Sun Refining and Marketing Company
3144 Passyunk Avenue
Philadelphia PA 19145-5299
215 339 2000

May 24, 1994

Mr. Steve O'Neil
Chief, Operations Section
Commonwealth of Pennsylvania
Department of Environmental Resources
Lee Park , Suite 6010
555 North Lane
Conshohocken, PA 19428

Re: Sun Company Inc. (R&M)
Philadelphia Refinery
Comprehensive Remedial Plan
Deep Aquifer Study

Dear Mr. O'Neil:

Attached are six copies of the ENSR report "Investigation of Shallow and Deep Groundwater Quality, Philadelphia Refinery". The larger report contains a complete set of the laboratory analytical data. The other copies include all of the analytical results but do not contain the analytical laboratory reports.

The results of this study show that the groundwater flow in the lower or deep aquifer is generally in the south-southeast direction with the north portion of the north yard being the upgradient end of the refinery and the south portion of the south yard being the downgradient section. Vertical hydraulic gradient data from the 11 well clusters indicate that there is a downward component of flow from the shallow to the deep aquifer. However, although not determined, the rate of vertical groundwater movement is probably low given the low permeability/hydraulic conductivity of the lithology in this area.

The inorganic analytical data generally indicates the groundwater to be in a reducing state. There were no clear spatial trends in the analytical data for total dissolved solids, dissolved iron or manganese, sulfate, or ammonia. There is some indication that the deep groundwater quality is in a more degraded condition at upgradient and western site boundaries than in downgradient portions of the site.

No semi-volatile organics were detected in any of the shallow, intermediate, or deep wells sampled. Benzene, toluene, ethylbenzene, and xylenes (BTEX) were detected in six of the twenty four wells sampled. Two of the six wells are designated as deep aquifer wells, wells S-38D and S-42 respectively. However, well S-42 may not be truly located in the deep aquifer, and well S-38D may have residual organic contamination due to recent installation and drilling through the shallow contaminated zone in that location.

If you have any questions relating to this information please call me at (610) 859-1959.

Sincerely,
SUN COMPANY, INC. (R&M)

Judy S. Brackin
Sr. Environmental Engineer

CC: United States Environmental Protection Agency
841 Chestnut Building
Philadelphia, PA 19107
Attention: Ms. Christine Wagner (3HW33)

SUN Company, Inc. (R & M)

Philadelphia, Pennsylvania

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Investigation of Shallow and Deep Groundwater Quality Philadelphia Refinery Philadelphia, PA

ENSR Consulting and Engineering

May 1994

Document Number 6445-051-200

SUN Company, Inc. (R & M)

Philadelphia, Pennsylvania

Investigation of Shallow and Deep Groundwater Quality Philadelphia Refinery Philadelphia, PA

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1.0 INTRODUCTION

1.1 Background

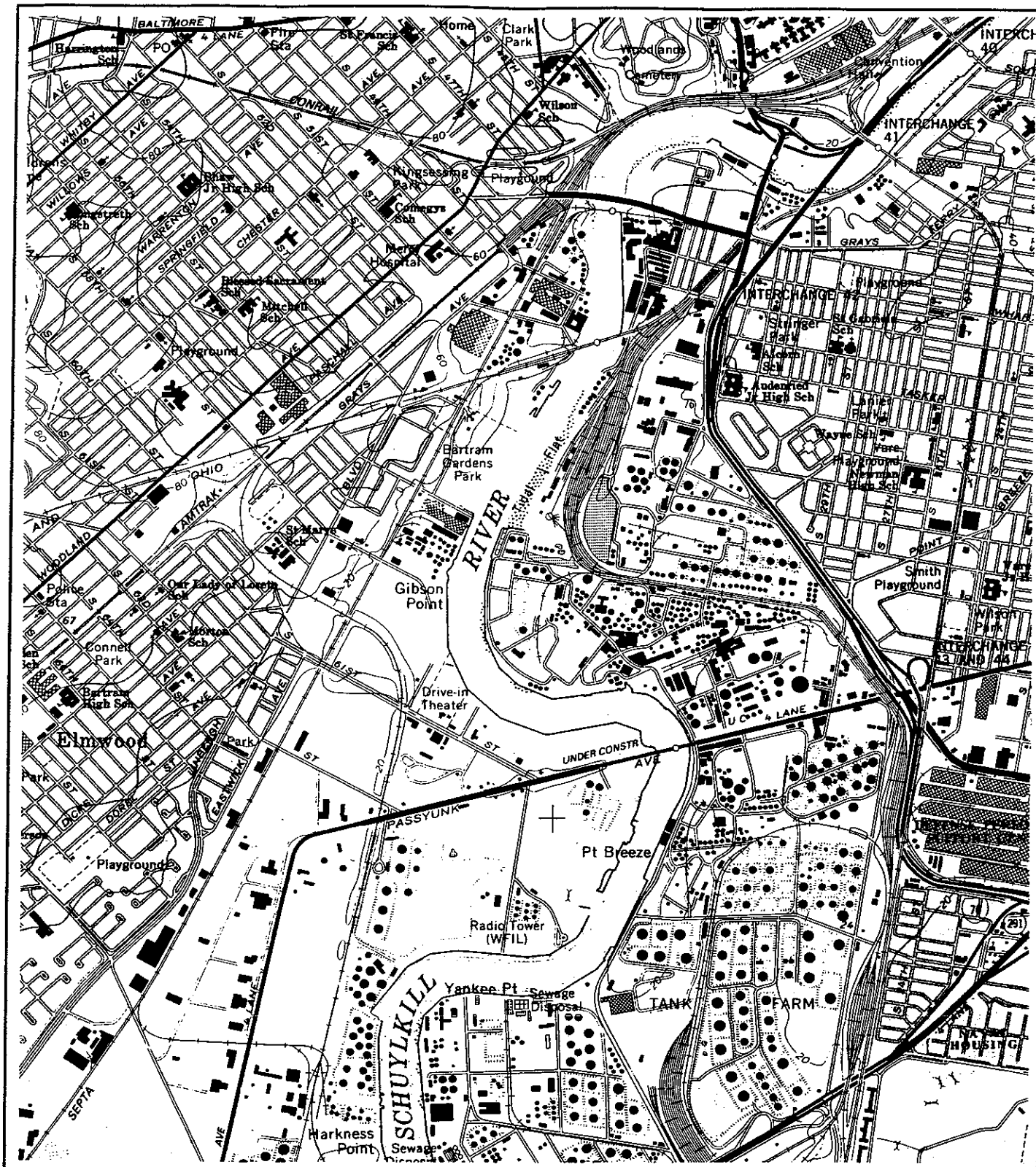
This report has been prepared in response to a March 29, 1993, Pennsylvania Department of Environmental Resources (PADER) letter to Sun Company, Inc. (R&M) (SUN) requesting an assessment of the potential impacts of shallow water table aquifer groundwater quality on deep confined aquifer groundwater quality within the Philadelphia refinery property. This request appears to have resulted from PADER's review of various consultant reports for the refinery property and U.S. Geological Survey (USGS) reports for the region, as well as PADER's concerns regarding the regional degradation of groundwater quality.

In response to the March 29, 1993 request, ENSR, on behalf of SUN, developed a "Workplan to Investigate Shallow and Deep Groundwater Quality at the Philadelphia Refinery." This Work Plan, submitted in September 1993 and resubmitted in revised form with an addendum in December 1993, was formally approved by PADER on December 14, 1993. The objectives of the Work Plan were to:

- Assess the potential for hydrocarbon-contaminated groundwater migration from the upper unconfined (water table) aquifer to the lower confined aquifer,
- Assess the water quality in the aquifers for comparisons and potential impact determinations, and
- Assess the potential for off-site migration of contaminated groundwater.

The approved scope of the Work Plan required installation of four deep groundwater monitoring wells and, potentially, two intermediate depth wells at selected locations around the refinery property; collection and analysis of representative groundwater samples from 19 existing wells and the new wells; and review of the data and presentation of the findings in a summary report.

The SUN Refinery is located at 3144 Passyunk Avenue in southwest Philadelphia approximately 2.5 miles north of the confluence of the Schuylkill and Delaware Rivers. The site is bisected by the Schuylkill River, with the majority of the property located adjacent to the eastern bank, as shown on Figure 1-1.



SOURCE:
U.S.G.S. 7.5 minute series topographic map
Philadelphia, P.A.–N.J., 1967-Photorevised 1985

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FIGURE 1-1
Site Location Map
Sun Philadelphia Refinery

DRAWN:	DATE:	PROJECT NO:
CHK'D BY:	REVISED:	DWG. NO:

Land use at this site has a long history of petroleum transportation, storage and processing. This facility was established by Atlantic Refining Company in the 1860's as an oil distribution center. In the 1900's crude oil processing began and full-scale gasoline production was initiated during World War II. In addition to refining crude oil, various chemicals such as acids and ammonia, were also produced at this site for a time. Current operations at the plant are limited to the production of fuels and asphalt.

The SUN Refinery is divided into three distinct operational yards. Two areas that lie due north and south of Passyunk Avenue and east of the Schuylkill River are designated the North and South Yards, respectively. A third area lies west of the Schuylkill River and south of Passyunk Avenue and is designated as the West Yard. Currently, most refinery activities are in the South Yard; the North and West Yards are relatively inactive.

The field investigation program was initiated by ENSR on February 22, 1994, and finished on March 22, 1994. Drilling services were provided by Empire Soils Investigations, Inc. of Edison, New Jersey. Laboratory analytical services were provided by NET, Inc., of Thorofare, New Jersey.

1.2 Summary of Existing Information

This section briefly summarizes regional and site-specific groundwater flow conditions and water quality. The regional aquifers underlying the Philadelphia area and the Coastal Plain of New Jersey have been studied extensively by the USGS and State Agencies. A list of publications reviewed in the development of this summary are included in Appendix E. Site specific hydrogeology and groundwater quality have been determined from the network of monitoring and supply wells and soil borings drilled at the facility.

1.2.1 Regional and Site-Specific Groundwater Flow

The regional unconsolidated aquifer system is comprised of Cretaceous and Quaternary age sediments that thicken to the east. The fall line (the boundary between the Coastal Plain and Piedmont Physiographic Provinces), where the coastal plain sediments pinch out, lies just to the west of the Sun Refinery. Coastal Plain stratigraphy generally consists of interbedded sand and clay deposits, with the sands forming the aquifers, and the clays the aquitards. This aquifer system is the well-known Potomac-Raritan-Magothy system of Cretaceous age. In Pennsylvania, the Cretaceous sediments belong chiefly to the Raritan Formation. Near the fall line, the complete Cretaceous section is generally not present. The Miocene-aged Bridgeton Formation or the Pleistocene-aged Cape May Formation (also referred to as the Trenton gravel) typically lie directly above the Raritan Formation in Pennsylvania. The Cape May Formation can be an

important water table aquifer where the deposit is thick. Recent alluvium is also present in the vicinity of the Schuylkill and Delaware rivers up to 80 feet thick. Due to the fine-grained texture of the alluvium, it does not form an important aquifer.

The lower sand unit (the Farrington sand) and the Middle clay unit of the Raritan formation have been recognized at the SUN Refinery on the east side of the Schuylkill River. These deposits are overlain by the Cape May Formation and recent alluvium. Greenman et al. (1961) and others have mapped the edge of the confined aquifer system as running through the SUN Refinery property. Additional drilling on-site has confirmed this regional mapping. The Middle clay and Farrington sand are not present beneath the West Yard and roughly the western half of the North Yard (ENSR 1992). The deposits beneath these areas are thought to consist entirely of the Pleistocene Cape May Formation and recent alluvium. The erosional removal of Cretaceous deposits was probably caused by the incision of a deep paleochannel of the Schuylkill during the Pleistocene. In some locations, the Pleistocene deposits are semi-confined by the fine-grained recent alluvium which acts as a leaky confining layer. In these areas, coarse fill forms the water table aquifer. A generalized east-to-west geologic cross-section across the site is included as Figure 1-2.

Withdrawal of groundwater in the Philadelphia area since the turn of the century has caused significant changes in the groundwater flow system (Sloto 1988; Greenman et al. 1961). Prior to groundwater development, groundwater in the lower sand probably discharged to the Delaware and Schuylkill Rivers. Hydraulic heads were estimated to be above sea level and horizontal hydraulic gradients were relatively flat. With the initiation of large-scale groundwater withdrawal, hydraulic heads were lowered, inducing downward flow from the water-table aquifer and surface water bodies. During periods of peak pumpage in the 1960s, heads in the lower sand were as much as 60 feet lower than estimated predevelopment levels. With the decline of pumping in the Philadelphia area, heads have risen on the order of 20 to 40 feet near previous pumping centers but remain below sea level (Paulachok 1991). Heads remain below sea level because pumpage in New Jersey increased over the same time period. Currently groundwater in the lower sand unit flows toward pumping centers in New Jersey.

Hydraulic head data from numerous on-site shallow and deep monitoring wells define the local groundwater flow system. Groundwater in the surficial water table aquifer generally flows toward the Schuylkill River. Groundwater in the lower sand unit generally flows south-southeast. Hydraulic heads range from approximately zero to 15 feet above mean sea level (msl) in the water table aquifer to zero to six feet above msl in the deep aquifer.

On the west side of the Schuylkill River, beneath the West Yard, groundwater in the deep aquifer flows west. Heads range from roughly 0.5 feet msl to -0.5 ft msl. The hydraulic relationship

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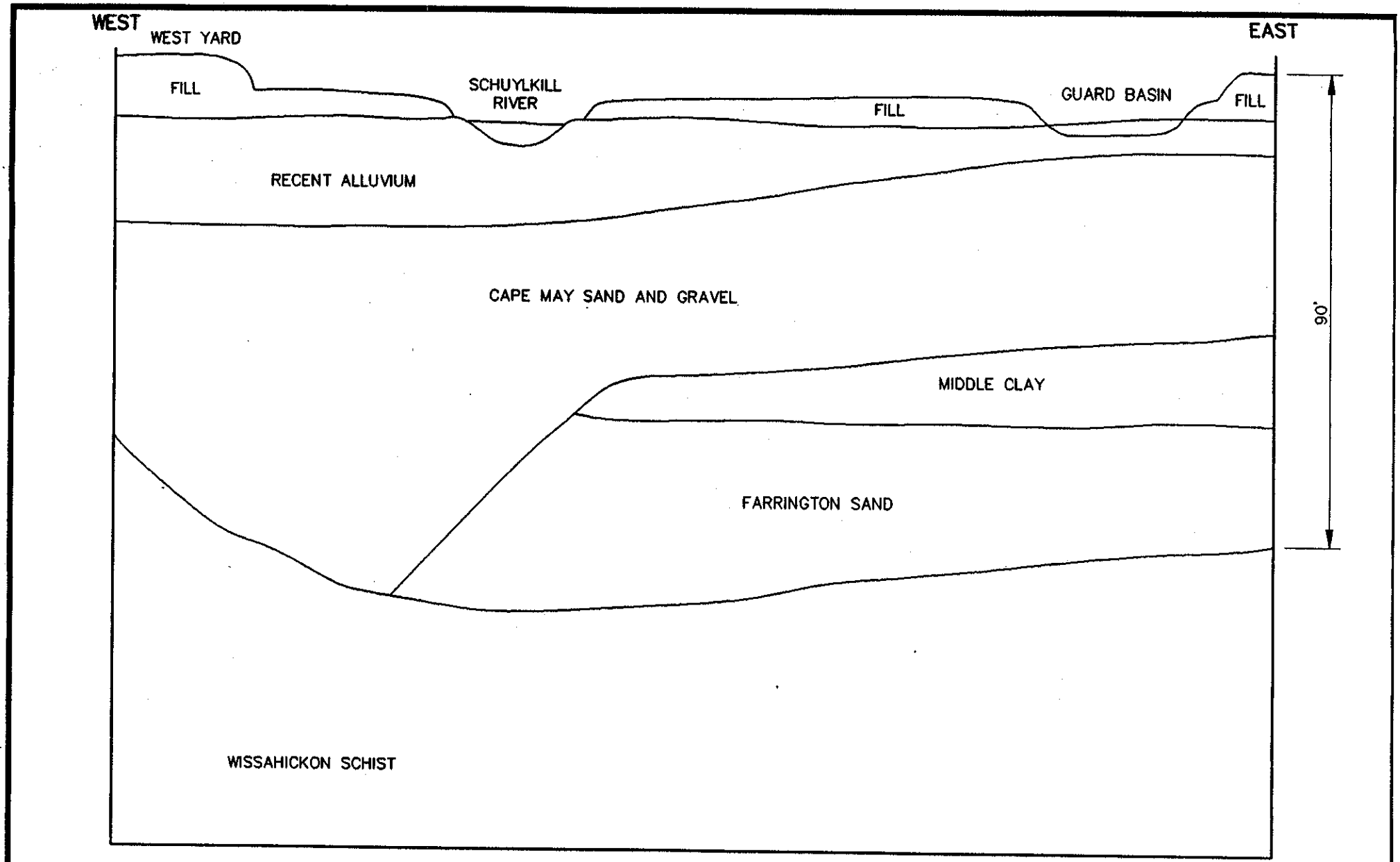

FIGURE 1-2
GENERALIZED REGIONAL WEST TO EAST GEOLOGIC CROSS-SECTION SUN COMPANY INC. (R&M)

NOT TO SCALE

ENSR

between these two lower sand units is not well understood. Groundwater in the shallow aquifer generally flows south. Differences in river stage and hydraulic heads in shallow wells adjacent to the river suggest the river receives water from the shallow aquifer. Hydraulic heads in the shallow aquifer are on the order of 5 feet above heads in the deep aquifer. These differences indicate there is a downward component of flow.

The Schuylkill River and adjacent shallow aquifer are tidally influenced. ENSR estimated the tidal influence extended approximately 230 feet from the river. Low-amplitude cyclical fluctuations were also observed in the lower sand unit. However, because amplitudes did not decay with distance from the Schuylkill, ENSR speculated that these fluctuations were caused by earth tides. A detailed description of site hydrogeology is provided in the RFI report (ENSR 1992).

1.2.2 Regional and Site-Specific Groundwater Quality

The evolution of groundwater quality in the Philadelphia area has been documented in detail by Greenman et al. (1961). Urbanization has had a profound effect on groundwater quality. Predevelopment groundwater quality was estimated to be slightly mineralized with bicarbonate, sulfate, and calcium as the major ions. With urbanization, a significant increase in groundwater mineralization occurred. According to reports published by the USGS, the first phase of the regional water quality contamination occurred when water table aquifers were degraded from surficial activities. In response to increasing mineralization of the water table aquifer, groundwater supplies were developed in the deep aquifer. This initiated the second phase of contamination. Pumping the deep aquifer lowered hydraulic heads sufficiently to cause downward migration of degraded groundwater in the unconfined aquifer to the deep aquifer. Degradation of both aquifers was evident by 1945. Groundwater quality varies significantly within the regional degraded area in response to localized releases.

According to Greenman et al. (1961), groundwater contamination in the Philadelphia area is caused by direct release of both organic and inorganic substances to the water table aquifer. Substances that may have been released include industrial brines, sewage, inorganic industrial wastes, and organic wastes from industrial and residential sources. Microbial reactions involving organic compounds probably contribute significantly to the increased levels of iron and manganese in groundwater. These reactions deplete oxygen and lower pH which results in dissolution of iron- and manganese-bearing minerals from the aquifer. Under conditions of low pH and dissolved oxygen, the reduced and soluble forms of these constituents accumulate in groundwater. Excessive iron is probably the most significant problem associated with groundwater quality degradation. Other parameters observed to change in response to urbanization include other trace metals, total dissolved solids, chloride, sulfate, nutrients (species of nitrogen and phosphorous), bicarbonate, calcium, magnesium, industrial organic compounds,

and groundwater temperature (Blickwedel and Wood 1989; Hem 1985). Changes in groundwater chemistry are areally widespread in the Coastal Plain deposits of Pennsylvania (Paulachok 1991).

Groundwater quality data collected at the Sun Refinery indicates that the shallow water-table aquifer has been impacted by refinery activities (ENSR 1992). Free product is present on the water table in some locations. Soluble components of petroleum products have been detected in shallow groundwater. Less water quality data are available in the lower sand unit. Existing data indicate that detectable levels of organic compounds are generally not present in the lower unit.

1.3 Document Organization

The remainder of this document provides a summary of the shallow and deep groundwater quality investigation program. Section 2 presents an overview of the completed field investigation activities. Section 3 provides an evaluation of new hydrogeologic and groundwater quality information. Section 4 presents conclusions which have been drawn from the data. Several appendices are also presented and include copies of the field boring logs (Appendix A), the well completion records (Appendix B), water level data (Appendix C), laboratory analytical data (Appendix D) and publication references (Appendix E).

2.0 FIELD INVESTIGATION PROGRAM

2.1 Well Installation

Five (5) monitoring wells were installed within SUN Refinery's North and South Yards within areas suggested and approved by PADER. The five monitoring wells consisted of four (4) deep wells (N-38D, S-38D, S-69D, S-72D) and one (1) intermediate depth well (S-38I). The well locations are indicated on Figure 2-1. Copies of the field boring logs are contained in Appendix A.

Well installation was accomplished using 6.25-inch diameter hollow-stem auger drilling methods. The objective of the deep well installation program was to drill until the bedrock surface was encountered so that wells could be installed within the lower aquifer above the bedrock. The objective of the intermediate-depth well was to provide water quality data from an intermediate water bearing zone, if encountered.

Each well was constructed following standard well construction practices which includes use of 2-inch diameter Schedule 40 PVC well materials with a 10-foot length, 0.010-inch slotted well screen. A clean silica sand filter pack was installed around each well screen to a depth of three to five feet above the screen. A two- to five-foot thick bentonite pellet or bentonite slurry seal above the screen and a cement-bentonite grout seal placed into the remaining annulus. Each well was completed with a concrete surface pad and a locking protective casing. Well construction information is summarized in Table 2-1. Copies of the well completion records are contained in Appendix B.

Prior to groundwater sampling, each new well was developed by pumping to remove fines from the sand pack. The wells were also surveyed to provide top-of-casing (TOC) elevation and horizontal coordinate information for mapping purposes. It should be noted, however, that TOC elevation data for some of the wells appeared to conflict with nearby existing well data. Therefore, TOC elevations have been estimated for some of the new wells based on known well completion height above ground surface and using TOC elevation data for the adjacent existing well as a reference.

2.2 Groundwater Sampling

A total of 24 monitoring wells at 11 locations were sampled to provide water quality information from the water table, intermediate and deep aquifers. The various well locations included one (1) nested well pair in the West Yard, five (5) nested well pairs in the North Yard, and three (3)

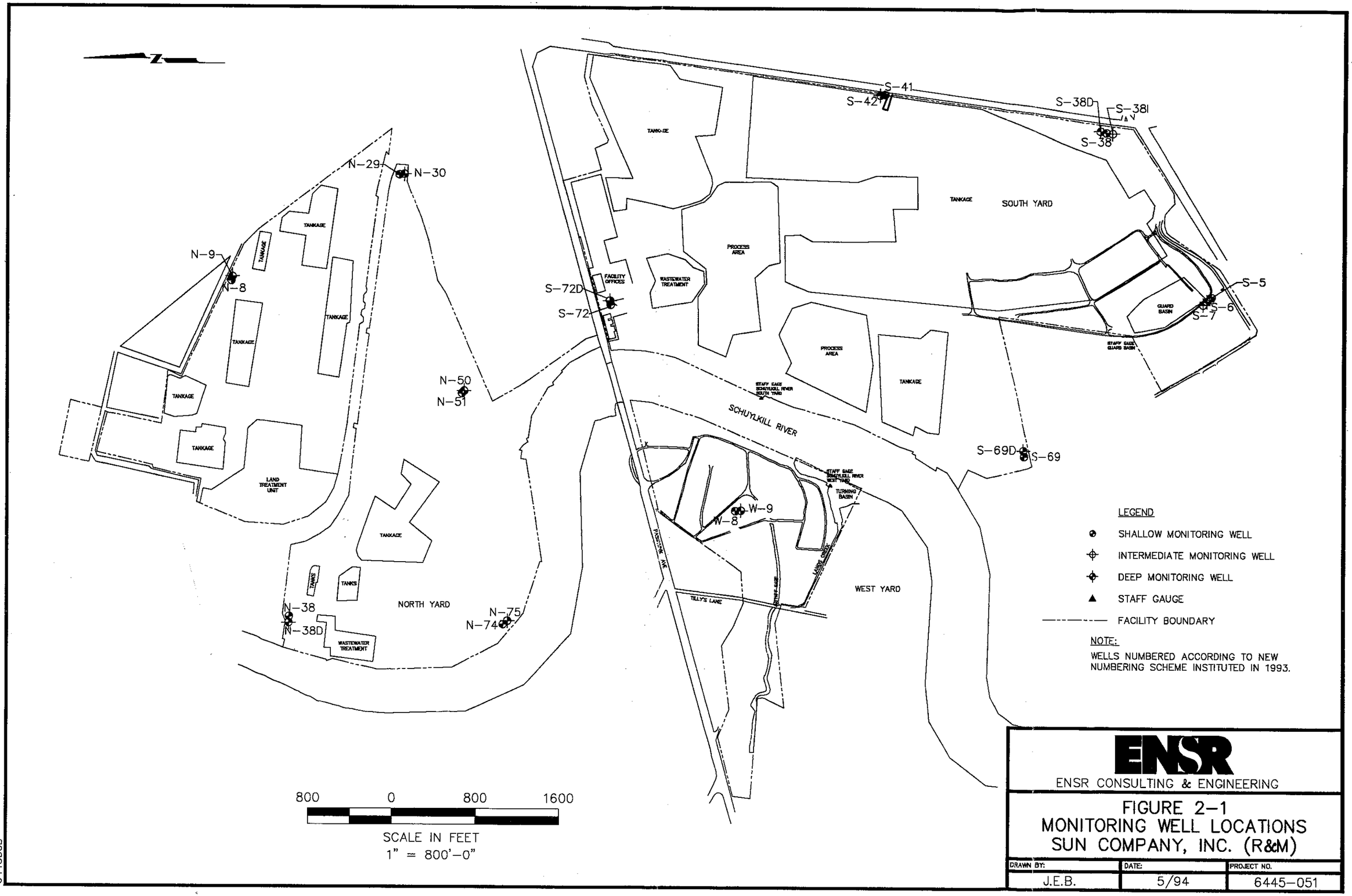

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FIGURE 2-1
MONITORING WELL LOCATIONS
SUN COMPANY, INC. (R&M)

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TABLE 2-1

New Well Construction Information
SUN Refinery
Philadelphia, PA

Well No.	Install. Date	Dia/Type	Total Depth	Screen Interval	TOC Elev.	Stickup Height
N-38D	2/25/94	2" PVC	85'	75-85'	12.73	2.0
S-38I	3/17/94	2" PVC	80'	70-80'	21.00[1]	2.0
S-38D	3/14/94	2" PVC	130'	120-130'	21.00[1]	2.0
S-69D	3/2/94	2" PVC	64'	54-64'	17.50[1]	2.0
S-72D	3/7/94	2" PVC	100'	89-99'	36.50	2.0

[1]Estimated elevation.

well pairs and two (2) well clusters (3 wells per cluster) in the South Yard. Well information for the sampled wells is summarized in Table 2-2. Well locations are also shown on Figure 2-1.

Representative groundwater samples were obtained from each well by first purging the well with a disposable polyethylene bailer or submersible pump. A minimum of three to five well volumes of water were removed from each well and periodic measurement of water temperature, pH, specific conductance, and dissolved oxygen were obtained until these measurements reached equilibrium indicating fresh groundwater. The purge procedure also required measurement of the water level and determination of product level, if present. Well purge water was contained in drums and disposed of at the facility's wastewater treatment plant.

Once purging was completed, the groundwater sample was collected using a dedicated disposable polyethylene bailer. Representative samples were contained in bottles provided by the analytical laboratory. Sample bottles were prepreserved where required. Samples collected for dissolved metals analysis were field-filtered using a 0.45-micron disposable filter prior to preservation. The complete analytical parameter list is summarized in Table 2-3.

All groundwater samples were collected, logged and handled in accordance with the RFI QAPP previously established for this site in January, 1992. Several quality assurance samples were obtained during the sample collection program and include sample duplicates, field blanks, trip blanks, and matrix spike/matrix spike duplicate samples. Quality assurance samples were analyzed for the full list of parameters except for trip blank samples which were only analyzed for volatile organic compounds. Individual samples were maintained under ENSR custody in coolers on ice and transported daily to the laboratory via courier service. Groundwater quality data is evaluated in Section 3.

2.3 Well Surveying and Water Level Monitoring

The new monitoring wells were surveyed by an on site general contractor (Glasgow, Inc.) to provide top-of-casing elevation and horizontal coordinate information. The wells were surveyed using established on site monuments (benchmarks) or existing wells as reference points. Top-of-casing elevations were obtained to the nearest 0.01 feet and horizontal coordinates were obtained to the nearest 0.01 foot. Survey information is summarized in Table 2-4.

A complete round of water levels from the 24 monitoring wells was collected on March 22, 1994 using a water level/product interface device. These data were obtained for the purpose of determining vertical hydraulic gradients between the water table and lower aquifers as well as the presence or absence of product in each well. Data from this task is summarized in Appendix C and evaluated in Section 3.

TABLE 2-2

List of Sampled Monitoring Wells
SUN Refinery
Philadelphia, PA

New Well ID	Old Well ID	Screen Location	Well Depth	Geologic Unit	Lab Sample No.
W-8	MW-14	Shallow	13	Alluvium	108S1
W-9	MW-20	Deep	60	Cape May	109D1
N-8	N-11	Shallow	35	Cape May	208S1
N-9	N-12	Deep	63	Farrington Sand ?	209D1
N-29	N-36	Shallow	30	Cape May	229S1
N-30	N-37	Deep	60	Farrington Sand ?	230D1
N-38	N-71	Shallow	20	Cape May	238S1
N-38D[1]	NA	Deep	85	Farrington Sand	238D1
N-50	N-57	Deep	60	Farrington Sand ?	250D1
N-51	N-56	Shallow	28	Cape May	251S1
N-74	MW-3	Shallow	13	Fill/Alluvium	274S1
N-75	MW-3D	Deep	44	Cape May	275D1
S-5	MW-4	Shallow	9	Fill	305S1
S-6	MW-10	Deep	72	Farrington Sand	306D1
S-7	MW-22	Intermediate	26	Cape May	307I1
S-38	SM-31	Shallow	23	Cape May	338S1
S-38I[1]	NA	Intermediate	80	Farrington Sand	338I1
S-38D[1]	NA	Deep	130	Farrington Sand?	338D1
S-41	AS-1	Shallow	35	Cape May	341S1
S-42	AD-1	Deep	65	Cape May?	342D1
S-69	SM-26	Shallow	16	Alluvium/Cape May	369S1
S-69D[1]	NA	Deep	64	Farrington Sand	369D1

TABLE 2-2 (Cont'd)

List of Sampled Monitoring Wells
SUN Refinery
Philadelphia, PA

New Well ID	Old Well ID	Screen Location	Well Depth	Geologic Unit	Lab Sample No.
S-72	SM-37	Shallow	31	Cape May	372S1
S-72D[1]	NA	Deep	100	Farrington Sand	372D1

[1] - New Well
NA = Not available.
All depths in feet below grade.
Screen location designations defined in text.
Cape May also referred to as the Trenton Gravel.

TABLE 2-3

Groundwater Analytical Parameter List
SUN Refinery
Philadelphia, PA

Parameter	Analytical Method
Benzo(a)anthracene	8270[1]
Benzo(b)fluoranthene	8270
Benzo(a)pyrene	8270
Bis(2-ethylhexyl)phthalate	8270
Chrysene	8270
Dibenzo(a,h)anthracene	8270
Indene	8270
Benzene	8240[1]
Toluene	8240
Ethylbenzene	8240
Total Xylenes	8240
Chloride	325.3[2]
Total Alkalinity	310.1[2]
Sulfate	375.4[2]
Fluoride	340.1[2]
Nitrate-N	352.1[2]
Nitrite-N	354.1[2]
Ammonia	350.1[2]
Arsenic	7060[1]
Cobalt	6010[1]
Lead	7421[1]

TABLE 2-3 (Cont'd)

Groundwater Analytical Parameter List
SUN Refinery
Philadelphia, PA

Parameter	Analytical Method
Total Organic Carbon	450.2[1]
Total Dissolved Solids Organic	160.1[2]
pH	Field
Specific Conductance	120.1[2] and Field
Dissolved Oxygen	Field
Temperature	Field
Iron (Dissolved and Total)	6010
Manganese (Dissolved and Total)	6010
Bicarbonate	SM 407[3]
Sulfide	376.1[2]

First 25 compounds in the table are the Annual Perimeter Groundwater Sampling and Analysis parameters.
Dissolved constituents will be field filtered through a 0.45 µm filter.
Refer to QAPP for field parameter collection methodology.
[1]"Test Methods for Evaluating Solid waste, Physical/Chemical Methods", USEPA, SW-846, 3rd Edition, November, 1990.
[2]"Methods for Chemical Analysis of Water and Wastes", USEPA, EPA 600/4-79-020, Revised March 1983.
[3]"Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WPCF, 17th Edition, 1989 and 1991 Supplement.

TABLE 2-4

Well Survey Information
SUN Refinery
Philadelphia, PA

Well ID.	Coordinate Location	TOC Elevation	Reference[1]
N-38D	N 226848.81 E 2712206.58	12.73	N-5
S-72D	N 223789.84 E 2715248.04	36.70	S-8
S-69D	N 222289.67 E 2714673.02	17.50[2]	S-11
S-38I	NA NA	21.00[2]	S-3
S-38D	N 221249.46 E 2717186.40	21.00[2]	S-3

[1]Survey monument number indicated
[2]Estimated elevation

NA = Not Available

3.0 DATA EVALUATION

3.1 Geology

Geologic conditions were logged in the four deep borings (N-38D, S-38D, S-69D, S-72D) as a routine part of the drilling procedure. Subsurface conditions for the intermediate-depth well, S-38I, were not logged as this boring was completed adjacent to S-38D and was drilled without logging to the designated completion depth. General geologic conditions for the four boring locations are summarized in the following paragraphs. New geologic data were consistent with the generalized regional geology shown on Figure 1-2.

Boring N-38D was completed at the north end of the North Yard to a depth of 85 feet where bedrock, consisting of weathered mica schist (Wissahickon Formation), was encountered. Unconsolidated materials present above the bedrock consisted of fill material and recent alluvial deposits (clayey silt) from the ground surface to a depth of approximately 10 feet, underlain by Pleistocene sand and gravel (Cape May Formation) to a depth of 18 feet, in turn underlain by a substantially thick gray silty-sandy clay to the approximate bedrock surface. The deep well installed in this boring was placed at the bottom of this unit (screened at 75 to 85 feet) where the clay formation became interbedded with sand.

Boring S-72D was completed at the north end of the South Yard to a total depth of 102 feet. Bedrock (mica schist) was encountered at a depth of 100.5 feet. Unconsolidated materials present from the ground surface downward included fill material and recent alluvium (silt and clay) to an approximate depth of 11 feet, Pleistocene Cape May sand and gravel to a depth of 33 feet, an orange-brown silty clay to a depth of 57 feet, a red-brown coarse sand to a depth of approximately 85 feet, a gray silty clay to 97 feet, and red-brown sand and silt to the bedrock surface. The deep well installed in this boring was placed in the lowermost formation above the bedrock surface (screened at 89 to 99 feet).

Boring S-69D was completed at the westernmost point of the South Yard and was drilled to a total depth of 64 feet. A sample of bedrock was not recovered from this boring although drilling and split-spoon refusal was indicated. Unconsolidated materials present from the ground surface downward included clayey silt to a depth of 6.5 feet, Cape May sand and gravel to a depth of 29 feet, an orange-brown to gray-brown silty clay to a depth of 35 feet, and an orange-brown coarse sand to the bedrock surface. The deep well installed in this boring was placed in the lowermost formation above the bedrock surface (screened at 54 to 64 feet).

Boring S-38D was completed at the southeasternmost point of the South Yard to a depth of 130 feet. No positive indication of solid bedrock was encountered although weathered mica schist was observed in one sample collected from a depth of 110 feet. Unconsolidated materials present from the ground surface downward include clayey silt to a depth of 10 feet, Cape May sand and gravel to a depth of 50 feet, a reddish-brown stratified sand/silt/clay formation to a depth of 70 feet, a red-brown coarse sand with gravel and silt to a depth of 100 feet, followed by a thin layer of gray/white clayey silt to a depth of approximately 102 feet, and red-brown coarse sand to the assumed upper bedrock surface. The deep well (S-38D) installed in this boring was placed at a depth of 120 to 130 feet and is potentially within the upper weathered bedrock surface although this could not be confirmed due to poor sample recovery. An intermediate-depth well was also installed at this location (S-38I) within the upper portion of the red-brown coarse sand at a depth of 70 to 80 feet.

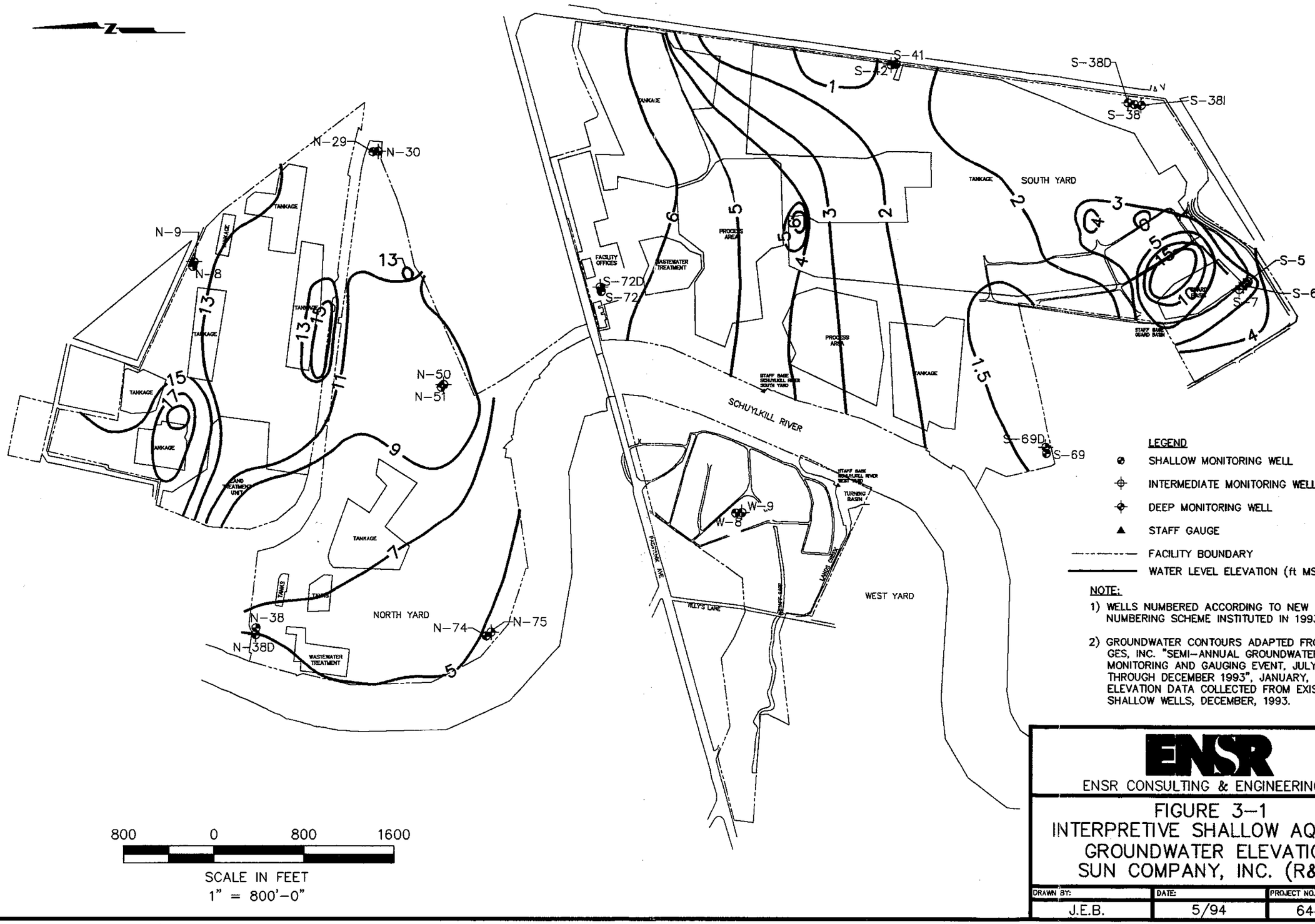
3.2 Water Level Gradients

Water level data was collected during the investigation program from only those wells from which groundwater samples were obtained. Water level has also been collected on a semiannual basis by GES, Inc., from the entire network of on site monitoring wells. GES data from December 1993 was used in this report for evaluation of shallow water table aquifer gradients because it encompasses more data points than the ENSR data. ENSR data was used for evaluation of vertical gradient differences between the shallow, intermediate, and deep aquifers. Water level contours for both the shallow water table aquifer and the deep aquifer are plotted on Figures 3-1 and 3-2, respectively.

In general, the water levels in nearly all of the water table, or shallow aquifer, wells are higher in elevation than in the deep wells. Differences in hydraulic head vary from approximately two feet to as great as nearly nine feet.

The water table gradient in the shallow wells (Figure 3-1) indicates that the gradient is generally toward the Schuylkill River in the North Yard and toward the south in the South Yard. Water levels in the water table aquifer are impacted by precipitation and usually discharge to a local surface water body such as the Schuylkill River. Other man-made effects, such as surface water retention ponds, drainage systems, and/or pumping wells, can influence water table gradients. Some localized mounding effects are evident on the figure.

The water level gradient within the deep wells (Figure 3-2) is generally south to southeast. Deep aquifer groundwater elevations may be influenced by regional deep water supply wells and large volume withdrawals. Withdrawal effects have been historically documented.

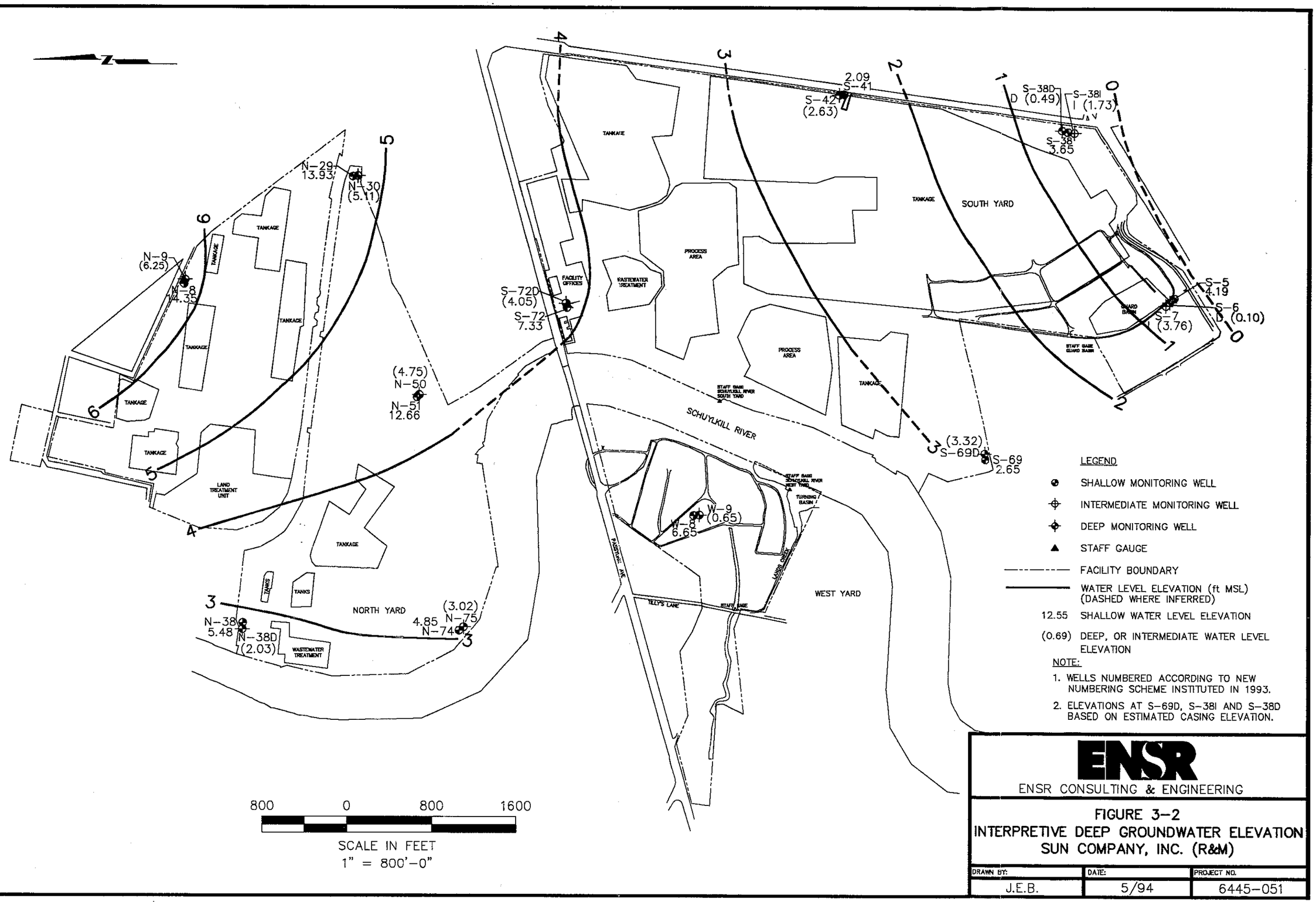


ENSR CONSULTING & ENGINEERING

FIGURE 3-1
INTERPRETIVE SHALLOW AQUIFER GROUNDWATER ELEVATION SUN COMPANY, INC. (R&M)

DRAWN BY:	DATE:	PROJECT NO.
J.E.B.	5/94	6445-051

6445318


N
N-29
13.93
N-30
(5.11)
N-9
(6.25)
N-8
4.35
TANKAGE
TANKAGE
TANKAGE
TANKAGE
TANKAGE
TANKAGE
LAND TREATMENT UNIT
(4.75)
N-50
N-51
12.66
S-72D
(4.05)
S-72
7.33
FACILITY OFFICES
WASTEWATER TREATMENT
PROCESS AREA
PROCESS AREA
TANKAGE
TANKAGE
SOUTH YARD
2.09
S-41
S-42
(2.63)
S-38D
D (0.49)
S-38I
I (1.73)
S-38
3.65
S-5
4.19
S-6
D (0.10)
S-7
(3.76)
GUARD BARR
STAFF GAGE GUARD BARR
STAFF GAGE SCHUYLKILL RIVER SOUTH YARD
SCHUYLKILL RIVER
(3.32)
S-69D
S-69
2.65
STAFF GAGE SCHUYLKILL RIVER WEST YARD
TURNING BASIN
W-9
(0.65)
W-8
6.65
PASTORIUS AVE
LAURA DRIVE
TELLY'S LANE
STAFF GAGE
WEST YARD
TANKS
TANKS
NORTH YARD
(3.02)
N-75
4.85
N-74
N-38
5.48
N-38D
(2.03)
WASTEWATER TREATMENT
800 0 800 1600
SCALE IN FEET
1" = 800'-0"
LEGEND
SHALLOW MONITORING WELL
INTERMEDIATE MONITORING WELL
DEEP MONITORING WELL
STAFF GAUGE
FACILITY BOUNDARY
WATER LEVEL ELEVATION (ft MSL) (DASHED WHERE INFERRED)
12.55 SHALLOW WATER LEVEL ELEVATION
(0.69) DEEP, OR INTERMEDIATE WATER LEVEL ELEVATION
NOTE:
1. WELLS NUMBERED ACCORDING TO NEW NUMBERING SCHEME INSTITUTED IN 1993.
2. ELEVATIONS AT S-69D, S-38I AND S-38D BASED ON ESTIMATED CASING ELEVATION.
ENSR
ENSR CONSULTING & ENGINEERING
FIGURE 3-2
INTERPRETIVE DEEP GROUNDWATER ELEVATION
SUN COMPANY, INC. (R&M)
DRAWN BY: J.E.B.
DATE: 5/94
PROJECT NO. 6445-051
6445298

3.3 Groundwater Quality

Representative groundwater samples were collected from 24 monitoring wells at 11 locations within the SUN North, South and West Yards. The indicated total number of samples includes 11 shallow wells, 11 deep wells, and two (2) intermediate depth wells. In general, all of the wells are situated within shallow, intermediate, or deep unconsolidated aquifer materials with the exception of S-38D which may be within upper weathered bedrock (decomposed schist). An additional nine (9) quality assurance (QA) samples were obtained and include three (3) duplicate water samples, four (4) field blank samples, and two (2) matrix spike/matrix spike duplicate samples. The above samples were analyzed for the full suite of analytical parameters. Seven (7) trip blank samples were also submitted for volatile organic compound analysis only.

Each groundwater sample was obtained following purging of a minimum of three to five well volumes of water and monitoring of temperature, pH, specific conductance, and dissolved oxygen. In some cases, due to poor weather conditions, field instrumentation response became erratic and, as a result, pH and conductivity readings may not have been recorded. Specific conductivity was also analyzed under the laboratory analyte list. The laboratory analyte list included, as outlined on Table 2-3, a broad suite of inorganic analyses to define general geochemical water quality conditions, and a subset of volatile organic and semivolatile organic compounds which are considered indicative of petroleum hydrocarbon contamination. Groundwater quality results are summarized on Tables 3-1 through 3-4 and further evaluated below.

3.3.1 Free Product Determination

Free product was indicated in only one well, W-8, located in the West Yard. The thickness of the floating product interface could not be measured with the interface probe due to the high product viscosity. A bailer was used to purge the well with the initial bailer volume indicating a product thickness of a few hundredths of an inch. The well was sampled following completion of the standard purge routine. Several other sampled wells indicated petroleum odors or sheens during the purge routine but no measurable free product.

3.3.2 Inorganic Constituent Evaluation

Inorganic constituent groundwater quality data is summarized in Table 3-1. Field measurement data indicated groundwater temperatures to range from 42.5 to 62.6 degrees Fahrenheit in the shallow water table aquifer samples and from 48.3 to 57.2 degrees Fahrenheit in the deep aquifer samples. As a general water quality indicator, no significant variation or trends in temperature distribution was noted from the data set.

