2.8*
2-Hexanone	AVRG	0.23487754	3.8*
Tetrachloroethene	AVRG	0.46819110	9.2*
1,1,2,2-Tetrachloroethane	AVRG	1.17962371	12.9**
Toluene	AVRG	1.15192107	9.0*
Chlorobenzene	AVRG	0.90755536	6.7**
Ethylbenzene	AVRG	0.40394755	4.2*
Styrene	AVRG	0.88040573	4.6*
Xylene (Total)	AVRG	0.51650441	3.9*
Ethyl Ether	AVRG	0.23581619	2.6*
Acrolein	AVRG	0.02630205	0.6*
Freon TF	AVRG	0.44811495	6.5*

* Compound with required maximum % RSD value.
** Compound with required minimum RRF value.

VOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 8260B

Instrument ID: VOAMS5 Calibration Date(s): 05/16/99 05/16/99

Heated Purge: (Y/N) N Calibration Time(s): 1517 1711

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Isopropanol	AVRG		
Acetonitrile	AVRG	0.01436945	13.6*
TBA	AVRG	0.02011983	2.2*
Acrylonitrile	AVRG	0.07167857	4.8*
MTBE	AVRG	0.77685457	3.4*
Hexane	AVRG	0.03061722	5.1*
DIPE	AVRG	1.30362015	5.2*
Ethyl Acetate	AVRG	0.32622762	6.5*
Vinyl Acetate	AVRG	0.60011672	5.2*
Tetrahydrofuran	AVRG		
Cyclohexane	AVRG	0.38608968	5.9*
Isobutanol	AVRG		
Isopropyl Acetate	AVRG		
n-Heptane	AVRG		
n-Butanol	AVRG		
Propyl Acetate	AVRG	0.51467555	6.4*
Butyl Acetate	AVRG		
1,2-Dibromoethane	AVRG	0.55012350	4.3*
1,3-Dichlorobenzene	AVRG	1.46945545	6.4*
1,4-Dichlorobenzene	AVRG	1.54799576	7.9*
1,2-Dichlorobenzene	AVRG	1.39681712	6.8*
Naphthalene	AVRG	0.94331397	4.2*
Methylnaphthalene (total)	AVRG		
Dimethylnaphthalene (total)	AVRG		
Dichlorodifluoromethane	AVRG	0.31268893	6.9*
1,1-Dichloropropene	AVRG	0.43208988	4.4*
1,2,4-Trichlorobenzene	AVRG	0.53161790	2.5*
Hexachlorobutadiene	AVRG	0.39103530	6.1*
1,4-Dioxane	AVRG	0.00242905	2.2*
Methyl Acrylate	AVRG		
1,1,1,2-Tetrachloroethane	AVRG	0.47556193	3.6*
1,2,3-Trichlorobenzene	AVRG	0.29340801	8.6*
1,2,3-Trichloropropane	AVRG	0.86975655	5.4*
1,2,4-Trimethylbenzene	AVRG	1.68337150	8.0*
1,2-Dibromo-3-chloropropane	AVRG	0.13739153	2.4*
1,3,5-Trimethylbenzene	AVRG	1.60637626	7.7*
1,3-Dichloropropane	AVRG	0.66369812	3.8*
2,2-Dichloropropane	AVRG	0.37798132	7.5*
2-Chlorotoluene	AVRG	1.68947239	4.5*

* Compound with required maximum % RSD value.
** Compound with required minimum RRF value.

VOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 8260B

Instrument ID: VOAMS5 Calibration Date(s): 05/16/99 05/16/99

Heated Purge: (Y/N) N Calibration Time(s): 1517 1711

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
4-Chlorotoluene	AVRG	1.90828548	6.5*
Bromobenzene	AVRG	0.99590911	7.0*
Bromochloromethane	AVRG	0.23895828	4.3*
Dibromomethane	AVRG	0.28081475	4.3*
Isopropylbenzene	AVRG	1.07061200	12.2*
n-Butylbenzene	AVRG	1.36590726	4.6*
n-Propylbenzene	AVRG	2.47505096	4.1*
p-Isopropyltoluene	AVRG	1.80578721	5.5*
sec-Butylbenzene	AVRG	1.81082850	7.8*
tert-Butylbenzene	AVRG	1.82169148	6.9*
Allyl chloride	AVRG	0.18608518	4.2*
Benzyl chloride	AVRG	1.36335193	3.0*
Epichlorohydrin	AVRG	0.03099633	3.1*
Isoprene	AVRG	0.34185872	7.3*
Methyl methacrylate	AVRG	0.30171574	7.5*
n-Pentane	AVRG	0.05313334	6.9*
Allyl alcohol	AVRG		
Amyl Acetate	AVRG		
2-Octanol	AVRG		
2-Octanone	AVRG		
Ethyl Acrylate	AVRG		
Butyl Acrylate	AVRG		
Butyl Methacrylate	AVRG		
Ethyl methacrylate	AVRG		
Ethanol	AVRG		
Methyl acetate	AVRG	0.33990723	2.9*
Methylcyclohexane	AVRG	0.26230801	5.4*
Cyclohexanone	AVRG		
1,2-Dichloroethane-d4 (SUR)	AVRG	0.26190040	9.0*
Toluene-d8 (SUR)	AVRG	0.92958781	8.2*
Bromofluorobenzene (SUR)	AVRG	0.94846934	7.9*

* Compound with required maximum % RSD value.
** Compound with required minimum RRF value.

VOLATILE ORGANICS CONTINUING CALIBRATION CHECK
METHOD 8260B

Instrument ID: VOAMS5 Calibration Date: 06/06/99 Time: 1137

Lab File ID: E9650 Init. Calib. Date(s): 05/16/99 05/16/99

Heated Purge: (Y/N) N Init. Calib. Times: 1517 1711

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Chloromethane	0.237	0.226	0.1	4.6	50.0
Bromomethane	0.214	0.207		3.3	50.0
Vinyl Chloride	0.280	0.266		5.0	20.0
Chloroethane	0.191	0.186		2.6	50.0
Methylene Chloride	0.290	0.279		3.8	50.0
Acetone	0.052	0.054		-3.8	50.0
Carbon Disulfide	0.814	0.769		5.5	50.0
Trichlorofluoromethane	0.298	0.301		-1.0	50.0
1,1-Dichloroethene	0.261	0.253		3.1	20.0
1,1-Dichloroethane	0.624	0.628	0.1	0.1	50.0
trans-1,2-Dichloroethene	0.302	0.300		0.7	50.0
cis-1,2-Dichloroethene	0.337	0.350		-3.8	50.0
Chloroform	0.508	0.512		0.1	20.0
1,2-Dichloroethane	0.302	0.302		0.0	50.0
2-Butanone	0.028	0.028		0.0	50.0
1,1,1-Trichloroethane	0.370	0.377		-1.7	50.0
Carbon Tetrachloride	0.370	0.374		-0.9	50.0
Bromodichloromethane	0.508	0.522		-2.6	50.0
1,2-Dichloropropane	0.440	0.432		1.8	20.0
cis-1,3-Dichloropropene	0.555	0.563		-1.4	50.0
Trichloroethene	0.321	0.315		1.9	50.0
Dibromochloromethane	0.657	0.663		0.1	50.0
1,1,2-Trichloroethane	0.334	0.335		-0.0	50.0
Benzene	0.970	0.927		4.4	50.0
trans-1,3-Dichloropropene	0.565	0.567		-0.0	50.0
2-Chloroethyl Vinyl Ether	0.293	0.286		2.4	50.0
Bromoform	0.422	0.426	0.1	0.1	50.0
4-Methyl-2-Pentanone	0.302	0.285		5.6	50.0
2-Hexanone	0.235	0.221		6.0	50.0
Tetrachloroethene	0.468	0.465		0.6	50.0
1,1,2,2-Tetrachloroethane	1.179	1.098	0.3	6.9	50.0
Toluene	1.152	1.135		1.5	20.0
Chlorobenzene	0.908	0.912	0.3	-0.0	50.0
Ethylbenzene	0.404	0.415		-2.7	20.0
Styrene	0.880	0.896		-1.8	50.0
Xylene (Total)	0.516	0.528		-2.3	50.0
Ethyl Ether	0.236	0.232		1.7	50.0