TABLE 3-1
Inorganic Analytical Data Summary
SUN Refinery - Philadelphia, PA

Well ID.:		W-8	W-9	N-8	N-9	N-29	N-30	N-38	N-38D	N-50	N-51	N-74	N-75
Sample ID.:		108S1	109D1	208S1	209D1	229S1	230D1	238S1	238D1	250D1	251S1	274S1	275D1
Date:		3/16/94	3/16/94	3/10/94	3/10/94	3/14/93	3/14/94	3/14/94	3/17/94	3/14/94	3/14/94	3/10/94	3/9/94
Time:		1400	1600	1500	1600	1230	1030	1230	1700	1430	1500	1100	1800
Parameter:	Units:												
Temperature (field)	°F	47.6	48.3	57.9	50.5	57.2	57.2	53.6	49.7	59.9	59.9	48.9	53.5
Spec. Cond. (field)	umhos/cm	1,309.	533.	5,100.	5,010.	NR	NR	NR	1,328.	NR	NR	2,800.	9,350
Diss. Oxygen (field)	mg/L	1.3	1.8	4.6	5.0	3.7	3.9	1.2	6.0	1.5	2.0	0	5.7
Alkalinity	ppm CaCO3	177.	379.	396.	250.	119.	71.	507.	1025.	556.	418.	235.	550.
Alkalinity, bicarb	ppm CaCO3	177.	379.	396.	250.	119.	71.	507.	1025.	556.	418.	235.	550.
Ammonia	mg/L N	3.8	28.8	0.2	0.6	<0.1	0.2	4.8	99.2	1.3	5.4	5.6	43.2
Chloride	mg/L	29.	23.	36.	115.	10.	58.	29.	18.	68.	18.	25.	58.
Conductivity	umhos/cm	1893.	771.	922.	937.	552.	817.	974.	1819.	1218.	763.	1606.	3901.
Fluoride, total	mg/L	0.14	<0.1	0.19	0.14	<0.1	<0.1	0.66	0.11	<0.1	0.41	0.81	0.42
Nitrate/nitrite	mg/L N	<0.1	<0.1	9.8	<0.1	6.3	<0.1	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1
Solids, diss. (TDS)	mg/L	1660.	402.	890.	575.	390.	604.	540.	820.	820.	490.	1550.	4550.
Sulfate	mg/L	610.	<10.	75.	34.	106.	179.	12.	13.	<10.	<10.	816.	2910.
Sulfide	mg/L	<0.02	<0.02	<1.0	5.18	1.62	1.26	3.55	<0.2	1.57	<0.2	5.33	4.08
Total Organic Carbon	mg/L	69.	14.	3.	3.0	1.4	3.	27.	36.	37.	29.	73.	23.
Arsenic	mg/L	0.013	0.004	0.059	0.007	<0.003	<0.003	0.046	0.046	<0.003	0.25	0.039	<0.003
Cobalt	mg/L	<0.01	<0.01	0.43	0.051	<0.01	<0.01	<0.01	0.020	<0.01	0.12	<0.01	<0.01
Iron (total)	mg/L	36.3	70.6	547.	50.2	0.37	53.6	38.7	101.	49.3	171.	45.5	844.
Lead	mg/L	0.010	0.004	0.44	0.037	<0.001	0.013	0.030	0.13	<0.001	0.19	0.034	0.001
Manganese (total)	mg/L	0.67	2.11	28.2	1.00	<0.01	0.38	1.88	2.90	0.59	2.74	2.66	26.9
Iron (diss.)	mg/L	3.11	53.7	0.16	8.70	<0.05	41.2	12.7	30.0	45.7	8.83	41.1	103.
Manganese (diss.)	mg/L	0.70	1.88	3.27	0.73	<0.01	0.32	1.65	1.05	0.55	1.46	2.70	4.52

NR = Not Recorded

TABLE 3-1 (Cont'd)
Inorganic Analytical Data Summary
SUN Refinery
Philadelphia, PA

Well ID.:		S-5	S-6	S-7	S-38	S-38I	S-38D	S-41	S-42	S-69	S-69D	S-72	S-72D
Sample ID.:		305S1	306D1	307I1	338S1	338I1	338D1	341S1	342D1	369S1	369D1	372S1	372D1
Date:		3/9/94	3/9/94	3/9/94	3/11/94	3/21/94	3/21/94	3/8/94	3/8/94	3/11/94	3/17/94	3/11/94	3/18/94
Time:		1000	1230	1300	1515	1500	1500	1135	1430	1330	1100	1115	1130
Parameter:	Units:												
Temperature (field)	°F	42.5	49.9	52.5	54.5	54.3	52.5	56.1	53.6	44.6	54.0	62.6	51.0
Spec. Cond. (field)	umhos/cm	561.	800.	670.	NR	549.	300.	686.	530.	NR	834	NR	736
Diss. Oxygen (field)	mg/L	3.0	4.9	5.3	3.5	8.8	3.4	5.6	5.3	7.1	6.2	2.3	1.6
Alkalinity	ppm CaCO3	144.	213.	149.	111.	220.	159.	263.	315.	124.	472.	473.	210.
Alkalinity, bicarb	ppm CaCO3	144.	213.	149.	111.	220.	159.	263.	315.	124.	472.	473.	210.
Ammonia	mg/L N	2.7	<0.1	1.5	<0.1	0.4	0.3	12.0	5.6	<0.1	4.5	9.8	4.3
Chloride	mg/L	48.	52.	43.	11.	60.	29.	82.	54.	13.	118.	613.	65.
Conductivity	umhos/cm	424.	546.	394.	295.	652.	388.	871.	732.	1638.	1189.	3190.	996.
Fluoride, total	mg/L	0.67	0.16	0.30	1.39	0.54	0.36	0.41	0.53	0.71	0.13	0.29	0.11
Nitrate/nitrite	mg/L N	<0.1	<0.1	<0.1	0.5	0.5	<0.1	<0.1	<0.1	1.7	<0.1	<0.1	<1.0
Solids, diss. (TDS)	mg/L	270.	378.	280.	300.	390.	176.	480.	404.	400.	652.	2270.	606.
Sulfate	mg/L	<10.	30.	<10.	14.	34.	16.	111.	<10.	41.	54.	715.	196.
Sulfide	mg/L	<0.2	2.70	0.42	<0.2	<0.1	<0.1	<1.0	<0.2	<0.2	5.61	3.28	1.64
Total Organic Carbon	mg/L	10.	9.	8.	5.	7.	7.	25.	4.	4.	3.	57.	4.
Arsenic	mg/L	<0.003	<0.003	0.016	0.68	<0.003	<0.003	0.021	0.015	0.035	<0.003	0.036	0.010
Cobalt	mg/L	<0.01	<0.01	<0.01	0.35	<0.01	<0.01	0.014	0.030	0.11	<0.01	0.080	0.022
Iron (total)	mg/L	14.2	0.72	22.3	583.	7.08	3.04	59.2	28.2	212.	3.91	148.	86.4
Lead	mg/L	0.15	0.010	0.105	1.75	0.007	0.008	0.038	0.003	0.071	0.004	0.010	0.017
Manganese (total)	mg/L	0.97	1.89	1.21	19.4	3.03	0.34	0.89	4.29	2.20	4.31	11.4	3.77
Iron (diss.)	mg/L	9.63	<0.10	8.65	<0.10	3.98	0.15	32.4	28.1	<0.10	<0.05	115.	54.1
Manganese (diss.)	mg/L	0.92	1.97	0.99	0.11	3.19	0.24	0.41	4.30	<0.01	4.20	10.4	3.21

NR = Not Recorded

As stated previously, groundwater pH data was considered to be erratic due to meter malfunction. Therefore, pH data has been disregarded for use in the evaluation of general water quality at this site.

Specific conductivity values were recorded both in the field and analyzed in the laboratory. Field-measured conductivity values were found to range from 561 to 5,100 umhos/cm in the shallow water table aquifer (5 of 11 samples), 549 to 670 umhos/cm in the two intermediate aquifer samples, and 300 to 9,350 umhos/cm in the deep aquifer samples (9 of 11 samples). The respective laboratory-determined conductivity values ranged from 295 (well S-38) to 3,190 umhos/cm (S-72) in the shallow aquifer samples, 394 (S-7) to 652 umhos/cm (S-38I) in the intermediate aquifer samples, and 338 (S-38D) to 3,901 umhos/cm (N-75) in the deep aquifer samples. In general, there were no significant trends in conductivity variation across the site or between aquifers at paired or nested well locations. From review of the laboratory conductivity values, samples collected in the West Yard indicated greater conductivity in the shallow aquifer than the deep aquifer. The North Yard wells indicated generally greater conductivity in the deep aquifer samples (10 samples) with well N-75 indicating the greatest value. In the South Yard, the nested wells at the south end of the property indicated generally increasing conductivity with depth. The remaining South Yard paired well locations (north, east, and west perimeter locations) indicated higher conductivity values in the shallow samples.

Values for dissolved oxygen (DO) ranged from 1.2 (N-38) to 7.1 mg/l (S-69) in the shallow samples, 5.3 (S-7) to 8.8 mg/l (S-38I) in the intermediate samples, and 1.5 (N-50) to 6.2 mg/l (S-69D) in the deep samples. No major variations in DO were noted between aquifers, although in the North, West and southern portions of the South Yards, DO values were slightly greater in deeper samples than in the shallow samples.

Values for total dissolved solids (TDS) ranged from 270 (S-5) to 2,270 mg/l (S-72) in the shallow samples, 280 (S-7) to 390 mg/l (S-38I) in the intermediate samples, and 176 (S-38D) to 4,550 mg/l (N-75) in the deep samples. No significant trend in TDS distribution was noted.

Total organic carbon (TOC) values ranged from 1.4 (N-29) to 73 mg/l (N-74) in the shallow samples, 7 (S-38I) to 8 (S-7) mg/l in the intermediate samples, and 3 (wells N-30 and S-69D) to 37 mg/l (N-50) in the deep samples. TOC values were generally lower in most of the South Yard well samples than in samples collected in the North and West Yards.

Total alkalinity values ranged from 111 (S-38) to 507 ppm $CaCO_3$ (N-38) in the shallow samples, 149 (S-7) to 220 ppm $CaCO_3$ (S-38I) in the intermediate samples, and 71 (N-30) to 1,025 ppm $CaCO_3$ (N-38D) in the deep samples. Alkalinity values were generally slightly greater in the North Yard well locations than in other areas.

Ammonia values ranged from below detectable levels (<0.1 mg/l) (wells N-29, S-38, and S-69) to 12.0 mg/l (S-41) in the shallow samples, 0.4 (S-38I) to 1.5 mg/l (S-7) in the intermediate samples, and <0.1 (S-6) to 99.2 mg/l (N-38D) in the deep samples. In general, ammonia values were higher in the North and West Yard deep wells with lower values observed in the South Yard wells.

Chloride values ranged from 10 (N-29) to 613 mg/l (S-72) in the shallow samples, 43 (S-7) to 60 mg/l (S-38I) in the intermediate samples, and 18 (N-38D) to 118 mg/l (S-69D) in the deep samples. No significant trend in chloride distribution was noted.

Fluoride values ranged from <0.1 (N-29) to 1.39 mg/l (S-38) in the shallow samples, 0.30 (S-7) to 0.54 mg/l (S-38I) in the intermediate samples, and <0.1 mg/l (wells W-9, N-30, and N-50) to 0.53 mg/l (S-42) in the deep samples. In general, fluoride values were greater in South Yard wells than in other areas and generally decreased in concentration with depth in most sampling locations.

Nitrate/nitrite values were generally observed to be at below detectable concentrations (<0.1 mg/l) in the majority of samples (19 of 24 samples). When detected, nitrate/nitrite values ranged from 0.5 (S-38 and S-38I) to 9.8 mg/l (N-8).

Sulfate values ranged from <10 mg/l (wells N-51 and S-5) to 816 mg/l (N-74) in the shallow samples, <10 (S-7) to 34 mg/l (S-38I) in the intermediate samples, and <10 (W-9, N-50, and S-42) to 2,910 mg/l (N-75) in the deep samples. Sulfate distribution was erratic across the site with shallow samples generally indicating equivalent or occasionally greater concentrations than the corresponding deep samples. Sulfate values were highest in the N-74/N-75 well pair.

Sulfide values ranged from below detectable concentrations in seven (7) of 11 shallow samples with a maximum value of 5.33 mg/l recorded in well N-74. Intermediate samples range from <0.1 (S-38I) to 0.42 mg/l (S-7). Deep samples ranged from below detectable levels in four (4) of 11 samples to a maximum value of 5.61 mg/l (S-69D).

Iron and manganese were analyzed in both total and dissolved form. Total iron values ranged from 0.37 (N-29) to 583 mg/l (S-38) in the shallow samples, 7.08 (S-38I) to 22.3 mg/l (S-7) in the intermediate samples, and 0.72 (S-6) to 844 mg/l (N-75) in the deep samples. Dissolved iron values ranged from <0.05 (N-29) to 115 mg/l (S-72) in the shallow samples, 3.98 (S-38I) to 8.65 mg/l (S-7) in the intermediate samples, and below detectable levels (S-6, S-69D) to 103 mg/l (N-75) in the deep samples. No significant trends in iron distribution were noted.

Total manganese values ranged from <0.01 (N-29) to 28.2 mg/l (N-8) in the shallow samples, 1.21 (S-7) to 3.03 mg/l (S-38I) in the intermediate samples, and 0.38 (N-30) to 26.9 mg/l (N-75) in the deep samples. Dissolved manganese values ranged from <0.01 (N-29 and S-69) to 10.4 mg/l (S-72) in the shallow samples, 0.99 (S-7) to 3.19 mg/l (S-38I) in the intermediate samples, and 0.24 (S-38D) to 4.52 mg/l (N-75) in the deep samples. In general, dissolved manganese values were in the same relative concentration range as the total manganese values.

Values for arsenic, cobalt, and lead were detected in low concentrations. The greatest arsenic value was observed in well N-51 at a concentration of 0.25 mg/l. The greatest cobalt concentration was observed in well N-8 (0.43 mg/l). The greatest lead concentration was observed in well S-38 (1.75 mg/l).

3.3.3 Organic Constituent Evaluation

Organic constituent groundwater quality data is summarized in Table 3-2. Organic constituent analyses included the following volatile organic compounds (VOC): benzene, toluene, ethylbenzene, and total xylenes (BTEX); and the following semivolatile organic compounds (SVOC): benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, bis(2-ethylhexyl)phthalate, chrysene, dibenz(a,h)anthracene, and indene.

BTEX compounds were detected in six (6) of 24 well samples. A benzene detection of 37,730 ug/l was observed in well N-74 with no other detections noted, although the method detection limit was raised to between 1,200 and 1,500 ug/l due to sample dilution. No BTEX were detected in the adjacent deep well. BTEX compounds were also detected in the S-41 (shallow) and S-42 (deep) well pair. Benzene values in these two wells were 100 ug/l in S-41 and 985 ug/l in S-42. Remaining VOC detected in shallow well S-41 included toluene (10 ug/l), ethylbenzene (26 ug/l), and total xylenes (7.5 ug/l). No other compounds were detected within the paired deep well (S-42) above the analytical detection limit. BTEX were also detected in the S-38 shallow, intermediate, and deep wells with overall concentrations generally decreasing with depth. In the shallow, intermediate, and deep wells, respective benzene concentrations ranged from 1,220 to 270 to 7.5 ug/l, toluene from 734 to 520 to 67 ug/l, ethylbenzene from 285 to 430 to 86 ug/l, and total xylenes from 549 to 760 to 163 ug/l.

No SVOCs were detected in any of the samples at values greater than the method detection limit.

3.3.4 Quality Assurance Sample Evaluation

Quality assurance samples included three (3) duplicate samples, four (4) field blank samples, two (2) matrix spike/matrix spike duplicate (MS/MSD) samples, and seven (7) trip blank samples. The

TABLE 3-2

Organic Analytical Data Summary
SUN Refinery
Philadelphia, PA

Well ID.: Sample ID.: Date: Time:		W-8 108S1 3/16/94 1400	W-9 109D1 3/16/94 1600	N-8 208S1 3/10/94 1500	N-9 209D1 3/10/94 1600	N-29 229S1 3/14/93 1230	N-30 230D1 3/14/94 1030	N-38 238S1 3/14/94 1230	N-38D 238D1 3/17/94 1700	N-50 250D1 3/14/94 1430	N-51 251S1 3/14/94 1500	N-74 274S1 3/10/94 1100	N-75 275D1 3/9/94 1600
Parameter:	Units:												
Benzene	ug/l	U	U	U	U	U	U	U	U	U	U	37,730.	U
Toluene	ug/l	U	U	U	U	U	U	U	J	U	U	U	U
Ethylbenzene	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
m&p-Xylenes	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
O-Xylenes	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
Benzo(a)Anthracene	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
Benzo(b)Fluoranthene	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
Benzo(a)Pyrene	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
bis(2-Ethylhexyl)Phthalate	ug/l	U	J	U	U	J	J	U	J	U	U	J	J
Chrysene	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
Di-benz(a,h)Anthracene	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
Indene	ug/l	U	U	U	U	U	U	U	U	U	U	U	U

U = Undetected at the reported method detection limit.
J = Compound detected above the method detection limit but below the practical reporting level.

TABLE 3-2 (Cont'd)

Organic Analytical Data Summary
SUN Refinery
Philadelphia, PA

Well ID.:		S-5	S-6	S-7	S-38	S-38I	S-38D	S-41	S-42	S-69	S-69D	S-72	S-72D
Sample ID.:		305S1	306D1	307I1	338S1	338I1	338D1	341S1	342D1	369S1	369D1	372S1	372D1
Date:		3/9/94	3/9/94	3/9/94	3/11/94	3/21/94	3/21/94	3/8/94	3/8/94	3/11/94	3/17/94	3/11/94	3/18/94
Time:		1000	1230	1300	1515	1500	1500	1135	1430	1330	1100	1115	1130
Parameter:	Units:												
Benzene	ug/l	U	U	U	1,220.	270.	7.5	100.	985.	U	U	J	U
Toluene	ug/l	U	U	U	734.	520.	67.	10.	U	U	U	U	U
Ethylbenzene	ug/l	U	U	U	285.	430.	86.	26.	U	U	U	U	U
m&p-Xylenes	ug/l	U	U	U	495.	610.	130.	7.5	U	U	U	U	U
O-Xylenes	ug/l	U	U	U	54.	150.	33.	U	U	U	U	U	U
Benzo(a)Anthracene	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
Benzo(b)Fluoranthene	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
Benzo(a)Pyrene	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
bis(2-Ethylhexyl)Phthalate	ug/l	J	J	U	U	J	J	U	U	U	U	J	U
Chrysene	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
Di-benz(a,h)Anthracene	ug/l	U	U	U	U	U	U	U	U	U	U	U	U
Indene	ug/l	U	U	U	J	J	1.9 J?	U	U	U	U	U	U

U = Undetected at the reported method detection limit.
J = Compound detected above the method detection limit but below the practical reporting level.

results for these samples are summarized on Tables 3-3 and 3-4. In general, the duplicate sample results compare well with the original samples with no substantial deviations noted. Field blank sample results were generally all below detectable values except for minor detections on some inorganic parameters. Trip blank results were below detectable values. MS/MSD samples were analyzed by the laboratory for internal checks of method accuracy and precision. Their data is not reported in this document.

TABLE 3-3
Inorganic Quality Assurance Sample Summary
SUN Refinery - Philadelphia, PA

Well ID.:		S-72	S-69D	S-38I	S-69D	S-42	S-38D	S-7
Sample ID.:		372S2	369D2	338I2	369D3	342D3	338D3	307I3
Date:		3/11/94	3/17/94	3/21/94	3/17/94	3/8/94	3/21/94	3/9/94
Time:		1115	1130	1130	1030	1430	1200	1300
Parameter:	Units:	QUALITY ASSURANCE SAMPLES						
Temperature (field)	°F	62.6	54.0	54.3	NR	NR	NR	NR
Spec. Cond. (field)	umhos/cm	NR	834	549	NR	NR	NR	NR
Diss. Oxygen (field)	mg/L	2.3	6.2	8.8	NR	NR	NR	NR
Alkalinity	ppm CaCO3	337.	279.	210.	<2	4	<2	<2
Alkalinity, bicarb	ppm CaCO3	337.	279.	210.	<2	4	<2	<2
Ammonia	mg/L N	9.4	4.5	0.3	<0.1	<0.1	<0.1	<0.1
Chloride	mg/L	736	112.	70.	<2	<2	2	<2
Conductivity	umhos/cm	3468.	1162.	642.	1	1.11	<1	<1
Fluoride, total	mg/L	0.30	0.13	0.53	<0.1	<0.1	<0.1	<0.1
Nitrate/nitrite	mg/L N	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1
Solids, diss. (TDS)	mg/L	2500.	672.	382.	10.	22.	<2	36.?
Sulfate	mg/L	896.	36.	21.	<10.	<10	<10	<10
Sulfide	mg/L	<0.2	3.64	<0.1	<0.1	<0.1	<0.1	<0.1
Total Organic Carbon	mg/L	61.	3.	8.	<1	<1	<1	<1
Arsenic	mg/L	0.029	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Cobalt	mg/L	0.092	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron (total)	mg/L	171.	3.60	6.26	<0.05	0.27	0.083	<0.1
Lead	mg/L	0.009	0.005	0.006	0.001	0.003	0.001	0.007
Manganese (total)	mg/L	12.7	4.28	2.63	<0.01	<0.01	<0.01	<0.01
Iron (diss.)	mg/L	139.	<0.05	4.70	<0.05	<0.10	0.056	<0.10
Manganese (diss.)	mg/L	12.1	4.19	3.38	<0.01	<0.01	<0.01	<0.01
QA Type:		Dup	Dup	Dup	FB	FB	FB	FB

Dup = Duplicate Sample
FB = Field Blank Sample

TABLE 3-4

Organic Quality Assurance Sample Summary
SUN Refinery
Philadelphia, PA

Well ID.:		S-72	S-69D	S-38I	S-59D	S-42	S-38D	S-7							
Sample ID.:		372S2	369D2	338I2	369D3	342D3	338D3	307I3							
Date:		3/11/94	3/17/94	3/21/94	3/17/94	3/8/94	3/21/94	3/9/94							
Time:		1115	1130	1130	1030	1430	1200	1300	TB100	TB200	TB300	TB400	TB500	TB600	TB700
Parameter:	Units:	QUALITY ASSURANCE SAMPLES													
Benzene	ug/l	U	U	260.	U	U	U	U	U	U	U	U	U	U	U
Toluene	ug/l	U	U	500.	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	ug/l	U	U	420.	U	U	U	U	U	U	U	U	U	U	U
m&p-Xylenes	ug/l	U	U	580.	U	U	U	U	U	U	U	U	U	U	U
O-Xylenes	ug/l	U	U	140.	U	U	U	U	U	U	U	U	U	U	U
Benzo(a)Anthracene	ug/l	U	U	U	U	U	U	U							
Benzo(b)Fluoranthene	ug/l	U	U	U	U	U	U	U							
Benzo(a)Pyrene	ug/l	U	U	U	U	U	U	U							
bis(2-Ethylhexyl)Phthalate	ug/l	U	U	J	U	U	U	U							
Chrysene	ug/l	U	U	U	U	U	U	U							
Di-benz(a,h)Anthracene	ug/l	U	U	U	U	U	U	U							
Indene	ug/l	U	U	11.	U	U	U	U							
QA Type:		Dup	Dup	Dup	FB	FB	FB	FB							

U = Undetected at the reported method detection limit.
J = Compound detected above the method detection limit but below the practical reporting level.
DUP = Duplicate Sample
FB = Field Blank Sample
TB = Trip Blank Sample

4.0 RESULTS AND CONCLUSIONS

Water quality and hydraulic head data were evaluated to assess the potential for downward movement of contaminants from the shallow, water-table aquifer to the deep regional aquifer, as well as to assess the potential for off-site migration of these contaminants from the site.

4.1 Hydraulic Data

Vertical hydraulic gradient data from the 11 well clusters involved in the investigation generally indicate that there is a downward component of flow from the water table aquifer to the lower sand unit. These results are consistent with previous investigations at the facility. Because this downward component of flow is present, hydraulic data indicate that there is movement of groundwater between these two aquifers. The rate of vertical movement has not been determined. Given that low permeability geologic layers are present, the rate of vertical groundwater movement is probably substantially lower than the rate of horizontal movement.

Groundwater flow mapping in the North and South Yards indicates that groundwater flow in the lower sand unit is generally south-southeast, with hydraulic heads ranging from zero to six feet MSL. This flow direction is consistent with previous investigations at the facility. Given these flow directions, well clusters S-69/S-69D, S-5/S-6/S-7, and S-38/S-38I/S-38D are on the downgradient boundary of the property with respect to flow in the deep aquifer. Clusters N-29/N-30 and N-50/N-51 while on the downgradient boundary of the North Yard, appear to be upgradient of the entire South Yard.

4.2 Water Quality Data

Inorganic water quality generally indicated that the groundwater beneath the facility was in a reducing state. Dissolved oxygen levels were generally low, and total dissolved iron, manganese, and TDS were elevated relative to pristine Coastal Plain groundwater. In addition, reduced forms of sulfate and nitrate (dissolved sulfide and ammonia) were present at detectable levels in roughly half of the samples analyzed in this program. These data are consistent with the widespread occurrence of degraded groundwater in the lower sand unit within the Philadelphia metropolitan area.

In order to gain a regional perspective on water quality beneath the SUN facility, data collected from this investigation were compared with regional USGS water quality data. The USGS report authored by Paulachok (1991) presented general water quality information for groundwater

samples collected from numerous wells in the Philadelphia regional area. This report concluded that water quality has been regionally degraded over time primarily as a result of urbanization. Urbanization effects include primarily the introduction of contaminants to formerly pristine groundwater and withdrawal impacts which have lead to regional mobilization of contaminants and, as a result, regional degradation in water quality.

The USGS report provided information on the range in concentration as well as average concentration for several inorganic constituents in groundwater. These constituents include total dissolved solids (90 - 4,480 mg/L, average 778 mg/L), dissolved iron (0 - 220 mg/L, average 17 mg/L), dissolved manganese (0 - 31 mg/L, average 1.7 mg/L) and dissolved sulfate (0.9 - 2,200 mg/L, average 161 mg/L). Average values for ammonia and nitrate were also provided for groundwater obtained within the lower sand unit. These values are 2.1 mg/L and 3.2 mg/L, respectively. Other potential contaminant constituents which were analyzed included various trace elements and volatile organic compounds. Distribution of these constituents was generally sporadic and not an indicator of regionally widespread groundwater quality degradation.

Comparison of deep aquifer groundwater quality at the Sun Refinery with the USGS general water quality assessment for several inorganic constituents is briefly summarized here:

- Values for TDS in on-site wells were all within the USGS reported range except for well N-75 (4,550 mg/L) which is situated on the western site boundary. The high value for this well also caused the average TDS concentration (908 mg/L) to exceed the USGS general average value (778 mg/L). In general, TDS values tend to decrease in concentration in the downgradient flow direction across the site.

- Values for dissolved iron were all within the range reported by the USGS, although the average concentration (33.15 mg/L) was found to exceed the USGS reported average (17 mg/L). Higher dissolved iron concentrations were generally observed in the central and upgradient portions of the site. Lowest values were present along the downgradient site boundary in the South Yard.

- Values for dissolved manganese were well within the reported USGS range with no observable trend in distribution across the site. The mean of site values (2.1 mg/L) was slightly greater than the USGS mean (1.7 mg/L).

- Values for sulfate were all within the reported USGS range (0.9 to 2,200 mg/L) except for well N-75 which indicated a higher value (2,910 mg/L). This value is anomalously high with respect to sulfate concentrations within other on-site wells which ranged from

not detected to 196 mg/L. No significant trend in sulfate distribution was observed from the data set.

- Values for ammonia ranged widely from a low of <0.1 mg/L to a high of 99.2 mg/L. The USGS average value for samples collected from within the lower sand or deep aquifer was reported as 2.1 mg/L. Ammonia values were generally much higher in wells located along the upgradient and western boundary of the site (N-38D, N-75, W-9) than in other areas.

In general, there were no clear spatial trends in the values of these parameters across the facility as might be expected if the facility was a major contributor to water quality degradation. There is some indication that deep aquifer groundwater quality is in a more degraded condition at upgradient and western site boundaries than in downgradient portions of the site. This suggests that water from off-site local contributors, or regional groundwater quality in general, is in such a degraded condition that any additional contribution from SUN is hard to define, and possibly not significant in a regional context. This conclusion is supported by the similarities between the data collected in this investigation and the regional USGS data set. There is, however, continued potential for long-term degradation to occur given the fact that shallow groundwater quality reflects impact from industrial land use, and that a downward component of flow exists between aquifers. The magnitude of this contribution and its significance in a regional context will continue to be difficult to define.

With respect to organic compounds, water quality data indicated the presence of dissolved hydrocarbon constituents (BTEX) at three of 11 well clusters sampled during this investigation. The presence of detectable levels of BTEX did not appear to correlate to specific inorganic water quality parameters. In one cluster (N-74/N-75), benzene was present in the shallow well, but no organic compounds were present in the companion deep well. In the other two clusters (S-38/S-38I/S-38D and S-41/S-42), BTEX were present in all wells in the cluster. These results suggest that organic compounds originating in shallow groundwater may be transported to the deep aquifer in localized areas of the facility. Therefore, based on these 11 well clusters, there is potential for off-site migration of organic compounds in the deep aquifer, but plumes are likely not areally extensive.

It should be noted that the presence of organic compounds at depth in the S-38 cluster may be due to drilling through a shallow contaminated zone, as these two deeper wells are newly installed. Confirmatory re-sampling of these wells is recommended prior to finalizing conclusions regarding off-site migration potential of organics. In addition, existing well S-42, completed at a depth of 65 feet, may not be located within the deep aquifer. This well may be installed in the Cape May formation, above the middle clay unit. This conclusion is based on the log for this well,

which does not indicate the presence of a substantial clay layer, and new geologic data from the S-38 cluster suggests that bedrock is deeper than anticipated (i.e., greater than 100 feet).

APPENDIX A

FIELD BORING LOGS

ENSR

BORING LOG

Project No. 6445-051-100 Date - Start 2/24/94 1030 Finish 2/25/94 1530 Boring N38D

Project Name Sun - Philadelphia Refinery Drilling Co. Empire Drilling Co.

Location North Yard - along river Drilling Method Hollow Stem Auger

Total Depth 85' Inspector M. Irani Reviewer

Remarks

Depth Feet	Sample Type & No.	Sample Blows per 6 In.	Sample Depth Range	Sample Rec.	PID ~~Graphic Log~~	Lithologic Description	Equipment Installed
	S.S.1	10-23-13-24	0'-2'		1	0-1' road/surface material, rock fragments 1' dk. brown sandy silt, dense, dry	
2'							
	S.S.2	60-70-27-14	2'-4'	1'	8	coarse sand fill, dk. gray/black, moderate petroleum odor	
4'							
	S.S.3	10-9-7-7	4'-6'	1'	4	same, wet	
6'					4	black sand and gravel, heavy sheen of product, saturated, loose	
	S.S.4	5-4-5-3	6'-8'				
8'							
	S.S.5	5-3-2-2	8'-10'		4	same, wet, sheen	
10'							
	S.S.6	5-1-3-3	10'-12'		60	same, strong odor	
12'							
	S.S.7	2-1-3-3	12'-14'		42	same black sand + gravel, no sheen, strong odor	
14'							
	S.S.8	16-17-3-3	14'-16'		—	no recovery, large chunk of wood jammed in sampler	
16'							
	S.S.9	4-4-5-5	16'-18'		38	same sand + gravel	
18'							
	S.S.10	3-2-2-3	18'-20'		8	dk gray silty clay, no gravels, strong odor, new lithological horizon	
20'							
	S.S.11	3-2-2-2	20'-22'		—	poor recovery, same	
22'							
	S.S.12	3-3-3-2	22'-24'		1	same gray silty clay, no coarse material	
24'							
	S.S.13	3-3-2-3	24'-26'		10	same	
26'							
	S.S.14	4-2-3-2	26'-28'		5	same	
28'							
	S.S.15	2-1-2-3	28'-30'		2	same clay, slightly less dense, woody material @ 29'	
30'							
	S.S.16	1-1-2-2	30'-32'		0	clay becoming sandy @ ~31', gray sandy clay	
32'							
	S.S.17	2-2-2-2	32'-34'		1	gray sandy clay, loose	
34'							
	S.S.18	2-1-2-1	34'-36'		NR	same	
36'							
	S.S.19	2-1-1-1	36'-38'		0	same	
38'							
40'							

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BORING LOG

Project No. _____ Date - Start _____ Finish _____ Boring N38D

Project Name _____ Drilling Co. Empire Drilling Company

Location _____ Drilling Method _____

Total Depth _____ Inspector _____ Reviewer _____

Remarks _____

Depth Feet	Sample Type & No.	Sample Blows per 6 In.	Sample Depth Range	Sample PID Rec.	Graphic Log	Lithologic Description	Equipment Installed
43'	SS.20	3-3-2-3	43'-45'	0		same clay	
45'							
48'	SS.21	4-2-3-3	48-50'	0		same clay	
50'							
53'	SS.22	3-2-2-2	53'-55'	NR		no change	
55'							
58'	SS.23	0 (weight of rods)	58'-60'	NR		same	
60'							
65'	SS.24	3-2-3-3	65'-67'	NR		same	
67'							
70'	SS.25	0-2-2-2	70'-72'	NR		same clay, platy, thin bedding is observable, mica present in clay	
72'							
75'	SS.26	0-2-3-4	75'-77'	NR		same, becoming slightly brown in color @ bottom of spoon sample	
77'							
80'							

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BORING LOG

Sheet 3 of 3

Project No. _____ Date - Start _____ Finish _____ Boring N38D

Project Name _____ Drilling Co. _____

Location _____ Drilling Method _____

Total Depth _____ Inspector _____ Reviewer _____

Remarks _____

Depth Feet	Sample				Graphic Log	Lithologic Description	Equipment Installed
	Type & No.	Blows per 6 In.	Depth Range	Rec.			
80							
	SS-27	4-7-5-7	80'-82'			Hillsdale change - reddish brown sand interbedded w/ gray silty clay, coarse grained, several quartz pebbles in sample	
82'						- slow augering @ ~83.5' (bedrock?)	
85'	SS-28	100/3	85-87'			Refusal, mica schist (muscovite), weathered - very friable, end boring	
87'							

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BORING LOG

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Sheet 1 of 4

Project No. 6445-051-100 Date - Start 3/14/94 1115 Finish 3/14/94 1400 Boring # 538D

Project Name Sun-Philadelphia Refinery Drilling Co. Empire Drilling Co.

Location East of Tank 826 Drilling Method Hollow Stem Auger

Total Depth 130' Inspector M. Irani Reviewer

Remarks

Depth Feet	Sample Type & No.	Blows per 6 In.	Depth Range	Rec.	PID Graphic Log	Lithologic Description	Equipment Installed
0	SS-1	8-10-6-6	0'-2'		[illegible]	0-6" fill, gravel + pebbles 6" brown clayey silt, abundant fines	
2'	SS-2	6-6-8-8	2'-4'		0.5	brownish orange clayey silt	
4'	SS-3	6-4-6-10	4'-6'		22	same, some interbedded silty clay	
6'	SS-4	11-12-15-20	6'-8'		82	orange/brown sandy silt to 7'	
8'	SS-5	7-8-12-14	8'-10'		9	orange brown silty sand / dry, orange brown clayey silt	
10'	SS-6	14-14-15-17	10'-12'	poor	65	poor recovery, gray sandstone rock frags, brown sand w/ quartz gravels + pebbles	
12'	SS-7	17-50/3	12'-14'	poor	1	same brown sand w/ gravels + pebbles	
14'	SS-8	15-6-7-6	14'-16'		13	brown + reddish brown silty sand w/ little gravel	
16'	SS-9	13-12-16-15	16'-18'		55	same to 17' color change to orange brown sand w/ abundant qtz pebbles + gray sandstone rock fragments	
18'	SS-10	21-11-10-8	18'-20'	poor	12	poor recovery, same, large sandstone fragment present, wet	
20'	SS-11	0-13-13-15	20'-22'		53	coarse brown and orange brown sand w/ abundant qtz. gravels + pebbles, loose	
22'	SS-12	9-13-15-20	22'-24'		108	same, strong petro. odor from sands @ bottom of spoon sample	
24'	SS-13	0-0-0-0 weight of rods	24'-26'		130	same, strong odor	
26'	SS-14	and hammer 10-12-12-12	26'-28'		120	grey coarse sand strong odor, some interbedded reddish brown silty clay @ bottom of spoon sample	
28'	SS-15	0-0-10-13	28'-30'		16	orange brown coarse sand, few gravels + pebbles	
30'	SS-16	0-0-18-19	30'-32'		115	same	
32'	SS-17	12-20-22-27	32'-34'		122	same sand, color change to white @ last 6" of sample	
34'	SS-18	0-0-0-12	34'-36'		46	same, grayish white	
36'	SS-19	17-25-49-44	36'-38'		95	same sand, frequent color changes (white, orange/brown, gray)	
38'	SS-20	56-25-46	38'-40'		52	same sand, orange/brown	
40'							

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BORING LOG

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Project No. _____ Date - Start _____ Finish _____ Boring S38D

Project Name _____ Drilling Co. _____

Location _____ Drilling Method _____

Total Depth _____ Inspector _____ Reviewer _____

Remarks _____

Depth Feet	Sample Type & No.	Sample Blows per 6 In.	Sample Depth Range	Sample Rec.	PID ~~Graphic Log~~	Lithologic Description	Equipment Installed
~~40'~~ 42'	S.S. 21	4-12-14-14	40'-42'		76	saw sand	
45' 47'	S.S. 22	21-44-72-43/3	45'-47'	~~none~~	108	same	
50' 52'	S.S. 23	12-16-16-20	50-52'	none	—	no recovery, ~~still appears to be running sands~~ - bright reddish brown silty clay present on outside casing of spoon sample	
55' 57'	S.S. 24	8-11-14-24	55-57'		6	- same sand, ~6" of bright reddish brown silty clay @ bottom of spoon sample	
60' 62'	S.S. 25	8-12-21-30	60-62'		11	very stratified: reddish brown sand → brown sand → tan sandy silt → mottled silty clay (tan + orange/brown) (last 6" of sample, dense)	
65' 67'	S.S. 26	20-44-50/3	65-67'		0	grayish white silty sand + coarse sand, thin interbed of grayish white silty clay	
70' 72'	S.S. 27	50-55/5			2	reddish brown coarse sand → grayish white color change, little fines	
75' 77'		no spoon sample taken					
~~80'~~							

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BORING LOG

Project No. _____ Date - Start _____ Finish _____ Boring 538D

Project Name _____ Drilling Co. _____

Location _____ Drilling Method _____

Total Depth _____ Inspector _____ Reviewer _____

Remarks _____

Depth Feet	Sample Type & No.	Sample Blows per 6 In.	Sample Depth Range	Sample Rec.	PID	Lithologic Description	Equipment Installed
80'							
82'	S.S.28	50-5"/4	80'-82'		4.5	brown coarse sand w/abundant quartz gravels + pebbles, trace fines	
85'							
87'	S.S.29	37-5"/3	85'-87'		NR	same	
90'							
92'	S.S.30	26-6"/3	90'-92'		13.5	light brown silty sand, little gravel + pebbles, color change → reddish brown (bottom 6" of sample)	
95'							
97'	S.S.31	70/6	95'-97'		NR	brown coarse sand w/abundant quartz gravels + pebbles	
100'							
102'	S.S.32	52-5"/4	100'-102'			grayish white clayey silt, some silty clay, no gravels/pebbles	
105'							
107'	S.S.33	50-4"-5"/3	105'-107'		7.4	reddish brown coarse sand, no gravels/pebbles	
110'							
112'	S.S.34	50-52-5"/4	110'-112'		1.8	mica rich, dk. gray weathered mica schist (silty + sand clay — abundant silt)	
115'							
117'	S.S.35	100/5	115'-117'		NR	same, little recovery	

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BORING LOG

Project No. _____ Date - Start _____ Finish _____ Boring 538D

Project Name _____ Drilling Co. _____

Location _____ Drilling Method _____

Total Depth _____ Inspector _____ Reviewer _____

Remarks _____

Depth Feet	Sample: Type & No.	Sample: Blows per 6 In.	Sample: Depth Range	Sample: Rec.	Graphic Log	Lithologic Description	Equipment Installed
120'	S.S.36	60/0	120'-122'			- no representative recovery → only loose reddish brown sand, appears to be running sands again @ ±120'	
122'							
125'	S.S.37	60/0	122-124'			- same as above, split spoon sampling no longer effective due to running sands - no evidence of weathered mica schist material encountered @ 110'-115'	
127'							
130'						well set @ 130'	

M890278

BORING LOG

ENSR

Sheet 1 of 2

Project No. 6445-051-100 Date - Start 3/1/94 0915 Finish 3/2/94 1000 Boring 569D

Project Name Sun Philadelphia Refinery Drilling Co. Empire Drilling Co.

Location adjacent to warehouse - South Yard Drilling Method hollow stem auger

Total Depth 64' Inspector M. Irani Reviewer

Remarks well constructed @ ~63' due to running sands at bottom of boring

Depth Feet	Sample Type & No.	Blows per 6 in.	Depth Range	Rec.	PID	Lithologic Description	Equipment Installed
	SS.1	10-15-6-4	0'-1.5'		0.5	0-6" asphalt + ballast stone, dk. brown sandy silt	
3'						brown sandy silt w/gravel + quartz pebbles, moist	
	SS.2	3-5-5-6	3'-5'		0		
4'						brown clayey silt, v. moist, minor gravel	
	SS.3	4-2-3-9	5'-7'		0	brown silt, some clay, wet	
6'						brown sand w/gravels & pebbles @ last 6" of spoon, very coarse and brownish red	
8'	SS.4	9-20-15-27	7'-9'	poor (4")	0.5	same brown/reddish brown sand w/abundant quartz gravels + pebbles	
9'							
	SS.5	6-7-6-23	9'-11'	poor	0	poor recovery, orange brown silty clay, moist w/gravels	
11'							
	SS.6	23-38-28-38	11'-13'		0.5	11'-12' brown clayey silt w/gravels - weathered white quartz cobbles @ 12' (4.3" zone)	
13'						12'-13' mottled sand w/quartz gravel + pebbles, coarse, some rock frags.	
	SS.7	50/5	13'-15'		0		
15'	SS.8	19-24-17-19	15'-17'		0.5	very coarse brown sand w/abundant qtz gravel + pebbles, wet - same w/abundant rock frags	
17'							
	SS.9	19-12-9-7	17'-19'		0	same, w/ little gravel and pebbles @ 18'-19'	
19'							
	SS.10	3-6-7-19	19'-21'		0	- same sand, beginning to run, spoon sample @ 21'-23' is not representative	
21'	SS.11	NA	21'-23'		0	- same sand w/gravel + pebbles (quartz)	
23'	SS.12	15-15-15-16	21'-23'				
25'							
	SS.13	15-10-9-6	25'-27'		0	same, color change to orange brown + reddish brown @ ~26'	
27'							
	SS.14	0-10-14-14	27'-29'		0	same, back to brown	
29'							
	SS.15	3-6-4-6	29'-31'		0	orange brown clay @ 30' interbedded w/ same sand (3" layer of sand)	
31'					0	31'-32' some sand	
	SS.16	3-6-8-11	31'-33'			32'-33' grayish brown silty clay	
33'							
	SS.17	0-5-6-5	33'-35'		NR	- grayish brown clay interbedded w/ same sand	
35'							
	SS.18	3-6-11-9	35'-37'			- same, interbedded, mostly sand in this spoon	
37'							
	SS.19	12-6-8-15	37'-39'			- all sand, very coarse and loose, abundant qtz gravels, large qtz cobble lodged in sampler nose,	
39'		22-22-28-20					
	SS.20		39'-41'			- color change to orange brown sand, dk. reddish brown @ 1 in 1.5' [illegible]	

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ENSR

BORING LOG

Sheet 1 of 2

Project No. _____ Date - Start _____ Finish _____ Boring 569D

Project Name _____ Drilling Co. _____

Location _____ Drilling Method _____

Total Depth _____ Inspector _____ Reviewer _____

Remarks _____

Depth Feet	Sample				Graphic Log	Lithologic Description	Equipment Installed
	Type & No.	Blows per 6 In.	Depth Range	Rec.			
41'	SS.21	14-18-19-22	41'-43'			same, frequent color changes, no clay	
43'							
45'	SS.22	12-15-17-N	43'-45'			same sand, no clay	
47'	SS.23	9-8-13-13	45'-47'			same	
50'							
52'	SS.24	0-11-27-50/4	50'-52'			same	
55'							
57'	SS.25	19-28-31-28	55'-57'			same	
60'							
62'	SS.26	28-39-50/4	60'-62'			same	
64'	SS.27	75/0	64-66			auger refusal @ 64', no recovery, end boring	

Screen 54'-64'
sand @ 49' (crumbly sands)

DTW = 29.5' @ 1250
" = 29.36' @ 1340

M890278

BORING LOG

ENSR

Sheet 1 of 3

Project No. 6445-051-100 Date - Start 3/3/94 0915 Finish 3/4/94 1415 Boring 572D

Project Name Sun Philadelphia Refinery Drilling Co. Empire Drilling Company

Location parking lot of main office bldg. South Yard Drilling Method hollow stem auger

Total Depth 100.5' Inspector M. Irani Reviewer

Remarks

Depth Feet	Sample Type & No.	Sample Blows per 6 In.	Sample Depth Range	Sample PID	Graphic Log	Lithologic Description	Equipment Installed
1'						0-6" asphalt + ballast stone	
	SS.1	—	—	—		S.S. 1'-3' not collected, appears to be a second layer of asphalt @ 1'	
3'		5-5-3-2	3'-5'	10.5		poor recovery; dk. brown/black sand w/ gravels and rock frags., petro. odor slight	
5'	SS.2	3-2-1-1	5'-7'	—	5	no recovery, appears to be dk. brown silty clay w/ gravel + rock frags	
7'	SS.3	1-1-1-1	7'-9'	130		poor recovery, dk. brown silty clay w/ gravel + rock frags, petroleum odor	
9'	SS.4	14-39-17-20	9'-11'	165			
11'	SS.5	20-12-17-25	11'-13'	190	11	black silty sand w/ abundant gravels + rock frags, some quartz, strong petroleum odor	
13'	SS.6	9-12-17-15	13'-15'	195		same, slightly lighter in color, coarser sands, stratified	
15'	SS.7	5-10-15-18	15'-17'	200+		same, abundant quartz	
17'	SS.8	54-8-10	17'-19'	185		same coarse sands, various colors, nicely stratified, less gravel + pebbles, still strong petroleum odor	
19'	SS.9	9-12-24-33	19'-21'	190		same	
21'	SS.10	20-12-19-29	21'-23'	240		very coarse and mottled colors, abundant gravels + rock frags, some wood material @ top of spoon sample	
23'	SS.11	20-48-19-24	23'-25'	200		same	
25'	SS.12	38-33-19-22	25'-27'	230		same, several large (6") pebbles + cobbles, some greenish sandstone weathered fragments	
27'	SS.13	20-21-19-18	27'-29'	200		same sand less pebbles, no cobbles	
29'	SS.14	31-18-14-19	29'-31'	200+		same	
31'	SS.15	38-60/2	31'-33'	NR		same	
33'	SS.16	14-11-9-11	33'-35'	[redacted]	9	orange/brown silty clay, clayey silt @ bottom of spoon sample	
35'	SS.17	6-11-9-13	35'-37'	—		no recovery, some woody material in spoon	
37'	SS.18	9-11-11-10	37'-39'	7		orange brown silty clay, no pebbles/gravels	
39'	SS.19	12-13-13-13	39'-41'	NR		same, very wet/loose	

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- 41'

BORING LOG

ENSR

Sheet 2 of 3

Project No. _____ Date - Start _____ Finish _____ Boring 572D

Project Name _____ Drilling Co. _____

Location _____ Drilling Method _____

Total Depth _____ Inspector _____ Reviewer _____

Remarks _____

Depth Feet	Sample Type & No.	Sample Blows per 6 In.	Sample Depth Range	Sample Rec.	Graphic Log	Lithologic Description	Equipment Installed
41'	SS.20	7-7-7-7	41'-43'	8		same silty clay, brown	
43'							
45'	SS.21	7-8-9-9	45'-47'	5		same, reddish brown sandy silt @ ~46.5'	
47'							
50'	SS.22	3-3-4-6	50'-52'	NR		reddish brown silty clay interbedded w/ reddish brown clayey silt	
52'							
55'	SS.23	0-8-9-8	55'-57'	4		poor recovery, same reddish brown, silty clay	
57'							
60'	SS.24	0-0-2-7	60'-62'	NR 1.5		reddish brown sand, no gravels/pebbles, little fines	
62'							
65'	SS.25	12-17-9-20	65'-67'	NR		interbedded reddish brown silty clay w/ reddish brown silty sand, intact rock fragment observed	
67'						end 3/31/91 - running sands entering augers	
70'	SS.26	12-24/3-3	70'-72'	1		reddish brown sand, coarse, gray siltstone rock fragment observed	
72'							
75'	SS.27	18-20-37-50/3	75'-77'	1		coarse sands w/ abundant quartz gravels + pebbles, crushed pebbly in nose of spoon, various colors, 1" bed of weathered gray siltstone @ 76'	
77'							

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ENSR

BORING LOG

Project No. _____ Date - Start _____ Finish _____ Boring 572D

Project Name _____ Drilling Co. _____

Location _____ Drilling Method _____

Total Depth _____ Inspector _____ Reviewer _____

Remarks _____

Depth Feet	Sample Type & No.	Sample Blows per 6 In.	Sample Depth Range	Sample Rec.	Graphic Log	Lithologic Description	Equipment Installed
82'	SS-28	26-40-32-40	80'-82'	4.5		reddish brown and brown sands, several large quartz pebbles/cobbles, some reddish brown sandstone rock fragments observed	
85'	—					stopped sample, augers still advancing w/relative ease	
90'	SS-29	0-9-15-17	90'-92'	—		gray silty clay, gray & sandy silt @ top of span	
92'							
95'	SS-30	0-15-21-33	95'-97'	2		gray silty clay to ~96', gray coarse sand interbedded w/ silty clay to ~96.5', gray silty sand to 97'	
97'							
100'	SS-31	21-75/4	100'-102'	—		reddish brown silty sand to 100.5' bedrock @ 100.5', mica schist, weathered, very friable - white clay w/ mica frags overlies darker mica schist, mafic minerals abundant * PVC well set @ 99' 1715 3/7/94 DTW @ 32.92'	
102'							