VOLATILE ORGANICS CONTINUING CALIBRATION CHECK (cont'd)
METHOD 8260B

Instrument ID: VOAMS5 Calibration Date: 06/06/99 Time: 1137

Lab File ID: E9650 Init. Calib. Date(s): 05/16/99 05/16/99

Heated Purge: (Y/N) N Init. Calib. Times: 1517 1711

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Acrolein	0.026	0.016		38.5	50.0
Freon TF	0.448	0.471		-5.1	50.0
Isopropanol					50.0
Acetonitrile	0.014	0.015		-7.1	50.0
TBA	0.020	0.018		10.0	50.0
Acrylonitrile	0.072	0.068		5.6	50.0
MTBE	0.777	0.737		5.1	50.0
Hexane	0.031	0.029		6.4	50.0
DIPE	1.304	1.305		-0.0	50.0
Ethyl Acetate	0.326	0.317		2.8	50.0
Vinyl Acetate	0.600	0.544		9.3	50.0
Tetrahydrofuran					50.0
Cyclohexane	0.386	0.404		-4.5	50.0
Isobutanol					50.0
Isopropyl Acetate					50.0
n-Heptane					50.0
n-Butanol					50.0
Propyl Acetate	0.515	0.470		8.7	50.0
Butyl Acetate					50.0
1,2-Dibromoethane	0.550	0.544		1.1	50.0
1,3-Dichlorobenzene	1.469	1.474		-0.0	50.0
1,4-Dichlorobenzene	1.548	1.580		-1.9	50.0
1,2-Dichlorobenzene	1.397	1.398		-0.0	50.0
Naphthalene	0.943	0.740		21.5	50.0
Methylnaphthalene (total)					50.0
Dimethylnaphthalene (total)					50.0
Dichlorodifluoromethane	0.313	0.303		3.2	50.0
1,1-Dichloropropene	0.432	0.440		-1.8	50.0
1,2,4-Trichlorobenzene	0.532	0.478		10.2	50.0
Hexachlorobutadiene	0.391	0.432		-10.3	50.0
1,4-Dioxane	0.002	0.002		0.0	50.0
Methyl Acrylate					50.0
1,1,1,2-Tetrachloroethane	0.475	0.486		-2.3	50.0
1,2,3-Trichlorobenzene	0.293	0.213		27.3	50.0
1,2,3-Trichloropropane	0.870	0.846		2.8	50.0
1,2,4-Trimethylbenzene	1.683	1.715		-1.9	50.0
1,2-Dibromo-3-chloropropane	0.137	0.125		8.8	50.0

VOLATILE ORGANICS CONTINUING CALIBRATION CHECK(cont'd)
METHOD 8260B

Instrument ID: VOAMS5 Calibration Date: 06/06/99 Time: 1137

Lab File ID: E9650 Init. Calib. Date(s): 05/16/99 05/16/99

Heated Purge: (Y/N) N Init. Calib. Times: 1517 1711

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,3,5-Trimethylbenzene	1.606	1.663		-3.5	50.0
1,3-Dichloropropane	0.664	0.666		-0.0	50.0
2,2-Dichloropropane	0.378	0.382		-1.0	50.0
2-Chlorotoluene	1.689	1.765		-4.3	50.0
4-Chlorotoluene	1.908	1.974		-3.4	50.0
Bromobenzene	0.996	1.013		-1.7	50.0
Bromochloromethane	0.239	0.240		-0.0	50.0
Dibromomethane	0.281	0.278		1.1	50.0
Isopropylbenzene	1.070	1.176		-9.9	50.0
n-Butylbenzene	1.366	1.518		-11.1	50.0
n-Propylbenzene	2.475	2.641		-6.7	50.0
p-Isopropyltoluene	1.806	1.968		-8.8	50.0
sec-Butylbenzene	1.811	1.934		-6.6	50.0
tert-Butylbenzene	1.822	1.926		-5.7	50.0
Allyl chloride	0.186	0.185		0.5	50.0
Benzyl chloride	1.363	1.335		2.0	50.0
Epichlorohydrin	0.031	0.026		16.1	50.0
Isoprene	0.342	0.347		-1.3	50.0
Methyl methacrylate	0.302	0.314		-3.8	50.0
n-Pentane	0.053	0.056		-5.5	50.0
Allyl alcohol					50.0
Amyl Acetate					50.0
2-Octanol					50.0
2-Octanone					50.0
Ethyl Acrylate					50.0
Butyl Acrylate					50.0
Butyl Methacrylate					50.0
Ethyl methacrylate					50.0
Ethanol					
Methyl acetate	0.340	0.358		-5.1	50.0
Methylcyclohexane	0.262	0.289		-10.3	50.0
Cyclohexanone					
1,2-Dichloroethane-d4 (SUR)	0.262	0.258		1.5	50.0
Toluene-d8 (SUR)	0.929	0.953		-2.4	50.0
Bromofluorobenzene (SUR)	0.949	0.991		-4.4	50.0

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA
METHOD 8270C

Instrument ID: BNAMS4

Calibration Date(s): 06/07/99 06/07/99

Calibration Time(s): 1242 1546

LAB FILE ID: RRF5: U8828 RRF20: U8827 RRF50: U8824
RRF80: U8826 RRF120: U8825

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120
Phenol	2.080	2.210	2.261	2.151	2.156
2-Chlorophenol	1.368	1.472	1.434	1.445	1.568
2-Methylphenol	1.335	1.300	1.320	1.235	1.385
4-Methylphenol	1.345	1.426	1.416	1.425	1.507
2-Nitrophenol	0.213	0.236	0.223	0.229	0.227
2,4-Dimethylphenol	0.276	0.308	0.286	0.284	0.294
2,4-Dichlorophenol	0.359	0.414	0.398	0.400	0.402
4-Chloro-3-methylphenol	0.487	0.509	0.499	0.474	0.483
2,4,6-Trichlorophenol	0.514	0.546	0.530	0.558	0.515
2,4,5-Trichlorophenol	0.536	0.558	0.576	0.564	0.562
2,4-Dinitrophenol	0.160	0.250	0.285	0.297	0.303
4-Nitrophenol	0.409	0.439	0.474	0.469	0.465
4,6-Dinitro-2-methylphenol	0.156	0.169	0.165	0.170	0.174
Pentachlorophenol	0.122	0.146	0.157	0.147	0.149
Benzoic Acid	0.147	0.197	0.224	0.236	0.193
N-Nitrosodimethylamine	0.672	0.874	0.949	0.919	0.984
bis(2-Chloroethyl)ether	1.618	1.665	1.652	1.622	1.660
1,3-Dichlorobenzene	1.681	1.566	1.518	1.479	1.547
1,4-Dichlorobenzene	1.590	1.454	1.481	1.460	1.449
1,2-Dichlorobenzene	1.473	1.446	1.415	1.367	1.462
bis(2-chloroisopropyl)ether	2.844	2.770	2.620	2.221	2.283
N-Nitroso-di-n-propylamine	1.865	1.584	1.458	1.346	1.362
Hexachloroethane	0.711	0.760	0.765	0.762	0.766
Nitrobenzene	1.117	0.947	0.884	0.828	0.829
Isophorone	1.231	1.297	1.213	1.219	1.255
bis(2-Chloroethoxy)methane	0.651	0.579	0.562	0.524	0.554
1,2,4-Trichlorobenzene	0.523	0.446	0.448	0.438	0.425
Naphthalene	1.080	0.988	0.980	1.010	1.084
4-Chloroaniline	0.460	0.394	0.396	0.336	0.272
Hexachlorobutadiene	0.368	0.345	0.339	0.310	0.265
2-Methylnaphthalene	0.789	0.728	0.725	0.721	0.750
Hexachlorocyclopentadiene	0.131	0.219	0.322	0.350	0.348
2-Chloronaphthalene	1.209	1.151	1.167	1.172	1.146
2-Nitroaniline	0.739	0.663	0.676	0.610	0.618
Dimethylphthalate	1.839	1.657	1.613	1.566	1.550
Acenaphthylene	1.890	1.968	1.955	1.921	1.959
2,6-Dinitrotoluene	0.343	0.384	0.385	0.378	0.367
3-Nitroaniline	0.350	0.317	0.346	0.348	0.335
Acenaphthene	1.308	1.203	1.186	1.169	1.211

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 8270C

Instrument ID: BNAMS4

Calibration Date(s): 06/07/99 06/07/99

Calibration Time(s): 1242 1546

LAB FILE ID: RRF5: U8828 RRF20: U8827 RRF50: U8824
RRF80: U8826 RRF120: U8825

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120
Dibenzofuran	2.002	1.785	1.724	1.738	1.623
2,4-Dinitrotoluene	0.583	0.571	0.560	0.565	0.531
Diethylphthalate	2.428	1.925	1.914	1.908	1.829
4-Chlorophenyl-phenylether	0.917	0.869	0.815	0.760	0.615
Fluorene	1.616	1.430	1.459	1.430	1.327
4-Nitroaniline	0.402	0.313	0.317	0.297	0.292
N-Nitrosodiphenylamine	0.534	0.485	0.467	0.465	0.477
4-Bromophenyl-phenylether	0.285	0.248	0.248	0.221	0.200
Hexachlorobenzene	0.286	0.275	0.259	0.235	0.217
Phenanthrene	1.207	1.096	1.043	0.989	0.947
Anthracene	1.146	1.076	1.030	0.966	0.925
Carbazole	1.057	0.925	0.881	0.823	0.826
Di-n-butylphthalate	1.677	1.523	1.421	1.422	1.361
Fluoranthene	1.584	1.395	1.333	1.205	1.126
Pyrene	1.539	1.524	1.536	1.485	1.407
Benzidine	0.417	0.515	0.392	0.304	0.220
Butylbenzylphthalate	0.841	0.790	0.791	0.824	0.809
3,3'-Dichlorobenzidine	0.457	0.427	0.351	0.278	0.232
Benzo(a)anthracene	1.490	1.284	1.301	1.288	1.208
Chrysene	1.198	1.242	1.223	1.175	1.075
bis(2-Ethylhexyl)phthalate	0.960	1.026	1.000	0.975	0.940
Di-n-octylphthalate	1.929	1.909	1.766	1.825	1.878
Benzo(b)fluoranthene	1.513	1.361	1.350	1.456	1.617
Benzo(k)fluoranthene	1.528	1.467	1.390	1.319	1.107
Benzo(a)pyrene	1.175	1.281	1.311	1.319	1.286
Indeno(1,2,3-cd)pyrene	1.070	1.191	1.249	1.380	1.353
Dibenz(a,h)anthracene	1.244	1.189	1.160	1.199	1.204
Benzo(g,h,i)perylene	1.117	1.236	1.194	1.243	1.282
Pyridine	0.943	1.322	1.392	1.316	1.397
Aniline	2.576	2.274	2.323	2.183	2.332
Benzyl Alcohol	0.873	0.952	0.965	0.919	1.006
1,2-Diphenylhydrazine	1.222	1.116	1.009	0.939	0.913
Diphenyl		1.455	1.452	1.478	1.426
Diphenyl Ether		0.811	0.820	0.807	0.787
Acetophenone		2.357	2.289	2.245	2.347
1,4-Dioxane		0.409	0.410	0.429	0.436
N,N-Dimethylaniline		1.980	1.914	1.878	2.018
2,3,7,8-TCDD (Screen)			0.138		
Benzaldehyde					

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 8270C

Instrument ID: BNAMS4

Calibration Date(s): 06/07/99 06/07/99

Calibration Time(s): 1242 1546

LAB FILE ID: RRF5: U8828 RRF20: U8827 RRF50: U8824
RRF80: U8826 RRF120: U8825

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120
Caprolactam	0.147	0.149	0.151	0.157	0.161
Atrazine	0.143	0.135	0.129	0.124	0.116
2-Fluorophenol (SUR)	1.040	1.184	1.231	1.273	1.325
Phenol-d5 (SUR)	1.479	1.608	1.595	1.549	1.634
2,4,6-Tribromophenol (SUR)	0.276	0.306	0.322	0.304	0.275
Nitrobenzene-d5 (SUR)	0.631	0.682	0.645	0.632	0.634
2-Fluorobiphenyl (SUR)	1.508	1.508	1.430	1.379	1.328
Terphenyl-d14 (SUR)	1.019	1.030	1.031	0.886	0.772