M890278

APPENDIX B

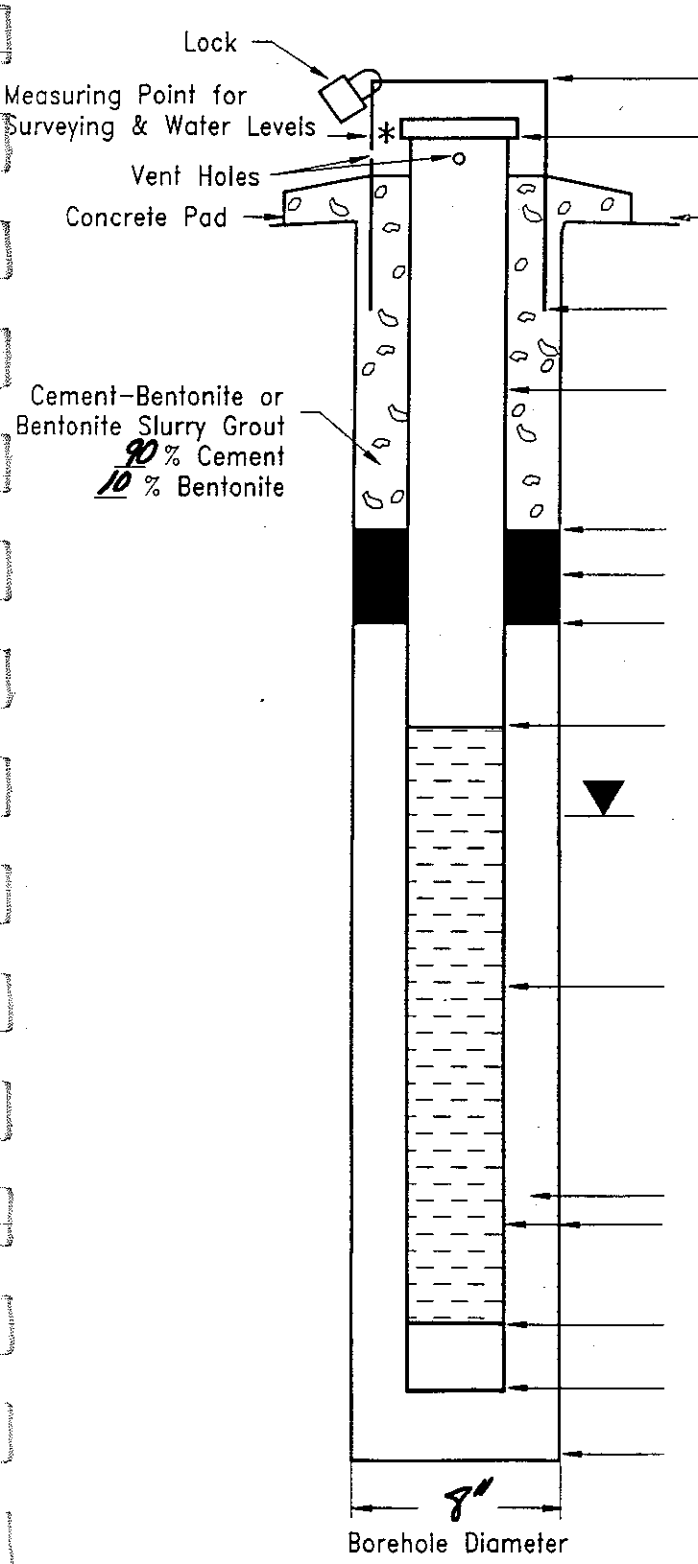
WELL COMPLETION RECORDS

Project No: 6445-051 Client: Sun Site: Philadelphia Refinery WELL No: N38D

Well Location: North Yard - along river Date Installed: 2/25/94

Contractor: Empire Drilling Co. Method: hollow stem auger Inspector: M. Irani

MONITORING WELL CONSTRUCTION DETAIL



		Depth from G.S. (feet)	Elevation (NGVD)
Top of Steel Guard Pipe		~2.25'	
Top of Riser Pipe		~2'	
Ground Surface (G.S.)		0.00	
Bottom of Steel Guard Pipe			
Riser Pipe:			
Length	77'		
Inside Diameter (ID)	2"		
Type of Material	SCH 40 PVC		
Top of Bentonite Seal		69'	
Bentonite Seal Thickness	3"		
Top of Sand		71'	
Top of Screen		75'	
Stabilized Water Level			
Screen:			
Length	10'		
Inside Diameter (ID)	2"		
Slot Size	0.01"		
Type of Material	SCH 40 PVC		
Type/Size of Sand	Morie #1		
Sand Pack Thickness	3"		
Bottom of Screen		85'	
Bottom of Tail Pipe:			
Length	6"		
Bottom of Borehole		85'	

* Describe Measuring Point: Top of PVC casing

Approved:

Signature: Mark J. Irani Date: 2/28/94

ENSR®

Project No: 6445-057 Client: Sun Site: Philadelphia Refinery

WELL No: 538I

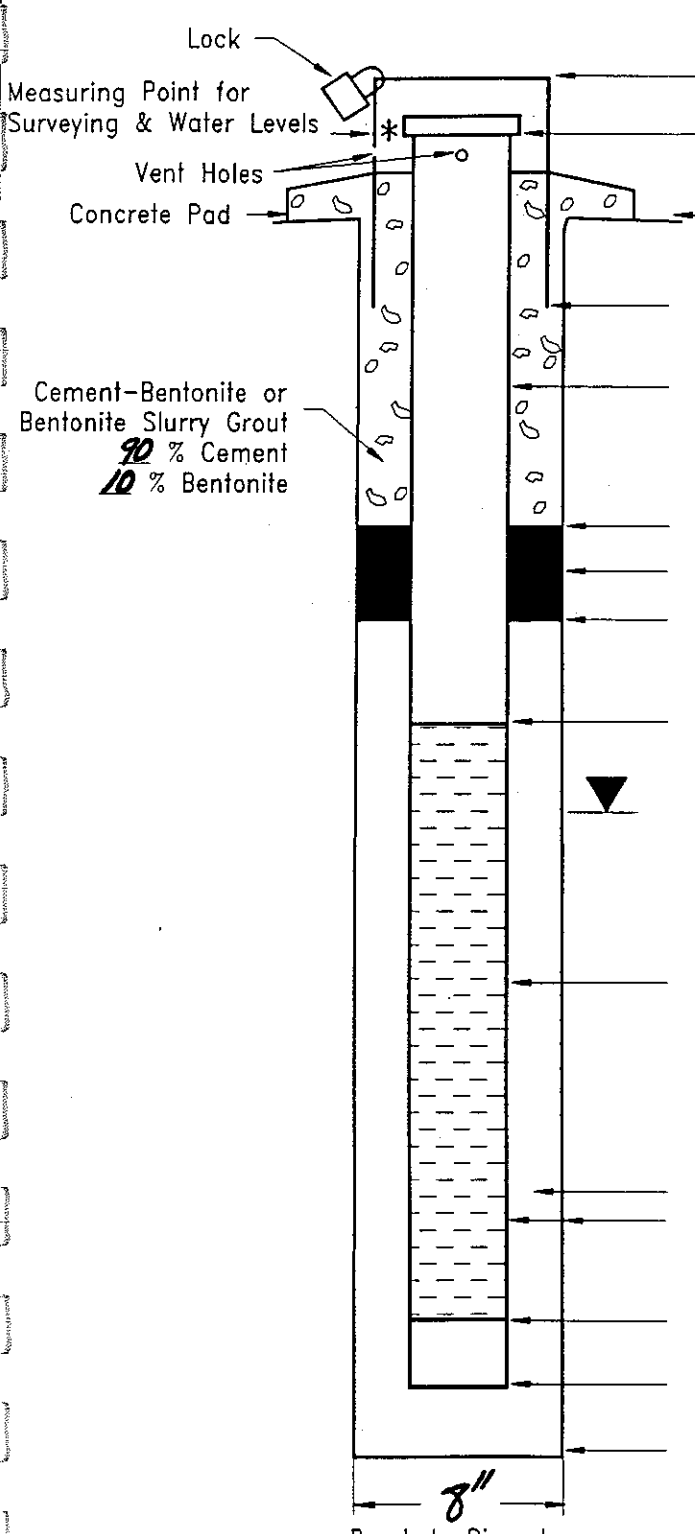
Well Location: South Yard - East of Tank 826

Date Installed: 3/17/94

Contractor: Empire Drilling Co. Method: hollow stem auger

Inspector: M. Irani

MONITORING WELL CONSTRUCTION DETAIL



		Depth from G.S. (feet)	Elevation (NGVD)
Top of Steel Guard Pipe		~25'	
Top of Riser Pipe		~2'	
Ground Surface (G.S.)		0.00	
Bottom of Steel Guard Pipe			
Riser Pipe:			
Length	72'		
Inside Diameter (ID)	2"		
Type of Material	SCH 40 PVC		
Top of Bentonite Seal		~62'	
Bentonite Seal Thickness	3"		
Top of Sand		67'	
Top of Screen		70'	
Stabilized Water Level			
Screen:			
Length	10'		
Inside Diameter (ID)	2"		
Slot Size	0.01"		
Type of Material	SCH 40 PVC		
Type/Size of Sand	Morie #1		
Sand Pack Thickness	3"		
Bottom of Screen		80'	
Bottom of Tail Pipe:			
Length	6"		
Bottom of Borehole		80'	

Approved:

* Describe Measuring Point: Top of PVC casing

Mark G. Irani 3/17/94

Signature Date

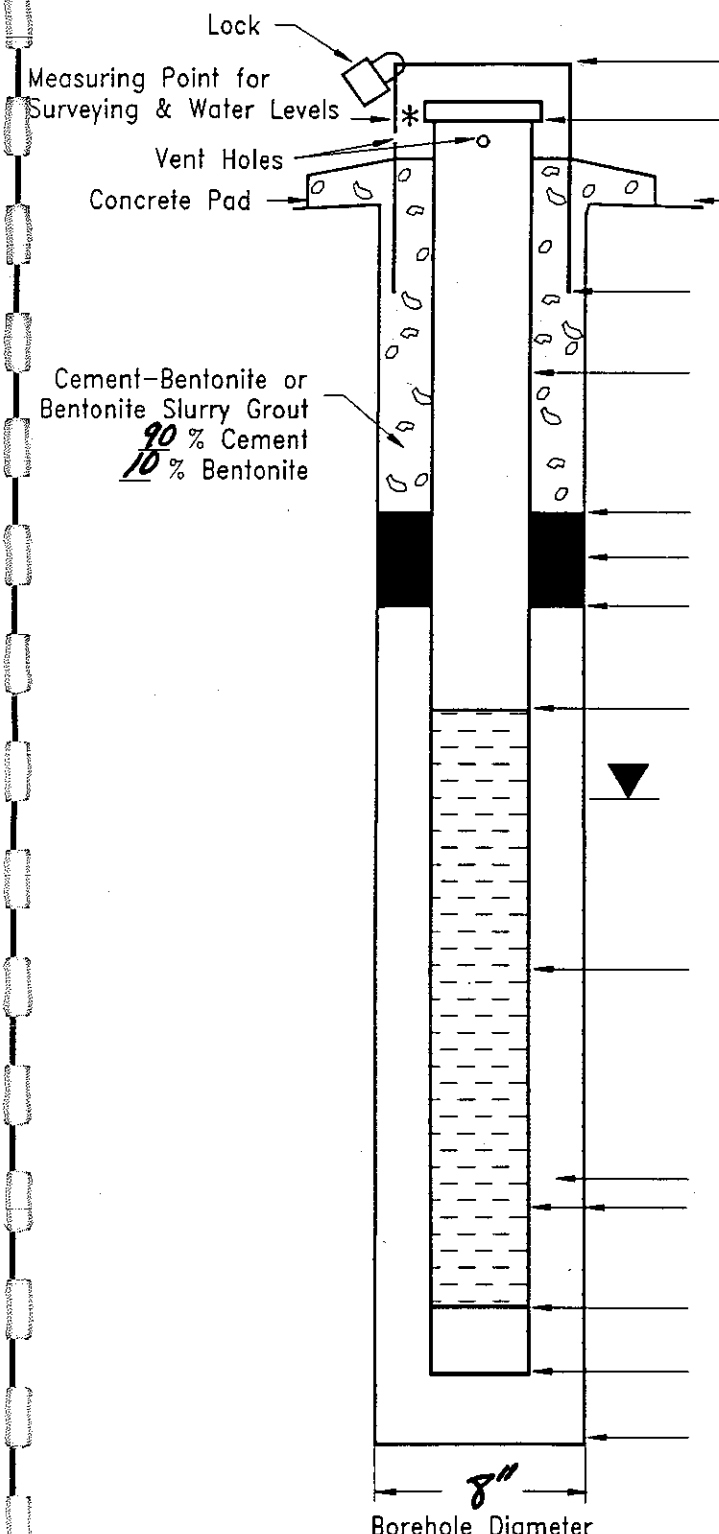
ENSR®

Project No: 6445-057 Client: Sun Site: Philadelphia Refinery WELL No: S38D

Well Location: South Yard - East of Tank 826 Date Installed: 3/14/94

Contractor: Empire Drilling Co. Method: hollow stem auger Inspector: M. Irani

MONITORING WELL CONSTRUCTION DETAIL



		Depth from G.S. (feet)	Elevation (NGVD)
Top of Steel Guard Pipe		~2.5'	
Top of Riser Pipe		~2'	
Ground Surface (G.S.)		0.00	
Bottom of Steel Guard Pipe			
Riser Pipe:			
Length	122'		
Inside Diameter (ID)	2"		
Type of Material	SCH 40 PVC		
Top of Bentonite Seal		~114'	
Bentonite Seal Thickness	3"		
Top of Sand		117'	
Top of Screen		120'	
Stabilized Water Level			
Screen:			
Length	10'		
Inside Diameter (ID)	2"		
Slot Size	0.01"		
Type of Material	SCH 40 PVC		
Type/Size of Sand	Morie #1		
Sand Pack Thickness	3"		
Bottom of Screen		130'	
Bottom of Tail Pipe:			
Length	6"		
Bottom of Borehole		130'	

* Describe Measuring Point: Top of PVC casing

Approved:

Mark J. Irani 3/15/94

Signature Date

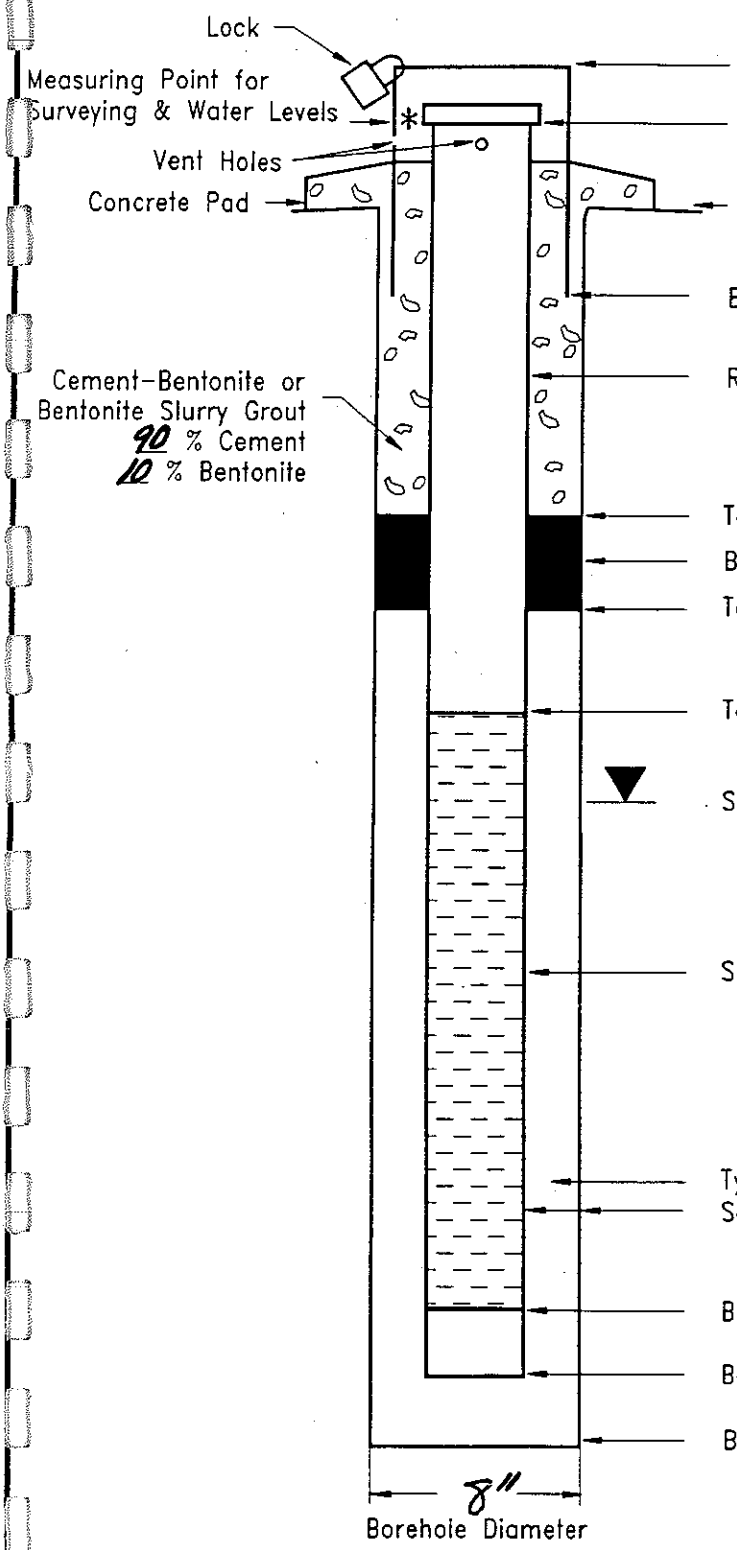
ENSR®

Project No: 6445-051 Client: Sun Site: Philadelphia Refinery WELL No: S69D

Well Location: adjacent to warehouse Date Installed: 3/2/94

Contractor: Empire Drilling Co. Method: hollow stem auger Inspector: M. Irani

MONITORING WELL CONSTRUCTION DETAIL



		Depth from G.S. (feet)	Elevation (NGVD)
Top of Steel Guard Pipe		~2.5'	
Top of Riser Pipe		~2'	
Ground Surface (G.S.)		0.00	
Bottom of Steel Guard Pipe			
Riser Pipe:			
Length	56'		
Inside Diameter (ID)	2"		
Type of Material	SCH 40 PVC		
Top of Bentonite Seal		~45'	
Bentonite Seal Thickness	3"		
Top of Sand		49'	
Top of Screen		54'	
Stabilized Water Level			
Screen:			
Length	10'		
Inside Diameter (ID)	2"		
Slot Size	0.01"		
Type of Material	SCH 40 PVC		
Type/Size of Sand	Morie #1		
Sand Pack Thickness	3"		
Bottom of Screen		64'	
Bottom of Tail Pipe:			
Length	6"		
Bottom of Borehole		64'	

* Describe Measuring Point: Top of PVC casing

Approved: Mark J. Irani 3/2/94
Signature Date

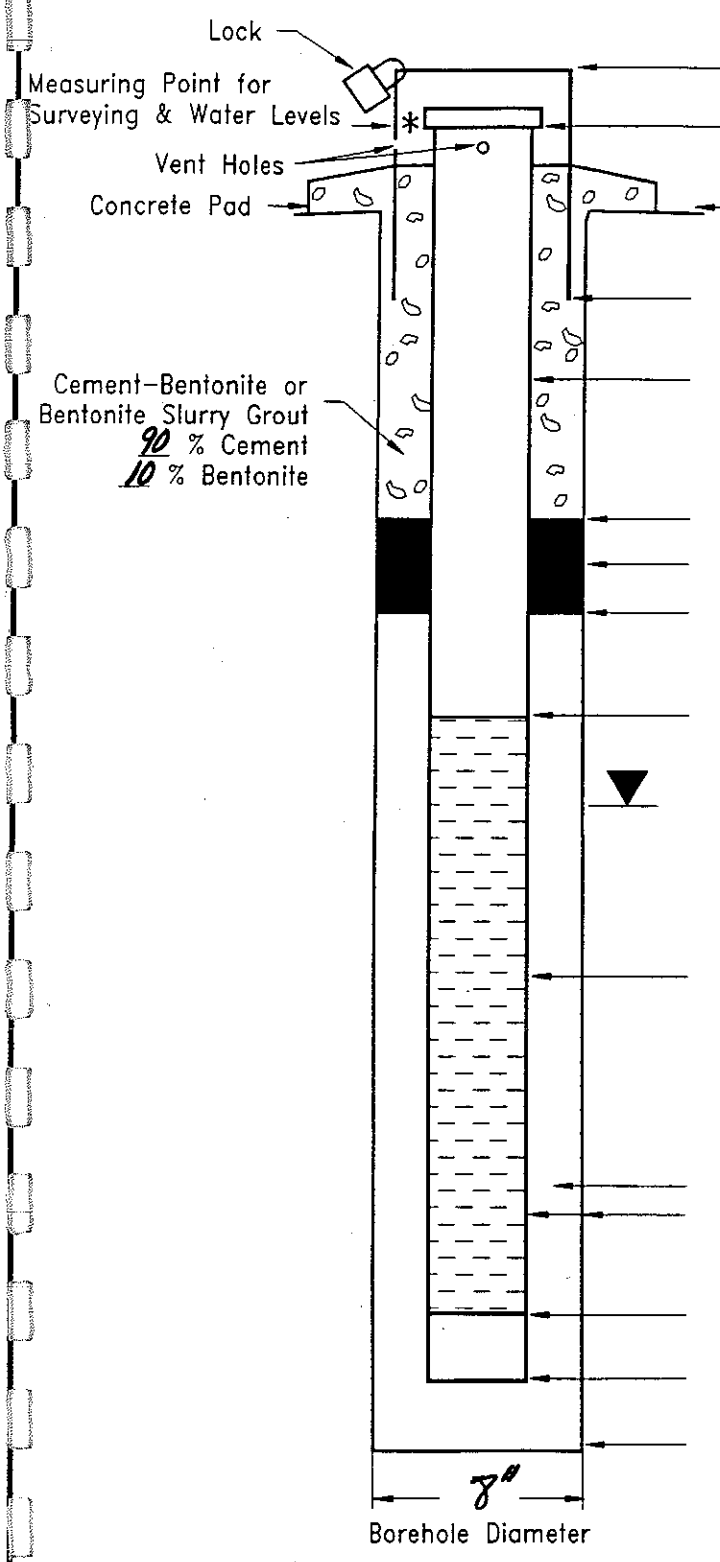
ENSR®

Project No: 6445-051 Client: Sun Site: Philadelphia Refinery **WELL No: 572D**

Well Location: parking lot of main office building Date Installed: 3/7/94

Contractor: Empire Drilling Co Method: hollow stem auger Inspector: M. Irani

MONITORING WELL CONSTRUCTION DETAIL



		Depth from G.S. (feet)	Elevation (NGVD)
Top of Steel Guard Pipe		~2.5'	
Top of Riser Pipe		~2'	
Ground Surface (G.S.)		0.00	
Bottom of Steel Guard Pipe			
Riser Pipe:			
Length	91'		
Inside Diameter (ID)	2"		
Type of Material	SCH 40 PVC		
Top of Bentonite Seal		80'	
Bentonite Seal Thickness	3"		
Top of Sand		83'	
Top of Screen		89'	
Stabilized Water Level			
Screen:			
Length	10'		
Inside Diameter (ID)	2"		
Slot Size	0.01"		
Type of Material	SCH 40 PVC		
Type/Size of Sand	Morie #1		
Sand Pack Thickness	3"		
Bottom of Screen		99'	
Bottom of Tail Pipe:			
Length	6"		
Bottom of Borehole		100'	

* Describe Measuring Point: Top of PVC casing

Approved: Mark Irani 3/7/94
Signature Date

ENSR®

APPENDIX C

LABORATORY ANALYTICAL DATA

NET NATIONAL ENVIRONMENTAL TESTING, INC.®

Thorofare Division
100 Grove Road
P.O. Box 248
Thorofare, NJ 08086
Tel: (609) 848-3939
Fax: (609) 848-9195

FOR:

ENSR Consulting

35 Nagog Park
Acton, MA 01720

Attention: Charlie Martin
Project: Philly Sun Oil

Report #: 94.00806
Date: April 27, 1994

NET ATLANTIC, INC.
Thorofare Division

Approved and released by:

John Visicaro
QA Coordinator

Review and approval of
technical data by:

Neil Rossiter
Project Manager

OCEAN GROUP

REPORT NARRATIVE

This report contains the results of the analysis of samples by NET Atlantic, Inc. for ENSR Consulting. The samples were from the Philly Sun Oil project and were analyzed for the parameters specified on the chain of custody. The following page lists the samples associated with this job, the date the samples were received by the laboratory and correlates the lab sample ID with the client ID. A laboratory chronicle has been provided that shows the date on which each test was performed.

NATIONAL ENVIRONMENTAL TESTING, INC.

The following table identifies all samples submitted to NET for analysis.

Client: ENSR CONSULTING Job No: 94.00806

NET ID	Client ID	Date Sampled	Date Received
134611	341S1 (TOTAL)	03/08/1994	03/09/1994
134612	341S1 (DISS)	03/08/1994	03/09/1994
134613	342D1 (TOTAL)	03/08/1994	03/09/1994
134614	342D1 (DISS)	03/08/1994	03/09/1994
134615	342D3 (TOTAL)	03/08/1994	03/09/1994
134616	342D3 (DISS)	03/08/1994	03/09/1994
134617	TB100	03/08/1994	03/09/1994

Listed below are the current certifications that are held by NET, Inc. - Thorofare Division.

NJ Certification No: 08153
NY Certification No: 10867
PA Certification No: 68-212
SC Certification No: 94008
CT Certification No: PH-0784
MA Certification No: NJ119
DE Certification No: 08153(NJ)
VA Certification No: 00043
FL Certification No: E87427

M90137

ENSR CHAIN OF CUSTODY RECORD

Page 1 of 3

Client/Project Name: ENSR / SUN	Project Location: Philadelphia, PA
Project Number: 6445-051	Field Logbook No.:
Sampler: (Print Name) /Affiliation: J. Soper / ENSR	Chain of Custody Tape No.:
Signature:	Send Results/Report to: Charles Martin, 35 Nagog Park, Acton, MA 01720, 508 635-9500

Analysis Requested: BTEX, BN, Sulfide, Iron, Manganese, Tot-l metals, Nitrate, nitrite, TOC, Ammonia, TDS, Bicarb. alkalinity, Total alkalinity, Spec. conduct., Chloride, Fluoride, Sulfate

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	Lab I.D.	Remarks
34151	3-8	1135	X		2 L Amber glass	water	—			
34151					2 40ml glass	water	—			
34151					1 plastic Liter		—			
34151					1 plastic Liter		—			
34151					1 Liter Amb. glass		H_2SO_4			
34151					1 plastic Liter		HNO_3			
34151					1 plastic Liter		HNO_3	X		Field Filtered
34151					1 plastic Liter		NaOH			
TB 100	3-8	1700			2-40ml	water				

Relinquished by: (Print Name) J. Soper Signature:	Date: 3-8 Time: 1700	Received by: (Print Name) Sharon Sabatini Signature: Sharon Sabatini	Date: 3/9/94 Time: 1200
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:

Analytical Laboratory (Destination):

cooler temp - 2.4°c

Serial No. 10343

000003

M901376

ENSR CHAIN OF CUSTODY RECORD

Page 2 of 3

Client/Project Name: ENSR/SUN	Project Location: Philadelphia, PA
Project Number: 6445-051	Field Logbook No.:
Sampler: (Print Name) /Affiliation: J. Soper/ENSR Signature:	Chain of Custody Tape No.:
	Send Results/Report to: Charles Martin 35 Nagog Park (508) 635-9500 Acton, MA 01720

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BN	BTEX	Sulfide	Iron, Manganese	Total Metals	Nitrate, nitrite	TOC, Ammonia	TDS, Bicarb, Total Alkalinity, Spec. Conduct.	Chloride, Total Sulfate	Fluoride	Lab I.D.	Remarks
342D1	3-8	1430	X		2 L Amber glass	water	—		X											
342D1					2-40ml glass		—			X										
342D1					1 plastic Liter		—									X				
342D1					1 plastic Liter		—								X					
342D1					1 Liter Amb. glass		H_2SO_4						X							
342D1					1 plastic Liter		HNO_3					X								
342D1					1 plastic Liter		HNO_3	X			X									Field filtered
342D1	↓	↓	↓		1 plastic Liter	↓	NaOH			X										
					/15															

Relinquished by: (Print Name) Signature:	Date: 3-8 Time: 1700	Received by: (Print Name) Sharon Sabatini Signature: Sharon Sabatini	Date: 3/9/94 Time: 1200
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:

Analytical Laboratory (Destination):

cooler temp - 2.4°

Serial No. 10332

000004

M901

ENSR CHAIN OF CUSTODY RECORD

Page 3 of 3

Client/Project Name: ENSR / SUN	Project Location: Philadelphia, PA
Project Number:	Field Logbook No.:
Sampler: (Print Name) (Affiliation): T Tepper / ENSR Signature:	Chain of Custody Tape No.:
	Send Results/Report to: Charles Martin ENSR, 35 Nagog Park 508 Acton, MA 01720 635-9500

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BN	BTEX	Iron, Manganese	Sulfide	Total Metals	Nitrate/Nitrite	TOC, Ammonia	TDS, Bicarb, Alkalinity	Chloride, Total Sp. Cond.	Sulfate	Fluoride	Lab I.D.	Remarks
342D3	3-8	1435	X		2 Liter Amber				X												
342D3					2-40ml glass					X											
342D3					1 plastic Liter												X				
342D3					1 plastic Liter											X					
342D3					1 Liter Amber		H_2SO_4								X						
342D3					1 plastic Liter		HNO_3						X								
342D3					1 Plastic Liter		HNO_3	X		X											Field Filtered
342D3	↓	↓	↓		1 Plastic Liter		NaOH				X										

Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Sharon Sabatini Signature: Sharon Sabatini	Date: 3/9/94 Time: 1200	Analytical Laboratory (Destination): cooler temp- 3.8°C
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:	
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:	Serial No. 10331

500005

METHODOLOGY SUMMARY

PURGEABLES GC/MS

USEPA Method 624(40 CFR Ch. I (7-1-91 Edition), Method 8240 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are purge and trap methods applicable to the determination of purgeable organic compounds. An inert gas is bubbled thru a sample aliquot contained in a purging chamber where the purgeables are transferred to the vapor phase. The purgeables are collected on a sorbent trap which is rapidly heated and backflushed with helium to desorb the purgeables onto a capillary GC column. The GC is temperature programmed to allow the separation of the purgeables which are then detected with a mass spectrometer. Refer to the method for specific interferences.

As per the applicable methodology the laboratory supplies vials containing Hydrochloric Acid (HCL) for preservation of aqueous samples. 2-Chloroethylvinyl ether is susceptible to acidic degradation which can adversely affect the detectability of this compound.

BASE/NEUTRALS

USEPA Method 625(40 CFR Ch. I (7-1-91 Edition), Method 8270 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are GC/MS methods applicable to the determination of organic compounds that are partitioned into an organic solvent and amenable to gas chromatography. A sample aliquot is extracted with methylene chloride (continuous liquid-liquid for waters, sonication for soils) which is dried, concentrated and analyzed on a Hewlett-Packard GC/MS fitted with a capillary column. Extracts may be subjected to one or more clean-up steps to eliminate matrix interferences. Refer to the method for specific interferences.

METALS

Aqueous samples for metals analysis were run in accordance with the methods prescribed in "Methods for Analysis of Water and Wastes" (EPA-600/4-79-020), Metals-4, as modified for use in the USEPA CLP.

INORGANIC PARAMETERS

The following USEPA Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020 were used by the laboratory.

Ammonia Nitrogen (Ammonia) - Method 350.2
Chloride - Method 325.3
Conductance - Method 120.1
Fluoride - Method 340.2
Nitrate/Nitrite - Method 353.1
Sulfate - Method 375.4
Sulfide - Method 376.1
Total Dissolved Solids (TDS) - Method 160.1
Total Organic Carbon (TOC) - Method AQ 415.1 SO 415.1 MOD

ALKALINITY

An aliquot of the unaltered sample is titrated against standardized sulfuric acid to pH 4.5 using a pH meter. Results are reported as ug of Calcium Carbonate per Liter of sample. USEPA Method 310.1

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis

Client: ENSR CONSULTING Job No: 94.00806

NET ID	Client ID	Sampling Date	Date Received	MATRIX
134611	341S1 (TOTAL)	03/08/1994	03/09/1994	GR
134612	341S1 (DISS)	03/08/1994	03/09/1994	GR
134613	342D1 (TOTAL)	03/08/1994	03/09/1994	GR
134614	342D1 (DISS)	03/08/1994	03/09/1994	GR
134615	342D3 (TOTAL)	03/08/1994	03/09/1994	GR
134616	342D3 (DISS)	03/08/1994	03/09/1994	GR
134617	TB100	03/08/1994	03/09/1994	BL

Laboratory ID:	134611	134612	134613	134614	134615	134616	134617
Organic Extraction							
Semivolatile AQ (GC/MS)	03/16/1994		03/16/1994		03/16/1994		
Semivolatile SO (GC/MS)							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							
TCLP Non-volatiles extraction							
TCLP Volatiles extraction							
Inorganic Preparation							
Metals(Except Hg & CrVI)	03/17/1994	03/17/1994	03/17/1994	03/17/1994	03/17/1994	03/17/1994	
Phenols							
Cyanides							
Organic Analysis							
Semivolatiles AQ	04/20/1994		04/19/1994		04/20/1994		
Semivolatiles SO							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Volatile Organics AQ (GC/MS)	03/17/1994		03/17/1994		03/15/1994		03/15/1994
Volatile Organics SO (GC/MS)							
Volatile Organics AQ (GC)							
Volatile Organics SO (GC)							
Acrolein & Acrylonitrile (GC)							
Selected Organics (GC)							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00806

NET ID	Client ID	Sampling Date	Date Received	MATRIX
134611	341S1 (TOTAL)	03/08/1994	03/09/1994	GR
134612	341S1 (DISS)	03/08/1994	03/09/1994	GR
134613	342D1 (TOTAL)	03/08/1994	03/09/1994	GR
134614	342D1 (DISS)	03/08/1994	03/09/1994	GR
134615	342D3 (TOTAL)	03/08/1994	03/09/1994	GR
134616	342D3 (DISS)	03/08/1994	03/09/1994	GR
134617	TB100	03/08/1994	03/09/1994	BL

Laboratory ID:		134611	134612	134613	134614	134615	134616	134617
Parameter								
Alkalinity		03/13/1994		03/13/1994		03/13/1994		
Alkalinity, Bicarb. at pH 4.		03/13/1994		03/13/1994		03/13/1994		
Ammonia		03/17/1994		03/17/1994		03/17/1994		
Chloride		03/31/1994		03/31/1994		03/31/1994		
Conductivity		03/10/1994		03/10/1994		03/10/1994		
Fluoride, Total		03/24/1994		03/24/1994		03/24/1994		
Nitrate/nitrite		03/21/1994		03/21/1994		03/21/1994		
Solids, dissolved (TDS)		03/11/1994		03/11/1994		03/11/1994		
Sulfate		03/22/1994		03/22/1994		03/22/1994		
Sulfide		03/16/1994		03/16/1994		03/16/1994		
Total Organic Carbon		03/15/1994		03/15/1994		03/15/1994		
Arsenic (As)	200 GFAA	04/05/1994		04/05/1994		04/05/1994		
Cobalt (Co)	200 ICP	04/06/1994		04/06/1994		04/06/1994		
Iron (Fe)	200 ICP	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	
Lead (Pb)	200 GFAA	04/04/1994		04/04/1994		04/04/1994		
Manganese (Mn)	200 ICP	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	

Definition of terms, abbreviations and flags that may be used in this report.

Flag/Term/Abbrev.	Definition
U	Compound was analyzed for but not detected. The laboratory has reported the method detection limit for the compound.
J	Compound was detected at a concentration below the practical reporting level, yet above the method detection limit. These values are estimates.
B	Compound was detected in the method/extraction blank as well as the sample. The data user is warned of possible laboratory introduced contamination.
NA	Not Applicable
ND	Not Detected
NC	Not Calculable
NR	Not Requested or Not Reported
MDL	Method detection limit. Can be a limit specified by the method or a number determined by performing an MDL study.
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
umhos	conductivity units; resistance is expressed in ohms.
NTU	Nephlometric Turbidity Units; used for turbidity.
col/9	Colonies per volume of sample analyzed; used for bacteriology.
deg C	degrees celcius
deg F	degrees fahrenheit
ug	microgram; there are 1000 ug in 1 mg.
mg	milligram; there are 1000 mg in 1 g.
g	gram; there are 1000 g in 1 Kg.
Kg	kilogram
ul	microliter; there are 1000 ul in 1 ml.
ml	milliliter; there are 1000 ml in 1 liter.
L	liter
dw	Dry weight; indicates that the reported value has been corrected for percent solids.
ppm	Parts per million = mg/Kg, ug/g, mg/L, ug/ml; 1 ppm = 1000ppb
ppb	Parts per billion = ug/Kg, ug/L

INORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00806
Sample No: 134611
Client Sample ID: 341S1 (TOTAL)

Parameter		Results	Units
Alkalinity		263	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5		263	ppmCaCO3
Ammonia		12.0	mg/L N
Chloride		82	mg/L
Conductivity		871	umhos/cm
Fluoride, Total		0.41	mg/L
Nitrate/nitrite		<0.1	mg/L N
Solids, dissolved (TDS)		480	mg/L
Sulfate		111	mg/L
Sulfide		<1.0	mg/L
Total Organic Carbon		25	mg/L
Arsenic (As)	200 GFAA A	0.021	mg/L
Cobalt (Co)	200 ICP A	0.014	mg/L
Iron (Fe)	200 ICP A	59.2	mg/L
Lead (Pb)	200 GFAA A	0.038	mg/L
Manganese (Mn)	200 ICP A	0.89	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00806
Sample No: 134612
Client Sample ID: 341S1 (DISS)

Parameter		Results	Units
Iron (Fe)	200 ICP A	32.4	mg/L
Manganese (Mn)	200 ICP A	0.41	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00806
Sample No: 134613
Client Sample ID: 342D1 (TOTAL)

Parameter		Results	Units
Alkalinity		315	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5		315	ppmCaCO3
Ammonia		5.6	mg/L N
Chloride		54	mg/L
Conductivity		732	umhos/cm
Fluoride, Total		0.53	mg/L
Nitrate/nitrite		<0.1	mg/L N
Solids, dissolved (TDS)		404	mg/L
Sulfate		<10	mg/L
Sulfide		<0.2	mg/L
Total Organic Carbon		4	mg/L
Arsenic (As)	200 GFAA A	0.015	mg/L
Cobalt (Co)	200 ICP A	0.030	mg/L
Iron (Fe)	200 ICP A	28.2	mg/L
Lead (Pb)	200 GFAA A	0.003	mg/L
Manganese (Mn)	200 ICP A	4.29	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00806
Sample No: 134614
Client Sample ID: 342D1 (DISS)

Parameter		Results	Units
Iron (Fe)	200 ICP A	28.1	mg/L
Manganese (Mn)	200 ICP A	4.30	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00806
Sample No: 134615
Client Sample ID: 342D3 (TOTAL)

Parameter		Results	Units
Alkalinity		4	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5		4	ppmCaCO3
Ammonia		<0.1	mg/L N
Chloride		<2	mg/L
Conductivity		1.11	umhos/cm
Fluoride, Total		<0.1	mg/L
Nitrate/nitrite		<0.1	mg/L N
Solids, dissolved (TDS)		22	mg/L
Sulfate		<10	mg/L
Sulfide		<0.1	mg/L
Total Organic Carbon		<1	mg/L
Arsenic (As)	200 GFAA A	<0.003	mg/L
Cobalt (Co)	200 ICP A	<0.01	mg/L
Iron (Fe)	200 ICP A	0.27	mg/L
Lead (Pb)	200 GFAA A	0.003	mg/L
Manganese (Mn)	200 ICP A	<0.01	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00806
Sample No: 134616
Client Sample ID: 342D3 (DISS)

Parameter		Results	Units
Iron (Fe)	200 ICP A	<0.10	mg/L
Manganese (Mn)	200 ICP A	<0.01	mg/L

ORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134611
Client Sample ID: 341S1 (TOTAL)

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134611
Client Sample ID: 341S1 (TOTAL)

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	100		ug/L	4.0	03/17/1994	res		196
Toluene	10.		ug/L	6.0	03/17/1994	res		196
Ethylbenzene	26.		ug/L	6.0	03/17/1994	res		196
m+p-Xylenes	7.5		ug/L	5.0	03/17/1994	res		196

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134613
Client Sample ID: 34201 (TOTAL)

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/19/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/19/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/19/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134613
Client Sample ID: 342D1 (TOTAL)

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	985.		ug/L	40.	03/17/1994	res		196
Toluene	60.	U	ug/L	60.	03/17/1994	res		196
Ethylbenzene	60.	U	ug/L	60.	03/17/1994	res		196
m+p-Xylenes	50.	U	ug/L	50.	03/17/1994	res		196

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134615
Client Sample ID: 342D3 (TOTAL)

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134615
Client Sample ID: 342D3 (TOTAL)

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/15/1994	res		193
Toluene	6.0	U	ug/L	6.0	03/15/1994	res		193
Ethylbenzene	6.0	U	ug/L	6.0	03/15/1994	res		193
m+p-Xylenes	5.0	U	ug/L	5.0	03/15/1994	res		193

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134617
Client Sample ID: TB100

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/15/1994	res		193
Toluene	6.0	U	ug/L	6.0	03/15/1994	res		193
Ethylbenzene	6.0	U	ug/L	6.0	03/15/1994	res		193
m+p-Xylenes	5.0	U	ug/L	5.0	03/15/1994	res		193

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

ACID EXTRACTABLE/BASE NEUTRALS

Client: Lynn Consulting Report No: 94.0080.

Client ID	NET ID	Nitrobenzene-d5 (35-114)	2-Fluorobiphenyl (43-116)	p-terphenyl-d14 (33-141)	Phenol-d6 (10-94)	2-Fluorophenol (21-100)	2,4,6-Tribromophenol (10-123)
34101	134611	50	50	28*	45	21	31
34201	134613	22*	76	38	34	6*	9*
34203	134615	68	70	81	4*	0*	0*
BW #1	A2938	70	72	92	4*	0*	0*
MD	A2939	76	74	31	7*	0*	0*
MD	A2939	74	72	46	12	0*	0*

COMMENTS: * Outside Control Limits

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

VOLATILES

Client: ENSR Consr. Report No: 94.008016

Client ID	NET ID	Toluene-d8 (88-110)	BFB (86-115)	1,2-Dichloroethane-d4 (76-114)
34151	134611	102	104	92
34201	134613	98	106	98
34203	134615	106	100	92
TB100	134617	104	106	96
Blank	>ES107	104	102	100
Blank	>ES141	98	96	96
M5	EA0-195	94	98	90
M50	EA0-195	104	102	104

COMMENTS: _____

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NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

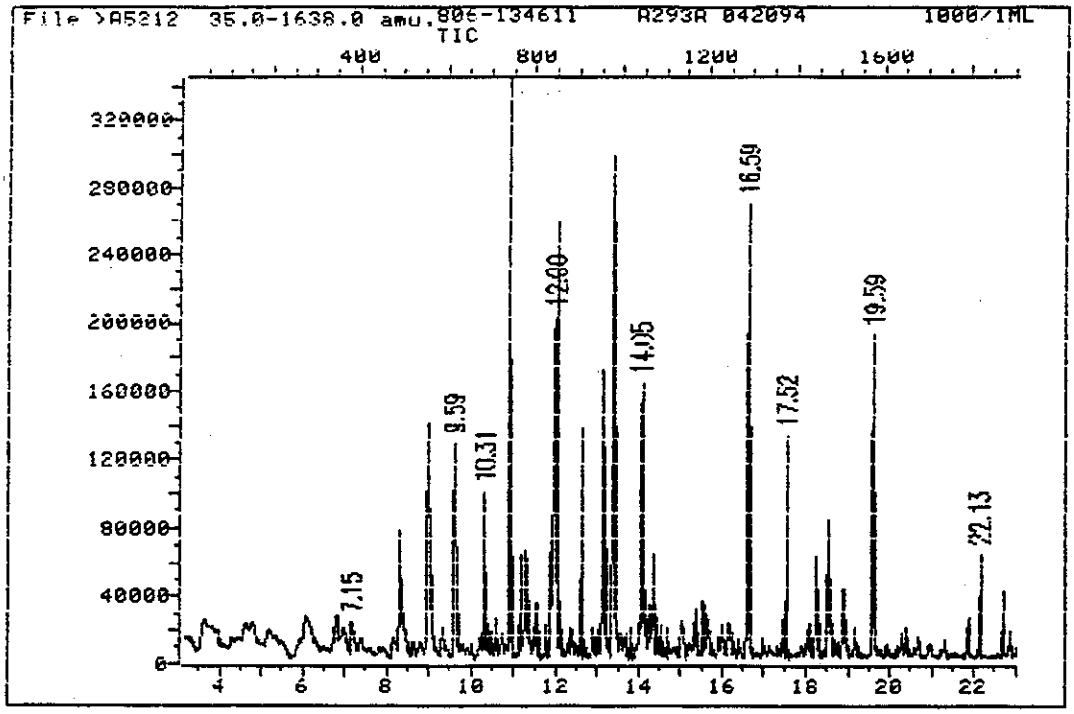
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134611
Client Sample ID: 341S1 (TOTAL)

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

TOTAL ION CHROMATOGRAM



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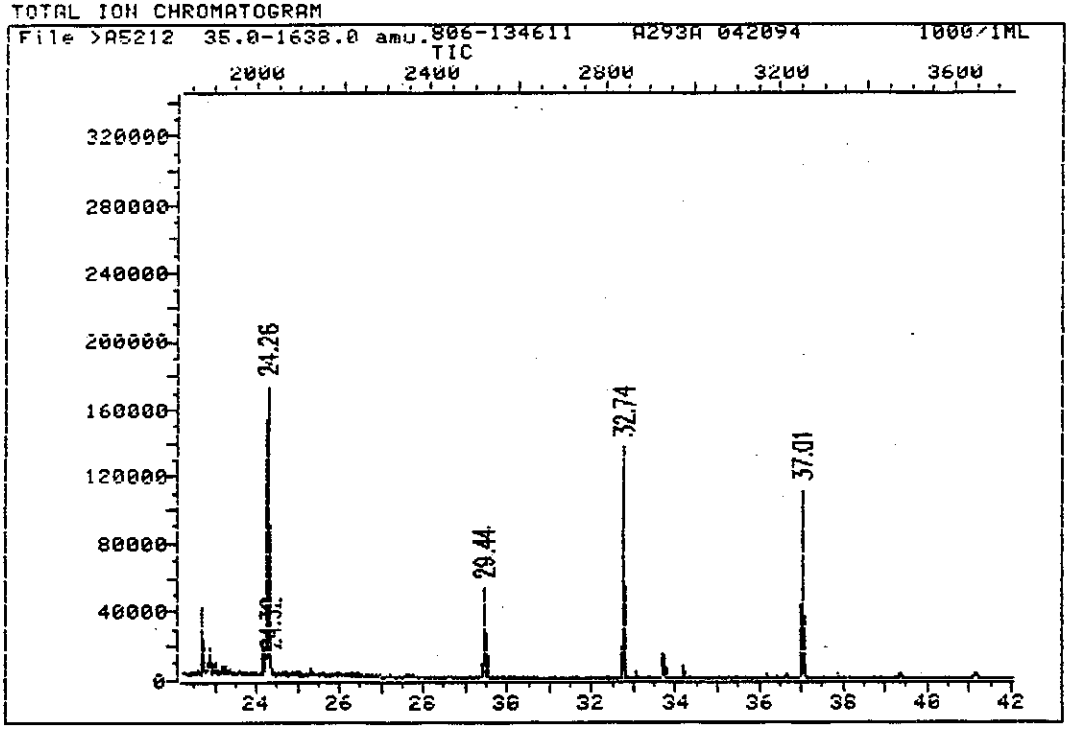
Name: 806-134611 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 3

Id File: 1ASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 11:47
Injected at: 940420 11:02

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5212::E2 Quant Output File: ^A5212::D5
Name: 806-134611 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 3

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 11:47
Injected at: 940420 11:02

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940420 11:4
Output File: ^A5212::D5 Injected at: 940420 11:02
Data File: >A5212::E2 Dilution Factor: 1.00000
Name: 806-134611 A293A
Misc: 042094 1000/1ML HP5970 A BIL# 3

ID File: IASKNR::D4
Title: SP Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	38821	40.00	ug/L	7
2)	CS50 2-Fluorophenol	7.15	112.0	24024	21.19	ug/L	9
3)	CS45 D5-Phenol	9.59	99.0	66283	44.86	ug/L	96
15)	*CI40 D8-Naphthalene	14.05	136.0	143169	40.00	ug/L	4
16)	CS20 D5-Nitrobenzene	12.00	82.0	34052	25.05	ug/L	84
20)	C471 1-Methylnaphthalene	16.59	142.0	133231	52.73	ug/L	7
21)	*CI50 D10-Acenaphthene	19.59	164.0	85549	40.00	ug/L	3
22)	CS25 2-Fluorobiphenyl	17.52	172.0	75740	25.40	ug/L	94
27)	CS55 2,4,6-Tribromophenol	22.13	330.0	18659	31.38	ug/L	89
28)	*CI60 D10-Phenanthrene	24.26	188.0	148241	40.00	ug/L	3
29)	C640 Phenanthrene	24.32	178.0	6625	1.61	ug/L	86
33)	*CI70 D12-Chrysene	32.74	240.0	124189	40.00	ug/L	98
35)	CS30 D14-Terphenyl	29.44	244.0	45591	13.92	ug/L	5
40)	*CI75 D12-Perylene	37.01	264.0	135915	40.00	ug/L	94

* Compound is ISTD

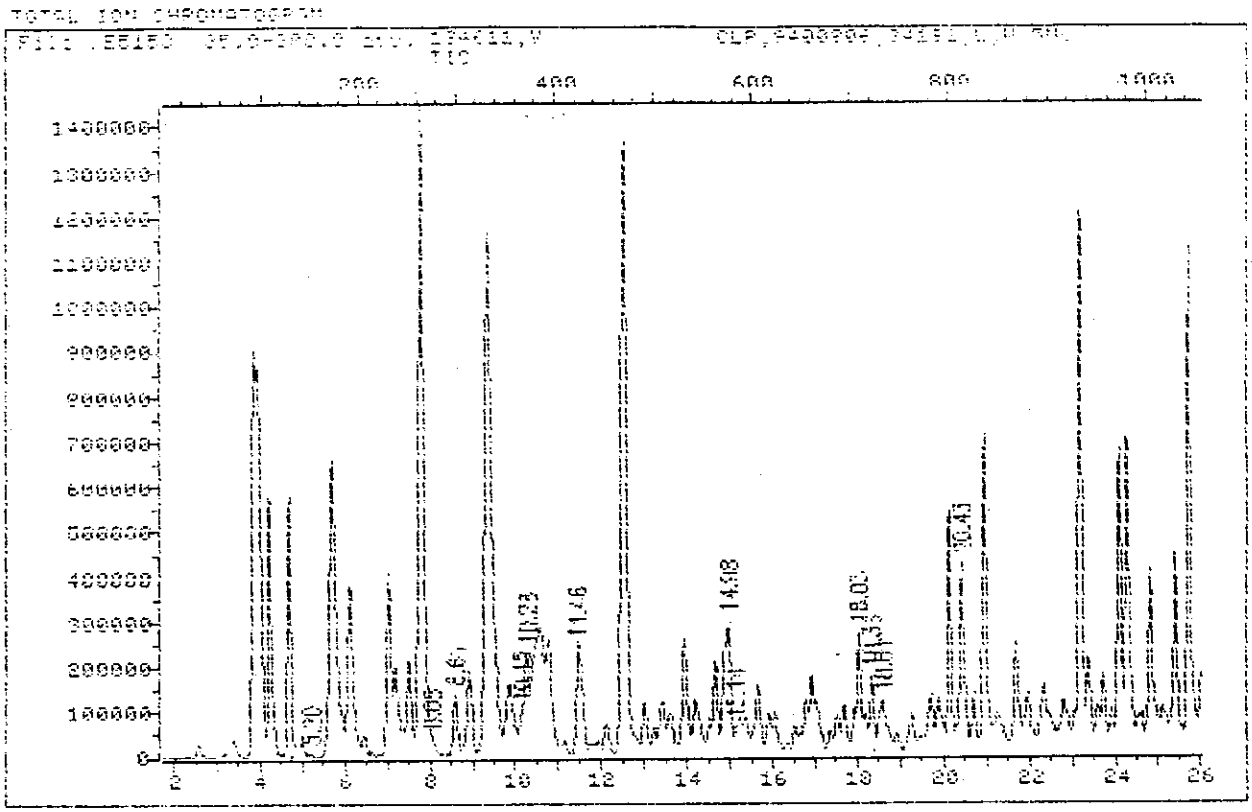
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134611
Client Sample ID: 341S1 (TOTAL)

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	100		ug/L	4.0	03/17/1994	res		196
Toluene	10.		ug/L	6.0	03/17/1994	res		196
Ethylbenzene	26.		ug/L	6.0	03/17/1994	res		196
m+p-Xylenes	7.5		ug/L	5.0	03/17/1994	res		196



Data File: >E5153::07 Quant Output File: ^E5153::07
Name: 134511,V
Misc: CLP,9400806,34161,L,W.5ML

Id File: INCLPE::04
Title: AQUEOUS CLP ID
Last Calibration: 940316 21:55

Operator ID: RITA
Quant Time: 940317 07:24
Injected at: 940317 06:53

QUANT REPORT

Operator ID: RITA
Output File: ^E5193::07
Data File: >E5193::07
Name: 134611,U
Misc: CLP,940806,34151,L.W,5ML

Quant Rev: e Quant Time: 940317 07:24
Injected at: 940317 06:53
Dilution Factor: 1.00000

ID File: IDCLPE::04
Title: AQUEOUS CLP ID
Last Calibration: 940316 21:59

EAQ-195

	Compound	Qs	R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	8.61	128.0	122822	50.00	UG/L	96
8)	C040 Carbon Disulfide		5.20	76.0	12136	1.85	UG/L	1[illegible]
11)	C053 1,2-Dichloroethene(total)		8.05	96.0	17168	6.10	UG/L	87
13)	CS15 D4-1,2-Dichloroethane	SS1	10.15	65.0	223171	46.34	UG/L	89
16)	*CI10 1,4-Difluorobenzene	IS-2	11.46	114.0	518005	50.00	UG/L	[illegible]
26)	C165 Benzene		10.28	78.0	675345	101.01	UG/L	95
29)	*CI20 D5-Chlorobenzene	IS-3	18.03	117.0	385938	50.00	UG/L	96
34)	C230 Toluene		15.14	91.0	87971	10.19	UG/L	[illegible]
35)	CS05 D8-Toluene	SS-2	14.98	98.0	472142	51.21	UG/L	91
37)	C240 Ethylbenzene		18.36	106.0	84534	26.51	UG/L	99
39)	C250 Xylene (total)		18.61	106.0	28297m	7.50	UG/L	[illegible]
40)	meta+para Xylene		18.61	106.0	25501	6.49	UG/L	92
42)	CS10 Bromofluorobenzene	SS-3	20.43	95.0	339840	51.51	UG/L	96

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

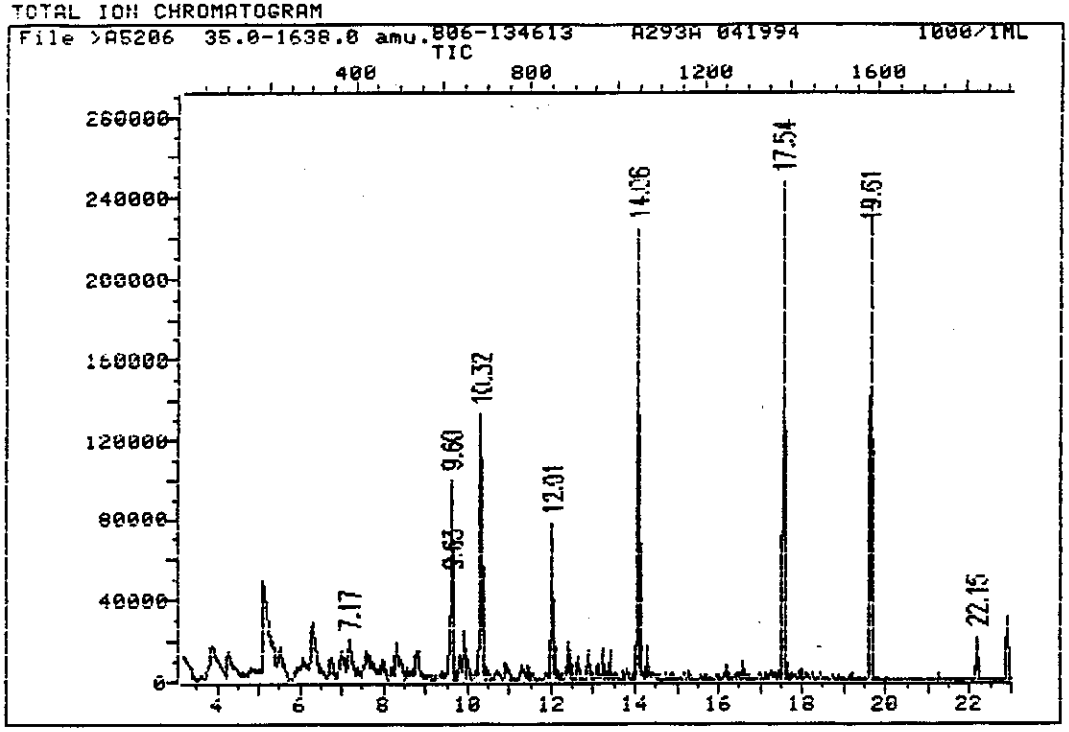
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134613
Client Sample ID: 342D1 (TOTAL)

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/19/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/19/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/19/1994	jig	10	4

TOTAL ION CHROMATOGRAM



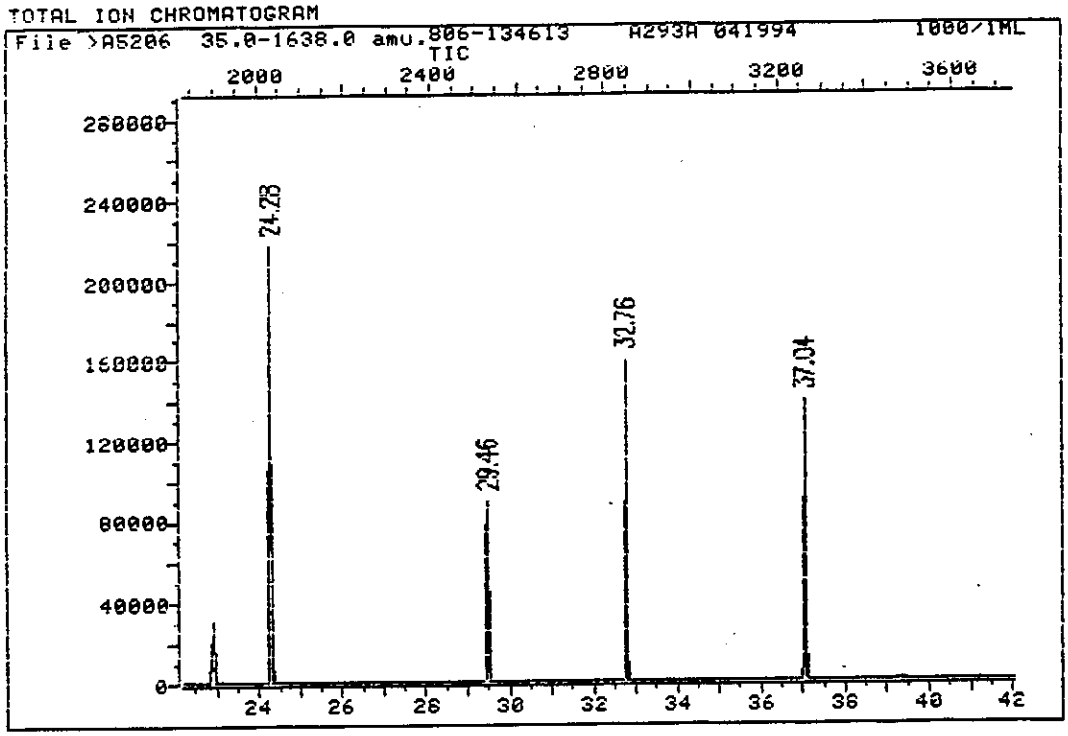
Data File: >A5206::E2 Quant Output File: ^A5206::D5
Name: 806-134613 A293A
Misc: 041994 1000/1ML HP5970 A BTL#11

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 20:01
Injected at: 940419 19:16

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5206::E2 Quant Output File: ^A5206::D5
Name: 806-134613 A293A
Misc: 041994 1000/1ML HP5970 A BTL#11

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 20:01
Injected at: 940419 19:16

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 20:01
Output File: ^A5206::D5 Injected at: 940419 19:16
Data File: >A5206::E2 Dilution Factor: 1.00000
Name: 806-134613 A293A
Misc: 041994 1000/1ML HP5970 A BTL#11

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.32	152.0	54023	40.00	ug/L	(
2)	CS50 2-Fluorophenol	7.17	112.0	8966	5.68	ug/L	85
3)	CS45 D5-Phenol	9.60	99.0	69509	33.80	ug/L	95
6)	C315 Phenol	9.63	94.0	9663	6.94	ug/L	(
15)	*CI40 D8-Naphthalene	14.06	136.0	195334	40.00	ug/L	94
16)	CS20 D5-Nitrobenzene	12.01	82.0	20889	11.26	ug/L	88
21)	*CI50 D10-Acenaphthene	19.61	164.0	113496	40.00	ug/L	(
22)	CS25 2-Fluorobiphenyl	17.54	172.0	150647	38.08	ug/L	95
27)	CS55 2,4,6-Tribromophenol	22.15	330.0	7110	9.01	ug/L	96
28)	*CI60 D10-Phenanthrene	24.28	188.0	190785	40.00	ug/L	(
33)	*CI70 D12-Chrysene	32.76	240.0	151303	40.00	ug/L	96
35)	CS30 D14-Terphenyl	29.46	244.0	75126	18.83	ug/L	85
40)	*CI75 D12-Perylene	37.04	264.0	169797	40.00	ug/L	(

* Compound is ISTD

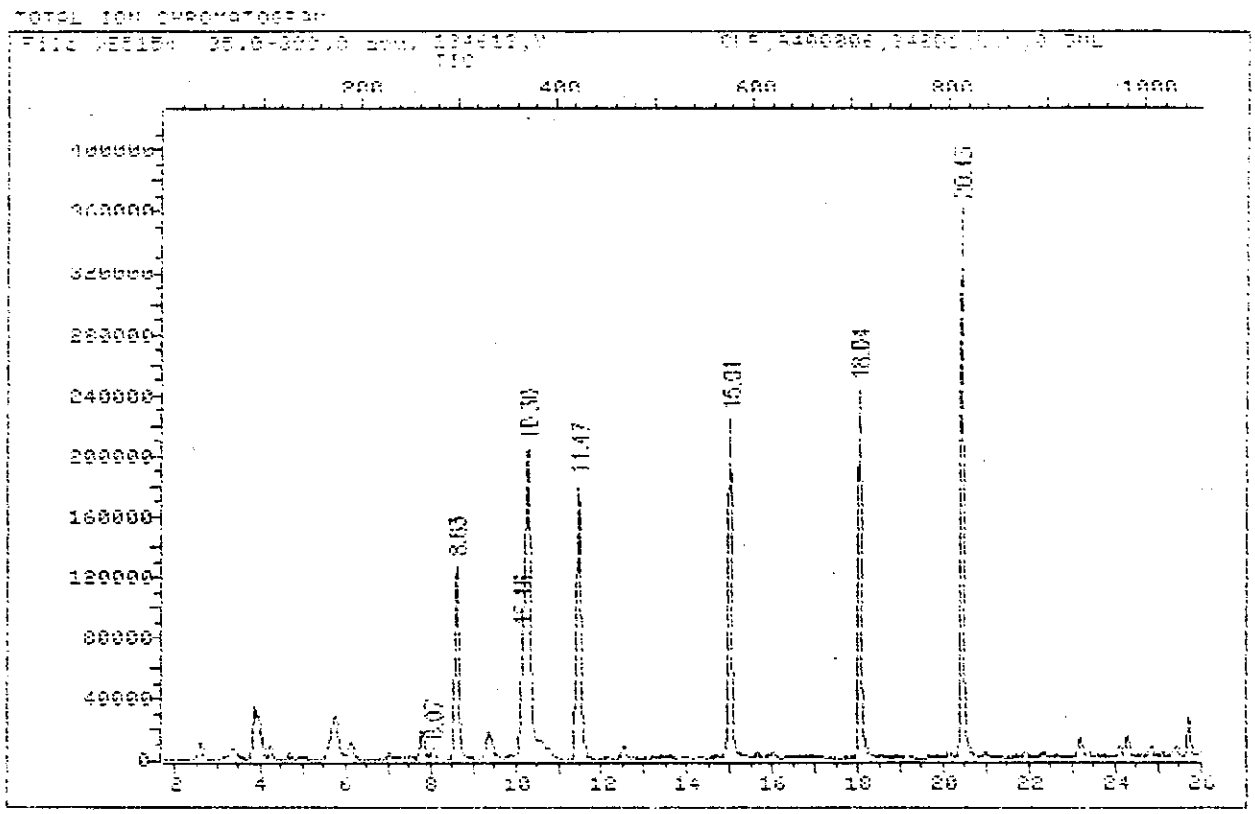
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134613
Client Sample ID: 342D1 (TOTAL)

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	985.		ug/L	40.	03/17/1994	res		196
Toluene	60.	U	ug/L	60.	03/17/1994	res		196
Ethylbenzene	60.	U	ug/L	60.	03/17/1994	res		196
m+p-Xylenes	50.	U	ug/L	50.	03/17/1994	res		196



Data File: >E5154::D7 Quant Output File: ^E5154::D7
Name: 134613.U
Misc: CLP,940080A,34201,L,W,0.5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940316 21:55

Operator ID: PITA
Quant Time: 940317 08:01
Injected at: 940317 07:30

QUANT REPORT

Operator ID: RITA
Output File: ^E5154::D7
Data File: ^F5154::D7
Name: 13461,V
Misc: CLP,940080&.3420l,L,W,0.5ML

Quant Rev: 6
Quant Time: 940317 08:01
Injected at: 940317 07:30
Dilution Factor: 1.00000

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940316 21:55

EAQ-195

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.63	128.0	130802	50.00	UG/L	
11)	C093 1,2-Dichloroethene(total)		8.07	96.0	8487	2.83	UG/L	90
13)	CS15 D4-1,2-Dichloroethane	SS1	10.16	65.0	252672	49.26	UG/L	91
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	507770	50.00	UG/L	
26)	C165 Benzene		10.30	78.0	645261	98.46	UG/L	94
29)	*CI20 D5-Chlorobenzene	IS-3	18.04	117.0	393353	50.00	UG/L	96
35)	CS05 D8-Toluene	SS-2	15.01	98.0	464385	49.37	UG/L	
49)	CS10 Bromofluorobenzene	SS-3	20.43	95.0	358547	53.27	UG/L	94

* Compound is ISTD

000040

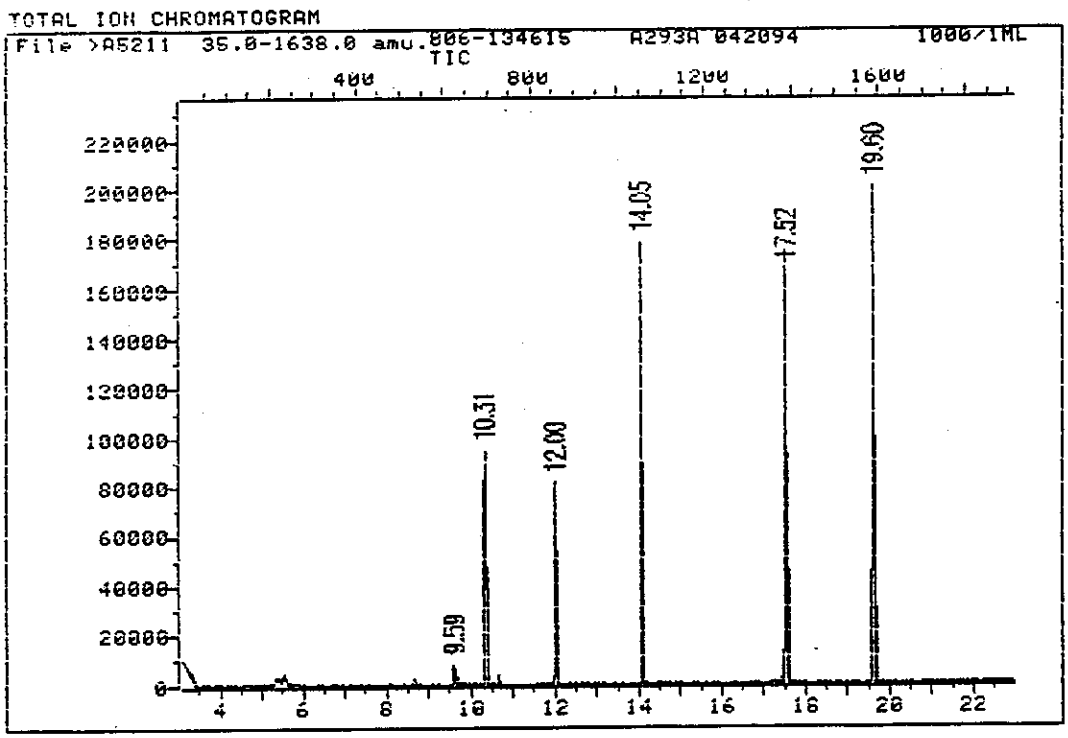
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134615
Client Sample ID: 3420J (TOTAL)

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4



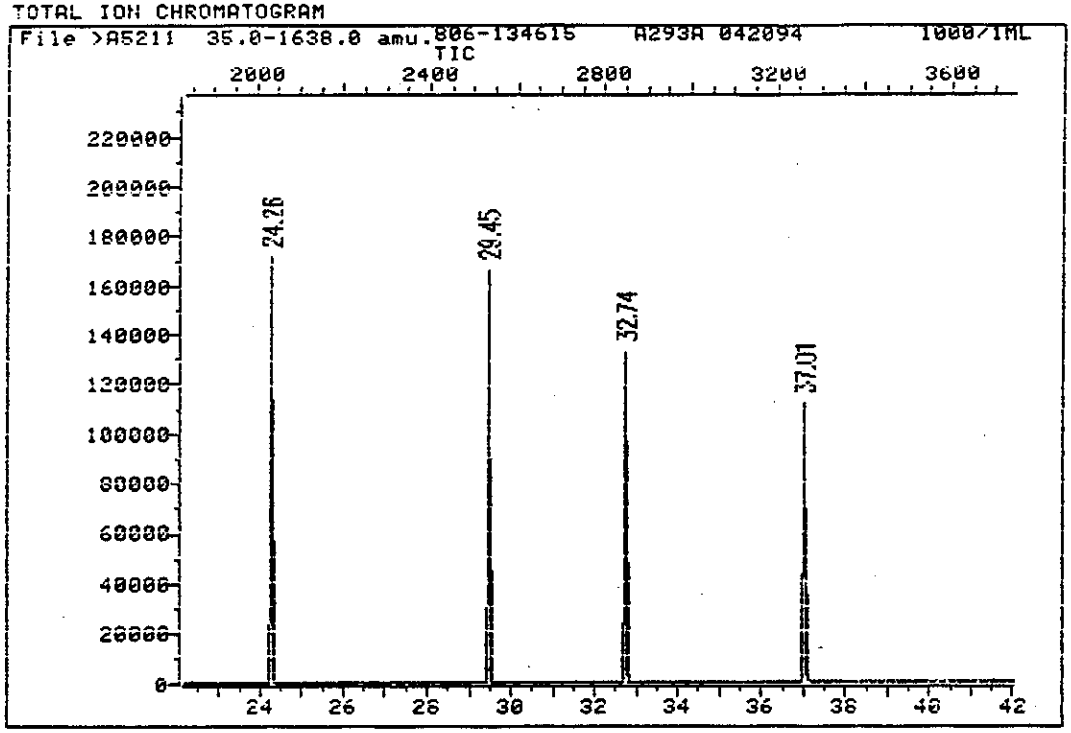
Data File: >A5211::E2 Quant Output File: ^A5211::D5
Name: 806-134615 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 2

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 10:56
Injected at: 940420 10:11

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5211::E2 Quant Output File: ^A5211::D5
Name: 806-134615 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 2

Id File: lASKNR::D4
Title: SP Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 10:56
Injected at: 940420 10:11

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940420 10:54
Output File: ^A5211::D5 Injected at: 940420 10:11
Data File: >A5211::E2 Dilution Factor: 1.00000
Name: 806-134615 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 2

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	42761	40.00	ug/L	
3)	CS45 D5-Phenol	9.59	99.0	6769	4.16	ug/L	9
15)	*CI40 D8-Naphthalene	14.05	136.0	158551	40.00	ug/L	9
16)	CS20 D5-Nitrobenzene	12.00	82.0	50875	33.79	ug/L	
21)	*CI50 D10-Acenaphthene	19.60	164.0	93309	40.00	ug/L	9
22)	CS25 2-Fluorobiphenyl	17.52	172.0	112225	34.50	ug/L	9
28)	*CI60 D10-Phenanthrene	24.26	188.0	155840	40.00	ug/L	
33)	*CI70 D12-Chrysene	32.74	240.0	128242	40.00	ug/L	9
35)	CS30 D14-Terphenyl	29.45	244.0	144628	42.76	ug/L	8
40)	*CI75 D12-Perylene	37.01	264.0	135175	40.00	ug/L	

* Compound is ISTD

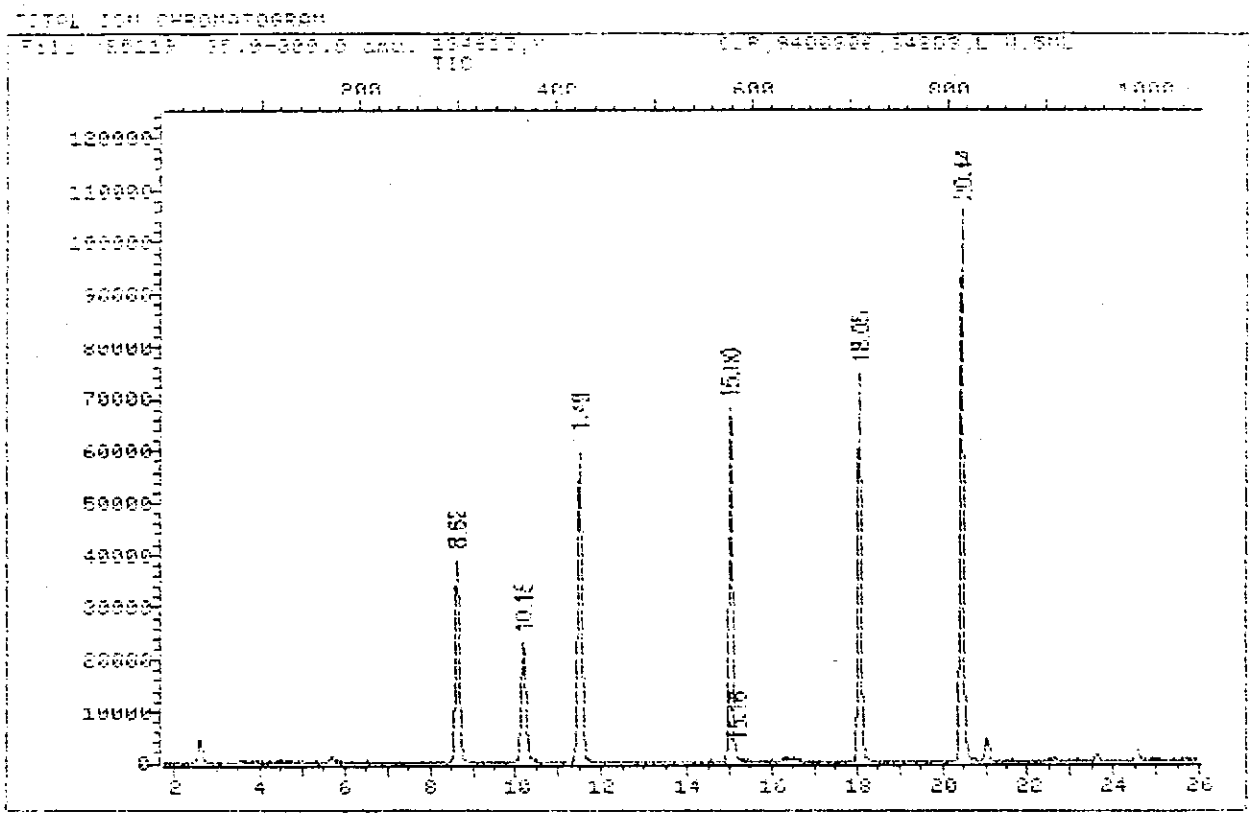
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134615
Client Sample ID: 3420 3 (TOTAL)

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/15/1994	res		193
Toluene	6.0	U	ug/L	6.0	03/15/1994	res		193
Ethylbenzene	6.0	U	ug/L	6.0	03/15/1994	res		193
m+p-Xylenes	5.0	U	ug/L	5.0	03/15/1994	res		193



Data File: >E5119::D6 Quant Output File: ^E5119::D8
Name: 134615,U
Misc: CLP,9400806,342D3,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940315 11:41

Operator ID: RITA
Quant Time: 940316 08:16
Injected at: 940315 19:52

QUANT REPORT

Operator ID: PITA
Output File: E5119::D8
Data File: E5119::D6
Name: 134615,W
Misc: CLP,940806,34203,L,W,5ML

Quant Rev: 6 Quant Time: 940316 08:16
Injected at: 940315 19:52
Dilution Factor: 1.00000

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940315 11:41 ✓

EPA-195

	Compound		R.T.	Q Ion	Area	Conc	Units	Q
1)	*CI01 Bromochloromethane	IS-1	8.62	128.0	36042	50.00	UG/L	
13)	CS15 D4-1,2-Dichloroethane	SS1	10.18	65.0	74084	46.50	UG/L	86
16)	*CI10 1,4-Difluorobenzene	IS-2	11.49	114.0	153867	50.00	UG/L	67
29)	*CI20 D5-Chlorobenzene	IS-3	18.05	117.0	112004	50.00	UG/L	87
~~34) CS20 Toluene~~ LT			19.16	91.0	2411	.94	UG/L	89
35)	CS05 D8-Toluene	SS-2	19.00	98.0	132502	52.80	UG/L	95
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	103434	49.79	UG/L	

* Compound is ISTD

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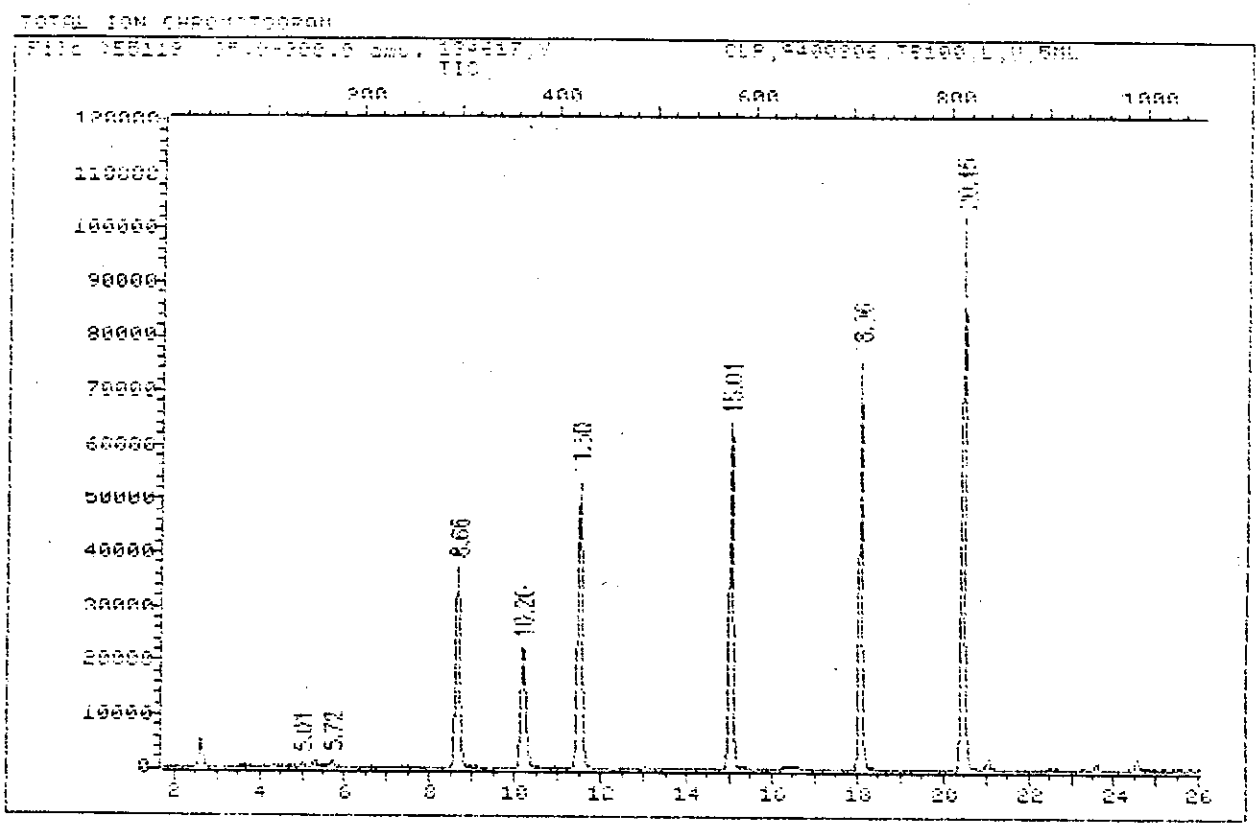
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00806
NET Sample No: 134617
Client Sample ID: TB100

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/15/1994	res		193
Toluene	6.0	U	ug/L	6.0	03/15/1994	res		193
Ethylbenzene	6.0	U	ug/L	6.0	03/15/1994	res		193
m+p-Xylenes	5.0	U	ug/L	5.0	03/15/1994	res		193



Data File: >E5118::D6 Quant Output File: ^E5118::D8
Name: 134617,U
Misc: CLP.9400806,TB100,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940315 11:41

Operator ID: RITA
Quant Time: 940316 08:14
Injected at: 940315 19:15

5E900

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940316 08:14
Output File: ^E5118::D8 Injected at: 940315 19:15
Data File: >E5118::D6 Dilution Factor: 1.00000
Name: 134617,U
Misc: CLP,9400806,T8100,L,W,5ML

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940315 11:41

		Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01	Bromochloromethane	IS-1	8.66	128.0	34371	50.00	UG/L	87
6)	C030	Methylene Chloride		5.72	84.0	1539	1.66	UG/L	81
7	C035	Acetone		5.01	43.0	3119	23.09	UG/L	72
13	CS15	D4-1,2-Dichloroethane	SS1	10.20	65.0	72505	47.72	UG/L	83
16)	*CI10	1,4-Difluorobenzene	IS-2	11.50	114.0	141756	50.00	UG/L	68
29)	*CI20	D5-Chlorobenzene	IS-3	18.06	117.0	109146	50.00	UG/L	94
35)	CS05	D8-Toluene	SS-2	15.01	98.0	125949	51.50	UG/L	87
42)	CS10	Bromofluorobenzene	SS-3	20.45	95.0	106622	52.67	UG/L	97

* Compound is ISTD

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NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

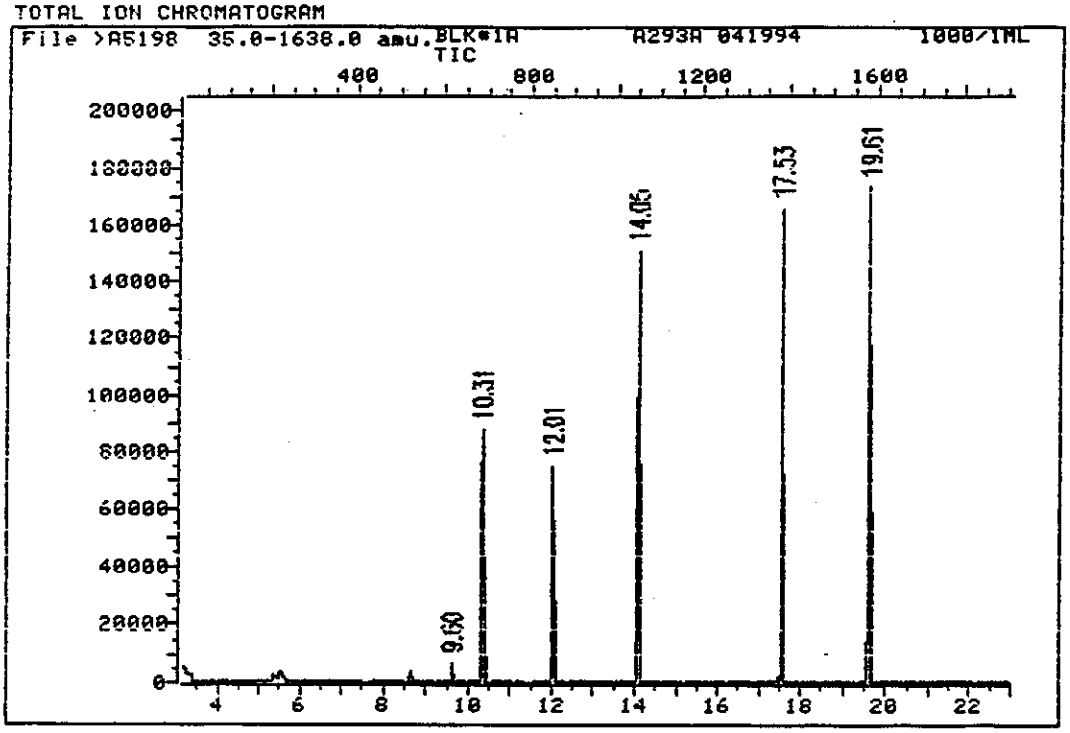
CLIENT ENSR Consulting

REPORT # 94.00806

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>A5198	04/19/94	BN	Aq	---	No Targets Found	NA	ug/L	NA

COMMENTS:

TOTAL ION CHROMATOGRAM



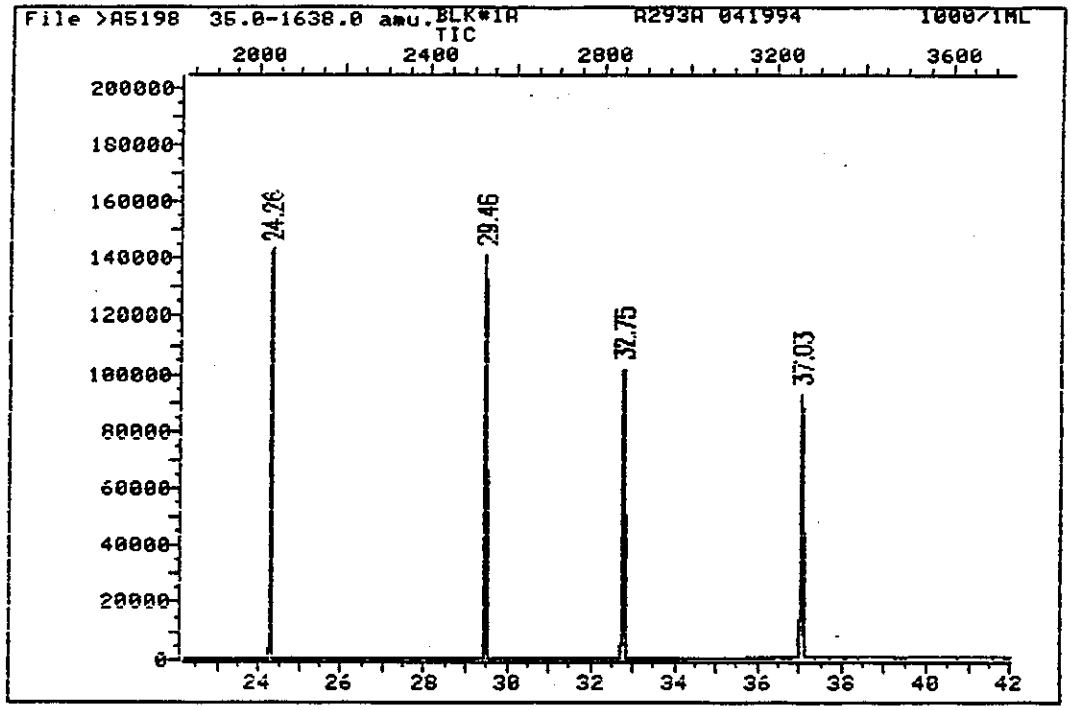
Data File: >A5198::E2 Quant Output File: ^A5198::D5
Name: BLK#1A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 3

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 13:09
Injected at: 940419 12:24

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5198::E2 Quant Output File: ^A5198::D5
Name: BLK#1A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 3

Id File: IASKNR::D4
Title: SP Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 13:09
Injected at: 940419 12:24

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 13:09
Output File: ^A5198::D5 Injected at: 940419 12:24
Data File: >A5198::E2 Dilution Factor: 1.00000
Name: BLK#1A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 3

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	39068	40.00	ug/L	3
3)	CS45 D5-Phenol	9.60	99.0	5470	3.68	ug/L	94
15)	*CI40 D8-Naphthalene	14.05	136.0	138610	40.00	ug/L	94
16)	CS20 D5-Nitrobenzene	12.01	82.0	46087	35.02	ug/L	0
21)	*CI50 D10-Acenaphthene	19.61	164.0	82017	40.00	ug/L	96
22)	CS25 2-Fluorobiphenyl	17.53	172.0	102926	36.00	ug/L	96
28)	*CI60 D10-Phenanthrene	24.26	188.0	131739	40.00	ug/L	9
33)	*CI70 D12-Chrysene	32.75	240.0	95721	40.00	ug/L	96
35)	CS30 D14-Terphenyl	29.46	244.0	115439	45.73	ug/L	86
40)	*CI75 D12-Perylene	37.03	264.0	109383	40.00	ug/L	3

* Compound is ISTD

JCB

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

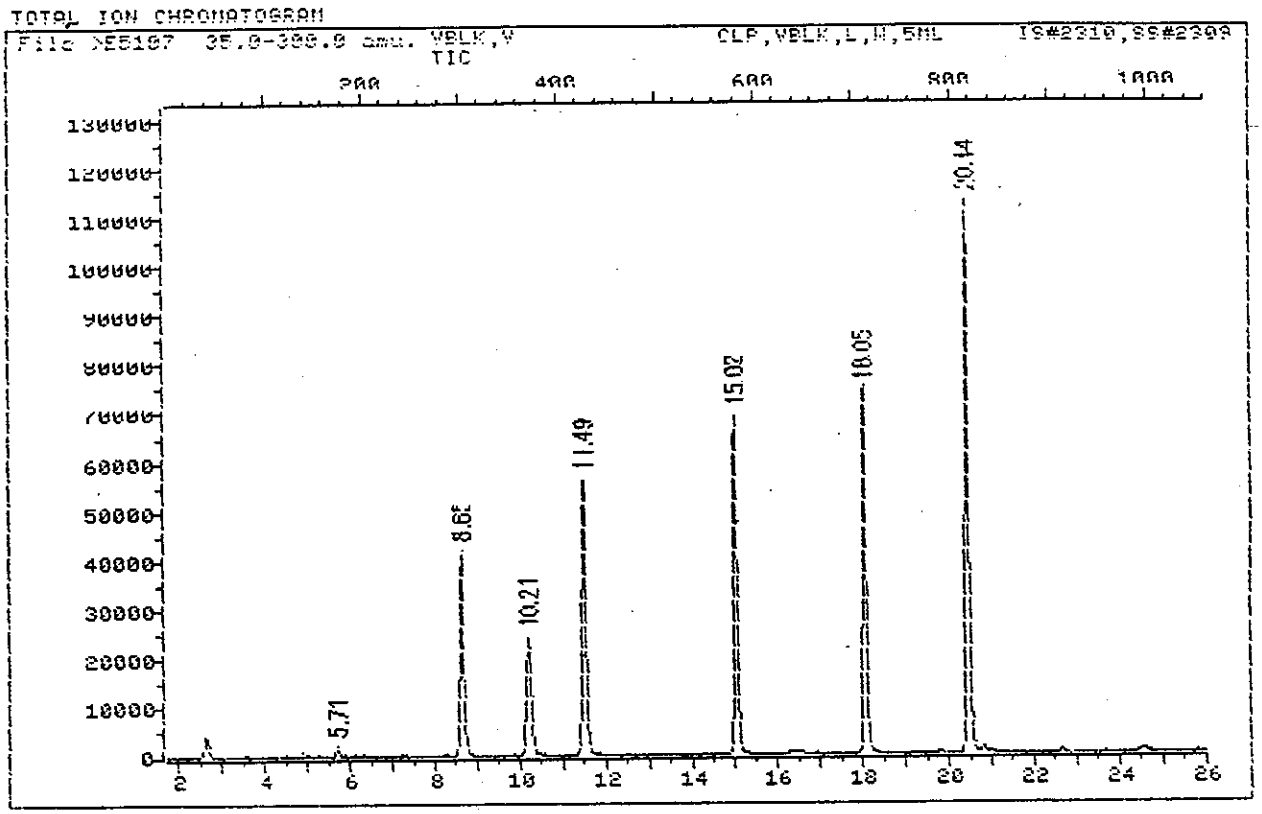
CLIENT ENSR Consulting

REPORT # 94.00806

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>E5107	03/15/94	VOA	Aq	---	No Targets Found	NA	ug/L	NA
>E5141	03/16/94	VOA	Aq	---	No Targets Found	NA	ug/L	NA

COMMENTS: _____

000055



Data File: >E5107::D6 Quant Output File: ^E5107::D8
Name: VBLK,V
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940315 11:41

Operator ID: RITA
Quant Time: 940315 12:19
Injected at: 940315 11:48

QUANT REPORT

Operator ID: RITA
Output File: ^E5107::D8
Data File: >E5107::D6
Name: VBLK,V
Misc: CLP,VBLK,L,W,5ML

Quant Rev: 6
Quant Time: 940315 12:19
Injected at: 940315 11:48
Dilution Factor: 1.00000

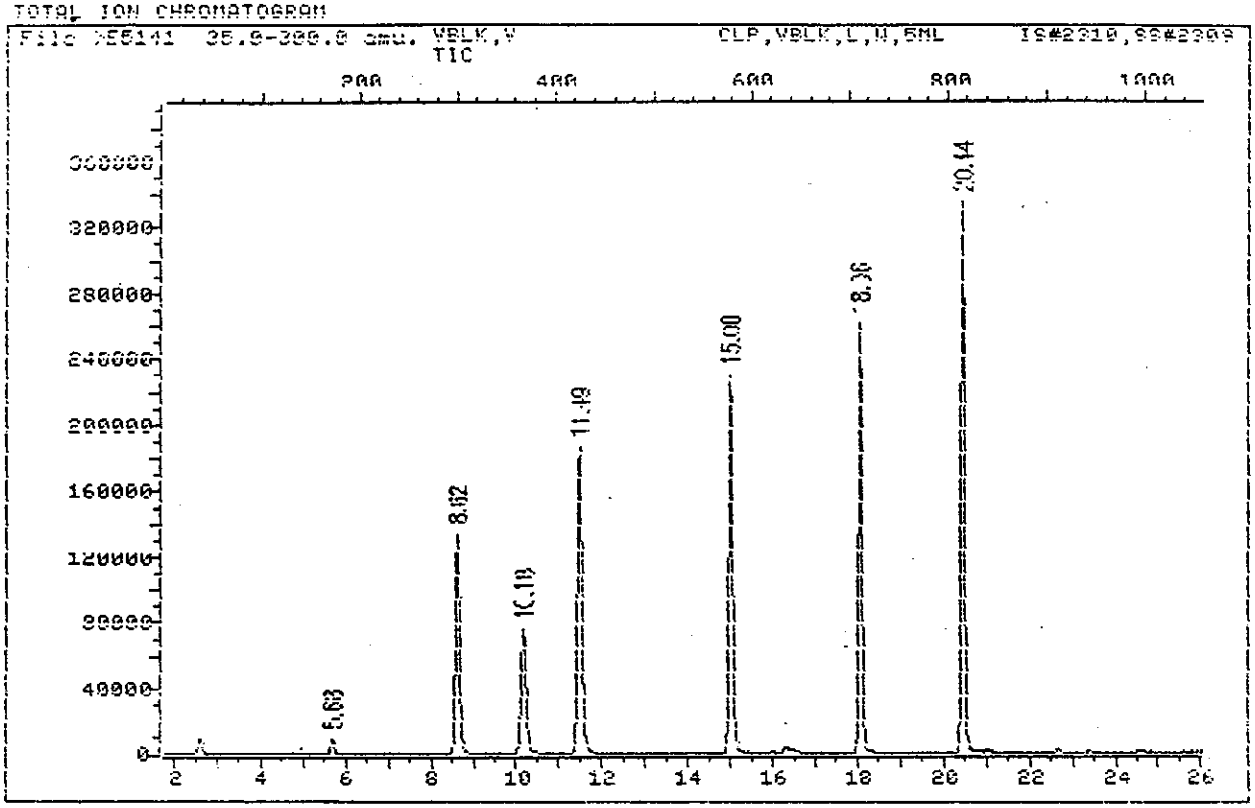
IS#2310,SS#2309

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940315 11:41

	Compound		R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	8.65	128.0	35965M	50.00	UG/L	
6)	C030 Methylene Chloride		5.71	84.0	2448	2.52	UG/L	
13)	CS15 D4-1,2-Dichloroethane	SS1	10.21	65.0	78836	49.59	UG/L	88
16)	*CI10 1,4-Difluorobenzene	IS-2	11.49	114.0	151815	50.00	UG/L	67
29)	*CI20 D5-Chlorobenzene	IS-3	18.05	117.0	116817	50.00	UG/L	
35)	CS05 D8-Toluene	SS-2	15.02	98.0	134862	51.53	UG/L	91
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	109644	50.61	UG/L	89

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >E5141::D7 Quant Output File: ^E5141::D7
Name: VBLK,V
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940316 21:55

Operator ID: RITA
Quant Time: 940317 00:00
Injected at: 940316 23:29

QUANT REPORT

Operator ID: RITA
Output File: ^E5141::D7
Data File: >E5141::D7
Name: VBLK,U
Misc: CLP,VBLK,L,W,5ML

Quant Rev: 6
IS#2310,SS#2309

Quant Time: 940317 00:00
Injected at: 940316 23:29
Dilution Factor: 1.00000

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940316 21:55

	Compound		R.T.	Q ion	Area	Conc	Units	Q
1)	*CI01 Bromochloromethane	IS-1	8.62	128.0	136518	50.00	UG/L	
6)	C030 Methylene Chloride		5.68	84.0	10515	3.58	UG/L	90
13)	CS15 D4-1,2-Dichloroethane	SS1	10.18	65.0	257880	48.17	UG/L	93
16)	*CI10 1,4-Difluorobenzene	IS-2	11.49	114.0	553974	50.00	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.06	117.0	408987	50.00	UG/L	96
35)	CS05 D8-Toluene	SS-2	15.00	98.0	478846	48.96	UG/L	93
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	333539	47.66	UG/L	

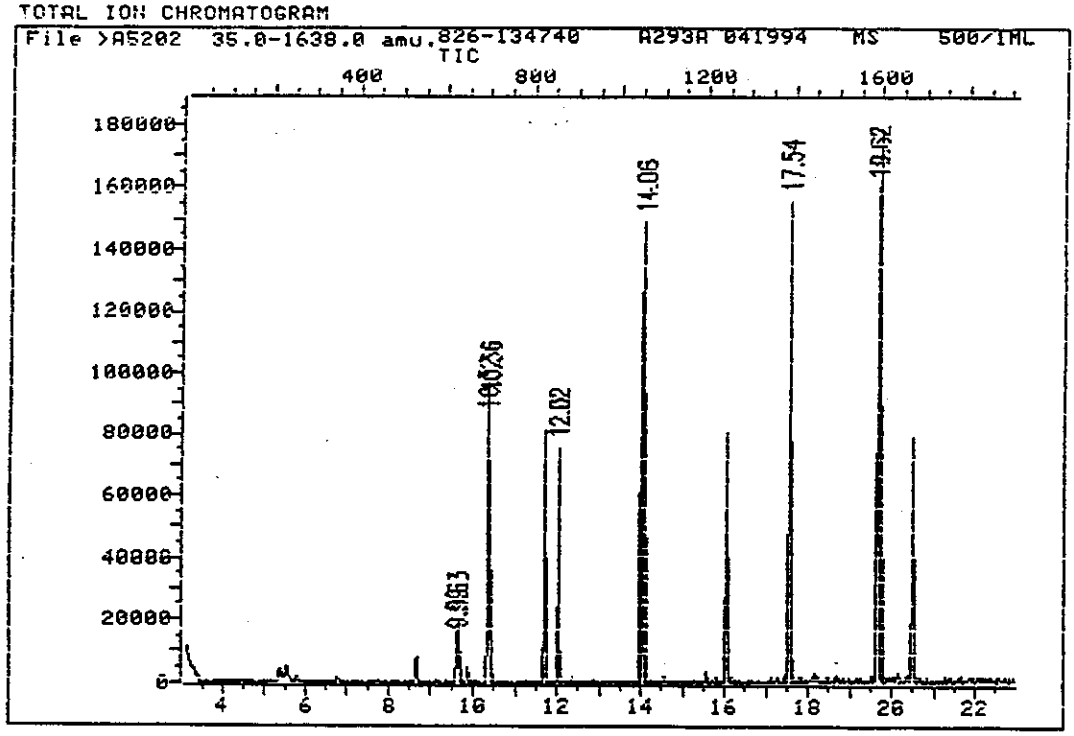
* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: A293A
QC Sample Number: 9400826-134740