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 8270C

Instrument ID: BNAMS4

Calibration Date(s): 06/07/99 06/07/99

Calibration Time(s): 1242 1546

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Phenol	AVRG	2.17155122	3.1*
2-Chlorophenol	AVRG	1.45747329	5.0*
2-Methylphenol	AVRG	1.31521618	4.2*
4-Methylphenol	AVRG	1.42386822	4.0*
2-Nitrophenol	AVRG	0.22551329	3.7*
2,4-Dimethylphenol	AVRG	0.28983952	4.1*
2,4-Dichlorophenol	AVRG	0.39468817	5.2*
4-Chloro-3-methylphenol	AVRG	0.49051712	2.8*
2,4,6-Trichlorophenol	AVRG	0.53253186	3.6*
2,4,5-Trichlorophenol	AVRG	0.55920371	2.6*
2,4-Dinitrophenol	AVRG	0.25905219	22.7**
4-Nitrophenol	AVRG	0.45144865	6.0**
4,6-Dinitro-2-methylphenol	AVRG	0.16696967	4.0*
Pentachlorophenol	AVRG	0.14395887	9.1*
Benzoic Acid	AVRG	0.19949241	17.2*
N-Nitrosodimethylamine	AVRG	0.87947881	14.0*
bis(2-Chloroethyl)ether	AVRG	1.64356471	1.3*
1,3-Dichlorobenzene	AVRG	1.55827186	4.9*
1,4-Dichlorobenzene	AVRG	1.48680229	4.0*
1,2-Dichlorobenzene	AVRG	1.43253317	3.0*
bis(2-chloroisopropyl)ether	AVRG	2.54757570	11.1*
N-Nitroso-di-n-propylamine	AVRG	1.52312573	14.0**
Hexachloroethane	AVRG	0.75283770	3.1*
Nitrobenzene	AVRG	0.92084870	13.0*
Isophorone	AVRG	1.24290176	2.8*
bis(2-Chloroethoxy)methane	AVRG	0.57396205	8.3*
1,2,4-Trichlorobenzene	AVRG	0.45620516	8.4*
Naphthalene	AVRG	1.02840378	4.9*
4-Chloroaniline	AVRG	0.37172281	19.1*
Hexachlorobutadiene	AVRG	0.32556432	12.1*
2-Methylnaphthalene	AVRG	0.74258559	3.8*
Hexachlorocyclopentadiene	AVRG	0.27409622	35.1**
2-Chloronaphthalene	AVRG	1.16898861	2.1*
2-Nitroaniline	AVRG	0.66107200	7.8*
Dimethylphthalate	AVRG	1.64501945	7.1*
Acenaphthylene	AVRG	1.93858206	1.7*
2,6-Dinitrotoluene	AVRG	0.37158636	4.7*
3-Nitroaniline	AVRG	0.33910910	4.0*
Acenaphthene	AVRG	1.21546740	4.4*

* Compound with required maximum % RSD value.
** Compound with required minimum RRF value.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd)
METHOD 8270C

Instrument ID: BNAMS4

Calibration Date(s): 06/07/99 06/07/99

Calibration Time(s): 1242 1546

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Dibenzofuran	AVRG	1.77422916	7.9*
2,4-Dinitrotoluene	AVRG	0.56218259	3.5*
Diethylphthalate	AVRG	2.00090733	12.1*
4-Chlorophenyl-phenylether	AVRG	0.79538957	14.7*
Fluorene	AVRG	1.45219520	7.2*
4-Nitroaniline	AVRG	0.32447450	13.8*
N-Nitrosodiphenylamine	AVRG	0.48553071	5.8*
4-Bromophenyl-phenylether	AVRG	0.24043201	13.3*
Hexachlorobenzene	AVRG	0.25468776	11.1*
Phenanthrene	AVRG	1.05644209	9.6*
Anthracene	AVRG	1.02858928	8.5*
Carbazole	AVRG	0.90249281	10.6*
Di-n-butylphthalate	AVRG	1.48078861	8.4*
Fluoranthene	AVRG	1.32851425	13.3*
Pyrene	AVRG	1.49815669	3.7*
Benzidine	AVRG	0.36924281	30.4*
Butylbenzylphthalate	AVRG	0.81100588	2.7*
3,3'-Dichlorobenzidine	AVRG	0.34911321	27.3*
Benzo(a)anthracene	AVRG	1.31417264	8.0*
Chrysene	AVRG	1.18281673	5.5*
bis(2-Ethylhexyl)phthalate	AVRG	0.98028108	3.4*
Di-n-octylphthalate	AVRG	1.86137159	3.6*
Benzo(b)fluoranthene	AVRG	1.45956396	7.6*
Benzo(k)fluoranthene	AVRG	1.36235570	11.9*
Benzo(a)pyrene	AVRG	1.27440116	4.5*
Indeno(1,2,3-cd)pyrene	AVRG	1.24850945	10.1*
Dibenz(a,h)anthracene	AVRG	1.19904406	2.5*
Benzo(g,h,i)perylene	AVRG	1.21477724	5.2*
Pyridine	AVRG	1.27419783	14.8*
Aniline	AVRG	2.33777718	6.2*
Benzyl Alcohol	AVRG	0.94307617	5.3*
1,2-Diphenylhydrazine	AVRG	1.03978184	12.4*
Diphenyl	AVRG	1.45259032	1.4*
Diphenyl Ether	AVRG	0.80656505	1.7*
Acetophenone	AVRG	2.30967862	2.3**
1,4-Dioxane	AVRG	0.42093287	3.3**
N,N-Dimethylaniline	AVRG	1.94752020	3.2**
2,3,7,8-TCDD (Screen)	AVRG	0.13753550	0.0**
Benzaldehyde	AVRG		

* Compound with required maximum % RSD value.
** Compound with required minimum RRF value.

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK
METHOD 8270C

Instrument ID: BNAMS4 Calibration Date: 06/08/99 Time: 0826

Lab File ID: U8847 Init. Calib. Date(s): 06/07/99 06/07/99

Init. Calib. Times: 1242 1546

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	2.172	2.209		-1.7	20.0
2-Chlorophenol	1.457	1.441		1.1	20.0
2-Methylphenol	1.315	1.306		0.7	20.0
4-Methylphenol	1.424	1.424		0.0	20.0
2-Nitrophenol	0.226	0.227		-0.0	20.0
2,4-Dimethylphenol	0.290	0.281		3.1	20.0
2,4-Dichlorophenol	0.395	0.402		-1.6	20.0
4-Chloro-3-methylphenol	0.490	0.511		-4.1	20.0
2,4,6-Trichlorophenol	0.533	0.567		-6.2	20.0
2,4,5-Trichlorophenol	0.559	0.565		-0.9	20.0
2,4-Dinitrophenol	0.259	0.310	0.05	-19.5	20.0
4-Nitrophenol	0.451	0.495	0.05	-9.6	20.0
4,6-Dinitro-2-methylphenol	0.167	0.171		-2.2	20.0
Pentachlorophenol	0.144	0.150		-4.0	20.0
Benzoic Acid	0.199	0.233		-16.9	20.0
N-Nitrosodimethylamine	0.880	0.925		-5.1	20.0
bis(2-Chloroethyl)ether	1.643	1.630		0.8	20.0
1,3-Dichlorobenzene	1.558	1.540		1.2	20.0
1,4-Dichlorobenzene	1.487	1.438		3.3	20.0
1,2-Dichlorobenzene	1.433	1.433		0.0	20.0
bis(2-chloroisopropyl)ether	2.548	2.516		1.2	20.0
N-Nitroso-di-n-propylamine	1.523	1.460	0.05	4.1	20.0
Hexachloroethane	0.753	0.791		-5.0	20.0
Nitrobenzene	0.921	0.890		3.4	20.0
Isophorone	1.243	1.241		0.2	20.0
bis(2-Chloroethoxy)methane	0.574	0.571		0.5	20.0
1,2,4-Trichlorobenzene	0.456	0.453		0.6	20.0
Naphthalene	1.028	0.954		7.2	20.0
4-Chloroaniline	0.372	0.387		-4.0	20.0
Hexachlorobutadiene	0.325	0.345		-6.0	20.0
2-Methylnaphthalene	0.743	0.744		-0.0	20.0
Hexachlorocyclopentadiene	0.274	0.330	0.05	-20.4	20.0
2-Chloronaphthalene	1.169	1.228		-5.0	20.0
2-Nitroaniline	0.661	0.704		-6.5	20.0
Dimethylphthalate	1.645	1.696		-3.1	20.0
Acenaphthylene	1.939	2.024		-4.2	20.0
2,6-Dinitrotoluene	0.371	0.394		-6.0	20.0

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK(cont'd)
METHOD 8270C

Instrument ID: BNAMS4 Calibration Date: 06/08/99 Time: 0826

Lab File ID: U8847 Init. Calib. Date(s): 06/07/99 06/07/99

Init. Calib. Times: 1242 1546

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
3-Nitroaniline	0.339	0.360		-6.0	20.0
Acenaphthene	1.215	1.249		-2.6	20.0
Dibenzofuran	1.774	1.770		0.2	20.0
2,4-Dinitrotoluene	0.562	0.578		-2.8	20.0
Diethylphthalate	2.001	1.980		1.0	20.0
4-Chlorophenyl-phenylether	0.795	0.826		-3.7	20.0
Fluorene	1.452	1.515		-4.3	20.0
4-Nitroaniline	0.324	0.322		0.6	20.0
N-Nitrosodiphenylamine	0.486	0.468		3.7	20.0
4-Bromophenyl-phenylether	0.240	0.232		3.3	20.0
Hexachlorobenzene	0.254	0.250		1.6	20.0
Phenanthrene	1.056	1.026		2.8	20.0
Anthracene	1.029	1.028		0.1	20.0
Carbazole	0.902	0.892		1.1	20.0
Di-n-butylphthalate	1.481	1.443		2.6	20.0
Fluoranthene	1.329	1.287		3.2	20.0
Pyrene	1.498	1.492		0.4	20.0
Benzidine	0.370	0.298		19.4	20.0
Butylbenzylphthalate	0.811	0.804		0.9	20.0
3,3'-Dichlorobenzidine	0.349	0.349		0.0	20.0
Benzo(a)anthracene	1.314	1.290		1.8	20.0
Chrysene	1.183	1.180		0.2	20.0
bis(2-Ethylhexyl)phthalate	0.980	0.996		-1.6	20.0
Di-n-octylphthalate	1.861	1.836		1.3	20.0
Benzo(b)fluoranthene	1.459	1.443		1.1	20.0
Benzo(k)fluoranthene	1.362	1.457		-6.8	20.0
Benzo(a)pyrene	1.274	1.333		-4.6	20.0
Indeno(1,2,3-cd)pyrene	1.249	1.329		-6.4	20.0
Dibenz(a,h)anthracene	1.199	1.195		0.3	20.0
Benzo(g,h,i)perylene	1.214	1.281		-5.5	20.0
Pyridine	1.274	1.284		0.1	20.0
Aniline	2.338	2.291		2.0	20.0
Benzyl Alcohol	0.943	0.938		0.5	20.0
1,2-Diphenylhydrazine	1.040	0.988		5.0	20.0
Diphenyl	1.453	1.504		-3.5	20.0
Diphenyl Ether	0.806	0.854		-5.8	20.0
Acetophenone	2.310	2.292	0.01	0.8	20.0

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA (cont'd
METHOD 8270C

Instrument ID: BNAMS4

Calibration Date(s): 06/07/99 06/07/99

Calibration Time(s): 1242 1546

COMPOUND	CURVE	COEFFICENT A1	%RSD OR R^2
Caprolactam	AVRG	0.15295367	3.9*
Atrazine	AVRG	0.12960917	8.0*
2-Fluorophenol (SUR)	AVRG	1.21052095	9.0*
Phenol-d5 (SUR)	AVRG	1.57307977	3.9*
2,4,6-Tribromophenol (SUR)	AVRG	0.29668054	6.9*
Nitrobenzene-d5 (SUR)	AVRG	0.64510930	3.3*
2-Fluorobiphenyl (SUR)	AVRG	1.43055296	5.5*
Terphenyl-d14 (SUR)	AVRG	0.94749096	12.2*

* Compound with required maximum % RSD value.
** Compound with required minimum RRF value.

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK(cont'd)
METHOD 8270C

Instrument ID: BNAMS4 Calibration Date: 06/08/99 Time: 0826

Lab File ID: U8847 Init. Calib. Date(s): 06/07/99 06/07/99

Init. Calib. Times: 1242 1546

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,4-Dioxane	0.421	0.418	0.01	0.7	20.0
N,N-Dimethylaniline	1.948	1.919	0.01	1.5	20.0
2,3,7,8-TCDD (Screen)	0.138	0.162	0.01	-17.2	20.0
Benzaldehyde					20.0
Caprolactam	0.153	0.164		-7.0	20.0
Atrazine	0.129	0.124		3.9	20.0
2-Fluorophenol (SUR)	1.211	1.272		-5.0	20.0
Phenol-d5 (SUR)	1.573	1.568		0.3	20.0
2,4,6-Tribromophenol (SUR)	0.297	0.331		-11.4	20.0
Nitrobenzene-d5 (SUR)	0.645	0.662		-2.6	20.0
2-Fluorobiphenyl (SUR)	1.431	1.459		-1.8	20.0
Terphenyl-d14 (SUR)	0.948	0.967		-2.0	20.0

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK
METHOD 8270C

Instrument ID: BNAMS4 Calibration Date: 06/09/99 Time: 2051

Lab File ID: U8892 Init. Calib. Date(s): 06/07/99 06/07/99

Init. Calib. Times: 1242 1546

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
Phenol	2.172	2.206		-1.4	20.0
2-Chlorophenol	1.457	1.478		-1.4	20.0
2-Methylphenol	1.315	1.330		-1.1	20.0
4-Methylphenol	1.424	1.533		-7.6	20.0
2-Nitrophenol	0.226	0.223		1.3	20.0
2,4-Dimethylphenol	0.290	0.288		0.7	20.0
2,4-Dichlorophenol	0.395	0.405		-2.5	20.0
4-Chloro-3-methylphenol	0.490	0.536		-9.2	20.0
2,4,6-Trichlorophenol	0.533	0.541		-1.5	20.0
2,4,5-Trichlorophenol	0.559	0.578		-3.2	20.0
2,4-Dinitrophenol	0.259	0.278	0.05	-7.3	20.0
4-Nitrophenol	0.451	0.472	0.05	-4.6	20.0
4,6-Dinitro-2-methylphenol	0.167	0.168		-0.0	20.0
Pentachlorophenol	0.144	0.156		-8.3	20.0
Benzoic Acid	0.199	0.184		7.5	20.0
N-Nitrosodimethylamine	0.880	0.844		4.1	20.0
bis(2-Chloroethyl)ether	1.643	1.588		3.3	20.0
1,3-Dichlorobenzene	1.558	1.538		1.3	20.0
1,4-Dichlorobenzene	1.487	1.487		0.0	20.0
1,2-Dichlorobenzene	1.433	1.458		-1.7	20.0
bis(2-chloroisopropyl)ether	2.548	2.636		-3.4	20.0
N-Nitroso-di-n-propylamine	1.523	1.629	0.05	-6.8	20.0
Hexachloroethane	0.753	0.835		-10.7	20.0
Nitrobenzene	0.921	0.956		-3.8	20.0
Isophorone	1.243	1.268		-2.0	20.0
bis(2-Chloroethoxy)methane	0.574	0.572		0.3	20.0
1,2,4-Trichlorobenzene	0.456	0.478		-4.8	20.0
Naphthalene	1.028	0.992		3.5	20.0
4-Chloroaniline	0.372	0.398		-6.8	20.0
Hexachlorobutadiene	0.325	0.377		-16.0	20.0
2-Methylnaphthalene	0.743	0.784		-5.5	20.0
Hexachlorocyclopentadiene	0.274	0.297	0.05	-8.2	20.0
2-Chloronaphthalene	1.169	1.201		-2.7	20.0
2-Nitroaniline	0.661	0.673		-1.8	20.0
Dimethylphthalate	1.645	1.691		-2.6	20.0
Acenaphthylene	1.939	1.942		-0.0	20.0
2,6-Dinitrotoluene	0.371	0.360		3.0	20.0