Compound Name	Spike Added	Sample Result	MS Conc	Percent Recovery	MSD Conc	Percent Recovery	RPD
1,4-Dichlorobenzene	50	N.D.	33	66.00	31	62.00	6.0
Pyrene	50	N.D.	34	68.00	36	72.00	6.0

TOTAL ION CHROMATOGRAM



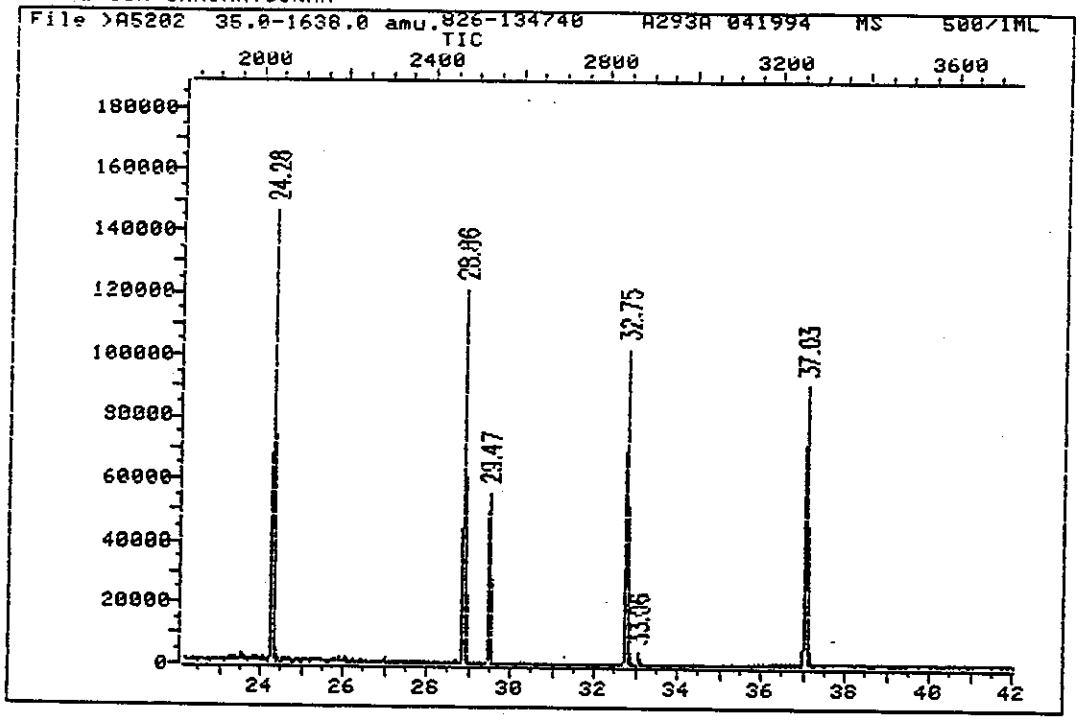
Data File: >A5202::E2 Quant Output File: ^A5202::D5
Name: 826-134740 A293A
Misc: 041994 MS 500/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 16:35
Injected at: 940419 15:50

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5202::E2 Quant Output File: ^A5202::D5
Name: 826-134740 A293A
Misc: 041994 MS 500/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 16:35
Injected at: 940419 15:50

TIC page 2 of 2

QUANT REPORT

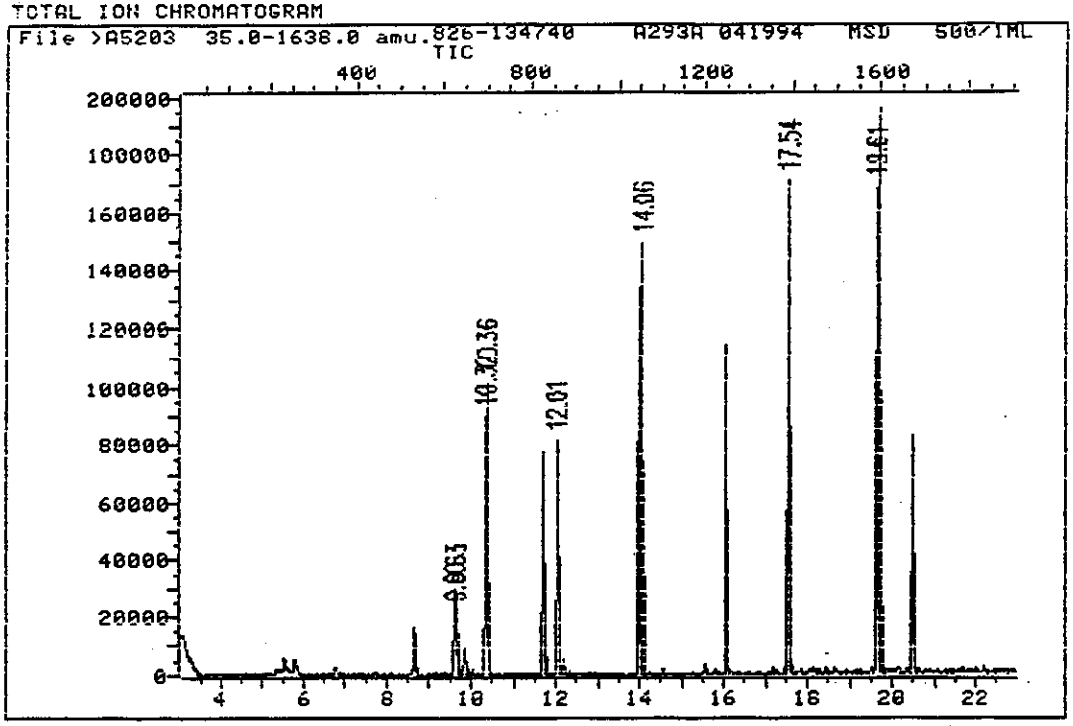
Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 16:35
Output File: ^A5202::D5 Injected at: 940419 15:50
Data File: >A5202::E2 Dilution Factor: 1.00000
Name: 826-134740 A293A
Misc: 041994 MS 500/1ML HP5970 A BTL# 7

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.32	152.0	35799	40.00	ug/L	7
3)	CS45 D5-Phenol	9.59	99.0	10082	7.40	ug/L	98
6)	C315 Phenol	9.63	94.0	10152	11.00	ug/L	94
9)	C340 1,4-Dichlorobenzene	10.36	146.0	51875	33.49	ug/L	96
15)	*CI40 D8-Naphthalene	14.06	136.0	128304	40.00	ug/L	95
16)	CS20 D5-Nitrobenzene	12.02	82.0	46508	38.18	ug/L	94
21)	*CI50 D10-Acenaphthene	19.62	164.0	75617	40.00	ug/L	7
22)	CS25 2-Fluorobiphenyl	17.54	172.0	97760	37.09	ug/L	93
28)	*CI60 D10-Phenanthrene	24.28	188.0	123763	40.00	ug/L	98
33)	*CI70 D12-Chrysene	32.75	240.0	95266	40.00	ug/L	7
34)	C715 Pyrene	28.86	202.0	125287	33.90	ug/L	97
35)	CS30 D14-Terphenyl	29.47	244.0	45055	17.93	ug/L	84
~~39)~~	~~C745 bis(2Ethylhexyl)phthalate~~	33.06	149.0	3013	.94	ug/L	1
40)	*CI75 D12-Perylene	37.03	264.0	109278	40.00	ug/L	93

* Compound is ISTD

TOTAL ION CHROMATOGRAM



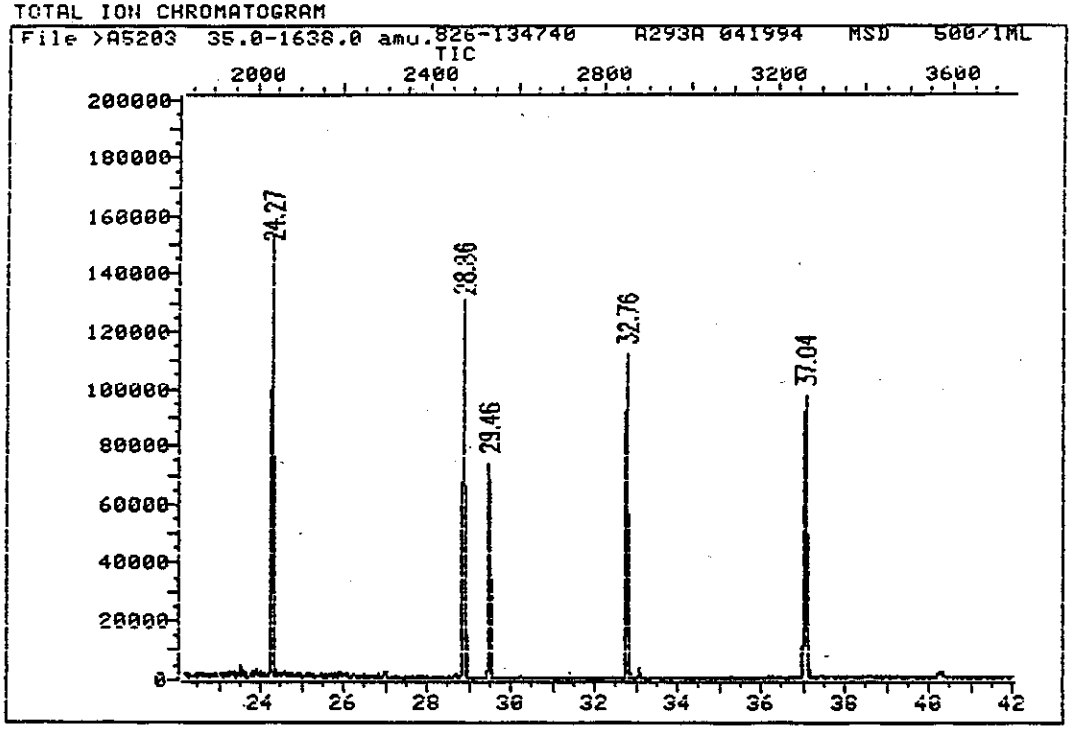
Data File: >A5203::E2 Quant Output File: ^A5203::D5
Name: 826-134740 A293A
Misc: 041994 MSD 500/1ML HP5970 A BTL# 8

Id File: IASKNR::D4
Title: SP Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 17:27
Injected at: 940419 16:42

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5203::E2 Quant Output File: ^A5203::D5
Name: 826-134740 A293A
Misc: 041994 MSD 500/1ML HP5970 A BTL# 8

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 17:27
Injected at: 940419 16:42

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 17:27
Output File: ^A5203::D5 Injected at: 940419 16:42
Data File: >A5203::E2 Dilution Factor: 1.00000
Name: 826-134740 A293A
Misc: 041994 MSD 500/1ML HP5970 A BTL# 8

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.32	152.0	37931	40.00	ug/L	1
3)	CS45 D5-Phenol	9.60	99.0	16697	11.57	ug/L	92
6)	C315 Phenol	9.63	94.0	16133	16.49	ug/L	89
9)	C340 1,4-Dichlorobenzene	10.36	146.0	51112	31.15	ug/L	7
15)	*CI40 D8-Naphthalene	14.06	136.0	136637	40.00	ug/L	96
16)	CS20 D5-Nitrobenzene	12.01	82.0	48029	37.02	ug/L	88
21)	*CI50 D10-Acenaphthene	19.61	164.0	81484	40.00	ug/L	5
22)	CS25 2-Fluorobiphenyl	17.54	172.0	102938	36.24	ug/L	93
28)	*CI60 D10-Phenanthrene	24.27	188.0	134728	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.76	240.0	103062	40.00	ug/L	7
34)	C715 Pyrene	28.86	202.0	142542	35.65	ug/L	94
35)	CS30 D14-Terphenyl	29.46	244.0	61488	22.62	ug/L	85
40)	*CI75 D12-Perylene	37.04	264.0	119440	40.00	ug/L	0

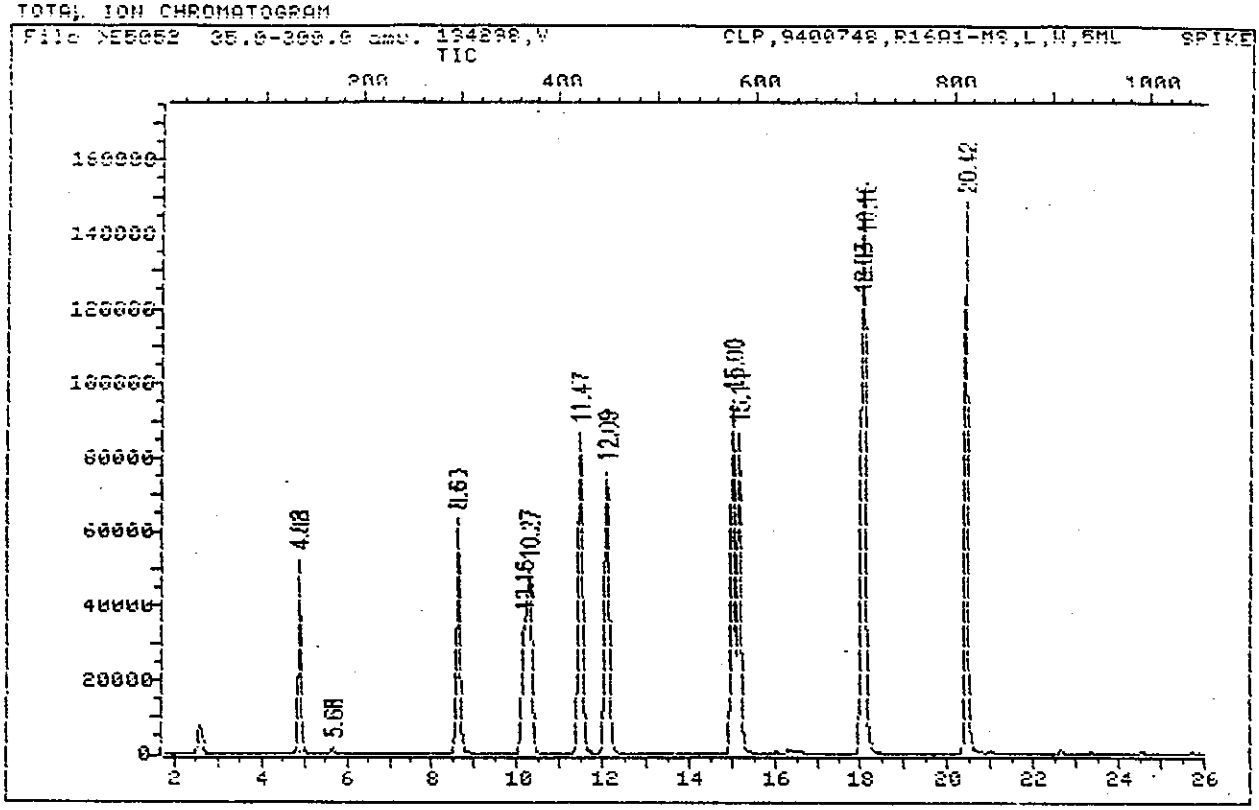
* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: EAQ-195
QC Sample Number: 9400748.134298

Compound Name	Spike Added	Sample Result	MS Conc	Percent Recovery	MSD Conc	Percent Recovery	RPD
1,1-Dichloroethene	50	N.D.	40	80.00	46	92.00	14
Trichloroethene	50	N.D.	46	91.00	50	100.00	9.0
Benzene	50	N.D.	46	92.00	51	102.00	10
Toluene	50	N.D.	47	94.00	52	105.00	11
Chlorobenzene	50	N.D.	45	91.00	51	102.00	11

TOTAL ION CHROMATOGRAM



Data File: >E5052::D6 Quant Output File: ^E5052::D8
Name: 134298,V
Misc: CLP,9400748,R16A1-MS,L,W,5ML SPIKE#2322

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940311 10:18

Operator ID: RITA
Quant Time: 940311 17:07
Injected at: 940311 16:36

E16A1+QCMS 3.04.94

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940311 17:07
Output File: ^E5052::D8 Injected at: 940311 16:36
Data File: >E5052::D6 Dilution Factor: 1.00000
Name: 134298,U
Misc: CLP,9400748,R16A1-MS,L,W,5ML SPIKE#2322

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940311 10:18 ✓

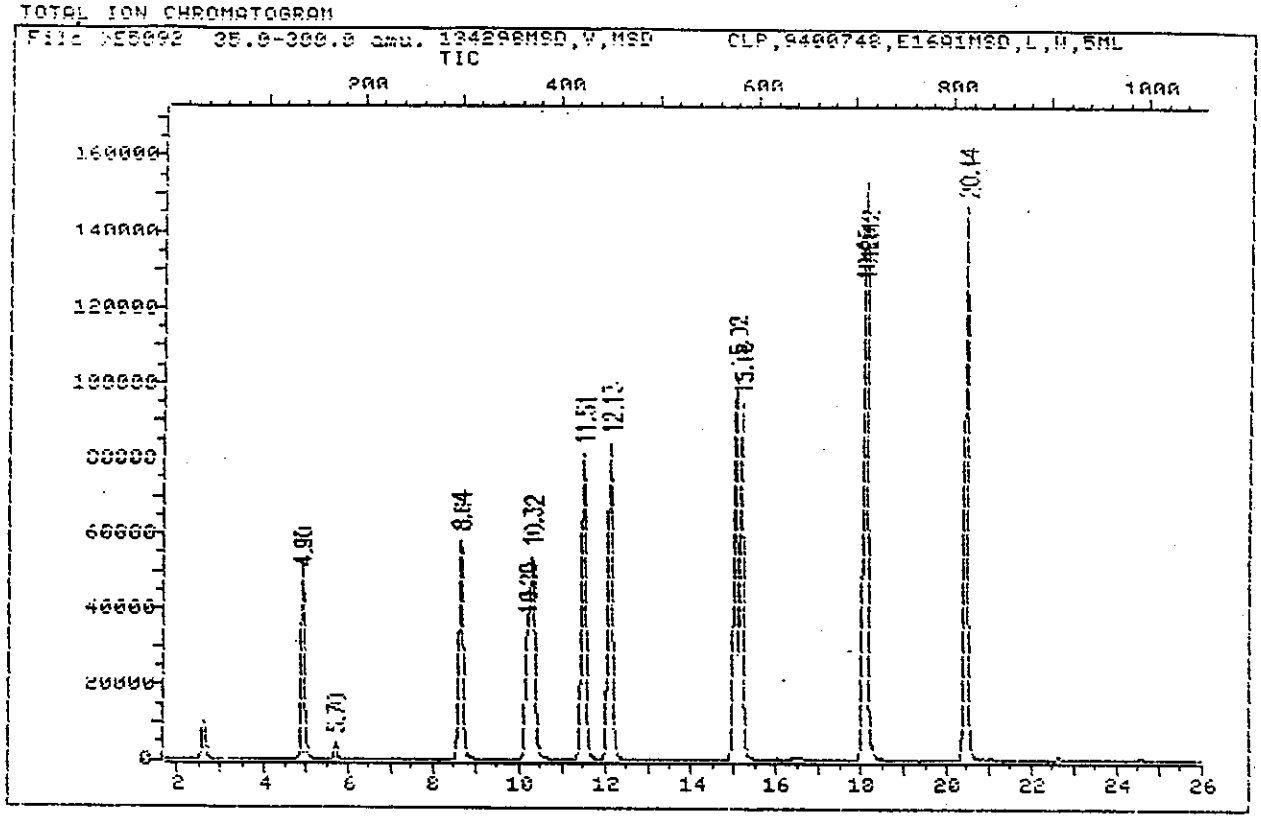
EAQ-195

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.60	128.0	62944	50.00	UG/L	
6)	C030 Methylene Chloride B=3		5.68	84.0	1446	1.12	UG/L	89
9)	C045 1,1-Dichloroethene		4.88	96.0	48105	40.02	UG/L	92
13)	CS15 D4-1,2-Dichloroethane	SS1	10.16	65.0	110165	45.01	UG/L	
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	239343	50.00	UG/L	89
23)	C150 Trichloroethene		12.09	130.0	90084	45.55	UG/L	95
26)	C165 Benzene		10.27	78.0	140976	46.04	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.03	117.0	183656	50.00	UG/L	93
34)	C230 Toluene		15.14	91.0	179703	47.10	UG/L	94
35)	CS05 D8-Toluene	SS-2	15.00	98.0	190138	46.75	UG/L	
36)	C235 Chlorobenzene		18.10	112.0	149274	45.42	UG/L	92
42)	CS10 Bromofluorobenzene	SS-3	20.42	95.0	142912	49.00	UG/L	90

* Compound is ISTD

JB

TOTAL ION CHROMATOGRAM



Data File: >E5092::D5 Quant Output File: ^E5092::D8
Name: 134298MSD,V,MSD
Misc: CLP,9400748,E16A1MSD,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940314 09:55

Operator ID: RITA
Quant Time: 940314 14:10
Injected at: 940314 13:39

E16A1+QCMSD 3.04.94 QUANT REPORT

Operator ID: RITA
Output File: ^E5092::D8
Data File: >E5092::D5
Name: 134298MSD,U,MSD
Misc: CLP,9400748,E16A1MSD,L,W,5ML

Quant Rev: 6
Quant Time: 940314 14:10
Injected at: 940314 13:39
Dilution Factor: 1.00000

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940314 09:55

EAQ-195

		Compound	OB	R.T.	Q ion	Area	Conc	Units	
1)	*CI01	Bromochloromethane	IS-1	8.64	128.0	55602	50.00	UG/L	91
6)	C030	Methylene Chloride		5.70	84.0	5173	3.14	UG/L	
9)	C045	1,1-Dichloroethene		4.90	96.0	52580	46.16	UG/L	88
13)	CS15	D4-1,2-Dichloroethane	SS1	10.20	65.0	111425	51.77	UG/L	88
16)	*CI10	1,4-Difluorobenzene	IS-2	11.51	114.0	231859	50.00	UG/L	
23)	C150	Trichloroethene		12.13	130.0	97331	49.94	UG/L	92
26)	C165	Benzene		10.32	78.0	158018	50.98	UG/L	91
29)	*CI20	D5-Chlorobenzene	IS-3	18.05	117.0	174580	50.00	UG/L	
34)	C230	Toluene		15.16	91.0	200111	52.42	UG/L	89
35)	CS05	D8-Toluene	SS-2	15.02	98.0	204173	51.79	UG/L	96
36)	C235	Chlorobenzene		18.12	112.0	163049	50.88	UG/L	
42)	CS10	Bromofluorobenzene	SS-3	20.44	95.0	142681	50.84	UG/L	95

* Compound is ISTD

JCB

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00806

External Standard Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Ext. Std. True Conc.	Units	Conc. Found	% Recovery
Alkalinity		32	03/08/1994	19.94	ppmCaCO	20.8	104.3
Alkalinity		32	03/13/1994	19.94	ppmCaCO	18.8	94.3
Alkalinity, Bicarb. at pH 4.		13	12/02/1993	20.7	ppmCaCO	20.4	98.6
Alkalinity, Bicarb. at pH 4.		13	03/13/1994	19.94	ppmCaCO	18.8	94.3
Ammonia		276	03/15/1994	0.74	mg/L N	0.74	100.0
Ammonia		276	03/15/1994	0.74	mg/L N	0.75	101.4
Ammonia		276	03/16/1994	0.74	mg/L N	0.75	101.4
Ammonia		276	03/16/1994	0.74	mg/L N	0.76	102.7
Ammonia		276	03/17/1994	0.74	mg/L N	0.74	100.0
Ammonia		276	03/17/1994	0.74	mg/L N	0.70	94.6
Chloride		161	03/22/1994	109.64	mg/L	115	104.9
Chloride		161	03/29/1994	87.16	mg/L	92.6	106.2
Chloride		161	03/31/1994	87.164	mg/L	86.93	99.7
Chloride		162	03/31/1994	87.164	mg/L	86.93	99.7
Chloride		162	04/04/1994	87.16	mg/L	88.39	101.4
Conductivity		78	03/08/1994	100	umhos/c	102	102.0
Conductivity		78	03/09/1994	100	umhos/c	100	100.0
Conductivity		78	03/10/1994	100	umhos/c	98	98.0
Conductivity		78	03/11/1994	100	umhos/c	99	99.0
Conductivity		78	03/14/1994	100	umhos/c	100	100.0
Fluoride, Total		70	03/07/1994	5.34	mg/L	5.80	108.6
Fluoride, Total		70	03/15/1994	5.34	mg/L	5.44	101.9
Fluoride, Total		70	03/24/1994	5.34	mg/L	5.26	98.5
Fluoride, Total		70	03/25/1994	5.34	mg/L	5.45	102.1
Nitrate/nitrite		36	03/21/1994	1.21	mg/L N	1.21	100.0
Nitrate/nitrite		36	03/21/1994	1.21	mg/L N	1.22	100.8
Solids, dissolved (TDS)		506	03/11/1994	1110	mg/L	1078	97.1
Solids, dissolved (TDS)		506	03/14/1994	1110	mg/L	1026	92.4
Sulfate		135	03/22/1994	45.08	mg/L	40.8	90.5
Sulfate		135	03/30/1994	39.13	mg/L	43.21	110.4
Total Organic Carbon		623	03/15/1994	105.6	mg/L	100.5	95.2
Total Organic Carbon		623	03/16/1994	105.6	mg/L	102.5	97.1
Total Organic Carbon		623	03/17/1994	105.6	mg/L	105.2	99.6

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00806

Blank Analysis

Parameter		Prep Batch	Run Batch	Date Analyzed	MDL	Units	Blank Result
Alkalinity			32	03/08/1994	2.0	ppmCaC	<2
Alkalinity			32	03/13/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.			13	11/22/1993		ppmCaC	<2
Alkalinity, Bicarb. at pH 4.			13	12/02/1993		ppmCaC	<2
Alkalinity, Bicarb. at pH 4.			13	03/13/1994	2.0	ppmCaC	<2
Ammonia			276	03/15/1994	0.1	mg/L N	<0.1
Ammonia			276	03/16/1994	0.1	mg/L N	<0.1
Ammonia			276	03/17/1994	0.1	mg/L N	<0.1
Chloride			161	03/22/1994	2.0	mg/L	<2
Chloride			161	03/29/1994	2.0	mg/L	<2
Chloride			161	03/31/1994	2.0	mg/L	<2
Chloride			162	03/31/1994	2.0	mg/L	<2
Chloride			162	04/04/1994	2.0	mg/L	<2
Conductivity			78	03/08/1994	1	umhos/	<1
Conductivity			78	03/09/1994	1	umhos/	<1
Conductivity			78	03/10/1994	1	umhos/	<1
Conductivity			78	03/11/1994	1	umhos/	<1
Conductivity			78	03/14/1994	1	umhos/	<1
Fluoride, Total			70	03/07/1994	0.1	mg/L	<0.1
Fluoride, Total			70	03/15/1994	0.1	mg/L	<0.1
Fluoride, Total			70	03/24/1994	0.1	mg/L	<0.1
Fluoride, Total			70	03/25/1994	0.1	mg/L	<0.1
Nitrate/nitrite			36	03/21/1994	0.1	mg/L N	<0.1
Solids, dissolved (TDS)			506	03/11/1994	<1.0	mg/L	10
Solids, dissolved (TDS)			506	03/14/1994	<1.0	mg/L	<1
Sulfate			135	03/22/1994	5	mg/L	<10
Sulfate			135	03/30/1994	5	mg/L	<10
Sulfide			33	03/09/1994	0.1	mg/L	<0.1
Sulfide			33	03/17/1994	0.1	mg/L	<0.1
Total Organic Carbon			623	03/15/1994	1.0	mg/L	<1
Total Organic Carbon			623	03/16/1994	1.0	mg/L	<1
Total Organic Carbon			623	03/17/1994	1.0	mg/L	<1
Arsenic (As)	200 GFAA	654	311	04/05/1994	0.01	mg/L	<0.003
Cobalt (Co)	200 ICP	654	427	03/31/1994	0.05	mg/L	<0.01
Iron (Fe)	200 ICP	654	348	03/31/1994	0.1	mg/L	<0.05
Lead (Pb)	200 GFAA	654	378	03/23/1994	.003	mg/L	0.003
Manganese (Mn)	200 ICP	654	427	03/31/1994	0.01	mg/L	<0.01

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00806

Duplicate Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Sample Result	Duplicate Result	RPD
Alkalinity		32	03/08/1994	2.0	ppmCaC	<2	<2	
Ammonia		276	03/15/1994		mg/L N	27.7	27.5	0.7
Chloride		161	03/22/1994	2.0	mg/L	2360	2380	0.8
Chloride		162	03/31/1994	2.0	mg/L	54	52	3.8
Conductivity		78	03/08/1994		umhos/	639	654	2.3
Fluoride, Total		70	03/07/1994	0.1	mg/L	<0.1	<0.1	
Nitrate/nitrite		36	03/21/1994		mg/L N	<0.1	<0.1	
Solids, dissolved (TDS)		506	03/11/1994	<1.0	mg/L	130	172	27.8
Sulfate		135	03/22/1994	5	mg/L	37	40	7.8
Sulfide		33	03/09/1994	0.1	mg/L	1.04	1.04	0.0
Total Organic Carbon		623	03/15/1994	1.0	mg/L	10.4	10.1	2.9
Arsenic (As)	200 GFAA 654	311	04/05/1994	0.01	mg/L	0.021	0.021	0.0
Cobalt (Co)	200 ICP	434	04/06/1994	0.05	mg/L	0.014	0.011	24.0
Iron (Fe)	200 ICP	355	04/06/1994	0.1	mg/L	59.2	57.5	2.9
Lead (Pb)	200 GFAA 654	382	04/04/1994	.003	mg/L	0.038	0.034	11.1
Manganese (Mn)	200 ICP	434	04/06/1994	0.01	mg/L	0.89	0.88	1.1

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00806

Spiked Sample Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Units	Spiked Sample Result	% Recovery
Alkalinity		32	03/08/1994	47.50	<2	ppmCaC	49.6	104.4
Ammonia		276	03/15/1994	25.0	27.7	mg/L N	52.7	100.0
Chloride		161	03/22/1994	500.0	2360	mg/L	2840	96.0
Chloride		162	03/31/1994	50.0	54	mg/L	104	100.0
Fluoride, Total		70	03/07/1994	5.0	<0.1	mg/L	5.04	100.8
Nitrate/nitrite		36	03/21/1994	1.0	<0.1	mg/L N	1.0	100.0
Sulfate		135	03/22/1994	20.0	37	mg/L	64	135.0
Total Organic Carbon		623	03/15/1994	5.0	10.4	mg/L	14.6	84.0
Arsenic (As)	200 G 654	311	04/05/1994	0.04	0.021	mg/L	0.049	70.0
Cobalt (Co)	200	434	04/06/1994	0.5	0.014	mg/L	0.495	96.2
Iron (Fe)	200	355	04/06/1994	0	59.2	mg/L	0	0
Lead (Pb)	200 G 654	382	04/04/1994	0.02	0.038	mg/L	0.049	55.0
Manganese (Mn)	200	434	04/06/1994	0.5	0.89	mg/L	1.36	94.0

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00806

Laboratory Control Sample (LCS) Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Units	Amount Found	% Recovery
Alkalinity		32	03/08/1994	475.0	ppmCaC	466	98.1
Alkalinity		32	03/13/1994	475.0	ppmCaC	468	98.5
Alkalinity, Bicarb. at p		13	12/02/1993	1	ppmCaC	475	47500
Alkalinity, Bicarb. at p		13	03/13/1994	475	ppmCaC	468	98.5
Ammonia		276	03/15/1994	3.0	mg/L N	2.93	97.7
Ammonia		276	03/16/1994	3.0	mg/L N	2.99	99.7
Ammonia		276	03/17/1994	3.0	mg/L N	2.99	99.7
Chloride		161	03/22/1994	1000	mg/L	1078	107.8
Chloride		161	03/29/1994	1000	mg/L	1002	100.2
Chloride		161	03/31/1994	1000	mg/L	998	99.8
Chloride		162	03/31/1994	1000	mg/L	998	99.8
Chloride		162	04/04/1994	1000	mg/L	1002	100.2
Conductivity		78	03/08/1994	104.5	umhos/	105.2	100.7
Conductivity		78	03/09/1994	104.5	umhos/	103.9	99.4
Conductivity		78	03/10/1994	104.5	umhos/	103	98.6
Conductivity		78	03/11/1994	104.5	umhos/	105.5	101.0
Conductivity		78	03/14/1994	104.5	umhos/	106.5	101.9
Fluoride, Total		70	03/07/1994	10.0	mg/L	10.21	102.1
Fluoride, Total		70	03/15/1994	10.0	mg/L	10.43	104.3
Fluoride, Total		70	03/24/1994	10.0	mg/L	10.53	105.3
Nitrate/nitrite		36	03/21/1994	2.0	mg/L N	2.00	100.0
Sulfate		135	03/22/1994	40.0	mg/L	39.8	99.5
Sulfate		135	03/30/1994	40.0	mg/L	39.7	99.3
Total Organic Carbon		623	03/15/1994	10.0	mg/L	9.87	98.7
Total Organic Carbon		623	03/16/1994	10.0	mg/L	10.09	100.9
Total Organic Carbon		623	03/17/1994	10.0	mg/L	10.21	102.1
Arsenic (As)	200 G 654	311	04/05/1994	0.05	mg/L	0.050	100.0
Cobalt (Co)	200 654	427	03/31/1994	1.0	mg/L	1.04	104.0
Iron (Fe)	200 654	348	03/31/1994	1.0	mg/L	1.02	102.0
Lead (Pb)	200 G 654	378	03/23/1994	0.05	mg/L	0.051	102.0
Manganese (Mn)	200 654	427	03/31/1994	1.0	mg/L	1.00	100.0

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/18/94 18:14
Data File: >A5189
Scan: 826

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.01	57.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	74.71	74.71	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	43.56	43.56	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.89	6.89	Ok
275	10-30% of mass 198	19.73	19.73	Ok
365	Greater than 1% of mass 198	2.11	2.11	Ok
441	Less than mass 443	9.17	76.29	Ok
442	Greater than 40% of mass 198	64.11	64.11	Ok
443	17-23% of mass 442	12.02	18.74	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
>A5190	50PPB #3370	4/19/94	18:54
>A5191	20PPB #3371		19:47
>A5192	160PPB #3367		20:41
>A5193	120PPB #3368		21:35
>A5194	80PPB #3369		22:28

000077

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/19/94 10:12
Data File: >A5195
Scan: 828

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	51.11	51.11	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	60.87	60.87	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.36	40.36	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.89	6.89	Ok
275	10-30% of mass 198	20.56	20.56	Ok
365	Greater than 1% of mass 198	2.59	2.59	Ok
441	Less than mass 443	11.98	84.76	Ok
442	Greater than 40% of mass 198	77.33	77.33	Ok
443	17-23% of mass 442	14.13	18.28	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
>A5196	50PPB #3370	4/19/94	10:35
>A5197	QCSpK A293A		11:32
>A5198	BLK#1A		12:29
>A5199	BLK#2A		13:15
>A5200	BLK#3A		14:07
>A5201	BLK#4A		14:58
>A5202	134740MS - 9400826		15:50
>A5203	134740 MSD-9400826		16:42
>A5206	134613 -9400806		19:16
>A5207	00826-134736		20:07
>A5208	00826-134738		20:59
>A5211	9400806-134615	4-20-94	10:11
>A5212	9400806-134611		11:08

000078

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E4787 BFB Injection Date: 2/28/94

Instrument ID: 70 1 BFB Injection Time: 2/28/94 9:25

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	21.6	
75	30.0 - 66.0% OF MASS 95	52.0	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	6.7	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	81.8(	
175	4.0 - 9.0% of mass 174	6.1	7.5)1
176	93.0 - 101% of mass 174	79.9	92.7)1
177	5.0 - 9.0% of mass 176	6.2	7.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: MSR Forms - Demo Contract:

Lab code: HPMSR Case No.: SAS No.: SDG No.:

Lab File ID: >E4787 BFB Injection Date: 2/28/94

Instrument ID: HP5970 BFB Injection Time: 9:25

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.6
75	30.0 - 60.0% of mass 95	52.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50% of mass 95	81.8
175	5.0 - 9.0% of mass 174	6.1 (7.5)1
176	95.0 - 101.0% of mass 174	79.9 (97.7)1
177	5.0 - 9.0% of mass 176	6.2 (7.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	100 PPB ST	100 PPB #231	>E4789	02/28/94	11:26
02	20 PPB ST	20 PPB #231	>E4790	02/28/94	12:06
03	50 PPB ST	50 PPB #231	>E4794	02/28/94	15:15
04	10 PPB ST	10 PPB #231	>E4796	02/28/94	16:29
05	200 PPB ST	200 PPB #231	>E4797	02/28/94	17:11
06	VBLK	VBLK	>E4800	02/28/94	19:01
07	9400658	133696	>E4801	02/28/94	19:38
08	9400658	133695	>E4802	02/28/94	20:14
09	9400658	133694	>E4803	02/28/94	20:51
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					000080
21					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5105 BFB Injection Date: 3/15/94

Instrument ID: 70 1 BFB Injection Time: 3/15/94 10:30

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	24.5	
75	30.0 - 66.0% OF MASS 95	54.1	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	7.6	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	90.5(	
175	4.0 - 9.0% of mass 174	4.5	4.9)1
176	93.0 - 101% of mass 174	87.0	96.1)1
177	5.0 - 9.0% of mass 176	5.4	6.2)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5105 BFB Injection Date: 3/15/94

Instrument ID: HP5970 BFB Injection Time: 10:30

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	24.5
75	30.0 - 66.0% of mass 95	54.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50-120% of mass 95	90.5
175	4.0 - 9.0% of mass 174	4.5 (4.9)1
176	93.0 - 101.0% of mass 174	87.0 (96.1)1
177	5.0 - 9.0% of mass 176	5.4 (6.2)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB STD	50 STD#2312	>E5106	03/15/94	10:51
02	VBLK	VBLK	>E5107	03/15/94	11:48
03	134486	00780	>E5108	03/15/94	13:05
04	134470	00780	>E5109	03/15/94	13:41
05	134471	00780	>E5110	03/15/94	14:18
06	134472	00780	>E5112	03/15/94	15:34
07	134475	00780	>E5113	03/15/94	16:11
08	134476	00780	>E5114	03/15/94	16:49
09	134477	00780	>E5115	03/15/94	17:25
10	134478	00780	>E5116	03/15/94	18:02
11	134479	00780	>E5117	03/15/94	18:39
12	134617	00806	>E5118	03/15/94	19:15
13	134615	00806	>E5119	03/15/94	19:52
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Name: NET ATLANTIC

File ID: >E5124 BFB Injection Date: 3/16/94

strument ID: 70 1 BFB Injection Time: 3/16/94 10:08

trix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	25.2	
75	30.0 - 66.0% OF MASS 95	61.4	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	8.3	
173	Less than 2.0% of mass 174	.7	.8)1
174	50.0 - 120.0% of mass 95	90.5(	
175	4.0 - 9.0% of mass 174	7.1	7.9)1
176	93.0 - 101% of mass 174	87.0	96.1)1
177	5.0 - 9.0% of mass 176	5.5	6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03		Lab			
04					
05					
06		Next			
07					
08					
09		Prep			
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

:P
DU,MAR16E,1

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5124 BFB Injection Date: 3/16/94

Instrument ID: HP5970 BFB Injection Time: 10:06

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	25.2
75	30.0 - 66.0% of mass 95	61.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.3
173	Less than 2.0% of mass 174	.7 (.8)1
174	50-120% of mass 95	90.5
175	4.0 - 9.0% of mass 174	7.1 (7.9)1
176	93.0 - 101.0% of mass 174	87.0 (96.1)1
177	5.0 - 9.0% of mass 176	5.5 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB STD	50 STD#2312	>E5126	03/16/94	11:28
02	10 PPB STD	10 STD#2312	>E5127	03/16/94	12:07
03	100 PPB ST	100 STD2312	>E5128	03/16/94	12:49
04	20 PPB STD	20 STD#2312	>E5130	03/16/94	14:03
05	200 PPB ST	200 STD#2312	>E5131	03/16/94	14:52
06	VBLK	VBLK	>E5133	03/16/94	17:03
07	134468	00780	>E5134	03/16/94	17:40
08	134489	00783	>E5135	03/16/94	18:17
09	134490	00783	>E5136	03/16/94	18:53
10	134491	00783	>E5137	03/16/94	19:30
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5138 BFB Injection Date: 3/16/94

Instrument ID: 70 1 BFB Injection Time: 3/16/94 20:14

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	23.4	
75	30.0 - 66.0% OF MASS 95	55.8	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	7.5	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	93.6(	
175	4.0 - 9.0% of mass 174	7.9	8.4)1
176	93.0 - 101% of mass 174	90.2	96.4)1
177	5.0 - 9.0% of mass 176	7.1	7.9)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03		bfb			
04					
05					
06		Next			
07					
08					
09		Page			
10					
11					
12					
13					
14					
15					
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17					
18					
19					
20					
21					
22					

FORM V VOA 1/87 Rev.

:OU,UE5138,1

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5138 BFB Injection Date: 3/16/94

Instrument ID: HP5970 BFB Injection Time: 20:14

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	23.4
75	30.0 - 66.0% of mass 95	55.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50-120% of mass 95	93.6
175	4.0 - 9.0% of mass 174	7.9 (8.4)1
176	93.0 - 101.0% of mass 174	90.2 (96.4)1
177	5.0 - 9.0% of mass 176	7.1 (7.9)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB STD	50 STD#2312	>E5139	03/16/94	20:36
02	VBLK	VBLK	>E5141	03/16/94	23:29
03	134595	00801	>E5142	03/17/94	00:06
04	134596	00801	>E5143	03/17/94	00:43
05	134599	00801	>E5144	03/17/94	01:19
06	134600	00801	>E5145	03/17/94	01:56
07	134602	00801	>E5147	03/17/94	03:11
08	134603	00801	>E5148	03/17/94	03:48
09	134604	00801	>E5152	03/17/94	06:16
10	134611	00806	>E5153	03/17/94	06:53
11	134613	00806	>E5154	03/17/94	07:30
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5196
Injection Time: 940419 10:35

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.19071	1.92	Average	
CS45 D5-Phenol	1.52248	1.52020	.15	Average	
C309 Pyridine	1.10561	1.11151	.53	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.40786	.83	Average	
C335 1,3-Dichlorobenzene	1.70502	1.71011	.30	Average	
C340 1,4-Dichlorobenzene	1.73050	1.74607	.90	Average	
C350 1,2-Dichlorobenzene	1.65558	1.67928	1.43	Average	
C349 Indene	2.27085	2.28963	.83	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.08716	.91	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.37428	1.45	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.13186	4.16	Average	
C459 Quinoline	.69188	.70904	2.48	Average	
C471 1-Methylnaphthalene	.70593	.70425	.24	Average	
CS25 2-Fluorobiphenyl	1.39436	1.45984	4.70	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.77931	6.01	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.91166	7.06	Average	
CS55 2,4,6-Tribromophenol	.27799	.31451	13.14	Average	
C640 Phenanthrene	1.10703	1.17621	6.25	Average	
C645 Anthracene	1.06492	1.15285	8.26	Average	
C650 Di-n-butylphthalate	1.68960	1.93877	14.75	Average	
C655 Fluoranthene	1.28823	1.36883	6.26	Average	
C715 Pyrene	1.55165	1.62115	4.48	Average	
CS30 D14-Terphenyl	1.05487	1.06808	1.25	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.94996	1.87	Average	
C730 Benzo(a)anthracene	1.24875	1.28052	2.54	Average	
C740 Chrysene	1.22525	1.27821	4.32	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.37521	2.11	Average	
C759 6-Methyl chrysene	.91148	.91033	.13	Average	
C760 Di-n-octylphthalate	2.02659	2.29613	13.30	Average	
C765 Benzo(b)fluoranthene	1.31752	1.33701	1.48	Average	
C770 Benzo(k)fluoranthene	1.17763	1.18831	.91	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.15338	10.41	Average	
C775 Benzo(a)pyrene	1.10417	1.09765	.59	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5196
Injection Time: 940419 10:35

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.88786	1.62	Average
C785 Dibenz(a,h)anthracene	.96071	.93334	2.85	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: AQUEOUS CLP 10
Calibrated: 940312 11:50

Check Standard Data File: >E5106
Injection Time: 940315 10:51

Compound		$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane		.40802	.45026	10.35	Average	
C015 Bromomethane		1.02239	1.05185	2.88	Average	
C020 Vinyl Chloride		.61521	.62944	2.31	Average	
C025 Chloroethane		.43418	.53005	22.08	Average	
C030 Methylene Chloride		1.17216	1.35087	15.25	Average	
C035 Acetone		.18390	.19625	6.72	Average	
C040 Carbon Disulfide		2.56927	2.72449	6.04	Average	
C045 1,1-Dichloroethene		1.06902	1.12041	4.81	Average	
C050 1,1-Dichloroethane		2.13696	2.47331	15.74	Average	
C053 1,2-Dichloroethene(total)		1.23880	1.25324	1.17	Average	(Conc=100.00)
C060 Chloroform		3.14387	3.35523	6.72	Average	
CS15 D4-1,2-Dichloroethane	SS1	1.93657	2.21036	14.14	Average	
C065 1,2-Dichloroethane		2.14648	2.48076	15.57	Average	
C110 2-Butanone		.30977	.23571	23.91	Average	
C115 1,1,1-Trichloroethane		.73679	.79203	7.50	Average	
C120 Carbon Tetrachloride		.74387	.82697	11.17	Average	
C125 Vinyl Acetate		.41679	.39212	5.92	Average	
C130 Bromodichloromethane		.70193	.71715	2.17	Average	
C140 1,2-Dichloropropane		.29384	.31504	7.21	Average	
C143 Cis-1,3-Dichloropropene		.48392	.47549	1.74	Average	(Conc=50.00)
C150 Trichloroethene		.43267	.42816	1.04	Average	
C155 Dibromochloromethane		.68330	.67774	.81	Average	
C160 1,1,2-Trichloroethane		.29622	.27303	7.83	Average	
C165 Benzene		.72523	.78682	8.49	Average	
C172 Trans-1,3-Dichloropropene		.45410	.45393	.04	Average	(Conc=50.00)
C180 Bromoform		.47204	.52790	11.83	Average	
C205 4-Methyl-2-Pentanone		.24668	.21498	12.85	Average	
C210 2-Hexanone		.15291	.11016	27.96	Average	
C220 Tetrachloroethene		.55420	.61201	10.43	Average	
C225 1,1,2,2-Tetrachloroethane		.58705	.43824	25.35	Average	
C230 Toluene		1.19403	1.14146	4.40	Average	
CS05 D8-Toluene	SS-2	1.17974	1.12026	5.04	Average	
C235 Chlorobenzene		.98290	.92463	5.93	Average	
C240 Ethylbenzene		.42004	.42566	1.34	Average	
C245 Styrene		.86011	.85624	.45	Average	
C250 Xylene (total)		.49464	.51283	3.68	Average	
meta+para Xylene		.53711	.54080	.69	Average	(Conc=100.00)
ortho Xylene		.49464	.51283	3.68	Average	
CS10 Bromofluorobenzene	SS-3	.85000	.92731	9.10	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Check Standard Data File: >E5139
Injection Time: 940316 20:36

Compound		$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane		.48681	.47608	2.21	Average	
C015 Bromomethane		1.22893	1.20059	2.31	Average	
C020 Vinyl Chloride		.67188	.67118	.10	Average	
C025 Chloroethane		.49539	.47593	3.93	Average	
C030 Methylene Chloride		1.06493	1.07702	1.14	Average	
C035 Acetone		.17724	.14083	20.55	Average	
C040 Carbon Disulfide		2.71252	2.66685	1.68	Average	
C045 1,1-Dichloroethene		1.12849	1.07626	4.63	Average	
C050 1,1-Dichloroethane		1.96487	1.84126	6.29	Average	
C053 1,2-Dichloroethene(total)		1.20240	1.14649	4.65	Average	(Conc=100.00)
C060 Chloroform		3.16820	2.90200	8.40	Average	
CS15 D4-1,2-Dichloroethane	SS1	2.12865	1.96056	7.90	Average	
C065 1,2-Dichloroethane		2.25702	2.12659	5.78	Average	
C110 2-Butanone		.22720	.21234	6.54	Average	
C115 1,1,1-Trichloroethane		.79437	.74101	6.72	Average	
C120 Carbon Tetrachloride		.81692	.79039	3.25	Average	
C125 Vinyl Acetate		.34709	.36077	3.95	Average	
C130 Bromodichloromethane		.67801	.66236	2.31	Average	
C140 1,2-Dichloropropane		.23583	.22920	2.81	Average	
C143 Cis-1,3-Dichloropropene		.42772	.42944	.40	Average	(Conc=50.00)
C150 Trichloroethene		.41503	.41532	.07	Average	
C155 Dibromochloromethane		.67860	.68322	.68	Average	
C160 1,1,2-Trichloroethane		.26307	.25413	3.40	Average	
C165 Benzene		.66286	.64536	2.64	Average	
C172 Trans-1,3-Dichloropropene		.41301	.40929	.90	Average	(Conc=50.00)
C180 Bromoform		.47930	.46807	2.34	Average	
C205 4-Methyl-2-Pentanone		.20266	.18807	7.20	Average	
C210 2-Hexanone		.12706	.11765	7.41	Average	
C220 Tetrachloroethene		.53846	.55469	3.01	Average	
C225 1,1,2,2-Tetrachloroethane		.47137	.43720	7.25	Average	
C230 Toluene		1.09081	1.11943	2.62	Average	
CS05 D8-Toluene	SS-2	1.15196	1.19575	3.80	Average	
C235 Chlorobenzene		.88943	.91918	3.35	Average	
C240 Ethylbenzene		.40374	.41360	2.44	Average	
C245 Styrene		.83188	.85434	2.70	Average	
C250 Xylene (total)		.48538	.48936	.82	Average	
meta+para Xylene		.50718	.50978	.51	Average	(Conc=100.00)
ortho Xylene		.48538	.48936	.82	Average	
CS10 Bromofluorobenzene	SS-3	.85928	.85563	.42	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