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK(cont'd)
METHOD 8270C

Instrument ID: BNAMS4 Calibration Date: 06/09/99 Time: 2051

Lab File ID: U8892 Init. Calib. Date(s): 06/07/99 06/07/99

Init. Calib. Times: 1242 1546

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
3-Nitroaniline	0.339	0.334		1.5	20.0
Acenaphthene	1.215	1.232		-1.2	20.0
Dibenzofuran	1.774	1.691		4.7	20.0
2,4-Dinitrotoluene	0.562	0.546		2.8	20.0
Diethylphthalate	2.001	1.937		3.2	20.0
4-Chlorophenyl-phenylether	0.795	0.841		-5.6	20.0
Fluorene	1.452	1.452		0.0	20.0
4-Nitroaniline	0.324	0.298		8.0	20.0
N-Nitrosodiphenylamine	0.486	0.472		2.9	20.0
4-Bromophenyl-phenylether	0.240	0.256		-6.5	20.0
Hexachlorobenzene	0.254	0.266		-4.7	20.0
Phenanthrene	1.056	1.032		2.3	20.0
Anthracene	1.029	1.026		0.3	20.0
Carbazole	0.902	0.815		9.6	20.0
Di-n-butylphthalate	1.481	1.389		6.2	20.0
Fluoranthene	1.329	1.317		0.9	20.0
Pyrene	1.498	1.552		-3.6	20.0
Benzidine	0.370	0.216		41.6	20.0
Butylbenzylphthalate	0.811	0.791		2.5	20.0
3,3'-Dichlorobenzidine	0.349	0.360		-3.0	20.0
Benzo(a)anthracene	1.314	1.301		1.0	20.0
Chrysene	1.183	1.205		-1.8	20.0
bis(2-Ethylhexyl)phthalate	0.980	1.085		-10.7	20.0
Di-n-octylphthalate	1.861	1.888		-1.4	20.0
Benzo(b)fluoranthene	1.459	1.342		8.0	20.0
Benzo(k)fluoranthene	1.362	1.466		-7.6	20.0
Benzo(a)pyrene	1.274	1.279		-0.0	20.0
Indeno(1,2,3-cd)pyrene	1.249	1.218		2.5	20.0
Dibenz(a,h)anthracene	1.199	1.194		0.4	20.0
Benzo(g,h,i)perylene	1.214	1.235		-1.7	20.0
Pyridine	1.274	1.097		13.9	20.0
Aniline	2.338	2.278		2.6	20.0
Benzyl Alcohol	0.943	0.964		-2.2	20.0
1,2-Diphenylhydrazine	1.040	1.056		-1.5	20.0
Diphenyl	1.453	1.503		-3.4	20.0
Diphenyl Ether	0.806	0.800		0.7	20.0
Acetophenone	2.310	2.458	0.01	-6.4	20.0

SEMIVOLATILE ORGANICS CONTINUING CALIBRATION CHECK(cont'd)
METHOD 8270C

Instrument ID: BNAMS4 Calibration Date: 06/09/99 Time: 2051

Lab File ID: U8892 Init. Calib. Date(s): 06/07/99 06/07/99

Init. Calib. Times: 1242 1546

COMPOUND	$\overline{RRF}$	RRF50	MIN RRF	%D	MAX %D
1,4-Dioxane	0.421	0.345	0.01	18.0	20.0
N,N-Dimethylaniline	1.948	2.019	0.01	-3.6	20.0
2,3,7,8-TCDD (Screen)	0.138	0.148	0.01	-7.2	20.0
Benzaldehyde					20.0
Caprolactam	0.153	0.139		9.2	20.0
Atrazine	0.129	0.120		7.0	20.0
2-Fluorophenol (SUR)	1.211	1.219		0.1	20.0
Phenol-d5 (SUR)	1.573	1.562		0.7	20.0
2,4,6-Tribromophenol (SUR)	0.297	0.346		-16.3	20.0
Nitrobenzene-d5 (SUR)	0.645	0.689		-6.8	20.0
2-Fluorobiphenyl (SUR)	1.431	1.448		-1.0	20.0
Terphenyl-d14 (SUR)	0.948	1.061		-11.9	20.0

VOLATILE SYSTEM MONITORING COMPOUND RECOVERY
METHOD 8260B

Matrix: SOIL Level: HIGH Lab Job No: Q043

	LAB SAMPLE NO.	S1 #	S2 #	S3 #	OTHER	TOT OUT
01	EV157	102	98	100		0
02	135061	0D	0D	0D		0
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
S1	= 1,2-Dichloroethane-d4	(62-137)
S2	= Toluene-d8	(61-135)
S3	= Bromofluorobenzene	(64-133)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

SEMI-VOLATILE SURROGATE RECOVERY
METHOD 8270C

Matrix: SOIL Level: LOW Lab Job No: Q043

	LAB SAMPLE NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
01	SB158A	94	97	89	92	97	101	0
02	135061	0D	0D	0D	0D	0D	0D	0
03								
04								
05								
06								
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

		QC LIMITS
S1	= 2-Fluorophenol	(53-112)
S2	= Phenol-d5	(63-108)
S3	= 2,4,6-Tribromophenol	(38-130)
S4	= Nitrobenzene-d5	(64-112)
S5	= 2-Fluorobiphenyl	(58-117)
S6	= Terphenyl-d14	(66-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
METHOD 8260B

Matrix: SOIL

Level: HIGH

Matrix Spike - Lab Sample No.: 131634

MS Sample from Lab Job No: P495

QA Batch: 8950

Compound	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	5500	0.00	4600	84	70-132
Trichloroethene	5500	0.00	5400	98	85-143
Benzene	5500	0.00	5500	100	77-132
Toluene	5500	0.00	5400	98	79-130
Chlorobenzene	5500	0.00	5800	105	82-127

Compound	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	5500	4500	82	2	40	70-132
Trichloroethene	5500	5300	96	2	40	85-143
Benzene	5500	5400	98	2	40	77-132
Toluene	5500	5500	100	2	40	79-130
Chlorobenzene	5500	5900	107	2	40	82-127

Column to be used to flag recovery and RPD values with an asterik
* Values outside of QC limits
RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

SEMI-VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
METHOD 8270B

Matrix: SOIL

Level: LOW

Matrix Spike - Lab Sample No.: 133677

MS Sample from Lab Job No: P811

QA Batch: 5480

Compound	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Phenol	7000	0	6000	86	63-123
2-Chlorophenol	7000	0	5800	83	69-118
4-Chloro-3-methylphenol	7000	0	6000	86	57-132
4-Nitrophenol	7000	0	6000	86	70-127
Pentachlorophenol	7000	0	5600	80	19-128
1,4-Dichlorobenzene	3500	0	2700	77	66-97
N-Nitroso-di-n-propylami	3500	0	3400	97	74-126
1,2,4-Trichlorobenzene	3500	0	2900	83	71-109
Acenaphthene	3500	0	3100	89	76-108
2,4-Dinitrotoluene	3500	0	3400	97	77-108
Pyrene	3500	0	3400	97	54-149

SEMI-VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY
METHOD 8270B

Matrix: SOIL

Level: LOW

Matrix Spike - Lab Sample No.: 133677

MS Sample from Lab Job No: P811

QA Batch: 5480

Compound	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	7000	5900	84	2	40	63-123
2-Chlorophenol	7000	5600	80	4	40	69-118
4-Chloro-3-methylphenol	7000	5800	83	3	40	57-132
4-Nitrophenol	7000	6000	86	0	40	70-127
Pentachlorophenol	7000	5300	76	6	40	19-128
1,4-Dichlorobenzene	3500	2700	77	0	40	66-97
N-Nitroso-di-n-propylami	3500	3000	86	12	40	74-126
1,2,4-Trichlorobenzene	3500	2900	83	0	40	71-109
Acenaphthene	3500	3000	86	3	40	76-108
2,4-Dinitrotoluene	3500	3300	94	3	40	77-108
Pyrene	3500	3400	97	0	40	54-149

Column to be used to flag recovery and RPD values with an asterik
* Values outside of QC limits
RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

COMMENTS: _____

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): E9650 Date Analyzed: 06/06/99

Instrument ID: VOAMS5 Time Analyzed: 1137

		IS1 AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STD	2686164	9.09	2165340	12.74	1059624	15.23
	UPPER LIMIT	5372328	9.59	4330680	13.24	2119248	15.73
	LOWER LIMIT	1343082	8.59	1082670	12.24	529812	14.73
	LABORATORY SAMPLE NO.						
01	EV157	2508715	9.09	2050922	12.75	1027329	15.22
02	135061	2600179	9.09	2105237	12.75	1064092	15.23
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): U8847 Date Analyzed: 06/08/99

Instrument ID: BNAMS4 Time Analyzed: 0826

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(CRY) AREA #	RT #
	12 HOUR STD	483759	12.98	1732153	15.16	2299190	24.99
	UPPER LIMIT	967518	13.48	3464306	15.66	4598380	25.49
	LOWER LIMIT	241880	12.48	866076	14.66	1149595	24.49
	LABORATORY SAMPLE NO.						
01	SB158A	411037	12.98	1540669	15.15	2315313	24.97
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (CRY) = Chrysene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): U8847 Date Analyzed: 06/08/99

Instrument ID: BNAMS4 Time Analyzed: 0826

		IS4(ANT) AREA #	RT #	IS5(PHN) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	1132871	18.09	2617898	20.57	2257399	28.52
	UPPER LIMIT	2265742	18.59	5235796	21.07	4514798	29.02
	LOWER LIMIT	566436	17.59	1308949	20.07	1128700	28.02
	LABORATORY SAMPLE NO.						
01	SB158A	1066721	18.09	2233899	20.55	2136824	28.50
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (ANT) = Acenaphthene-d10
IS5 (PHN) = Phenanthrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): U8892

Date Analyzed: 06/09/99

Instrument ID: BNAMS4

Time Analyzed: 2051

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(CRY) AREA #	RT #
	12 HOUR STD	397967	12.97	1453447	15.16	1838988	24.98
	UPPER LIMIT	795934	13.47	2906894	15.66	3677976	25.48
	LOWER LIMIT	198984	12.47	726724	14.66	919494	24.48
	LABORATORY SAMPLE NO.						
01	135061	356474	12.97	1341070	15.14	1579711	24.95
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (CRY) = Chrysene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): U8892

Date Analyzed: 06/09/99

Instrument ID: BNAMS4

Time Analyzed: 2051

		IS4(ANT) AREA #	RT #	IS5(PHN) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	1030695	18.08	2320204	20.56	1703784	28.51
	UPPER LIMIT	2061390	18.58	4640408	21.06	3407568	29.01
	LOWER LIMIT	515348	17.58	1160102	20.06	851892	28.01
	LABORATORY SAMPLE NO.						
01	135061	928119	18.07	2072949	20.54	1539657	28.47
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (ANT) = Acenaphthene-d10
IS5 (PHN) = Phenanthrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

Client ID: **GPC-15B**
Site: **L.E. Carpenter**

Lab Sample No: 135061
Lab Job No: Q043

Date Sampled: 04/23/99
Date Received: 04/23/99

Matrix: SOLID
Level: LOW
% Moisture: 25.7

METALS ANALYSIS

Analyte	Analytical Result Units: mg/kg (Dry Weight)	Instrument Detection Limit	Qual	M
Lead	8220	11.0		P

Qual Column - Data Reporting Qualifiers (See Sec 2 of Report)
M Column - Method Code (See Section 2 of Report)

BLANKS

Lab Name: STL_ENVIROTECH

Lab Code: 12543_ Lab Job No.: _Q043 Batch No.: 8057__

Preparation Blank Matrix (soil/water): SOIL_

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead	20.4	U	20.4	U	20.4	U	20.4	U	2.040	U	P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Molybdenu											NR

BLANKS

Lab Name: STL_ENVIROTECH_____ _____

Lab Code: 12543_ Lab Job No.: _Q043 _____ Batch No.: 8057__

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic											NR
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead			20.4	U							P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Molybdenu											NR

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: STL_ENVIROTECH_____ _____

Lab Code: 12543_ Lab Job No.: Q043 _____ Batch No.: 8057__

Initial Calibration Source: INORG VENT__

Continuing Calibration Source: INORG VENT__

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum_									NR
Antimony_									NR
Arsenic__									NR
Barium___									NR
Beryllium									NR
Cadmium__									NR
Calcium__									NR
Chromium_									NR
Cobalt___									NR
Copper___									NR
Iron____									NR
Lead____	10000.0	9825.91	98.3	10000.0	10028.50	100.3	10021.42	100.2	P_
Magnesium									NR
Manganese									NR
Mercury__									NR
Nickel___									NR
Potassium									NR
Selenium_									NR
Silver___									NR
Sodium___									NR
Thallium_									NR
Vanadium_									NR
Zinc____									NR
Molybdenu									NR

(1) Control Limits: Mercury 80-120; ICP Metals 90-110; Furnace AA Metals 80-120

INITIAL AND CONTINUING CALIBRATION VERIFICATION

b Name: STL_ENVIROTECH_____ _____

b Code: 12543_ Lab Job No.: Q043 _____ Batch No.: 8057__

nitial Calibration Source: INORG VENT__

ntinuing Calibration Source: INORG VENT__

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
luminum_									NR
ntimony_									NR
Arsenic__									NR
arium___									NR
eryllium									NR
Cadmium__									NR
alcium__									NR
hromium_									NR
Cobalt___									NR
Copper___									NR
Iron_____									NR
Lead_____				_10000.0	_9962.31	_99.6	_9790.03	_97.9	P_
Magnesium									NR
Manganese									NR
Mercury__									NR
Nickel___									NR
Potassium									NR
Selenium_									NR
Silver___									NR
Sodium___									NR
Thallium_									NR
Vanadium_									NR
Zinc_____									NR
Molybdenu									NR
_____									