000090

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

	Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
CS50	2-Fluorophenol	1.03827	1.16064	1.17525	1.27220	1.19497	.694	1.16827	7.228	
CS45	D5-Phenol	1.35302	1.59272	1.51650	1.61665	1.53348	.930	1.52248	6.784	
C309	Pyridine	.98492	1.10807	1.11202	1.17507	1.14798	.399	1.10561	6.590	
C314	Benzenethiol	-	-	-	-	-	-	-	-	
C315	Phenol	-	-	-	-	-	-	-	-	
CS70	D4-2-Chlorophenol	1.27943	1.42308	1.41542	1.47761	1.38555	.950	1.39622	5.247	
C335	1,3-Dichlorobenzene	1.74228	1.73781	1.68614	1.73984	1.61903	.989	1.70502	3.135	
C340	1,4-Dichlorobenzene	1.76983	1.75900	1.73272	1.76950	1.62145	1.004	1.73050	3.629	
C350	1,2-Dichlorobenzene	1.72534	1.70458	1.63722	1.66707	1.54371	1.055	1.65558	4.298	
C349	Indene	2.29853	2.37249	2.24515	2.30462	2.13346	1.077	2.27085	3.925	
CS75	1,2-Dichlorobenzene-D4	1.11976	1.12617	1.08691	1.10562	1.04703	1.051	1.09710	2.897	(Conc=10.0,25.0,40.0,60.0,80.
C355	2-Methylphenol	-	-	-	-	-	-	-	-	
C364	3&4-Methylphenol	-	-	-	-	-	-	-	-	(Conc=40.0,100.0,160.0,240.0,
CS20	D5-Nitrobenzene	.31913	.38886	.38333	.40069	.40694	.854	.37979	9.261	(Conc=10.0,25.0,40.0,60.0,80.
C425	2,4-Dimethylphenol	-	-	-	-	-	-	-	-	
C450	Naphthalene	1.19262	1.10325	1.11941	1.03885	.97893	1.005	1.08661	7.486	
C459	Quinoline	.67225	.69664	.70675	.69664	.68714	1.080	.69188	1.876	
C471	1-Methylnaphthalene	.78012	.71147	.71847	.67481	.64480	1.182	.70593	7.222	
CS25	2-Fluorobiphenyl	1.42042	1.42299	1.39953	1.38005	1.34878	.894	1.39436	2.213	(Conc=10.0,25.0,40.0,60.0,80.
C535	Dimethylphthalate	1.73962	1.70347	1.71171	1.65495	1.58256	.970	1.67846	3.675	
C555	2,4-Dinitrophenol	-	-	-	-	-	-	-	-	
C560	4-Nitrophenol	-	-	-	-	-	-	-	-	
C580	Diethylphthalate	1.82011	1.83848	1.85278	1.72709	1.68923	1.085	1.78554	4.078	
CS55	2,4,6-Tribromophenol	.18311	.24903	.32936	.31676	.31170	1.130	.27799	22.116	
C640	Phenanthrene	1.17574	1.13885	1.10791	1.08607	1.02658	1.003	1.10703	5.079	
C645	Anthracene	1.08061	1.11195	1.10056	1.03391	.99758	1.009	1.06492	4.509	
C650	Di-n-butylphthalate	1.90183	1.97845	1.85027	1.45253	1.26492	1.090	1.68960	18.501	
C655	Fluoranthene	1.30155	1.34302	1.32624	1.26702	1.20330	1.161	1.28823	4.302	
C715	Pyrene	1.71895	1.68738	1.48860	1.45192	1.41141	.881	1.55165	9.114	
CS30	D14-Terphenyl	1.01481	1.09258	1.07287	1.04078	1.05329	.899	1.05487	2.825	(Conc=10.0,25.0,40.0,60.0,80.
C720	Butylbenzylphthalate	.93384	1.03906	.92013	.87831	.89118	.952	.93250	6.815	
C730	Benzo(a)anthracene	1.25034	1.29521	1.22848	1.23289	1.23684	.999	1.24875	2.180	
C740	Chrysene	1.28555	1.28865	1.16987	1.20193	1.18026	1.003	1.22525	4.705	
C745	bis(2Ethylhexyl)phthalate	1.44790	1.52478	1.32976	1.25544	1.17602	1.010	1.34678	10.481	
C759	6-Methyl chrysene	.89527	.93097	.92132	.90194	.90789	.926	.91148	1.593	
C760	Di-n-octylphthalate	2.20932	2.47809	2.20570	1.71643	1.52341	.942	2.02659	19.407	
C765	Benzo(b)fluoranthene	1.26457	1.32535	1.28964	1.36072	1.34733	.971	1.31752	3.035	
C770	Benzo(k)fluoranthene	1.25798	1.24701	1.25598	1.11106	1.01615	.973	1.17763	9.294	
C771	7,12-Di-ME-benz[a]anthra	.13812	.15343	.11689	.15961	.13051	.973	.13891	11.641	

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD
C775 Benzo(a)pyrene	1.06220	1.14064	1.11095	1.08716	1.11989	.996	1.10417	2.745
C779 Dibenz[a,h]acridine	.83611	.88589	.93770	.92014	.93236	1.075	.90244	4.677
C785 Dibenz(a,h)anthracene	.91301	.93989	.99196	.98215	.97656	1.099	.96071	3.451

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

IDCLPE
CBCLPE
2-28-94

Calibration Report

Title: AQUEOUS CLP ID
Calibrated: 940301 09:12

Compound	Files: >E4796 RF 10.00	>E4790 RF 20.00	>E4794 RF 50.00	>E4789 RF 100.00	>E4797 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
C010 Chloromethane	.45865	.38156	.34246	.42416	.43329	.376	.40802	11.272	
C015 Bromomethane	1.21706	.94869	.98661	.96368	.99590	.430	1.02239	10.798	
C020 Vinyl Chloride	.69911	.55533	.59214	.61001	.61945	.390	.61521	8.602	
C025 Chloroethane	.49765	.39834	.41062	.44148	.42280	.444	.43418	8.959	
C030 Methylene Chloride	1.55094	1.05048	1.07215	1.06701	1.12023	.658	1.17216	18.200	
C035 Acetone	.23709	.19209	.17727	.15646	.15659	.578	.18390	18.115	
C040 Carbon Disulfide	2.90249	2.31063	2.46832	2.53984	2.62506	.603	2.56927	8.530	
C045 1,1-Dichloroethene	1.19180	.98183	1.03287	1.06018	1.07842	.565	1.06902	7.269	
C050 1,1-Dichloroethane	2.40315	1.92691	2.08157	2.08939	2.18377	.800	2.13696	8.189	
C053 1,2-Dichloroethene(total)	1.40336	1.10737	1.19552	1.22612	1.25908	.711	1.23829	8.735	(Conc=20.0,40.0,100.0,200.0
C060 Chloroform	3.57186	2.80306	3.05980	3.00574	3.27887	1.028	3.14387	9.324	
CS15 D4-1,2-Dichloroethane SS1	2.12519	1.57324	1.93087	1.93229	2.12123	1.180	1.93657	11.597	
C065 1,2-Dichloroethane	2.37164	1.93516	2.09574	2.09199	2.23787	1.206	2.14648	7.699	
C110 2-Butanone	.37654	.29641	.31989	.26958	.28644	.948	.30977	13.406	
C115 1,1,1-Trichloroethane	.82775	.65304	.73518	.71651	.75150	.806	.73679	8.562	
C120 Carbon Tetrachloride	.82150	.66257	.73355	.73303	.76871	.844	.74387	7.803	
C125 Vinyl Acetate	.45633	.35237	.41620	.42019	.43886	.613	.41679	9.455	
C130 Bromodichloromethane	.75627	.61681	.69137	.68637	.75881	1.167	.70193	8.364	
C140 1,2-Dichloropropane	.32875	.26453	.29040	.28590	.29965	1.104	.29384	7.956	
C143 Cis-1,3-Dichloropropene	.52812	.42230	.47566	.47988	.51364	1.260	.48392	8.469	
C150 Trichloroethene	.48181	.38858	.42798	.42559	.43937	1.054	.43267	7.731	
C155 Dibromochloromethane	.74189	.59050	.69373	.66440	.72598	1.472	.68330	8.760	
C160 1,1,2-Trichloroethane	.35221	.25694	.30693	.27114	.29389	1.402	.29622	12.434	
C165 Benzene	.81773	.64630	.69974	.70550	.75688	.897	.72523	8.943	
C172 Trans-1,3-Dichloropropene	.49439	.38695	.44756	.45299	.48861	1.370	.45410	9.451	
C180 Bromoform	.54159	.39751	.48569	.45166	.48375	1.723	.47204	11.176	
C205 4-Methyl-2-Pentanone	.23820	.24345	.25528	.23883	.25766	.824	.24668	3.729	
C210 2-Hexanone	.14482	.13138	.17461	.15139	.16235	.926	.15291	10.804	
C220 Tetrachloroethene	.63123	.49839	.54739	.54917	.54483	.904	.55420	8.658	
C225 1,1,2,2-Tetrachloroethane	.77076	.52755	.60708	.50471	.52515	1.152	.58705	18.719	
C230 Toluene	1.34376	1.07111	1.18230	1.13958	1.23340	.839	1.19403	8.600	
CS05 D8-Toluene SS-2	1.32813	.94891	1.17804	1.18364	1.25999	.831	1.17974	12.119	
C235 Chlorobenzene	1.11662	.87907	.97926	.95378	.98578	1.003	.98298	8.742	
C240 Ethylbenzene	.47160	.38542	.41432	.40621	.42263	1.018	.42004	7.611	
C245 Styrene	.97876	.75922	.86073	.82769	.87416	1.077	.86011	9.284	
C250 Xylene (total)	.55305	.44180	.49081	.48350	.50406	1.075	.49464	8.106	
meta+para Xylene	.60672	.48229	.53301	.51964	.54390	1.032	.53711	8.440	(Conc=20.0,40.0,100.0,200.0
ortho Xylene	.55305	.44180	.49081	.48350	.50406	1.075	.49464	8.106	
CS10 Bromofluorobenzene SS-3	.99154	.69510	.84616	.82774	.88946	1.132	.85000	12.629	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

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Calibration Report

IDCLPE
CBCLPE
3-16-94

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Compound	Files: >E5127 RF 10.00	>E5130 RF 20.00	>E5126 RF 50.00	>E5128 RF 100.00	>E5131 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
C010 Chloromethane	.51172	.47259	.46088	.49691	.49196	.377	.48681	4.139	
C015 Bromomethane	1.27192	1.18328	1.19858	1.24007	1.25082	.432	1.22893	3.005	
C020 Vinyl Chloride	.67622	.65477	.66362	.67251	.69229	.390	.67188	2.101	
C025 Chloroethane	.49785	.49039	.48228	.48813	.51830	.448	.49539	2.819	
C030 Methylene Chloride	1.17573	1.06124	1.00141	1.02446	1.06181	.661	1.06493	6.295	
C035 Acetone	.24375	.19416	.14599	.15504	.14728	.581	.17724	23.731	
C040 Carbon Disulfide	2.65213	2.62270	2.69980	2.78784	2.80014	.606	2.71252	2.928	
C045 1,1-Dichloroethene	1.12512	1.09348	1.11136	1.11813	1.19439	.568	1.12849	3.426	
C050 1,1-Dichloroethane	1.97385	1.87047	1.98801	1.98914	2.00291	.802	1.96487	2.736	
C053 1,2-Dichloroethene(total)	1.22279	1.12950	1.20835	1.20391	1.24743	.714	1.20240	3.671	(Conc=20.0,40.0,100.0,200.0
C060 Chloroform	3.39301	2.90462	3.19269	3.17660	3.17409	1.029	3.16820	5.483	
CS15 D4-1,2-Dichloroethane SS1	2.20246	2.06731	2.11924	2.17429	2.07993	1.181	2.12865	2.755	
C065 1,2-Dichloroethane	2.35066	2.14415	2.28279	2.28669	2.22080	1.208	2.25702	3.458	
C110 2-Butanone	.23987	.25783	.20816	.21675	.21337	.949	.22720	9.237	
C115 1,1,1-Trichloroethane	.84328	.74092	.81301	.77067	.80398	.807	.79437	4.976	
C120 Carbon Tetrachloride	.84712	.76478	.84096	.79489	.83764	.845	.81692	4.396	
C125 Vinyl Acetate	.33983	.33218	.33835	.34932	.37555	.614	.34705	4.920	
C130 Bromodichloromethane	.69331	.63648	.66576	.70247	.69206	1.166	.67801	3.974	
C140 1,2-Dichloropropane	.23835	.22701	.23217	.23746	.24416	1.103	.23583	2.762	
C143 Cis-1,3-Dichloropropene	.42816	.40777	.41921	.44174	.44173	1.258	.42772	3.435	
C150 Trichloroethene	.43327	.40040	.41111	.41339	.41695	1.054	.41503	2.873	
C155 Dibromochloromethane	.68310	.69094	.64551	.68157	.69190	1.470	.67860	2.809	
C160 1,1,2-Trichloroethane	.27583	.29099	.23819	.25549	.25483	1.401	.26307	7.806	
C165 Benzene	.68929	.64279	.65251	.64717	.68253	.898	.66286	3.237	
C172 Trans-1,3-Dichloropropene	.41162	.38838	.39494	.43073	.43941	1.369	.41301	5.341	
C180 Bromoform	.50761	.50893	.42277	.46158	.49559	1.721	.47930	7.705	
C205 4-Methyl-2-Pentanone	.22807	.23619	.18498	.18328	.18076	.824	.20266	13.372	
C210 2-Hexanone	.14905	.14252	.10947	.11700	.11728	.926	.12706	13.794	
C220 Tetrachloroethene	.57728	.50970	.53290	.53385	.53856	.903	.53846	4.536	
C225 1,1,2,2-Tetrachloroethane	.54185	.55361	.40549	.41685	.43904	1.151	.47137	15.034	
C230 Toluene	1.14645	1.03052	1.09420	1.11681	1.06608	.839	1.09081	4.108	
CS05 D8-Toluene SS-2	1.16943	1.13006	1.15406	1.19836	1.10788	.831	1.15196	3.034	
C235 Chlorobenzene	.92960	.85141	.87000	.90008	.89605	1.003	.88943	3.370	
C240 Ethylbenzene	.42079	.37615	.39371	.40697	.42108	1.017	.40374	4.737	
C245 Styrene	.84642	.78192	.80524	.84761	.87818	1.076	.83188	4.581	
C250 Xylene (total)	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
meta+para Xylene	.53076	.48181	.50197	.51647	.50491	1.031	.50718	3.579	(Conc=20.0,40.0,100.0,200.0
ortho Xylene	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
CS10 Bromofluorobenzene SS-3	.88811	.84852	.82771	.86112	.87093	1.132	.85928	2.655	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

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NET NATIONAL ENVIRONMENTAL TESTING, INC.®

Thorofare Division
100 Grove Road
P.O. Box 248
Thorofare, NJ 08086
Tel: (609) 848-3939
Fax: (609) 848-9195

FOR:

ENSR Consulting

35 Nagog Park
Acton, MA 01720

Attention: Charlie Martin
Project: Philly Sun Oil

Report #: 94.00960
Date: April 27, 1994

NET ATLANTIC, INC.
Thorofare Division

Approved and released by:

John Visicaro
QA Coordinator

Review and approval of
technical data by:

Neil Rossiter
Project Manager

REPORT NARRATIVE

This report contains the results of the analysis of samples by NET Atlantic, Inc. for ENSR Consulting. The samples were from the Philly Sun Oil project and were analyzed for the parameters specified on the chain of custody. The following page lists the samples associated with this job, the date the samples were received by the laboratory and correlates the lab sample ID with the client ID. A laboratory chronicle has been provided that shows the date on which each test was performed.

NATIONAL ENVIRONMENTAL TESTING, INC.

The following table identifies all samples submitted to NET for analysis.

Client: ENSR CONSULTING Job No: 94.00960

NET ID	Client ID	Date Sampled	Date Received
135465	TB600	03/15/1994	03/18/1994
135466	238D1	03/17/1994	03/18/1994
135467	372D1 +QC	03/18/1994	03/18/1994
135468	238D1 (FILTERED)	03/17/1994	03/18/1994
135469	372D1 +QC (FILTERED)	03/18/1994	03/18/1994

Listed below are the current certifications that are held by NET, Inc. - Thorofare Division.

NJ Certification No: 08153
NY Certification No: 10867
PA Certification No: 68-212
SC Certification No: 94008
CT Certification No: PH-0784
MA Certification No: NJ119
DE Certification No: 08153(NJ)
VA Certification No: 00043
FL Certification No: E87427

M901376

CHAIN OF CUSTODY RECORD

ENSR

Client/Project Name: ENSR C+E/Sun R+M

Project Location: Philadelphia Refinery

Project Number: 6445-057

Field Logbook No.:

Sampler: (Print Name)/Affiliation: Mark J. Irani (ENSR)

Chain of Custody Tape No.:

Signature: Mark J. Irani

Send Results/Report to: Charlie Martin, ENSR 35 Nagog Park Acton, MA 01720 (508)635-9500

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BTEX	Base Neutrals	Total Metals	* Iron, Manganese	Chloride, Fluoride, Sulfate	Nitrate, Nitrite, TOC, ammonia	TDS, Hardness, Total alk, spec cond.	Sulfide	Remarks
TB600	3/15/94	—			2	aqueous			√2								
238D1	3/17/94	1700	✓		10				√2	√2	√1	√1	√1	√1	√1	√1	
372D1	3/18/94	1130	✓		10				√2	√2	√1	√1	√1	√1	√1	√1	
372D1MS	3/18/94	1130	✓		10				√2	√2	√1	√1	√1	√1	√1	√1	
372D1MSD	3/18/94	1130	✓		10	↓			√2	√2	√1	√1	√1	√1	√1	√1	* field filtered

Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Mark J. Irani	3/18/94	Reese	3/18/94
Signature: Mark J. Irani	Time: 1430	Signature: Reese	Time: 1600
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Signature:	Time:	Signature:	Time:
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Signature:	Time:	Signature:	Time:

Analytical Laboratory (Destination): NET - Thoroughfare, NJ

Serial No. 10348

000003

METHODOLOGY SUMMARY

PURGEABLES GC/MS

USEPA Method 624(40 CFR Ch. I (7-1-91 Edition), Method 8240 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are purge and trap methods applicable to the determination of purgeable organic compounds. An inert gas is bubbled thru a sample aliquot contained in a purging chamber where the purgeables are transferred to the vapor phase. The purgeables are collected on a sorbent trap which is rapidly heated and backflushed with helium to desorb the purgeables onto a capillary GC column. The GC is temperature programmed to allow the separation of the purgeables which are then detected with a mass spectrometer. Refer to the method for specific interferences.

As per the applicable methodology the laboratory supplies vials containing Hydrochloric Acid (HCL) for preservation of aqueous samples. 2-Chloroethylvinyl ether is susceptible to acidic degradation which can adversely affect the detectability of this compound.

BASE/NEUTRALS

USEPA Method 625(40 CFR Ch. I (7-1-91 Edition), Method 8270 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are GC/MS methods applicable to the determination of organic compounds that are partitioned into an organic solvent and amenable to gas chromatography. A sample aliquot is extracted with methylene chloride (continuous liquid-liquid for waters, sonication for soils) which is dried, concentrated and analyzed on a Hewlett-Packard GC/MS fitted with a capillary column. Extracts may be subjected to one or more clean-up steps to eliminate matrix interferences. Refer to the method for specific interferences.

METALS

Aqueous samples for metals analysis were run in accordance with the methods prescribed in "Methods for Analysis of Water and Wastes" (EPA-600/4-79-020), Metals-4, as modified for use in the USEPA CLP.

INORGANIC PARAMETERS

The following USEPA Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020 were used by the laboratory.

Ammonia Nitrogen (Ammonia) - Method 350.2.
Chloride - Method 325.3
Conductance - Method 120.1
Fluoride - Method 340.2
Nitrate/Nitrite - Method 353.1
Sulfate - Method 375.4
Sulfide - Method 376.1
Total Dissolved Solids (TDS) - Method 160.1
Total Organic Carbon (TOC) - Method AQ 415.1 SO 415.1 MOD

ALKALINITY

An aliquot of the unaltered sample is titrated against standardized sulfuric acid to pH 4.5 using a pH meter. Results are reported as ug of Calcium Carbonate per Liter of sample. USEPA Method 310.1

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis

Client: ENSR CONSULTING Job No: 94.00960

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135465	TB600	03/15/1994	03/18/1994	BL
135466	238D1	03/17/1994	03/18/1994	GR
135467	372D1 +QC	03/18/1994	03/18/1994	GR
135468	238D1 (FILTERED)	03/17/1994	03/18/1994	MI
135469	372D1 +QC (FILTERED)	03/18/1994	03/18/1994	GR

Laboratory ID:	135465	135466	135467	135468	135469
Organic Extraction					
Semivolatile AQ (GC/MS)		03/23/1994	03/23/1994		
Semivolatile SO (GC/MS)					
Pesticides/PCBs AQ					
Pesticides/PCBs SO					
Herbicides AQ					
Herbicides SO					
Petroleum Hydrocarbons AQ					
Petroleum Hydrocarbons SO					
TCLP Non-volatiles extraction					
TCLP Volatiles extraction					
Inorganic Preparation					
Metals(Except Hg & CrVI)		04/18/1994	04/18/1994	04/18/1994	04/18/1994
Phenols					
Cyanides					
Organic Analysis					
Semivolatiles AQ		04/22/1994	04/22/1994		
Semivolatiles SO					
Pesticides/PCBs AQ					
Pesticides/PCBs SO					
Herbicides AQ					
Herbicides SO					
Volatile Organics AQ (GC/MS)	03/22/1994	03/22/1994	03/22/1994		
Volatile Organics SO (GC/MS)					
Volatile Organics AQ (GC)					
Volatile Organics SO (GC)					
Acrolein & Acrylonitrile (GC)					
Selected Organics (GC)					
Petroleum Hydrocarbons AQ					
Petroleum Hydrocarbons SO					

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00960

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135465	TB600	03/15/1994	03/18/1994	BL
135466	238D1	03/17/1994	03/18/1994	GR
135467	372D1 +QC	03/18/1994	03/18/1994	GR
135468	238D1 (FILTERED)	03/17/1994	03/18/1994	MI
135469	372D1 +QC (FILTERED)	03/18/1994	03/18/1994	GR

Laboratory ID:	135465	135466	135467	135468	135469
Parameter					
Alkalinity		03/25/1994	03/25/1994		
Alkalinity, Bicarb. at pH 4.		03/25/1994	03/25/1994		
Ammonia		04/05/1994	04/05/1994		
Chloride		04/13/1994	04/13/1994		
Conductivity		03/21/1994	03/21/1994		
Fluoride, Total		04/06/1994	04/06/1994		
Nitrate/nitrite		04/05/1994	04/05/1994		
Solids, dissolved (TDS)		03/23/1994	03/25/1994		
Sulfate		04/05/1994	04/05/1994		
Sulfide		03/24/1994	03/25/1994		
Total Organic Carbon		03/30/1994	03/30/1994		
Arsenic (As)		04/21/1994	04/21/1994		
Cobalt (Co)		04/21/1994	04/21/1994		
Iron (Fe)		04/21/1994	04/21/1994	04/21/1994	04/21/1994
Lead (Pb)		04/20/1994	04/20/1994		
Manganese (Mn)		04/21/1994	04/21/1994	04/21/1994	04/21/1994

Definition of terms, abbreviations and flags that may be used in this report.

Flag/Term/Abbrev.	Definition
U	Compound was analyzed for but not detected. The laboratory has reported the method detection limit for the compound.
J	Compound was detected at a concentration below the practical reporting level, yet above the method detection limit. These values are estimates.
B	Compound was detected in the method/extraction blank as well as the sample. The data user is warned of possible laboratory introduced contamination.
NA	Not Applicable
ND	Not Detected
NC	Not Calculable
NR	Not Requested or Not Reported
MDL	Method detection limit. Can be a limit specified by the method or a number determined by performing an MDL study.
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
umhos	conductivity units; resistance is expressed in ohms.
NTU	Nephlometric Turbidity Units; used for turbidity.
col/9	Colonies per volume of sample analyzed; used for bacteriology.
deg C	degrees celcius
deg F	degrees fahrenheit
ug	microgram; there are 1000 ug in 1 mg.
mg	milligram; there are 1000 mg in 1 g.
g	gram; there are 1000 g in 1 Kg.
Kg	kilogram
ul	microliter; there are 1000 ul in 1 ml.
ml	milliliter; there are 1000 ml in 1 liter.
L	liter
dw	Dry weight; indicates that the reported value has been corrected for percent solids.
ppm	Parts per million = mg/Kg, ug/g, mg/L, ug/ml; 1 ppm = 1000ppb
ppb	Parts per billion = ug/Kg, ug/L

INORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00960
Sample No: 135466
Client Sample ID: 238D1

Parameter	Results	Units
Alkalinity	1025	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	1025	ppmCaCO3
Ammonia	99.2	mg/L N
Chloride	18	mg/L
Conductivity	1819	umhos/cm
Fluoride, Total	0.11	mg/L
Nitrate/nitrite	<1.0	mg/L N
Solids, dissolved (TDS)	820	mg/L
Sulfate	13	mg/L
Sulfide	<0.2	mg/L
Total Organic Carbon	36	mg/L
Arsenic (As)	0.046	mg/L
Cobalt (Co)	0.020	mg/L
Iron (Fe)	101	mg/L
Lead (Pb)	0.13	mg/L
Manganese (Mn)	2.90	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00960
Sample No: 135467
Client Sample ID: 372D1 +QC

Parameter	Results	Units
Alkalinity	210	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	210	ppmCaCO3
Ammonia	4.3	mg/L N
Chloride	65	mg/L
Conductivity	996	umhos/cm
Fluoride, Total	0.11	mg/L
Nitrate/nitrite	<1.0	mg/L N
Solids, dissolved (TDS)	606	mg/L
Sulfate	196	mg/L
Sulfide	1.64	mg/L
Total Organic Carbon	4	mg/L
Arsenic (As)	0.010	mg/L
Cobalt (Co)	0.022	mg/L
Iron (Fe)	86.4	mg/L
Lead (Pb)	0.017	mg/L
Manganese (Mn)	3.77	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00960
Sample No: 135468
Client Sample ID: 238D1 (FILTERED)

Parameter	Results	Units
Iron (Fe)	30.0	mg/L
Manganese (Mn)	1.05	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00960
Sample No: 135469
Client Sample ID: 372D1 +QC (FILTERED)

Parameter	Results	Units
Iron (Fe)	54.1	mg/L
Manganese (Mn)	3.21	mg/L

ORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00960
NET Sample No: 135465
Client Sample ID: TB600

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/22/1994	res	202
Toluene	6.0	U	ug/L	6.0	03/22/1994	res	202
Ethylbenzene	6.0	U	ug/L	6.0	03/22/1994	res	202
m+p-Xylenes	5.0	U	ug/L	5.0	03/22/1994	res	202

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00960
NET Sample No: 135466
Client Sample ID: 2380I

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/22/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/22/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	3.8	J	ug/L	2.5	04/22/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/22/1994	jig	11	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00960
NET Sample No: 135466
Client Sample ID: 23801

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/22/1994	res	202
Toluene	3.0	J	ug/L	6.0	03/22/1994	res	202
Ethylbenzene	6.0	U	ug/L	6.0	03/22/1994	res	202
m+p-Xylenes	5.0	U	ug/L	5.0	03/22/1994	res	202

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00960
NET Sample No: 135467
Client Sample ID: 372D1 +QC

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/22/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/22/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/22/1994	jig	11	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00960
NET Sample No: 135467
Client Sample ID: 372D1 +QC

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/22/1994	res	202
Toluene	6.0	U	ug/L	6.0	03/22/1994	res	202
Ethylbenzene	6.0	U	ug/L	6.0	03/22/1994	res	202
m+p-Xylenes	5.0	U	ug/L	5.0	03/22/1994	res	202

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

ACID EXTRACTABLE/BASE NEUTRALS

Client: Exxon Consulting Report No: 94.00910

Client ID	NET ID	Nitrobenzene-d5 (35-114)	2-Fluorobiphenyl (43-116)	p-terphenyl-d14 (33-141)	Phenol-d6 (10-94)	2-Fluorophenol (21-100)	2,4,6-Tribromophenol (10-123)
3801	135466	60	54	116*	59	43	72
7201+02	135467	1.*	74	3%	64	2%	42
Blank #2	A295A	70	70	8%	3*	0*	0*
MW	A295A	22*	60	5%	9*	0*	0*
MW	A295A	24*	60	50	7*	0*	0*

COMMENTS: _____

000019

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

VOLATILES

Client: EWSR Consulting Report No: 94.0090

Client ID	NET ID	Toluene-d8 (88-110)	BFB (86-115)	1,2-Dichloroethane-d4 (76-114)
TB1.00	135405	104	101	100
23B01	135410	104	112	104
3720 1+DX	135407	102	108	102
TBlank	>F5239	100	101	98
MS	EA0-198	88	96	94
MSD	EA0-198	88	92	90

COMMENTS:

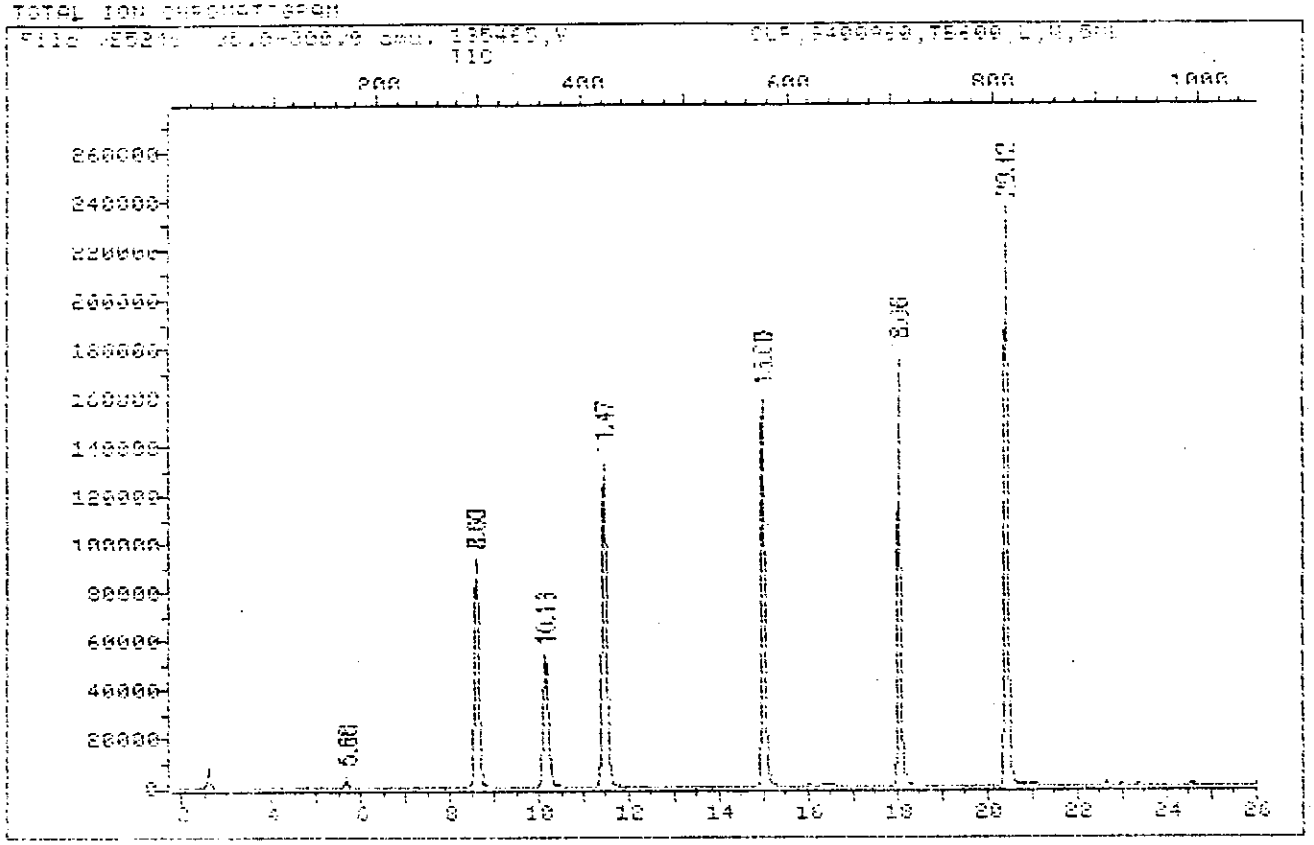
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00960
NET Sample No: 135465
Client Sample ID: TB600

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/22/1994	res	202
Toluene	6.0	U	ug/L	6.0	03/22/1994	res	202
Ethylbenzene	6.0	U	ug/L	6.0	03/22/1994	res	202
m+p-Xylenes	5.0	U	ug/L	5.0	03/22/1994	res	202



Data File: >E5246::D6 Quant Output File: ^E5246::D8
Name: 135+50,U
Misc: CLP,9400960,TB600,L,W,5ML

Id File: ^^CLPE::D4
Title: ACT FOUR CLP IC
Last Calibration: 940322 08:55

Operator ID: RITA
Quant Time: 940322 13:55
Injected at: 940322 13:24

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940322 13:59
Output File: ^E5246::D8 Injected at: 940322 13:24
Data File: >E5246::D6 Dilution Factor: 1.00000
Name: 135469.0
Misc: CLP,94000960,TB600,L,W,5ML

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:55

	Compound		R.T.	Q ion	Area	Conc	Units	Q
1)	*CI01 Bromochloromethane	IS-1	8.60	128.0	95033	50.00	UG/L	87
6)	CO30 Methylene Chloride		5.68	84.0	6560	3.47	UG/L	93
13)	CS15 D4-1,2-Dichloroethane	SS1	10.16	65.0	178253	49.68	UG/L	91
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	384796	50.00	UG/L	89
29)	*CI20 D5-Chlorobenzene	IS-3	18.06	117.0	277555	50.00	UG/L	95
35)	CS05 D8-Toluene	SS-2	15.00	98.0	330896	51.79	UG/L	99
42)	CS10 Bromofluorobenzene	SS-3	20.42	95.0	238756	52.69	UG/L	87

* Compound is ISTD

VK

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

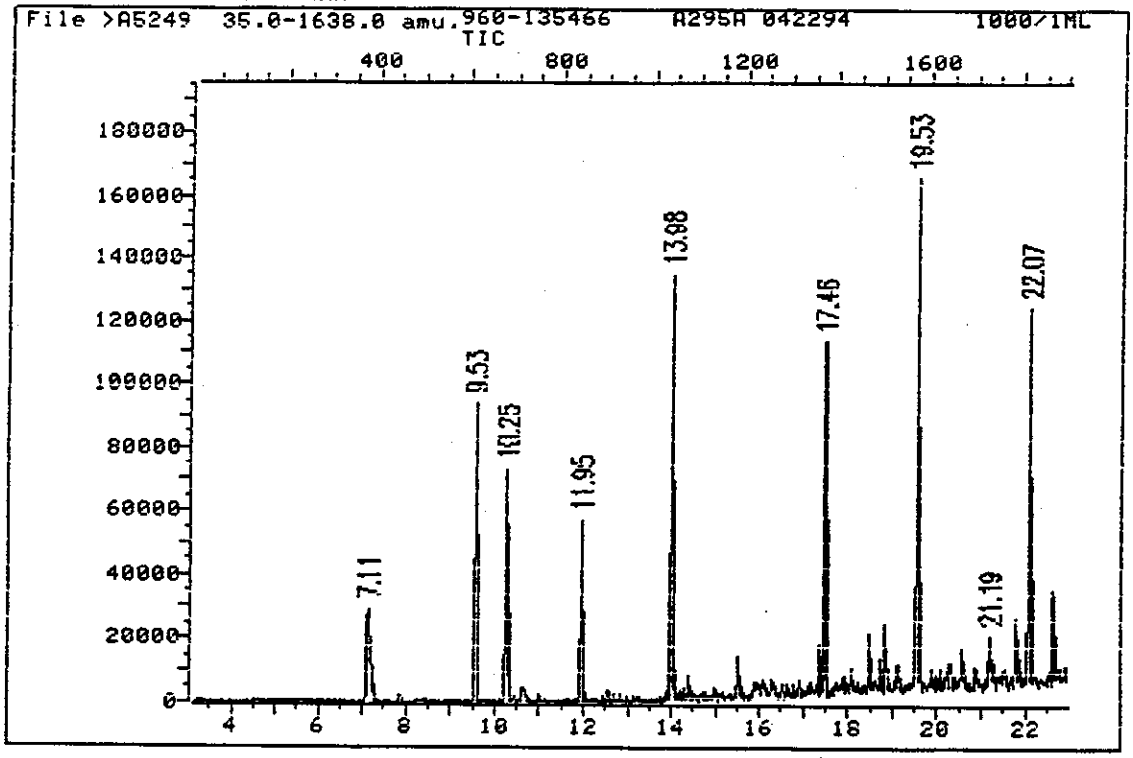
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00960
NET Sample No: 135466
Client Sample ID: 238D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/22/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/22/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	3.8	J	ug/L	2.5	04/22/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/22/1994	jig	11	4

TOTAL ION CHROMATOGRAM



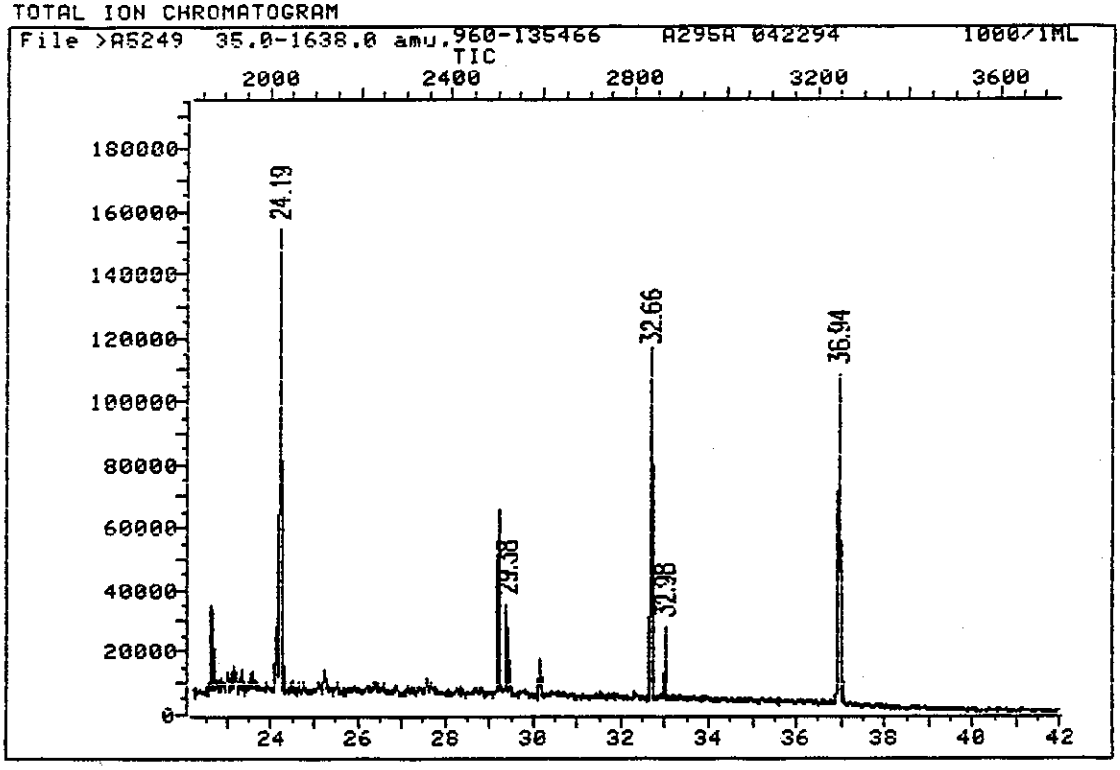
Data File: >A5249::E5 Quant Output File: ^A5249::D3
Name: 960-135466 A295A
Misc: 042294 1000/1ML HP5970 A BTL#10

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 23:23
Injected at: 940422 22:37

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5249::E5 Quant Output File: ^A5249::D3
Name: 960-135466 A295A
Misc: 042294 1000/1ML HP5970 A BTL#10

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 23:23
Injected at: 940422 22:37

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940422 23:23
Output File: ^A5249::D3 Injected at: 940422 22:37
Data File: >A5249::E5 Dilution Factor: 1.00000
Name: 960-135466 A295A
Misc: 042294 1000/1ML HP5970 A BTL#10

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.25	152.0	33480	40.00	ug/L	(5
2)	CS50 2-Fluorophenol	7.11	112.0	41651	42.59	ug/L	9E
3)	CS45 D5-Phenol	9.53	99.0	75341	59.12	ug/L	9?
15)	*CI40 D8-Naphthalene	13.98	136.0	119903	40.00	ug/L	(?
16)	CS20 D5-Nitrobenzene	11.95	82.0	34199	30.04	ug/L	9?
21)	*CI50 D10-Acenaphthene	19.53	164.0	75184	40.00	ug/L	95
22)	CS25 2-Fluorobiphenyl	17.46	172.0	70301	26.82	ug/L	(3
26)	C580 Diethylphthalate	21.19	149.0	10196	3.04	ug/L	9?
27)	CS55 2,4,6-Tribromophenol	22.07	330.0	37476	71.72	ug/L	9?
28)	*CI60 D10-Phenanthrene	24.19	188.0	122798	40.00	ug/L	(5
33)	*CI70 D12-Chrysene	32.66	240.0	105187	40.00	ug/L	9?
35)	CS30 D14-Terphenyl	29.38	244.0	22827	8.23	ug/L	8?
39)	C745 bis(2Ethylhexyl)phthalate	32.98	149.0	13530	3.82	ug/L	(5
40)	*CI75 D12-Perylene	36.94	264.0	121220	40.00	ug/L	95

* Compound is ISTD

000027

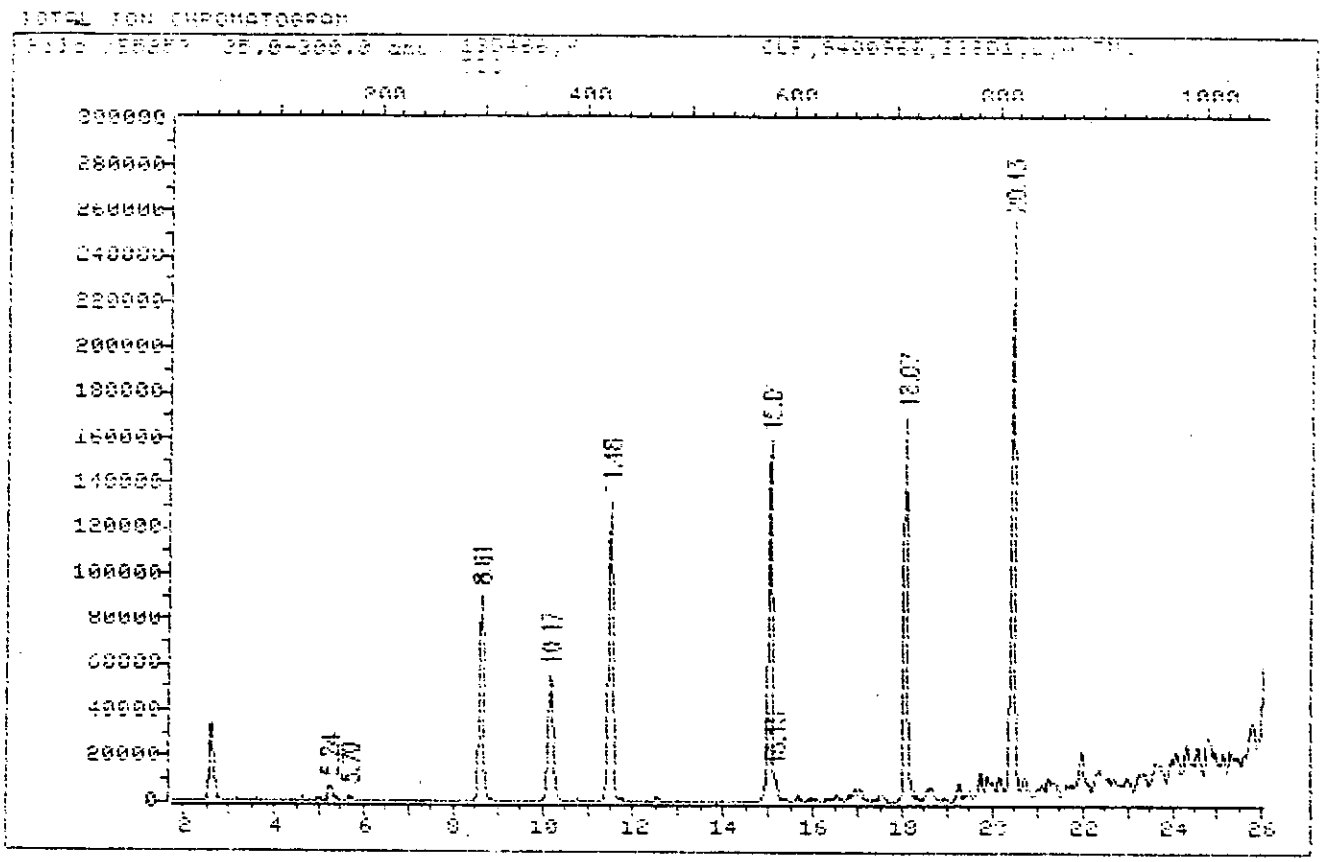
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00960
NET Sample No: 135466
Client Sample ID: 238D1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/22/1994	res	202
Toluene	3.0	J	ug/L	6.0	03/22/1994	res	202
Ethylbenzene	6.0	U	ug/L	6.0	03/22/1994	res	202
m+p-Xylenes	5.0	U	ug/L	5.0	03/22/1994	res	202



Data File: >E5253::D6 Quant Output File: ^E5253::D8
Name: 135466,U
Misc: CLP,9400960,23801,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:50

Operator ID: RITA
Quant Time: 940322 18:16
Injected at: 940322 17:45

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940322 18:1A
Output File: ^F9253::D8 Injected at: 940322 17:45
Data File: ^F9253::DA Dilution Factor: 1.00000
Name: 13546o,"
Misc: CLP,940309A0,93801,L,W,5ML

EAQ-198

ID File: IDCLPE::04
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:55 ✓

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*C101 Bromochloromethane	IS-1	8.61	128.0	92909	50.00	UG/L	
6)	C030 Methylene Chloride		5.70	84.0	4324	2.34	UG/L	94
8)	C040 Carbon Disulfide		5.24	76.0	41126	8.42	UG/L	100
13)	CS15 D4-1,2-Dichloroethane	SS1	10.17	65.0	182242	51.95	UG/L	
16)	*C110 1,4-Difluorobenzene	IS-2	11.48	114.0	370563	50.00	UG/L	89
29)	*C120 D5-Chlorobenzene	IS-3	18.07	117.0	273932	50.00	UG/L	91
34)	C230 Toluene		15.15	91.0	17499	3.00	UG/L	
35)	CS05 D8-Toluene	SS-2	15.01	98.0	328220	52.02	UG/L	98
42)	CS10 Bromofluorobenzene	SS-3	20.47	95.0	250820	56.04	UG/L	9A

* Compound is ISTD

JB

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

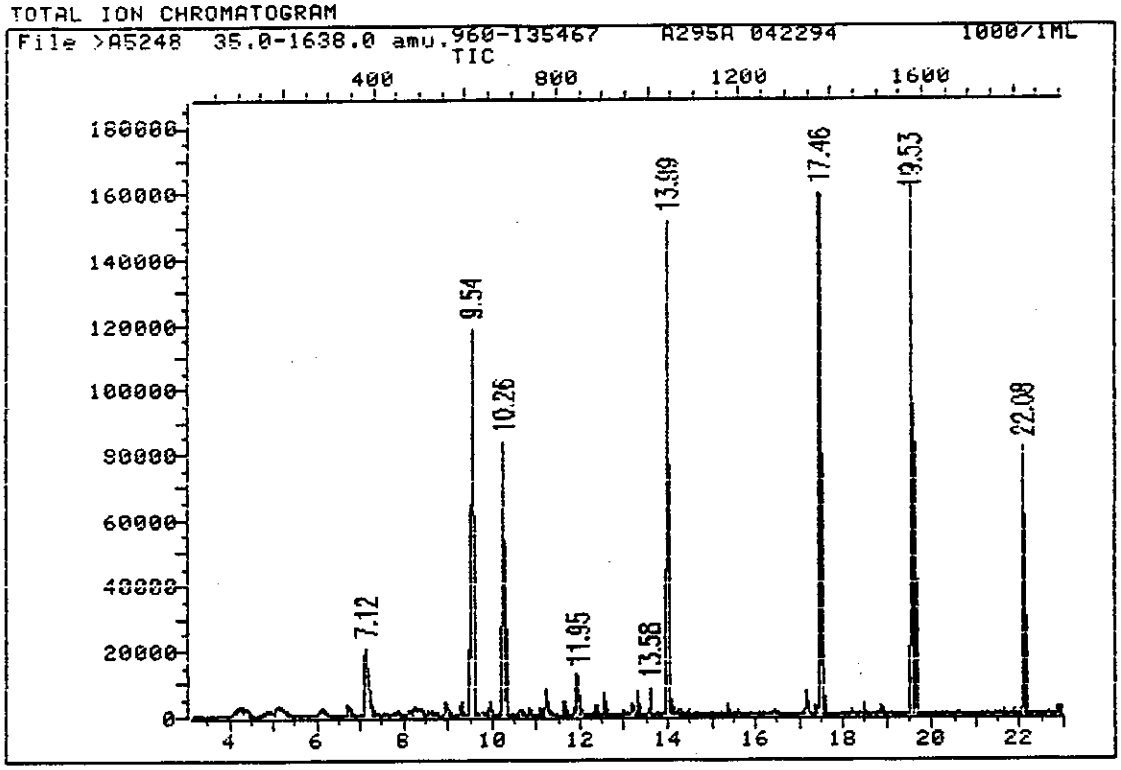
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00960
NET Sample No: 135467
Client Sample ID: 3720I +QC

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/22/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/22/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/22/1994	jig	11	4