(1) Control Limits: Mercury 80-120; ICP Metals 90-110; Furnace AA Metals 80-120

ICP INTERFERENCE CHECK SAMPLE

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: Q043 Batch No.: 8057

ICP ID Number: TJA- 61E ICS Source: INORG VENT

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	500000	500000	463434	459673.0	91.9	475377	474594.1	94.9
Antimony		1000		907.1	90.7		952.3	95.2
Arsenic		1000		977.4	97.7		922.8	92.3
Barium		500		460.2	92.0		475.6	95.1
Beryllium		500		436.3	87.3		452.4	90.5
Cadmium		500		459.2	91.8		472.3	94.5
Calcium	500000	500000	454539	452192.8	90.4	464070	464670.3	92.9
Chromium		500		428.1	85.6		443.4	88.7
Cobalt		500		433.6	86.7		444.0	88.8
Copper		500		477.4	95.5		496.3	99.3
Iron	200000	200000	171078	169407.1	84.7	174696	175407.2	87.7
Lead		500		417.6	83.5		423.4	84.7
Magnesium	500000	500000	468207	464199.4	92.8	479051	477867.1	95.6
Manganese		500		429.1	85.8		443.4	88.7
Mercury								
Nickel		500		424.7	84.9		445.6	89.1
Potassium		10000		9657.9	96.6		10023.7	100.2
Selenium		1000		633.4	63.3		632.2	63.2
Silver		500		459.5	91.9		476.4	95.3
Sodium		10000		10146.4	101.5		10540.6	105.4
Thallium		1000		940.1	94.0		928.0	92.8
Vanadium		500		446.5	89.3		462.6	92.5
Zinc		500		465.8	93.2		481.3	96.3

ICP INTERFERENCE CHECK SAMPLE

ab Name: STL_ENVIROTECH

Lab Code: 12543_ Lab Job No.: _Q043 Batch No.: 8057__

CP ID Number: TJA- 61E____ ICS Source: INORG VENT__

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	500000	500000				466645	470651.2	94.1
Antimony		1000					962.5	96.2
Arsenic		1000					929.4	92.9
Barium		500					471.5	94.3
Beryllium		500					448.1	89.6
Cadmium		500					471.4	94.3
Calcium	500000	500000				453886	461764.7	92.4
Chromium		500					439.1	87.8
Cobalt		500					440.5	88.1
Copper		500					492.0	98.4
Iron	200000	200000				171987	173720.4	86.9
Lead		500					408.3	81.7
Magnesium	500000	500000				469804	474231.2	94.8
Manganese		500					440.6	88.1
Mercury								
Nickel		500					446.9	89.4
Potassium		10000					9653.5	96.5
Selenium		1000					674.9	67.5
Silver		500					468.2	93.6
Sodium		10000					10416.0	104.2
Thallium		1000					928.5	92.8
Vanadium		500					457.9	91.6
Zinc		500					478.1	95.6

LAB SAMPLE NO.

BSS060399

SPIKE SAMPLE RECOVERY

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: Q043 Batch No.: 8057

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead	75-125	45.8395		2.0400	U	50.00	91.7		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Molybdenu									

Comments:

LAB SAMPLE NO.

SPIKE SAMPLE RECOVERY

135292MS

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: Q043 Batch No.: 8057

Matrix (soil/water): SOIL Level (low/med): LOW

Solids for Sample: 88.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead	75-125	55.3721		4.6259	U	56.69	97.7		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Molybdenu									NR

Comments:

LAB SAMPLE NO.

SPIKE SAMPLE RECOVERY

135292MSD

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: Q043 Batch No.: 8057

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 88.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead	75-125	59.4297		4.6259	U	56.69	104.8		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Molybdenu									NR

Comments:

LAB SAMPLE NO.

DUPLICATES

LCSS-240-D___

Lab Name: STL_ENVIROTECH_____

Lab Code: 12543_ Lab Job No.: __Q043

Batch No.: 8057__

Matrix (soil/water): SOIL_

Level (low/med): _LOW__

% Solids for Sample: 100.0

% Solids for Duplicate: _100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead		47.1712		45.7758		3.0		P
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Molybdenu								NR

DUPLICATES

LAB SAMPLE NO.

135292D

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: Q043 Batch No.: 8057

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 88.2 % Solids for Duplicate: 88.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead	5.7	4.6259	U	6.6542	B	200.0		P
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Molybdenu								NR

LAB SAMPLE NO.

DUPLICATES

135292MS/MS

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: Q043 Batch No.: 8057

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 88.2 % Solids for Duplicate: 88.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic								NR
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead		55.3721		59.4297		7.1		P
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Molybdenu								NR

LABORATORY CONTROL SAMPLE

Lab Name: STL_ENVIROTECH_____ _____

Lab Code: 12543_ Lab Job No.: __Q043 _____ Batch No.: 8057__

Solid LCS Source: ERA 240_____

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.2	47.2		35.7	64.7	94.0
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Molybdenu									

LAB SAMPLE NO.

135292L

ICP SERIAL DILUTION

Lab Name: STL_ENVIROTECH

Lab Code: 12543 Lab Job No.: Q043 Batch No.: 8057

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum							NR
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium							NR
Calcium							NR
Chromium							NR
Cobalt							NR
Copper							NR
Iron							P
Lead	20.40	U	102.00	U			NR
Magnesium							NR
Manganese							NR
Mercury							NR
Nickel							NR
Potassium							NR
Selenium							NR
Silver							NR
Sodium							NR
Thallium							NR
Vanadium							NR
Zinc							

ANALYSIS RUN LOG

Lab Name: STL_ENVIROTECH_____ Contract: _____

Lab Code: 12543_ Case No.: _____ SAS No.: _____ SDG No.:8057__

Instrument ID Number: TJA- 61E_____ Method: P_

Start Date: 06/05/99 End Date: 06/05/99

Lab Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	MO
D1-BLANK	1.00	1052		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	X
STD2	1.00	1057		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	X
STD3	1.00	1101		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	X
STD4	1.00	1106		X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	X
ZZZZZZ	1.00	1111		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ICV/CCV	1.00	1115		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
ICB/CCB	1.00	1120		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
ICSA	1.00	1124		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
ICSAB	1.00	1128		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
MCL	1.00	1133		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	1.00	1137		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
SS060399	1.00	1142		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
BS060399	1.00	1146		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
LCSS-240	2.00	1150		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
SS-240-D	2.00	1155		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
135292D	2.00	1159		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
135292	2.00	1203		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
CCV	1.00	1208		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
CCB	1.00	1212		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
135292L	2.00	1217		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
135292MS	2.00	1221		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
35292MSD	2.00	1225		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
ZZZZZZ	2.00	1230		_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
135290	2.00	1234		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
135291	2.00	1238		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
135293	2.00	1243		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
135294	2.00	1247		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
135295	2.00	1252		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
135296	2.00	1256		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
CCV	1.00	1300		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
CCB	1.00	1305		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
135297	2.00	1309		_	_	_	_	_	_	_	_	_	_	_	X	_	_	_	_	_	_	_	_	_	_	_	_
				_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_

ANALYSIS RUN LOG

Lab Name: STL_ENVIROTECH_____ Contract: _____

Lab Code: 12543_ Case No.: _____ SAS No.: _____ SDG No.:8057__

Instrument ID Number: TJA- 61E_____ Method: P_

Start Date: 06/05/99 End Date: 06/05/99

Lab Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	MO
135298	2.00	1314													X												
135299	2.00	1318													X												
135300	2.00	1322													X												
135248	2.00	1327													X												
135249	2.00	1331													X												
135250	2.00	1335													X												
ZZZZZZ	2.00	1340																									
ICSA	1.00	1344													X												
ICSAB	1.00	1349													X												
CCV	1.00	1353													X												
CCB	1.00	1357													X												
135061	4.00	1412													X												
ICSA	1.00	1416													X												
ICSAB	1.00	1421													X												
CCV	1.00	1425													X												
CCB	1.00	1429													X												