TOTAL ION CHROMATOGRAM



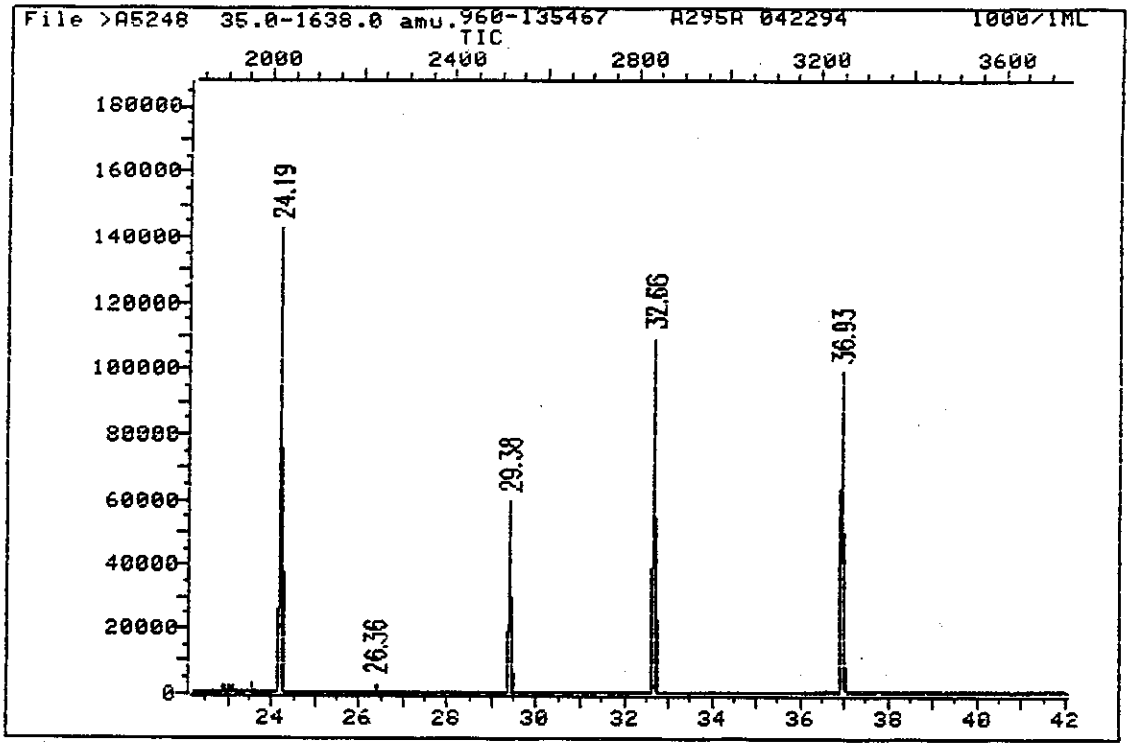
Data File: >A5248::E5 Quant Output File: ^A5248::D3
Name: 960-135467 A295A
Misc: 042294 1000/1ML HP5970 A BTL# 9

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 22:31
Injected at: 940422 21:46

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5248::E5 Quant Output File: ^A5248::D3
Name: 960-135467 A295A
Misc: 042294 1000/1ML HP5970 A BTL# 9

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 22:31
Injected at: 940422 21:46

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940422 22:31
Output File: ^A5248::D3 Injected at: 940422 21:46
Data File: >A5248::E5 Dilution Factor: 1.00000
Name: 960-135467 A295A
Misc: 042294 1000/1ML HP5970 A BTL# 9

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.26	152.0	36404	40.00	ug/L	(7
2)	CS50 2-Fluorophenol	7.12	112.0	27303	25.68	ug/L	91
3)	CS45 D5-Phenol	9.54	99.0	89010	64.24	ug/L	99
15)	*CI40 D8-Naphthalene	13.99	136.0	132208	40.00	ug/L	(3
16)	CS20 D5-Nitrobenzene	11.95	82.0	4253	3.39	ug/L	91
17)	~~C425 2,4-Dimethylphenol~~ AE	13.58	107.0	4613	7.53	ug/L	86
21)	*CI50 D10-Acenaphthene	19.53	164.0	78660	40.00	ug/L	(6
22)	CS25 2-Fluorobiphenyl	17.46	172.0	102815	37.50	ug/L	96
27)	CS55 2,4,6-Tribromophenol	22.08	330.0	23191	42.42	ug/L	94
28)	*CI60 D10-Phenanthrene	24.19	188.0	129642	40.00	ug/L	(6
31)	~~C650 Di-n-butylphthalate~~ LT	26.36	149.0	3145	.57	ug/L	99
33)	*CI70 D12-Chrysene	32.66	240.0	102163	40.00	ug/L	95
35)	CS30 D14-Terphenyl	29.38	244.0	49323	18.31	ug/L	(7
40)	*CI75 D12-Perylene	36.93	264.0	114086	40.00	ug/L	92

* Compound is ISTD

D5 Nitrobenzene low
<10% matrix confirmed
by MS MSD A5244 A5245

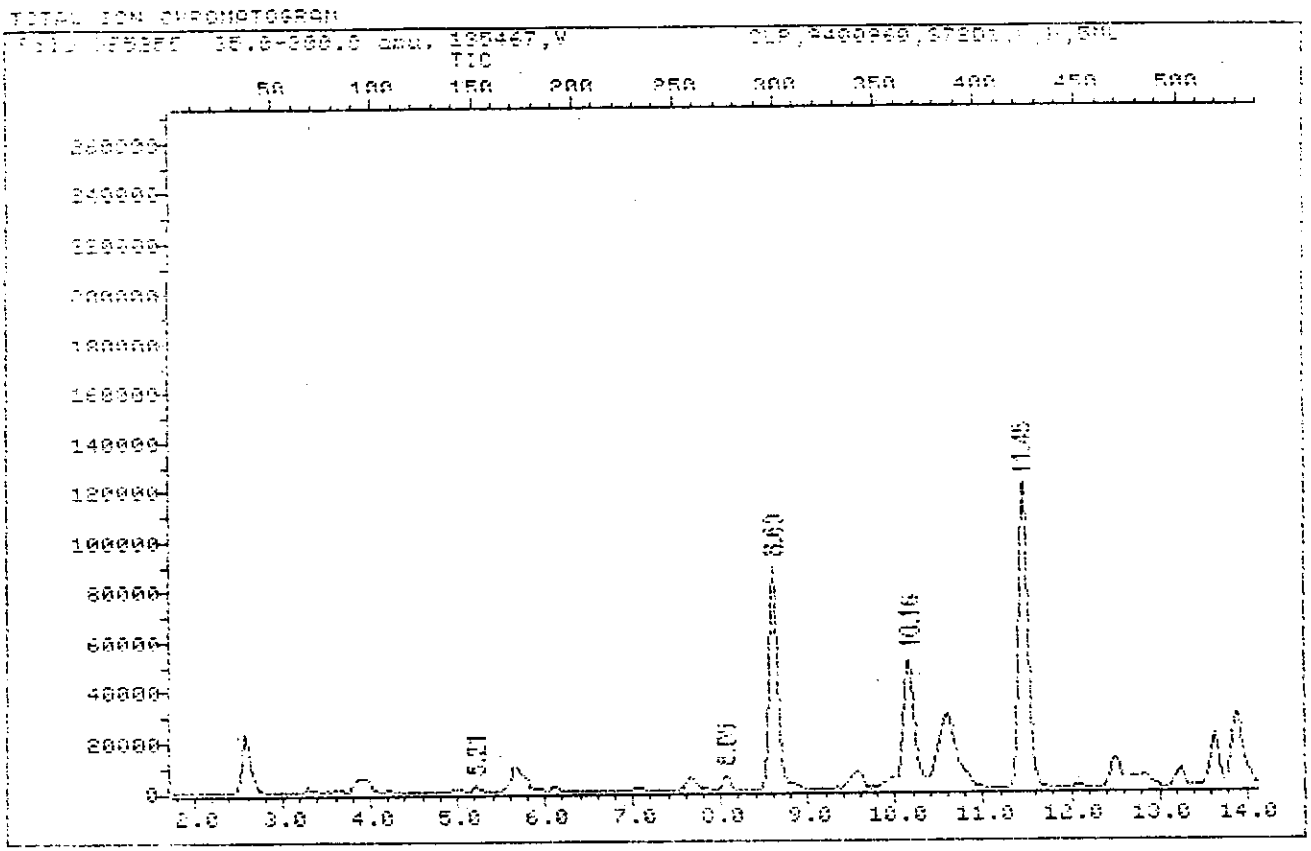
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00960
NET Sample No: 135467
Client Sample ID: 372D1 +QC

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/22/1994	res	202
Toluene	6.0	U	ug/L	6.0	03/22/1994	res	202
Ethylbenzene	6.0	U	ug/L	6.0	03/22/1994	res	202
m+p-Xylenes	5.0	U	ug/L	5.0	03/22/1994	res	202



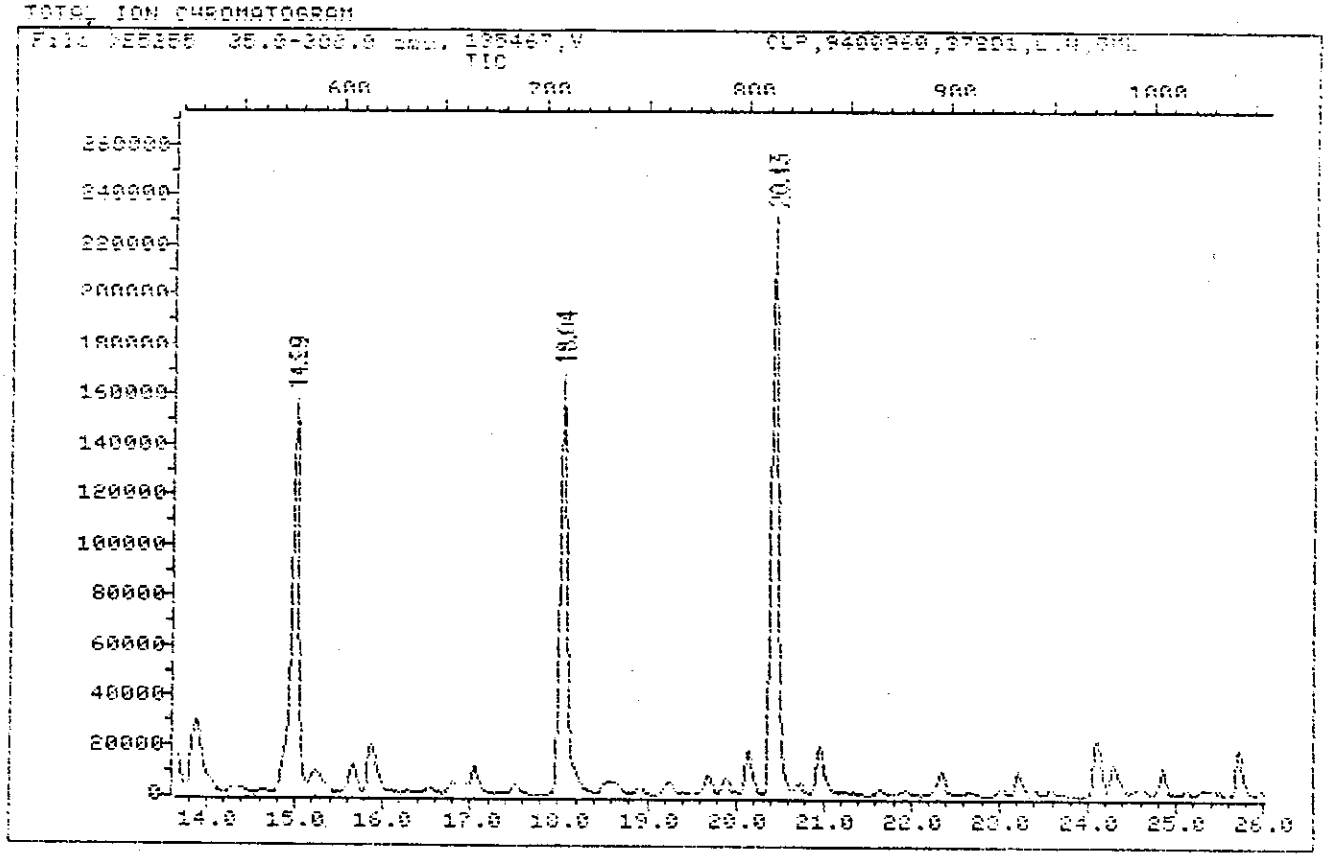
Data File: >E5255::D6 Quant Output File: ^E5255::D8
Name: 135467,U
Misc: CLP.9400960,372D1,L,W,5ML

Id File: ISOLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:55

Operator ID: RITA
Quant Time: 940322 19:31
Injected at: 940322 19:00

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >E5255::D6 Quant Output File: ^E5255::D8
Name: 135467,V
Misc: CLP,9400960,37201,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:55

Operator ID: RITA
Quant Time: 940322 19:31
Injected at: 940322 19:00

TIC page 2 of 2

QUANT REPORT

Operator ID: RITA
Output File: ^E5255::D8
Data File: >E5255::D6
Name: 135467,U
Misc: CLP,9400960,372D1,L,W,5ML

Quant Rev: 6 Quant Time: 940322 19:51
Injected at: 940322 19:06
Dilution Factor: 1.00000

ID File: IDCLPE::04
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:55 ✓

EAQ-198

	Compound		R.T.	Q ion	Area	Conc	Units	Q
1)	*CI01 Bromochloromethane	IS-1	8.60	128.0	88331	50.00	UG/L	
8)	C040 Carbon Disulfide		5.21	76.0	10175	2.19	UG/L	100
11)	C053 1,2-Dichloroethene(total)		8.05	96.0	6424	3.20	UG/L	95
13)	CS15 D4-1,2-Dichloroethane	SS1	10.16	65.0	169865	50.94	UG/L	
16)	*CI10 1,4-Difluorobenzene	IS-2	11.45	114.0	345768	50.00	UG/L	68
29)	*CI20 D5-Chlorobenzene	IS-3	18.04	117.0	259211	50.00	UG/L	99
35)	CS05 D8-Toluene	SS-2	14.99	98.0	307249	51.46	UG/L	
42)	CS10 Bromofluorobenzene	SS-3	20.43	95.0	230340	54.39	UG/L	9[illegible]

* Compound is ISTD

JCS

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

CLIENT ENSR Consulting REPORT # 94.00960

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
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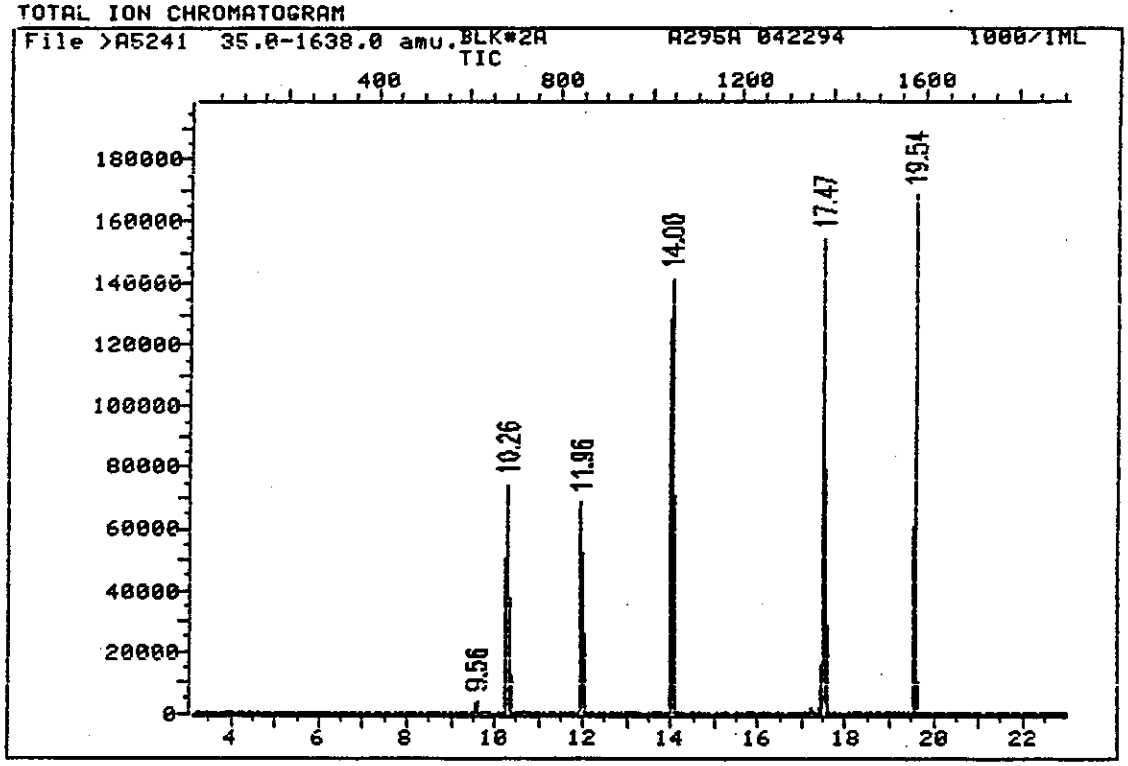
COMMENTS:

TOTAL ION CHROMATOGRAM



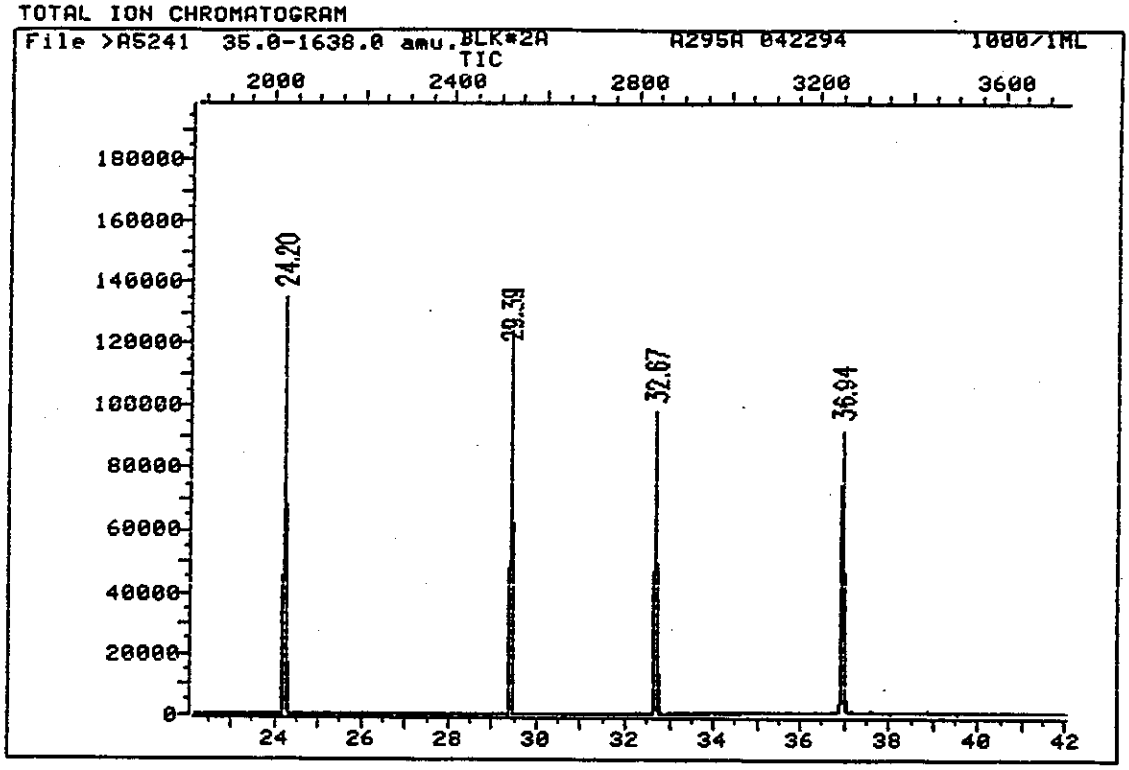
Data File: >A5241::E5 Quant Output File: ^A5241::D3
Name: BLK#2A A295A
Misc: 042294 1000/1ML HP5970 A BTL# 2

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 16:26
Injected at: 940422 15:41

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5241::E5 Quant Output File: ^A5241::D3
Name: BLK#2A A295A
Misc: 042294 1000/1ML HP5970 A BTL# 2

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 16:26
Injected at: 940422 15:41

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475
Output File: ^A5241::D3
Data File: >A5241::E5
Name: BLK#2A A295A
Misc: 042294 1000/1ML

Quant Rev: 6 Quant Time: 940422 16:26
Injected at: 940422 15:41
Dilution Factor: 1.00000

HP5970 A BTL# 2

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.26	152.0	35619	40.00	ug/L	4
3)	CS45 D5-Phenol	9.56	99.0	4385	3.23	ug/L	97
15)	*CI40 D8-Naphthalene	14.00	136.0	130681	40.00	ug/L	91
16)	CS20 D5-Nitrobenzene	11.96	82.0	43854	35.34	ug/L	2
21)	*CI50 D10-Acenaphthene	19.54	164.0	79641	40.00	ug/L	97
22)	CS25 2-Fluorobiphenyl	17.47	172.0	98246	35.39	ug/L	95
28)	*CI60 D10-Phenanthrene	24.20	188.0	119560	40.00	ug/L	7
33)	*CI70 D12-Chrysene	32.67	240.0	91623	40.00	ug/L	97
35)	CS30 D14-Terphenyl	29.39	244.0	102935	42.60	ug/L	85
40)	*CI75 D12-Perylene	36.94	264.0	99355	40.00	ug/L	3

* Compound is ISTD

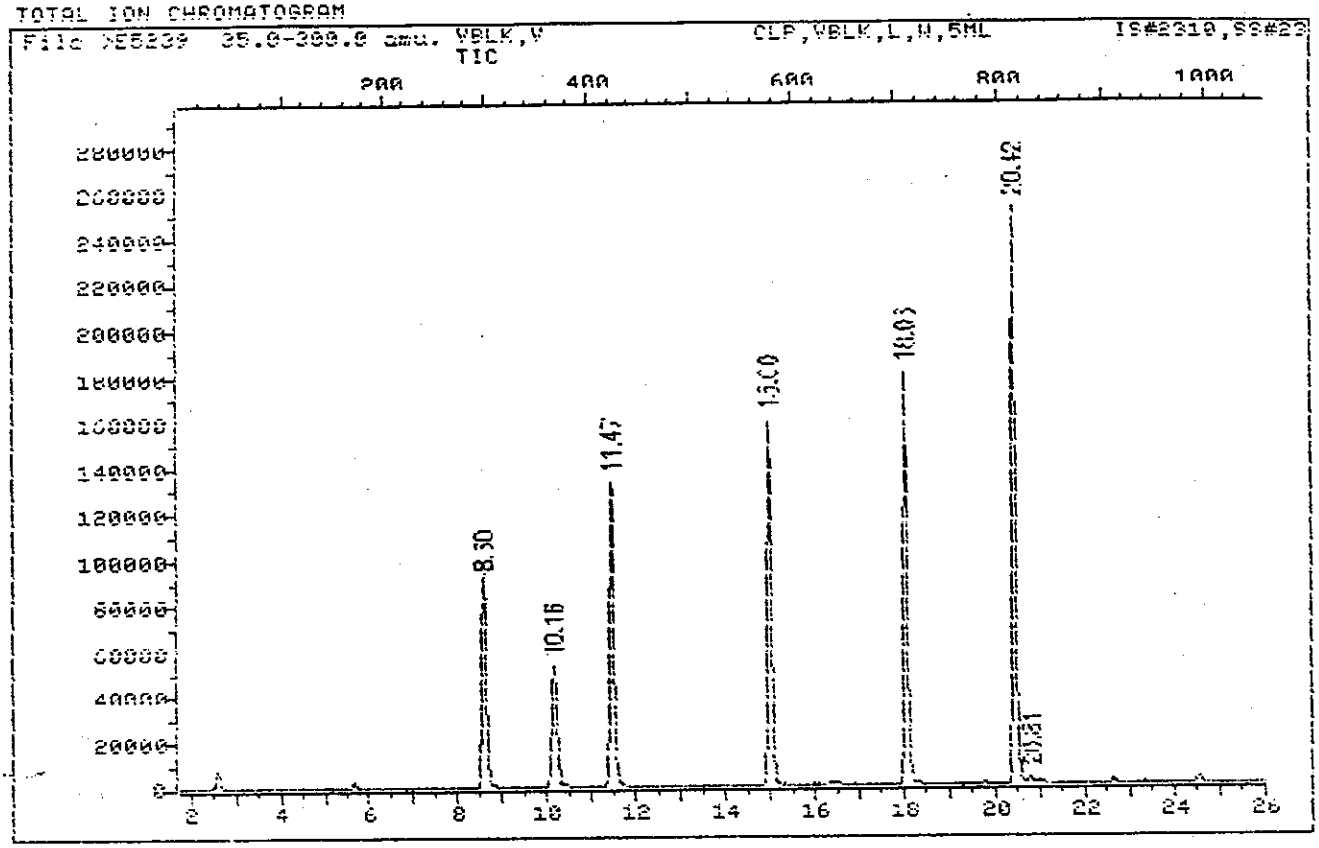
NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

CLIENT ENSR Consulting

REPORT # 94.00960

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>E5239	03/22/94	VOA	Aq	---	No Targets Found	NA	ug/L	NA

COMMENTS:



Data File: >E5239::D6 Quant Output File: ^E5239::D8
Name: VBLK,V
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:55

Operator ID: RITA
Quant Time: 940322 09:24
Injected at: 940322 08:53

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940322 09:24
Output File: ^E5239::D8 Injected at: 940322 08:53
Data File: >E5239::D6 Dilution Factor: 1.00000
Name: VBLK,V
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:55

	Compound		R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	8.60	128.0	97380	50.00	UG/L	91
13)	CS15 D4-1,2-Dichloroethane	SS1	10.16	65.0	181366	49.33	UG/L	[illegible]
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	392096	50.00	UG/L	69
29)	*CI20 D5-Chlorobenzene	IS-3	18.06	117.0	287788	50.00	UG/L	96
33)	C225 1,1,2,2-Tetrachloroethane		20.81	83.0	5195	2.22	UG/L	[illegible]
35)	CS05 D8-Toluene	SS-2	15.00	98.0	329498	49.71	UG/L	96
42)	CS10 Bromofluorobenzene	SS-3	20.42	95.0	247409	52.62	UG/L	9[illegible]

* Compound is ISTD

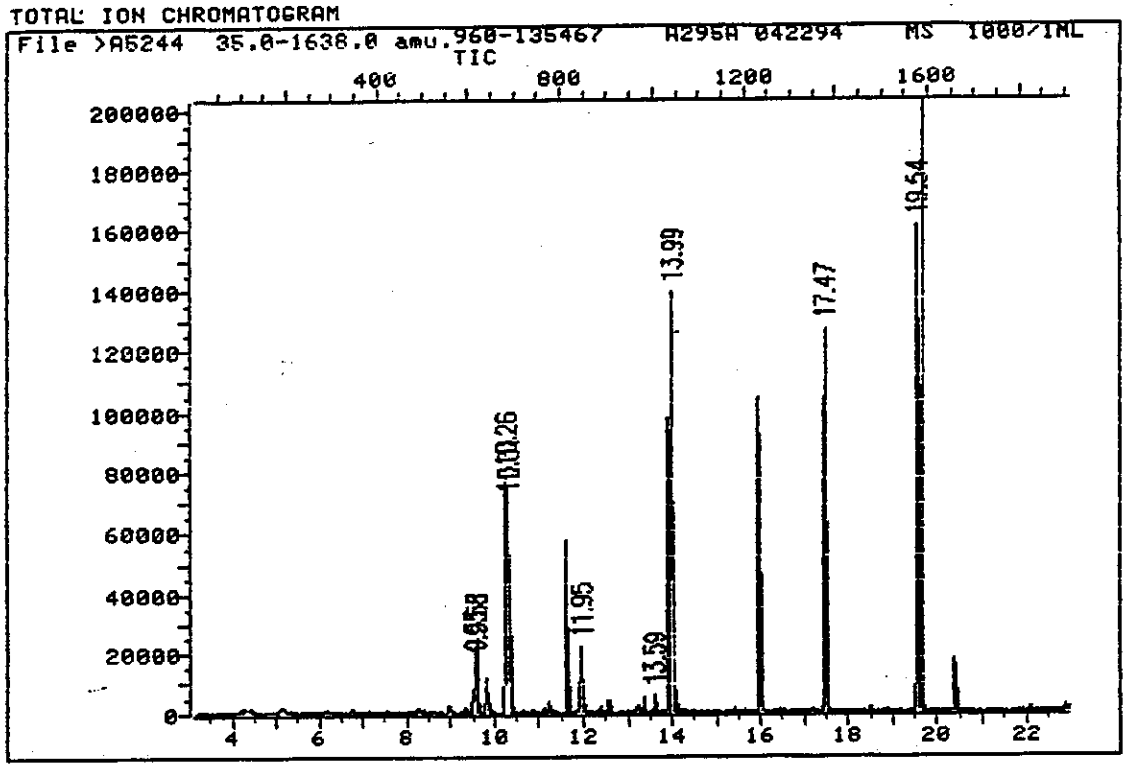
VII

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: A295A
QC Sample Number: 9400960-135467

Compound Name	Spike Added	Sample Result	MS Conc	Percent Recovery	MSD Conc	Percent Recovery	RPD
1,4-Dichlorobenzene	50	N.D.	27	54.00	26	52.00	4.0
Pyrene	50	N.D.	38	76.00	37	74.00	3.0

TOTAL ION CHROMATOGRAM



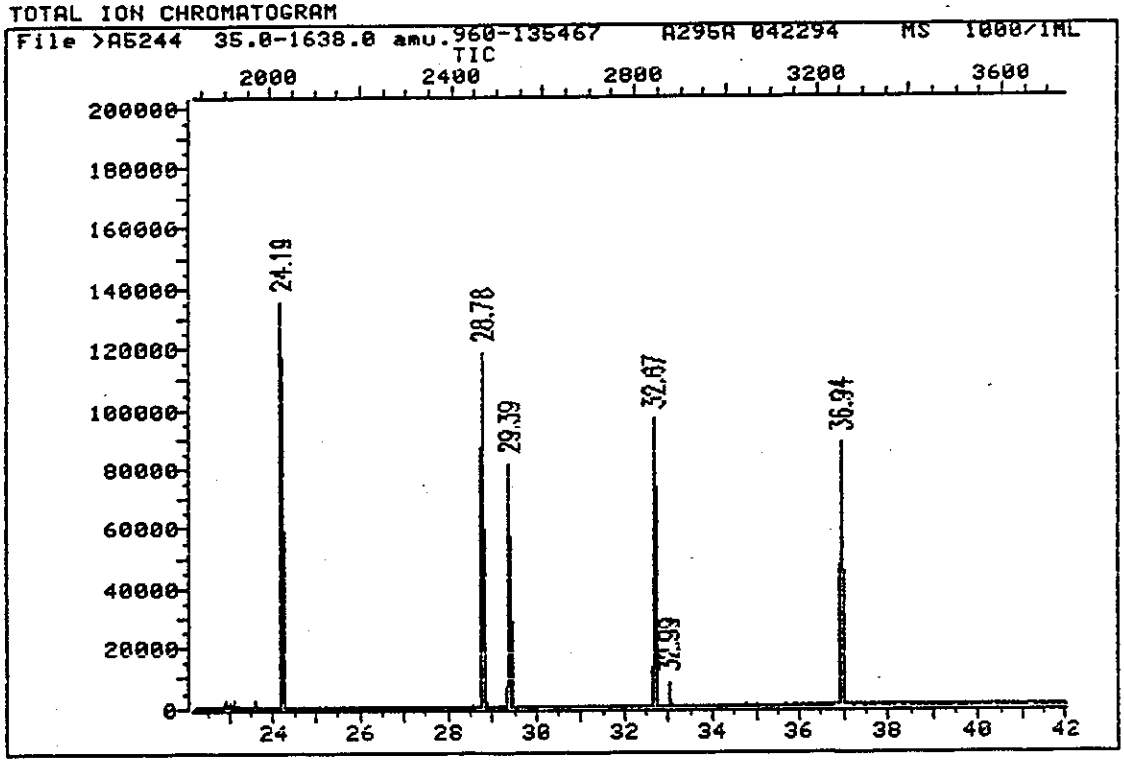
Data File: >A5244::E5 Quant Output File: ^A5244::D3
Name: 960-135467 A295A
Misc: 042294 MS 1000/1ML HP5970 A BTL# 5

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 19:02
Injected at: 940422 18:17

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5244::E5 Quant Output File: ^A5244::D3
Name: 960-135467 A295A
Misc: 042294 MS 1000/1ML HP5970 A BTL# 5

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 19:02
Injected at: 940422 18:17

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940422 19:02
Output File: ^A5244::D3 Injected at: 940422 18:17
Data File: >A5244::E5 Dilution Factor: 1.00000
Name: 960-135467 A295A
Misc: 042294 MS 1000/1ML HP5970 A BTL# 5

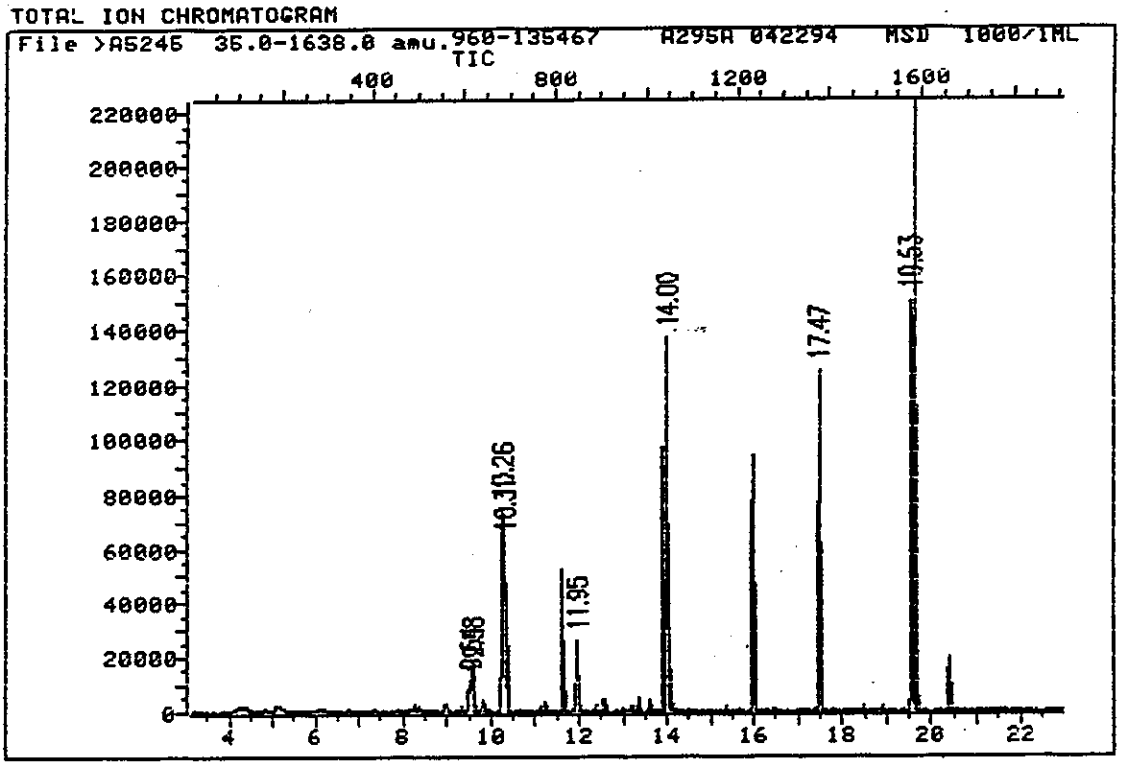
ID File: IASKNR::D4
Title: SP Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.26	152.0	34088	40.00	ug/L	96
3)	CS45 D5-Phenol	9.55	99.0	11157	8.60	ug/L	88
6)	C315 Phenol	9.58	94.0	13986	15.91	ug/L	88
9)	C340 1,4-Dichlorobenzene	10.31	146.0	39113	26.52	ug/L	93
15)	*CI40 D8-Naphthalene	13.99	136.0	125597	40.00	ug/L	93
16)	CS20 D5-Nitrobenzene	11.95	82.0	12667	10.62	ug/L	88
17)	C425 2,4-Dimethylphenol	13.59	107.0	3304	5.68	ug/L	91
21)	*CI50 D10-Acenaphthene	19.54	164.0	75842	40.00	ug/L	97
22)	CS25 2-Fluorobiphenyl	17.47	172.0	79054	29.90	ug/L	95
28)	*CI60 D10-Phenanthrene	24.19	188.0	119425	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.67	240.0	85475	40.00	ug/L	98
34)	C715 Pyrene	28.78	202.0	125392	37.82	ug/L	97
35)	CS30 D14-Terphenyl	29.39	244.0	63696	28.26	ug/L	96
39)	C745 bis(2Ethylhexyl)phthalate	32.99	149.0	4821	1.68	ug/L	94
40)	*CI75 D12-Perylene	36.94	264.0	99962	40.00	ug/L	93

* Compound is ISTD

JCB

TOTAL ION CHROMATOGRAM



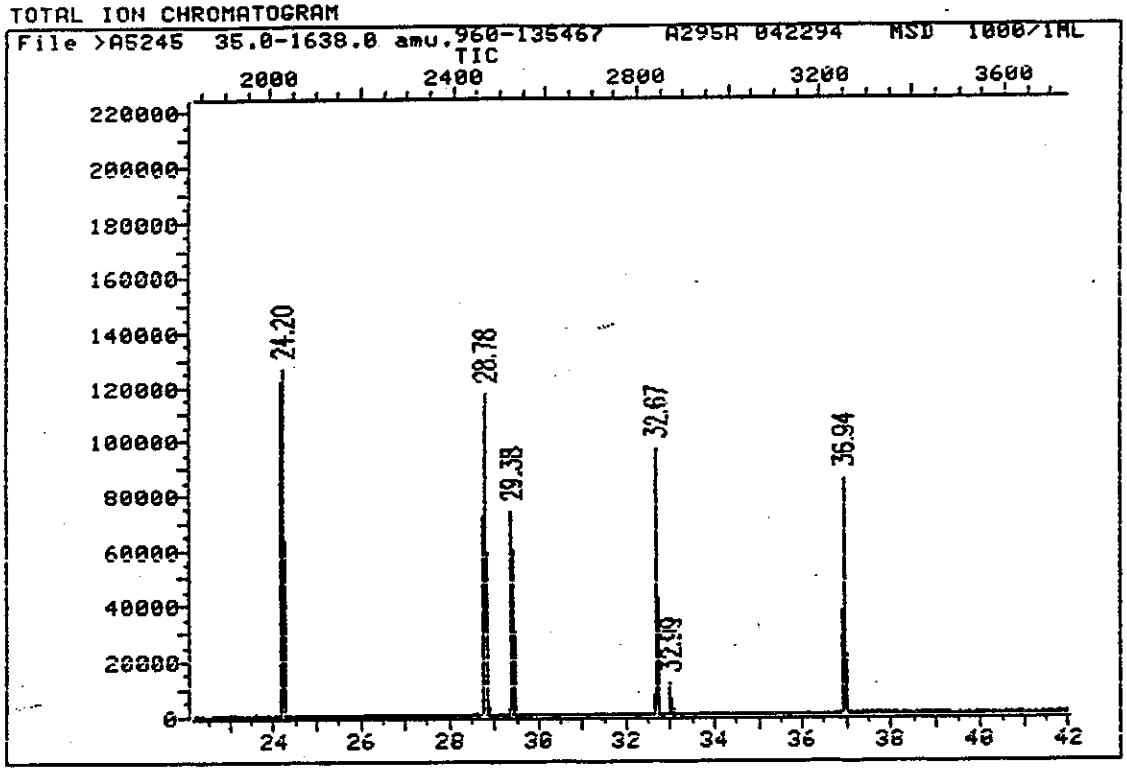
Data File: >A5245::E5 Quant Output File: ^A5245::D3
Name: 960-135467 A295A
Misc: 042294 MSD 1000/1ML HP5970 A BTL# 6

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 19:55
Injected at: 940422 19:09

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5245::E5 Quant Output File: ^A5245::D3
Name: 960-135467 A295A
Misc: 042294 MSD 1000/1ML HP5970 A BTL# 6

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 19:55
Injected at: 940422 19:09

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940422 19:55
Output File: ^A5245::D3 Injected at: 940422 19:09
Data File: >A5245::E5 Dilution Factor: 1.00000
Name: 960-135467 A295A
Misc: 042294 MSD 1000/1ML HP5970 A BTL# 6

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.26	152.0	33402	40.00	ug/L	94
3)	CS45 D5-Phenol	9.54	99.0	9076	7.14	ug/L	78
6)	C315 Phenol	9.58	94.0	8958	10.40	ug/L	91
9)	C340 1,4-Dichlorobenzene	10.31	146.0	37123	25.69	ug/L	98
15)	*CI40 D8-Naphthalene	14.00	136.0	121499	40.00	ug/L	94
16)	CS20 D5-Nitrobenzene	11.95	82.0	13621	11.81	ug/L	91
21)	*CI50 D10-Acenaphthene	19.53	164.0	72508	40.00	ug/L	96
22)	CS25 2-Fluorobiphenyl	17.47	172.0	76380	30.22	ug/L	95
28)	*CI60 D10-Phenanthrene	24.20	188.0	112769	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.67	240.0	85702	40.00	ug/L	96
34)	C715 Pyrene	28.78	202.0	121861	36.66	ug/L	97
35)	CS30 D14-Terphenyl	29.38	244.0	55534	24.57	ug/L	87
39)	C745 bis(2Ethylhexyl)phthalate	32.99	149.0	7105	2.46	ug/L	95
40)	*CI75 D12-Perylene	36.94	264.0	96010	40.00	ug/L	94

* Compound is ISTD

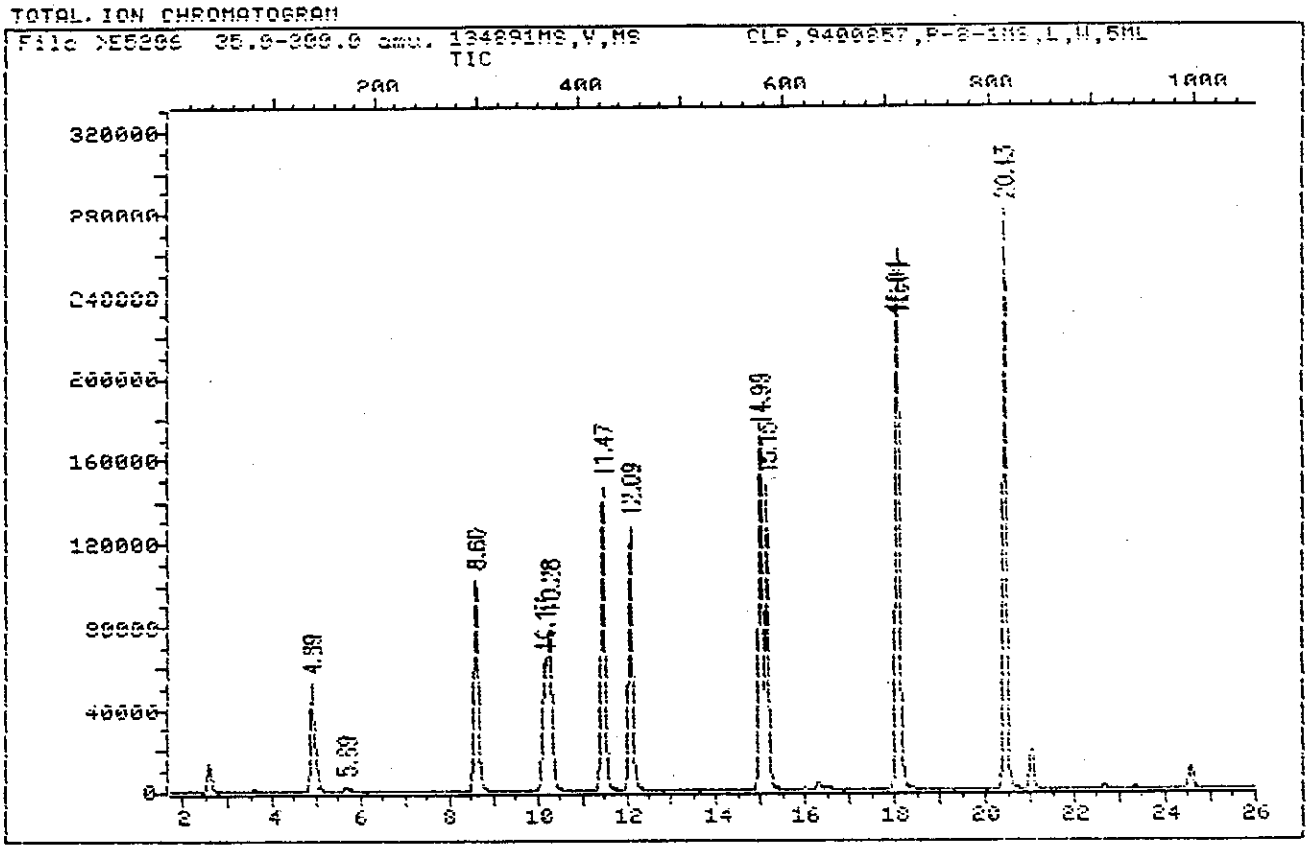
JCB

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: EAQ-198
QC Sample Number: 9400857-134891

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Flag	Units	Spike Result	% recov.	Spike Dup. Result	% recov.	RPD
Volatiles by GC/MS CLP												
Benzene		69	03/19/1994	50.	10.	U	ug/L	43.	86.0	47.	94.0	8.9
Chlorobenzene		69	03/19/1994	50.	10.	U	ug/L	45.	90.0	49.	98.0	8.5
1,1-Dichloroethene		69	03/19/1994	50.	10.	U	ug/L	38.	76.0	42.	84.0	10.0
Toluene		69	03/19/1994	50.	10.	U	ug/L	44.	88.0	46.	92.0	4.4
Trichloroethene		69	03/19/1994	50.	10.	U	ug/L	42.	84.0	46.	92.0	9.1

TOTAL ION CHROMATOGRAM



Data File: >E5206::D7 Quant Output File: ^E5206::D5
Name: 134891MS,V,MS
Misc: CLP,9400857,P-8-1MS,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940319 09:42

Operator ID: RITA
Quant Time: 940319 15:45
Injected at: 940319 15:14

P-8-1+QCMS 3-12-94

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940319 15:45
Output File: ^E5206::D5 Injected at: 940319 15:14
Data File: >E5206::D7 Dilution Factor: 1.00000
Name: 134891MS,V,MS
Misc: CLP,9400857,P-8-1MS,L,W,5ML

EAQ-198

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940319 09:42

		Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01	Bromochloromethane	IS-1	8.60	128.0	102635	50.00	UG/L	91
6)	C030	Methylene Chloride		5.69	84.0	3818	1.86	UG/L	92
9)	C045	1,1-Dichloroethene		4.89	96.0	79995	38.10	UG/L	93
13)	CS15	D4-1,2-Dichloroethane	SS1	10.17	65.0	196651	47.24	UG/L	91
16)	*CI10	1,4-Difluorobenzene	IS-2	11.47	114.0	417224	50.00	UG/L	68
23)	C150	Trichloroethene		12.09	130.0	144625	42.26	UG/L	96
26)	C165	Benzene		10.28	78.0	232831	42.69	UG/L	91
29)	*CI20	D5-Chlorobenzene	IS-3	18.04	117.0	330459	50.00	UG/L	93
34)	C230	Toluene		15.15	91.0	315339	43.50	UG/L	93
35)	CS05	D8-Toluene	SS-2	14.99	98.0	361093	44.41	UG/L	93
36)	C235	Chlorobenzene		18.11	112.0	263029	44.98	UG/L	90
42)	CS10	Bromofluorobenzene	SS-3	20.43	95.0	273601	47.56	UG/L	92

* Compound is ISTD

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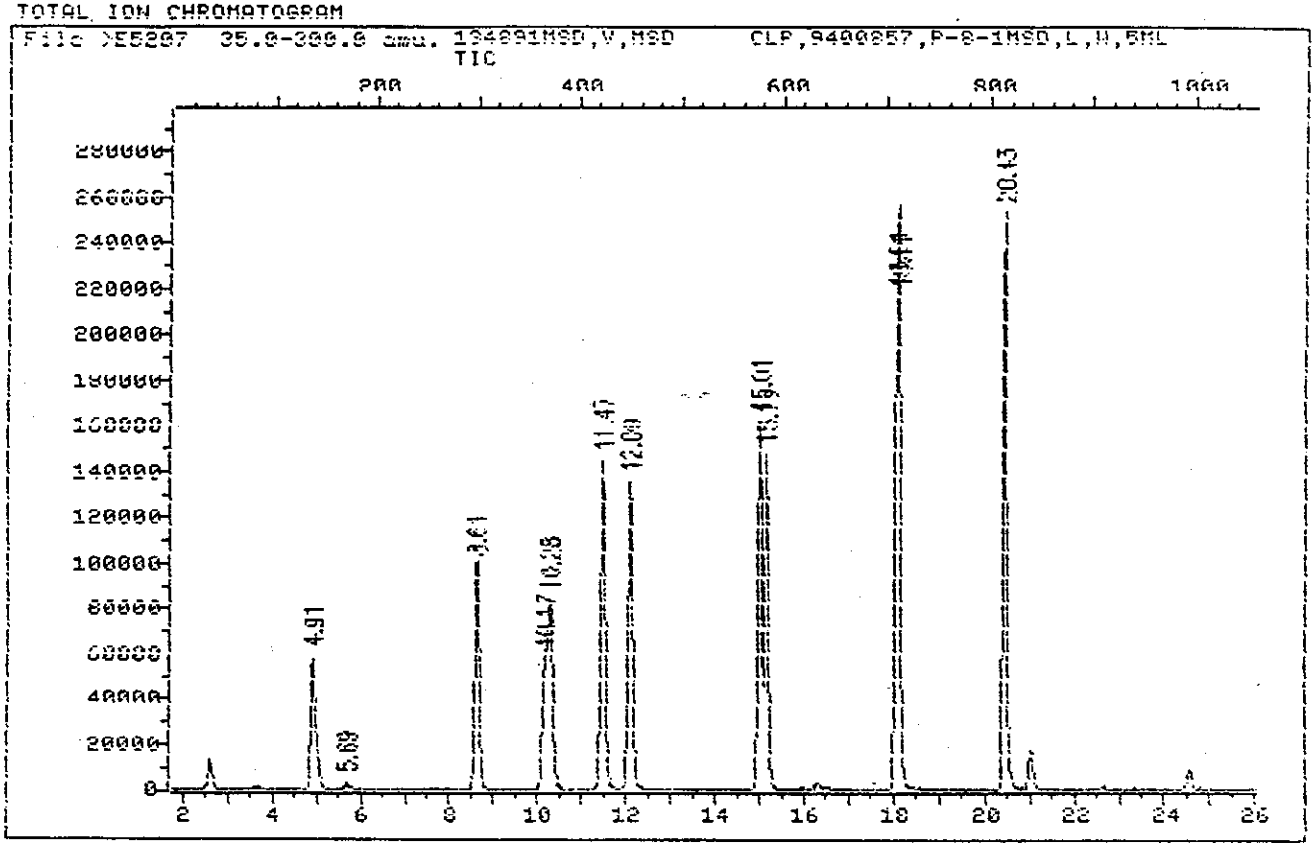
TOTAL ION CHROMATOGRAM



Data File: >E5207::D7 Quant Output File: ^E5207::D5
Name: 134891MSD,V,MSD
Misc: CLP,9400857,P-8-1MSD,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940319 09:42

Operator ID: RITA
Quant Time: 940319 16:22
Injected at: 940319 15:51

P-8-1+QCMSD 3-2-94

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940319 16:22
Output File: ^E5207::D5 Injected at: 940319 15:51
Data File: >E5207::D7 Dilution Factor: 1.00000
Name: 134891MSD,V,MSD
Misc: CLP,9400857,P-8-1MSD,L,W,5ML

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940319 09:42

EAQ-198

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.61	128.0	101692	50.00	UG/L	[illegible]
6)	C030 Methylene Chloride	6=7	5.69	84.0	4487	2.21	UG/L	86
9)	C045 1,1-Dichloroethene		4.91	96.0	87569	42.09	UG/L	93
13)	CS15 D4-1,2-Dichloroethane	SS1	10.17	65.0	186994	45.34	UG/L	[illegible]
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	403791	50.00	UG/L	66
23)	C150 Trichloroethene		12.09	130.0	153688	46.40	UG/L	96
26)	C165 Benzene		10.28	78.0	246549	46.66	UG/L	[illegible]
29)	*CI20 D5-Chlorobenzene	IS-3	18.04	117.0	309708	50.00	UG/L	94
34)	C230 Toluene		15.15	91.0	315894	46.50	UG/L	99
35)	CS05 D8-Toluene	SS-2	15.01	98.0	337984	44.35	UG/L	[illegible]
36)	C235 Chlorobenzene		18.11	112.0	267635	48.83	UG/L	93
42)	CS10 Bromofluorobenzene	SS-3	20.43	95.0	250308	46.43	UG/L	97

* Compound is ISTD

JSB

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00960

External Standard Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Ext. Std. True Conc.	Units	Conc. Found	% Recovery
Alkalinity		34	03/25/1994	19.94	ppmCaCO	19.5	97.8
Alkalinity		35	03/25/1994	19.94	ppmCaCO	19.5	97.8
Alkalinity		35	04/04/1994	29.98	ppmCaCO	32.8	109.4
Alkalinity		35	04/12/1994	29.98	ppmCaCO	31.78	106.0
Alkalinity, Bicarb. at pH 4.		17	03/24/1994	19.94	ppmCaCO	20.8	104.3
Alkalinity, Bicarb. at pH 4.		17	03/25/1994	19.94	ppmCaCO	19.5	97.8
Alkalinity, Bicarb. at pH 4.		18	03/25/1994	19.94	ppmCaCO	19.5	97.8
Ammonia		281	04/05/1994	0.74	mg/L N	0.75	101.4
Ammonia		281	04/05/1994	0.74	mg/L N	0.75	101.4
Ammonia		281	04/05/1994	0.74	mg/L N	0.74	100.0
Ammonia		281	04/05/1994	0.74	mg/L N	0.72	97.3
Ammonia		282	04/05/1994	0.74	mg/L N	0.74	100.0
Ammonia		282	04/05/1994	0.74	mg/L N	0.72	97.3
Ammonia		282	04/06/1994	0.74	mg/L N	0.76	102.7
Ammonia		282	04/06/1994	0.74	mg/L N	0.76	102.7
Ammonia		282	04/06/1994	0.74	mg/L N	0.75	101.4
Ammonia		282	04/06/1994	0.74	mg/L N	0.79	106.8
Ammonia		282	04/07/1994	0.74	mg/L N	0.75	101.4
Ammonia		282	04/07/1994	0.74	mg/L N	0.72	97.3
Ammonia		282	04/07/1994	0.74	mg/L N	0.74	100.0
Ammonia		282	04/07/1994	0.74	mg/L N	0.74	100.0
Chloride		164	04/13/1994	87.16	mg/L	85.98	98.6
Conductivity		80	03/21/1994	100	umhos/c	106	106.0
Conductivity		80	03/22/1994	100	umhos/c	103	103.0
Conductivity		80	03/23/1994	100	umhos/c	97	97.0
Conductivity		80	03/24/1994	100	umhos/c	97	97.0
Conductivity		80	03/25/1994	100	umhos/c	101	101.0
Conductivity		80	03/28/1994	100	umhos/c	99	99.0
Conductivity		80	03/29/1994	100	umhos/c	94	94.0
Fluoride, Total		73	04/06/1994	5.34	mg/L	4.94	92.5
Fluoride, Total		73	04/12/1994	5.34	mg/L	5.60	104.9
Nitrate/nitrite		42	04/04/1994	1.21	mg/L N	1.20	99.2
Nitrate/nitrite		42	04/04/1994	1.21	mg/L N	1.20	99.2
Nitrate/nitrite		42	04/05/1994	1.21	mg/L N	1.24	102.5
Nitrate/nitrite		42	04/05/1994	1.96	mg/L N	1.22	62.2
Nitrate/nitrite		42	04/05/1994	1.21	mg/L N	1.19	98.3
Nitrate/nitrite		42	04/05/1994	1.21	mg/L N	1.21	100.0
Nitrate/nitrite		43	04/05/1994	1.21	mg/L N	1.19	98.3
Nitrate/nitrite		43	04/05/1994	1.21	mg/L N	1.21	100.0
Solids, dissolved (TDS)		510	03/22/1994	1110	mg/L	1068	96.2
Solids, dissolved (TDS)		510	03/24/1994	1110	mg/L	1080	97.3
Solids, dissolved (TDS)		512	03/25/1994	1110	mg/L	1074	96.8
Solids, dissolved (TDS)		512	03/28/1994	1110	mg/L	1044	94.1
Solids, dissolved (TDS)		512	03/29/1994	1110	mg/L	1060	95.5
Sulfate		137	03/30/1994	39.13	mg/L	43.21	110.4
Sulfate		137	04/05/1994	39.13	mg/L	40.37	103.2
Sulfate		138	04/05/1994	39.13	mg/L	40.37	103.2
Total Organic Carbon		633	03/30/1994	105.6	mg/L	101.2	95.8
Total Organic Carbon		633	03/31/1994	105.6	mg/L	105.1	99.5

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00960

Blank Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Blank Result
Alkalinity		34	03/25/1994	2.0	ppmCaC	<2
Alkalinity		35	03/25/1994	2.0	ppmCaC	<2
Alkalinity		35	04/04/1994	2.0	ppmCaC	<2
Alkalinity		35	04/12/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		17	03/24/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		17	03/25/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		18	03/25/1994	2.0	ppmCaC	<2
Ammonia		281	04/05/1994	0.1	mg/L N	<0.1
Ammonia		281	04/05/1994	0.1	mg/L N	<0.1
Ammonia		282	04/05/1994	0.1	mg/L N	<0.1
Ammonia		282	04/06/1994	0.1	mg/L N	<0.1
Ammonia		282	04/06/1994	0.1	mg/L N	<0.1
Ammonia		282	04/07/1994	0.1	mg/L N	<0.1
Ammonia		282	04/07/1994	0.1	mg/L N	<0.1
Chloride		164	04/13/1994	2.0	mg/L	<2
Conductivity		80	03/21/1994	1	umhos/	<1
Conductivity		80	03/22/1994	1	umhos/	<1
Conductivity		80	03/23/1994	1	umhos/	<1
Conductivity		80	03/24/1994	1	umhos/	<1
Conductivity		80	03/25/1994	1	umhos/	<1
Conductivity		80	03/28/1994	1	umhos/	<1
Conductivity		80	03/29/1994	1	umhos/	<1
Fluoride, Total		73	04/06/1994	0.1	mg/L	<0.1
Fluoride, Total		73	04/12/1994	0.1	mg/L	<0.1
Nitrate/nitrite		42	04/04/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		42	04/05/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		42	04/05/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		43	04/05/1994	0.1	mg/L N	<0.1
Solids, dissolved (TDS)		510	03/22/1994	<1.0	mg/L	6
Solids, dissolved (TDS)		510	03/24/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		512	03/25/1994	<1.0	mg/L	3
Solids, dissolved (TDS)		512	03/28/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		512	03/29/1994	<1.0	mg/L	4
Sulfate		137	03/30/1994	5	mg/L	<10
Sulfate		137	04/05/1994	5	mg/L	<10
Sulfate		138	04/05/1994	5	mg/L	<10
Sulfide		34	03/17/1994	0.1	mg/L	<0.1
Sulfide		34	03/24/1994	0.1	mg/L	<0.1
Sulfide		35	04/13/1994	0.1	mg/L	<0.1
Total Organic Carbon		633	03/30/1994	1.0	mg/L	<1
Total Organic Carbon		633	03/31/1994	1.0	mg/L	<1
Arsenic (As)	661		4-20-1994	.003	mg/L	<0.003
Cobalt (Co)	661	448	04/21/1994	0.05	mg/L	<0.01
Iron (Fe)	661	369	04/21/1994	0.1	mg/L	<0.05
Lead (Pb)	661	387	04/20/1994	.003	mg/L	0.002
Manganese (Mn)	661	448	04/21/1994	0.01	mg/L	<0.01

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00960

Duplicate Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Sample Result	Duplicate Result	RPD
Alkalinity		34	03/25/1994	2.0	ppmCaC	689	710	3.0
Alkalinity		34	03/25/1994	2.0	ppmCaC	119	118	0.8
Alkalinity		35	03/25/1994	2.0	ppmCaC	210	210	0.0
Alkalinity, Bicarb. at pH 4.		17	03/24/1994	2.0	ppmCaC	689	710	3.0
Alkalinity, Bicarb. at pH 4.		17	03/25/1994	2.0	ppmCaC	119	118	0.8
Alkalinity, Bicarb. at pH 4.		18	03/25/1994	2.0	ppmCaC	210	210	0.0
Ammonia		281	04/05/1994		mg/L N	19.2	20.4	6.1
Ammonia		282	04/05/1994	0.1	mg/L N	4.3	4.3	0.0
Chloride		164	04/13/1994	2.0	mg/L	65	71	8.8
Conductivity		80	03/21/1994	1	umhos/	996	996	0.0
Fluoride, Total		73	04/06/1994	0.1	mg/L	0.11	0.13	16.7
Nitrate/nitrite		42	04/05/1994	0.1	mg/L N	<1.0	<1.0	
Nitrate/nitrite		43	04/05/1994	0.1	mg/L N	<1.0	<1.0	
Solids, dissolved (TDS)		510	03/22/1994	<1.0	mg/L	656	640	2.5
Solids, dissolved (TDS)		512	03/25/1994	<1.0	mg/L	606	654	7.6
Sulfate		137	03/30/1994	5	mg/L	106	129	19.6
Sulfate		138	04/05/1994	5	mg/L	196	189	3.6
Sulfide		34	03/17/1994	0.1	mg/L	1.62	1.62	0.0
Sulfide		35	03/25/1994	0.1	mg/L	1.64	1.25	27.0
Total Organic Carbon		633	03/30/1994	1.0	mg/L	3	2.8	6.9
Total Organic Carbon		633	03/30/1994	1.0	mg/L	4	4.2	4.9
Arsenic (As)	661	316	04/21/1994	0.01	mg/L	0.010	0.010	0.0
Cobalt (Co)	661	448	04/21/1994	0.05	mg/L	0.022	0.017	25.6
Iron (Fe)	661	369	04/21/1994	0.1	mg/L	86.4	86.3	0.1
Iron (Fe)	661	369	04/21/1994	0.1	mg/L	54.1	54.9	1.5
Lead (Pb)	661	387	04/20/1994	.003	mg/L	0.017	0.017	0.0
Manganese (Mn)	661	448	04/21/1994	0.01	mg/L	3.77	3.76	0.3
Manganese (Mn)	661	448	04/21/1994	0.01	mg/L	3.21	3.30	2.8

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00960

Spiked Sample Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Units	Spiked Sample Result	% Recovery
Alkalinity		34	03/25/1994	118.8	689	ppmCaC	820	110.3
Alkalinity		34	03/25/1994	47.50	119	ppmCaC	156	77.9
Alkalinity		35	03/25/1994	118.8	210	ppmCaC	343	112.0
Alkalinity, Bicarb. at p		17	03/24/1994	118.8	689	ppmCaC	820	110.3
Alkalinity, Bicarb. at p		17	03/25/1994	47.5	119	ppmCaC	156	77.9
Alkalinity, Bicarb. at p		18	03/25/1994	118.8	210	ppmCaC	343	112.0
Ammonia		281	04/05/1994	40.0	19.2	mg/L N	63.6	111.0
Ammonia		282	04/05/1994	10.0	4.3	mg/L N	15.6	113.0
Chloride		164	04/13/1994	50.0	65	mg/L	118	106.0
Fluoride, Total		73	04/06/1994	5.0	0.11	mg/L	4.47	87.2
Nitrate/nitrite		42	04/05/1994	10.0	<1.0	mg/L N	9.8	98.0
Nitrate/nitrite		43	04/05/1994	10.0	<1.0	mg/L N	8.7	87.0
Sulfate		137	03/30/1994	100	106	mg/L	224	118.0
Sulfate		138	04/05/1994	100.0	196	mg/L	313	117.0
Total Organic Carbon		633	03/30/1994	5.0	3	mg/L	7.66	93.2
Total Organic Carbon		633	03/30/1994	5.0	4	mg/L	8.4	88.0
Arsenic (As)	661	316	04/21/1994	0.04	0.010	mg/L	0.039	72.5
Cobalt (Co)	661	448	04/21/1994	0.5	0.022	mg/L	0.469	89.4
Iron (Fe)	661	369	04/21/1994	0	86.4	mg/L	0	0
Iron (Fe)	661	369	04/21/1994	0	54.1	mg/L	0	0
Lead (Pb)	661	387	04/20/1994	0.02	0.017	mg/L	0.031	70.0
Manganese (Mn)	661	448	04/21/1994	0.5	3.77	mg/L	4.19	84.0
Manganese (Mn)	661	448	04/21/1994	0.5	3.21	mg/L	3.77	112.0

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00960

Laboratory Control Sample (LCS) Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Units	Amount Found	% Recovery
Alkalinity		34	03/25/1994	475.0	ppmCaC	477	100.4
Alkalinity		35	03/25/1994	475.0	ppmCaC	477	100.4
Alkalinity		35	04/04/1994	475.0	ppmCaC	472	99.4
Alkalinity		35	04/12/1994	475.0	ppmCaC	469	98.7
Alkalinity, Bicarb. at p		17	03/24/1994	475	ppmCaC	459	96.6
Alkalinity, Bicarb. at p		17	03/25/1994	475	ppmCaC	477	100.4
Alkalinity, Bicarb. at p		18	03/25/1994	475	ppmCaC	477	100.4
Ammonia		281	04/05/1994	3.0	mg/L N	2.95	98.3
Ammonia		281	04/05/1994	3.0	mg/L N	2.93	97.7
Ammonia		282	04/05/1994	3.0	mg/L N	2.93	97.7
Ammonia		282	04/06/1994	3.0	mg/L N	2.99	99.7
Ammonia		282	04/06/1994	3.0	mg/L N	3.00	100.0
Ammonia		282	04/07/1994	3.0	mg/L N	2.93	97.7
Ammonia		282	04/07/1994	3.0	mg/L N	3.00	100.0
Chloride		164	04/13/1994	1000	mg/L	1002	100.2
Conductivity		80	03/21/1994	104.5	umhos/	105.8	101.2
Conductivity		80	03/22/1994	104.5	umhos/	102.2	97.8
Conductivity		80	03/23/1994	104.5	umhos/	105.8	101.2
Conductivity		80	03/24/1994	104.5	umhos/	99.7	95.4
Conductivity		80	03/25/1994	104.5	umhos/	106.4	101.8
Conductivity		80	03/28/1994	104.5	umhos/	104.6	100.1
Conductivity		80	03/29/1994	104.5	umhos/	100.2	95.9
Fluoride, Total		73	04/06/1994	10.0	mg/L	10.77	107.7
Fluoride, Total		73	04/12/1994	10.0	mg/L	10.78	107.8
Nitrate/nitrite		42	04/04/1994	2.0	mg/L N	2.01	100.5
Nitrate/nitrite		42	04/05/1994	2.0	mg/L N	2.04	102.0
Nitrate/nitrite		42	04/05/1994	2.0	mg/L N	2.01	100.5
Nitrate/nitrite		43	04/05/1994	2.0	mg/L N	2.01	100.5
Sulfate		137	03/30/1994	40.0	mg/L	39.7	99.3
Sulfate		137	04/05/1994	40.0	mg/L	36.2	90.5
Sulfate		138	04/05/1994	40.0	mg/L	36.2	90.5
Total Organic Carbon		633	03/30/1994	10.0	mg/L	9.96	99.6
Total Organic Carbon		633	03/31/1994	10.0	mg/L	9.91	99.1
Arsenic (As)	661	317	04/21/1994	0.05	mg/L	0.047	94.0
Cobalt (Co)	661	448	04/21/1994	1.0	mg/L	0.98	98.0
Iron (Fe)	661	369	04/21/1994	1.0	mg/L	0.99	99.0
Lead (Pb)	661	387	04/20/1994	0.05	mg/L	0.051	102.0
Manganese (Mn)	661	448	04/21/1994	1.0	mg/L	0.97	97.0

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/18/94 18:14
Data File: >A5189
Scan: 826

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.01	57.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	74.71	74.71	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	43.56	43.56	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.09	6.09	Ok
275	10-30% of mass 198	19.73	19.73	Ok
365	Greater than 1% of mass 198	2.11	2.11	Ok
441	Less than mass 443	9.17	76.29	Ok
442	Greater than 40% of mass 198	64.11	64.11	Ok
443	17-23% of mass 442	12.02	18.74	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID		DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
>A5190	50PPB	#3370	4/19/94	18:54
>A5191	20PPB	#3371		19:47
>A5192	160PPB	#3367		20:41
>A5193	120 PPB	#3368		21:35
>A5194	80PPB	#3369		22:28

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/22/94 14:27
Data File: >A5239
Scan: 831

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.48	57.48	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	75.68	75.68	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.95	40.95	Ok
197	Less than 1% of mass 198	.72	.72	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.75	6.75	Ok
275	10-30% of mass 198	20.75	20.75	Ok
365	Greater than 1% of mass 198	2.00	2.00	Ok
441	Less than mass 443	8.68	76.31	Ok
442	Greater than 40% of mass 198	63.35	63.35	Ok
443	17-23% of mass 442	11.37	17.95	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS

1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET THOROFARE | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5239 DFTPP Injection Date: 4/22/94

Instrument ID: 70A70F DFTPP Injection Time: 14:27

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	57.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	75.7
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.0
197	Less than 1.0% of mass 198	.7
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.8
275	10.0 - 30.0% of mass 198	20.8
365	Greater than 1.00% of mass 198	2.0
441	Present, but less than mass 443	8.7
442	Greater than 40.0% of mass 198	63.4
443	17.0 - 23.0% of mass 442	11.4 (17.9)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	050 PPB	50PPB #3370	>A5240	04/22/94	14:49
02	BLK#2A	BLK#2A 295A	>A5241	04/22/94	15:41
03	BLK#3A	BLK#3A 295A	>A5242	04/22/94	16:33
04	BLK#4A	BLK#4A 295A	>A5243	04/22/94	17:25
05	135467 MS	00960 MS	>A5244	04/22/94	18:17
06	135467 MSD	00960 MSD	>A5245	04/22/94	19:09
07	135343	00938	>A5246	04/22/94	20:02
08	135345	00938	>A5247	04/22/94	20:54
09	135467	00960	>A5248	04/22/94	21:46
10	135466	00960	>A5249	04/22/94	22:37
11	135678	00995	>A5250	04/22/94	23:29
12	135680	00995	>A5251	04/23/94	00:21
13	135682	00995	>A5252	04/23/94	01:12
14	135684	00995	>A5253	04/23/94	02:04
15					
16					
17					
18					
19					
20					
21					
22					

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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5124

BFB Injection Date: 3/16/94

Instrument ID: 70 1

BFB Injection Time: 3/16/94 10:0o

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	25.2	
75	30.0 - 66.0% OF MASS 95	61.4	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	8.3	
173	Less than 2.0% of mass 174	.7	.8)1
174	50.0 - 120.0% of mass 95	90.5(	
175	4.0 - 9.0% of mass 174	7.1	7.9)1
176	93.0 - 101% of mass 174	87.0	96.1)1
177	5.0 - 9.0% of mass 176	5.5	6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03		[illegible]			
04		[illegible]			
05					
06		Nat			
07					
08					
09		Rag			
10		[illegible]			
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

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1

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5124 BFB Injection Date: 3/16/94

Instrument ID: HP5970 BFB Injection Time: 10:06

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	25.2
75	30.0 - 66.0% of mass 95	61.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.3
173	Less than 2.0% of mass 174	.7 (.8)1
174	50-120% of mass 95	90.5
175	4.0 - 9.0% of mass 174	7.1 (7.9)1
176	93.0 - 101.0% of mass 174	87.0 (96.1)1
177	5.0 - 9.0% of mass 176	5.5 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB STD	50 STD#2312	>E5126	03/16/94	11:28
02	10 PPB STD	10 STD#2312	>E5127	03/16/94	12:07
03	100 PPB ST	100 STD2312	>E5128	03/16/94	12:49
04	20 PPB STD	20 STD#2312	>E5130	03/16/94	14:03
05	200 PPB ST	200 STD#2312	>E5131	03/16/94	14:52
06	VBLK	VBLK	>E5133	03/16/94	17:03
07	134468	00780	>E5134	03/16/94	17:40
08	134489	00783	>E5135	03/16/94	18:17
09	134490	00783	>E5136	03/16/94	18:53
10	134491	00783	>E5137	03/16/94	19:30
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5237 BFB Injection Date: 3/22/94

Instrument ID: 70 1 BFB Injection Time: 3/22/94 7:52

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	21.1	
75	30.0 - 66.0% OF MASS 95	52.8	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	7.6	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	86.4	
175	4.0 - 9.0% of mass 174	7.2	8.4)1
176	93.0 - 101% of mass 174	81.3	94.2)1
177	5.0 - 9.0% of mass 176	6.1	7.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04					
05					
06					
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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5237 BFB Injection Date: 3/22/94

Instrument ID: HP5970 BFB Injection Time: 7:52

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	21.1
75	30.0 - 66.0% of mass 95	52.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50-120% of mass 95	86.4
175	4.0 - 9.0% of mass 174	7.2 (8.4)1
176	93.0 - 101.0% of mass 174	81.3 (94.2)1
177	5.0 - 9.0% of mass 176	6.1 (7.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 ppb	#2312	>E5238	03/22/94	08:11
02	VBLK	VBLK	>E5239	03/22/94	08:53
03	135551	00974	>E5240	03/22/94	09:35
04	135552	00974	>E5241	03/22/94	10:12
05	135341	00938	>E5242	03/22/94	10:49
06	135343	00938	>E5243	03/22/94	11:25
07	135453	00956	>E5244	03/22/94	12:02
08	135452	00956	>E5245	03/22/94	12:38
09	135465	00960	>E5246	03/22/94	13:24
10	135446	00956	>E5247	03/22/94	14:01
11	135447	00956	>E5248	03/22/94	14:39
12	135448	00956	>E5249	03/22/94	15:16
13	135450	00956	>E5250	03/22/94	15:53
14	135451	00956	>E5251	03/22/94	16:31
15	135445	00956	>E5252	03/22/94	17:08
16	135466	00960	>E5253	03/22/94	17:45
17	135467	00960	>E5255	03/22/94	19:00
18	135456	00958	>E5256	03/22/94	19:37
19	135457	00958	>E5257	03/22/94	20:14
20	135459	00958	>E5259	03/22/94	21:29
21	135460	00958	>E5260	03/22/94	22:06
22	135504	00963	>E5261	03/22/94	22:44

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5240
Injection Time: 940422 14:49

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.16841	.01	Average	
CS45 D5-Phenol	1.52248	1.53921	1.10	Average	
C309 Pyridine	1.10561	1.06581	3.60	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.39390	.17	Average	
C335 1,3-Dichlorobenzene	1.70502	1.73758	1.91	Average	
C340 1,4-Dichlorobenzene	1.73050	1.75303	1.30	Average	
C350 1,2-Dichlorobenzene	1.65558	1.69078	2.13	Average	
C349 Indene	2.27085	2.33336	2.75	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.08907	.73	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.37833	.38	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.14497	5.37	Average	
C459 Quinoline	.69188	.69648	.66	Average	
C471 1-Methylnaphthalene	.70593	.72690	2.97	Average	
CS25 2-Fluorobiphenyl	1.39436	1.41553	1.52	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.73584	3.42	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.90334	6.60	Average	
CS55 2,4,6-Tribromophenol	.27799	.23348	16.01	Average	
C640 Phenanthrene	1.10703	1.17021	5.71	Average	
C645 Anthracene	1.06492	1.10800	4.05	Average	
C650 Di-n-butylphthalate	1.68960	2.03914	20.69	Average	
C655 Fluoranthene	1.28823	1.38793	7.74	Average	
C715 Pyrene	1.55165	1.74356	12.37	Average	
CS30 D14-Terphenyl	1.05487	1.07446	1.86	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	1.04227	11.77	Average	
C730 Benzo(a)anthracene	1.24875	1.29458	3.67	Average	
C740 Chrysene	1.22525	1.29672	5.83	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.50605	11.83	Average	
C759 6-Methyl chrysene	.91148	.93155	2.20	Average	
C760 Di-n-octylphthalate	2.02659	2.48262	22.50	Average	
C765 Benzo(b)fluoranthene	1.31752	1.30764	.75	Average	
C770 Benzo(k)fluoranthene	1.17763	1.25334	6.43	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.12435	10.48	Average	
C775 Benzo(a)pyrene	1.10417	1.13644	2.92	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5240
Injection Time: 940422 14:49

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.89465	.86	Average
C785 Dibenz(a,h)anthracene	.96071	.94658	1.47	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Check Standard Data File: >E5238
Injection Time: 940322 08:11

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane	.48681	.41223	15.32	Average	
C015 Bromomethane	1.22893	1.16969	4.82	Average	
C020 Vinyl Chloride	.67188	.64375	4.19	Average	
C025 Chloroethane	.49539	.47447	4.22	Average	
C030 Methylene Chloride	1.06493	.99584	6.49	Average	
C035 Acetone	.17724	.13076	26.23	Average	
C040 Carbon Disulfide	2.71252	2.62889	3.08	Average	
C045 1,1-Dichloroethene	1.12849	1.06903	5.27	Average	
C050 1,1-Dichloroethane	1.96487	1.84175	6.27	Average	
C053 1,2-Dichloroethene(total)	1.20240	1.13468	5.63	Average	(Conc=100.00)
C060 Chloroform	3.16820	2.87571	9.23	Average	
CS15 D4-1,2-Dichloroethane SS1	2.12865	1.88771	11.32	Average	
C065 1,2-Dichloroethane	2.25702	1.99165	11.76	Average	
C110 2-Butanone	.22720	.18547	18.37	Average	
C115 1,1,1-Trichloroethane	.79437	.72525	8.70	Average	
C120 Carbon Tetrachloride	.81692	.74057	9.35	Average	
C125 Vinyl Acetate	.34705	.32999	4.92	Average	
C130 Bromodichloromethane	.67801	.63621	6.17	Average	
C140 1,2-Dichloropropane	.23583	.23099	2.05	Average	
C143 Cis-1,3-Dichloropropene	.42772	.41218	3.63	Average	(Conc=50.00)
C150 Trichloroethene	.41503	.39772	4.17	Average	
C155 Dibromochloromethane	.67860	.63421	6.54	Average	
C160 1,1,2-Trichloroethane	.26307	.23891	9.18	Average	
C165 Benzene	.66286	.65221	1.61	Average	
C172 Trans-1,3-Dichloropropene	.41301	.39532	4.28	Average	(Conc=50.00)
C180 Bromoform	.47930	.41157	14.13	Average	
C205 4-Methyl-2-Pentanone	.20266	.16636	17.91	Average	
C210 2-Hexanone	.12706	.09596	24.48	Average	
C220 Tetrachloroethene	.53846	.52790	1.96	Average	
C225 1,1,2,2-Tetrachloroethane	.47137	.40612	13.84	Average	
C230 Toluene	1.09081	1.06520	2.35	Average	
CS05 D8-Toluene SS-2	1.15196	1.15162	.03	Average	
C235 Chlorobenzene	.88943	.88762	.20	Average	
C240 Ethylbenzene	.40374	.39543	2.06	Average	
C245 Styrene	.83188	.80957	2.68	Average	
C250 Xylene (total)	.48538	.46466	4.27	Average	
meta+para Xylene	.50718	.49576	2.25	Average	(Conc=100.00)
ortho Xylene	.48538	.46466	4.27	Average	
CS10 Bromofluorobenzene SS-3	.85928	.81690	4.93	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

000072

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

	Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
CS50	2-Fluorophenol	1.03827	1.16064	1.17525	1.27220	1.19497	.694	1.16827	7.228	
CS45	D5-Phenol	1.35302	1.59272	1.51650	1.61665	1.53348	.930	1.52248	6.784	
C309	Pyridine	.98492	1.10807	1.11202	1.17507	1.14798	.399	1.10561	6.590	
C314	Benzenethiol	-	-	-	-	-	-	-	-	
C315	Phenol	-	-	-	-	-	-	-	-	
CS70	D4-2-Chlorophenol	1.27943	1.42308	1.41542	1.47761	1.38555	.950	1.39622	5.247	
C335	1,3-Dichlorobenzene	1.74228	1.73781	1.68614	1.73984	1.61903	.989	1.70502	3.135	
C340	1,4-Dichlorobenzene	1.76983	1.75900	1.73272	1.76950	1.62145	1.004	1.73050	3.629	
C350	1,2-Dichlorobenzene	1.72534	1.70458	1.63722	1.66707	1.54371	1.055	1.65558	4.298	
C349	Indene	2.29853	2.37249	2.24515	2.30462	2.13346	1.077	2.27085	3.925	
CS75	1,2-Dichlorobenzene-D4	1.11976	1.12617	1.08691	1.10562	1.04703	1.051	1.09710	2.897	(Conc=10.0,25.0,40.0,60.0,80.(
C355	2-Methylphenol	-	-	-	-	-	-	-	-	
C364	3&4-Methylphenol	-	-	-	-	-	-	-	-	(Conc=40.0,100.0,160.0,240.0,3
CS20	D5-Nitrobenzene	.31913	.38886	.38333	.40069	.40694	.854	.37979	9.261	(Conc=10.0,25.0,40.0,60.0,80.(
C425	2,4-Dimethylphenol	-	-	-	-	-	-	-	-	
C450	Naphthalene	1.19262	1.10325	1.11941	1.03885	.97893	1.005	1.08661	7.486	
C459	Quinoline	.67225	.69664	.70675	.69664	.68714	1.080	.69188	1.876	
C471	1-Methylnaphthalene	.78812	.71147	.71847	.67481	.64480	1.182	.70593	7.222	
CS25	2-Fluorobiphenyl	1.42042	1.42299	1.39953	1.38005	1.34878	.894	1.39436	2.213	(Conc=10.0,25.0,40.0,60.0,80.(
C535	Dimethylphthalate	1.73962	1.70347	1.71171	1.65495	1.58256	.970	1.67846	3.675	
C555	2,4-Dinitrophenol	-	-	-	-	-	-	-	-	
C560	4-Nitrophenol	-	-	-	-	-	-	-	-	
C580	Diethylphthalate	1.82011	1.83848	1.85278	1.72709	1.68923	1.085	1.78554	4.078	
CS55	2,4,6-Tribromophenol	.18311	.24903	.32936	.31676	.31170	1.130	.27799	22.116	
C640	Phenanthrene	1.17574	1.13885	1.10791	1.08607	1.02658	1.003	1.10703	5.079	
C645	Anthracene	1.08061	1.11195	1.10056	1.03391	.99758	1.009	1.06492	4.509	
C650	Di-n-butylphthalate	1.90183	1.97845	1.85027	1.45253	1.26492	1.090	1.68960	18.501	
C655	Fluoranthene	1.30155	1.34302	1.32624	1.26702	1.20330	1.161	1.28823	4.302	
C715	Pyrene	1.71895	1.68738	1.48860	1.45192	1.41141	.881	1.55165	9.114	
CS30	D14-Terphenyl	1.01481	1.09258	1.07287	1.04078	1.05329	.899	1.05487	2.825	(Conc=10.0,25.0,40.0,60.0,80.(
C720	Butylbenzylphthalate	.93384	1.03906	.92013	.87831	.89118	.952	.93250	6.815	
C730	Benzo(a)anthracene	1.25034	1.29521	1.22848	1.23289	1.23684	.999	1.24875	2.180	
C740	Chrysene	1.28555	1.28865	1.16987	1.20193	1.18026	1.003	1.22525	4.705	
C745	bis(2Ethylhexyl)phthalate	1.44790	1.52478	1.32976	1.25544	1.17602	1.010	1.34678	10.481	
C759	6-Methyl chrysene	.89527	.93097	.92132	.90194	.90789	.926	.91148	1.593	
C760	Di-n-octylphthalate	2.20932	2.47809	2.20570	1.71643	1.52341	.942	2.02659	19.407	
C765	Benzo(b)fluoranthene	1.26457	1.32535	1.28964	1.36072	1.34733	.971	1.31752	3.035	
C770	Benzo(k)fluoranthene	1.25798	1.24701	1.25598	1.11106	1.01615	.973	1.17763	9.294	
C771	7,12-Di-ME-benz[a]anthra	.13812	.15343	.11689	.15561	.13051	.973	.13891	11.641	

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD
C775 Benzo(a)pyrene	1.06220	1.14064	1.11095	1.08716	1.11989	.996	1.10417	2.745
C779 Dibenz[a,h]acridine	.83611	.88589	.93770	.92014	.93236	1.075	.90244	4.677
C785 Dibenz(a,h)anthracene	.91301	.93989	.99196	.98215	.97656	1.099	.96071	3.451

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

IDCLPE
CBLLPE
3-16-94

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Compound	Files: >E5127 RF 10.00	>E5130 RF 20.00	>E5126 RF 50.00	>E5128 RF 100.00	>E5131 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
C010 Chloromethane	.51172	.47259	.46088	.49691	.49196	.377	.48681	4.139	
C015 Bromomethane	1.27192	1.18328	1.19858	1.24007	1.25082	.432	1.22893	3.005	
C020 Vinyl Chloride	.67622	.65477	.66362	.67251	.69229	.390	.67188	2.101	
C025 Chloroethane	.49785	.49039	.48228	.48813	.51830	.448	.49539	2.819	
C030 Methylene Chloride	1.17573	1.06124	1.00141	1.02446	1.06181	.661	1.06493	6.295	
C035 Acetone	.24375	.19416	.14599	.15504	.14728	.581	.17724	23.731	
C040 Carbon Disulfide	2.65213	2.62270	2.69980	2.78784	2.80014	.606	2.71252	2.928	
C045 1,1-Dichloroethene	1.12512	1.09348	1.11136	1.11813	1.19439	.568	1.12849	3.426	
C050 1,1-Dichloroethane	1.97385	1.87047	1.98801	1.98914	2.00291	.802	1.96487	2.736	
C053 1,2-Dichloroethene(total)	1.22279	1.12950	1.20835	1.20391	1.24743	.714	1.20240	3.671	(Conc=20.0,40.0,100.0,200.0,
C060 Chloroform	3.39301	2.90462	3.19269	3.17660	3.17409	1.029	3.16820	5.483	
CS15 D4-1,2-Dichloroethane SS1	2.20246	2.06731	2.11924	2.17429	2.07993	1.181	2.12865	2.755	
C065 1,2-Dichloroethane	2.35066	2.14415	2.28279	2.28669	2.22080	1.208	2.25702	3.458	
C110 2-Butanone	.23987	.25783	.20816	.21675	.21337	.949	.22720	9.237	
C115 1,1,1-Trichloroethane	.84328	.74092	.81301	.77067	.80398	.807	.79437	4.976	
C120 Carbon Tetrachloride	.84712	.76478	.84096	.79409	.83764	.845	.81692	4.396	
C125 Vinyl Acetate	.33983	.33218	.33835	.34932	.37555	.614	.34709	4.920	
C130 Bromodichloromethane	.69331	.63648	.66576	.70247	.69206	1.166	.67801	3.974	
C140 1,2-Dichloropropane	.23835	.22701	.23217	.23746	.24416	1.103	.23583	2.762	
C143 Cis-1,3-Dichloropropene	.42816	.40777	.41921	.44174	.44173	1.258	.42772	3.435	
C150 Trichloroethene	.43327	.40040	.41111	.41339	.41695	1.054	.41503	2.873	
C155 Dibromochloromethane	.68310	.69094	.64551	.68157	.69190	1.470	.67860	2.809	
C160 1,1,2-Trichloroethane	.27583	.29099	.23819	.25549	.25483	1.401	.26307	7.806	
C165 Benzene	.68929	.64279	.65251	.64717	.68253	.898	.66286	3.237	
C172 Trans-1,3-Dichloropropene	.41162	.38838	.39494	.43073	.43941	1.369	.41301	5.341	
C180 Bromoform	.50761	.50893	.42277	.46158	.49559	1.721	.47930	7.705	
C205 4-Methyl-2-Pentanone	.22807	.23619	.18498	.18328	.18076	.824	.20266	13.372	
C210 2-Hexanone	.14905	.14252	.10947	.11700	.11728	.926	.12706	13.794	
C220 Tetrachloroethene	.57728	.50970	.53290	.53385	.53856	.903	.53846	4.536	
C225 1,1,2,2-Tetrachloroethane	.54185	.55361	.40549	.41685	.43904	1.151	.47137	15.034	
C230 Toluene	1.14645	1.03052	1.09420	1.11681	1.06608	.839	1.09081	4.108	
CS05 D8-Toluene SS-2	1.16943	1.13006	1.15406	1.19836	1.10788	.831	1.15196	3.034	
C235 Chlorobenzene	.92960	.85141	.87000	.90008	.89605	1.003	.88943	3.370	
C240 Ethylbenzene	.42079	.37615	.39371	.40697	.42108	1.017	.40374	4.737	
C245 Styrene	.84642	.78192	.80524	.84761	.87818	1.076	.83188	4.581	
C250 Xylene (total)	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
meta+para Xylene	.53076	.48181	.50197	.51647	.50491	1.031	.50718	3.579	(Conc=20.0,40.0,100.0,200.0,
ortho Xylene	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
CS10 Bromofluorobenzene SS-3	.88811	.84852	.82771	.86112	.87093	1.132	.85928	2.655	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

NATIONAL ENVIRONMENTAL TESTING, INC.

Thorofare Division
100 Grove Road
P.O. Box 248
Thorofare, NJ 08086
Tel: (609) 848-3939
Fax: (609) 848-9195

FOR:

ENSR Consulting

35 Nagog Park
Acton, MA 01720

Attention: Charlie Martin
Project: Philly Sun Oil

Report #: 94.00826
Date: April 27, 1994

NET ATLANTIC, INC.
Thorofare Division

Approved and released by:

John Visicaro
QA Coordinator

Review and approval of
technical data by:

Neil Rossiter
Project Manager

OCEAN GROUP

REPORT NARRATIVE

This report contains the results of the analysis of samples by NET Atlantic, Inc. for ENSR Consulting. The samples were from the Philly Sun Oil project and were analyzed for the parameters specified on the chain of custody. The following page lists the samples associated with this job, the date the samples were received by the laboratory and correlates the lab sample ID with the client ID. A laboratory chronicle has been provided that shows the date on which each test was performed.

NATIONAL ENVIRONMENTAL TESTING, INC.

The following table identifies all samples submitted to NET for analysis.

Client: ENSR CONSULTING Job No: 94.00826

NET ID	Client ID	Date Sampled	Date Received
134734	305S1	03/09/1994	03/10/1994
134735	305S1 (DISS)	03/09/1994	03/10/1994
134736	307I3	03/09/1994	03/10/1994
134737	307I3 (DISS)	03/09/1994	03/10/1994
134738	275D1	03/09/1994	03/10/1994
134739	275D1 (DISS)	03/09/1994	03/10/1994
134740	306D1	03/09/1994	03/10/1994
134741	306D1 (DISS)	03/09/1994	03/10/1994
134742	TB200	03/09/1994	03/10/1994
134763	307I1	03/09/1994	03/10/1994
134764	307I1 (DISS)	03/09/1994	03/10/1994

Listed below are the current certifications that are held by NET, Inc. - Thorofare Division.

NJ Certification No: 08153
NY Certification No: 10867
PA Certification No: 68-212
SC Certification No: 94008
CT Certification No: PH-0784
MA Certification No: NJ119
DE Certification No: 08153(NJ)
VA Certification No: 00043
FL Certification No: E87427

M90137

ENSR CHAIN OF CUSTODY RECORD

Page 1 of 4

Client/Project Name: ENSR / SUN	Project Location: Philadelphia, PA
Project Number: 6445-051	Field Logbook No.:
Sampler: (Print Name/Affiliation: J. Soper / ENSR Signature:	Chain of Custody Tape No.:
	Send Results/Report to: Charles Martin 35 Nagog Park, Acton MA 01720 (508) 635-9500

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BN	BTEX	Sulfide	Iron, Manganese	TDS, Bicarb., Total alkalinity, Specific Cond.	Nitrate, nitrite	TOC	Total ammonia	Total metals	Chloride/Fluoride/Sulfate	Lab I.D.	Remarks
30551	3-9				2-1L Amber	water	—		X											
30551					2-40ml glass	"	HCl			X										
30551					1-1L Plastic	"	—						X							
30551					1-1L Plastic	"	—										X			
30551					1-1L Amber		H_2SO_4								X					
30551					1-1L Plastic		HNO_3									X				
30551					1-1L Plastic		HNO_3	X				X								Field filtered
30551					1-1L Plastic		NaOH				X									
30713					1-1L Amber		H_2SO_4								X					
30713					1-1L Plastic		HNO_3									X				

Relinquished by: (Print Name) J. Soper Signature:	Date: 3-10-94 Time: 0900	Received by: (Print Name) Sharon Sabatini Signature: Sharon Sabatini	Date: 3/10/94 Time: 1200
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:

Analytical Laboratory (Destination):

Cooler temp - 3.2°C

Serial No. 10368

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M901376

ENSR CHAIN OF CUSTODY RECORD

Page 2 of 4

Client/Project Name: ENSR / SUN

Project Location: Philadelphia

Project Number: 6415-051

Field Logbook No.:

Sampler: (Print Name) /Affiliation: J. Soper/ENSR

Signature:

Chain of Custody Tape No.:

Send Results/Report to: Charles Martin
ENSR 35 Nagog Park
Acton, MA

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BN	BTEX	Iced Manometer	Sulfide	TDS; Bicarb; total alkalinity; spec cond	Nitrate, nitrite	TOC; ammonia	Total metals	Chloride Fluoride Sulfate	Lab I.D.	Remarks
275D1	3-9				2-1L Amber	water			X										
275D1					2-40ml		HCl			X									
275D1					1 1L Plastic								X						
275D1					1-1L Plastic											X			
275D1					1-1L Amber		H_2SO_4							X					
275D1					1-1L Plastic		HNO_3								X				
275D1					1-1L Plastic		HNO_3	X			X								Field filtered
275D1					1-1L Plastic		NaOH					X							
307I3					1-1L Plastic								X						
307I3					1-1L Plastic									X					

Relinquished by: (Print Name) J. Soper Signature:	Date: 3-10-94 Time: 0900	Received by: (Print Name) Sharon Sabatini Signature: Sharon Sabatini	Date: 3/10/94 Time: 1200
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:

Analytical Laboratory (Destination):

cooler temp - 2.8°

Serial No. 10366

000004

M901376

ENSR

CHAIN OF CUSTODY RECORD

Page 3 of 4

Client/Project Name: ENSR/SUN

Project Location: Philadelphia, PA

Project Number: 6445-051

Field Logbook No.:

Sampler: (Print Name) /Affiliation: J. Soper / ENSR

Chain of Custody Tape No.:

Signature:

Send Results/Report to: Charles Martin
ENSR, 35 Nagog Park, Acton
MA. 01720 (508) 635-9500

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BN	BTEX	Sulfide	TPS, Manganese	Alkalinity, Total	Bicarbonate	Carbonate	Specific Conductance	Nitrate	TOC	Total Metals	Chloride	Sulfate	Fluoride	Lab I.D.	Remarks
307I1	3-9-94				2-1L Amber	water	—		X															
307I1					2-40 ml		HCl			X														
307I1					1-L Plastic		—					X												
307I1					1-L Plastic		—													X				
307I1					1-L Amber		H_2SO_4										X							
307I1					1-1L Plastic		HNO_3											X						
307I1					1-1L Plastic		HNO_3	X			X													Field filtered
307I1					1-1L Plastic		NaOH			X														
307I3					2-1L Amber		—		X															
307I3					2-40 ml		HCl			X														
TB200	✓	0910			2-40 ml		—			X														Trip Blank

Relinquished by: (Print Name) J. Soper Signature:	Date: 3-10-94 Time: 0900	Received by: (Print Name) Sharon Sabatini Signature: Sharon Sabatini	Date: 3/10/94 Time: 1200
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:

Analytical Laboratory (Destination):

cooler temp - 2.8°C

Serial No. 10365

500005

M901376

ENSR CHAIN OF CUSTODY RECORD

Page ____ of ____

Client/Project Name: ENSR/SUN	Project Location: Philadelphia, PA
Project Number: 6445-051	Field Logbook No.:
Sampler: (Print Name) /Affiliation: J. Soper / ENSR Signature:	Chain of Custody Tape No.:
	Send Results/Report to: Charles Martin 35 Nagog Park, Acton, MA 508 635-9500

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	Analysis Requested: VOA	BTEX	Iron/manganese	Sulfide	TDS/Bicarb/Total alkalinity/Specific Cond.	Nitrate, nitrite, ammonia	TOC	Total Metals	Chloride/Fluoride/Sulfate	Lab I.D.	Remarks
306D1	3-9-94				2-1L Amber	Water			X										
306D1					2-40ml		HCl			X									
306D1					1-1L Plastic								X						
306D1					1-1L Plastic											X			
306D1					1-1L Amber		H_2SO_4							X					
306D1					1-1L Plastic		HNO_3								X				
306D1					1-1L Plastic		HNO_3	X				X							Field filtered
306D1					1-1L Plastic		NaOH				X								
307I3					1-1L Plastic		HNO_3	X				X							Field filtered
307I3					1-1L Plastic		NaOH				X								

Relinquished by: (Print Name) J. Soper Signature:	Date: 3-9-94 Time: 1000	Received by: (Print Name) Sharon Sabatini Signature: Sharon Sabatini	Date: 3/10/94 Time: 1200
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:

Analytical Laboratory (Destination):

cooler temp - 3.2°C

Serial No. 10367

900000

METHODOLOGY SUMMARY

PURGEABLES GC/MS

USEPA Method 624(40 CFR Ch. I (7-1-91 Edition), Method 8240 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are purge and trap methods applicable to the determination of purgeable organic compounds. An inert gas is bubbled thru a sample aliquot contained in a purging chamber where the purgeables are transferred to the vapor phase. The purgeables are collected on a sorbent trap which is rapidly heated and backflushed with helium to desorb the purgeables onto a capillary GC column. The GC is temperature programmed to allow the separation of the purgeables which are then detected with a mass spectrometer. Refer to the method for specific interferences.

As per the applicable methodology the laboratory supplies vials containing Hydrochloric Acid (HCL) for preservation of aqueous samples. 2-Chloroethylvinyl ether is susceptible to acidic degradation which can adversely affect the detectability of this compound.

BASE/NEUTRALS

USEPA Method 625(40 CFR Ch. I (7-1-91 Edition), Method 8270 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are GC/MS methods applicable to the determination of organic compounds that are partitioned into an organic solvent and amenable to gas chromatography. A sample aliquot is extracted with methylene chloride (continuous liquid-liquid for waters, sonication for soils) which is dried, concentrated and analyzed on a Hewlett-Packard GC/MS fitted with a capillary column. Extracts may be subjected to one or more clean-up steps to eliminate matrix interferences. Refer to the method for specific interferences.

METALS

Aqueous samples for metals analysis were run in accordance with the methods prescribed in "Methods for Analysis of Water and Wastes" (EPA-600/4-79-020), Metals-4, as modified for use in the USEPA CLP.

INORGANIC PARAMETERS

The following USEPA Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020 were used by the laboratory.

Ammonia Nitrogen (Ammonia) - Method 350.2
Chloride - Method 325.3
Conductance - Method 120.1
Fluoride - Method 340.2
Nitrate/Nitrite - Method 353.1
Sulfate - Method 375.4
Sulfide - Method 376.1
Total Dissolved Solids (TDS) - Method 160.1
Total Organic Carbon (TOC) - Method AQ 415.1 SO 415.1 MOD

METHODOLOGY SUMMARY

ALKALINITY

An aliquot of the unaltered sample is titrated against standardized sulfuric acid to pH 4.5 using a pH meter. Results are reported as ug of Calcium Carbonate per Liter of sample. USEPA Method 310.1

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis

Client: ENSR CONSULTING Job No: 94.00826

NET ID	Client ID	Sampling Date	Date Received	MATRIX
134734	305S1	03/09/1994	03/10/1994	GR
134735	305S1 (DISS)	03/09/1994	03/10/1994	GR
134736	30713	03/09/1994	03/10/1994	GR
134737	30713 (DISS)	03/09/1994	03/10/1994	GR
134738	275D1	03/09/1994	03/10/1994	GR
134739	275D1 (DISS)	03/09/1994	03/10/1994	GR
134740	306D1	03/09/1994	03/10/1994	GR

Laboratory ID:	134734	134735	134736	134737	134738	134739	134740
Organic Extraction							
Semivolatile AQ (GC/MS)	03/17/1994		03/17/1994		03/17/1994		03/17/1994
Semivolatile SO (GC/MS)							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							
TCLP Non-volatiles extraction							
TCLP Volatiles extraction							
Inorganic Preparation							
Metals(Except Hg & CrVI)	03/17/1994	03/17/1994	03/17/1994	03/17/1994	03/17/1994	03/17/1994	03/17/1994
Phenols							
Cyanides							
Organic Analysis							
Semivolatiles AQ	04/21/1994		04/19/1994		04/19/1994		04/20/1994
Semivolatiles SO							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Volatile Organics AQ (GC/MS)	03/18/1994		03/17/1994		03/17/1994		03/17/1994
Volatile Organics SO (GC/MS)							
Volatile Organics AQ (GC)							
Volatile Organics SO (GC)							
Acrolein & Acrylonitrile (GC)							
Selected Organics (GC)							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis

Client: ENSR CONSULTING Job No: 94.00826

NET ID	Client ID	Sampling Date	Date Received	MATRIX
134741	3060I (DISS)	03/09/1994	03/10/1994	GR
134742	TB200	03/09/1994	03/10/1994	BL
134763	3071I	03/09/1994	03/10/1994	GR
134764	3071I (DISS)	03/09/1994	03/10/1994	GR

Laboratory ID:	134741	134742	134763	134764
Organic Extraction				
Semivolatile AQ (GC/MS)			03/17/1994	
Semivolatile SO (GC/MS)				
Pesticides/PCBs AQ				
Pesticides/PCBs SO				
Herbicides AQ				
Herbicides SO				
Petroleum Hydrocarbons AQ				
Petroleum Hydrocarbons SO				
TCLP Non-volatiles extraction				
TCLP Volatiles extraction				
Inorganic Preparation				
Metals(Except Hg & CrVI)	03/17/1994		03/17/1994	03/17/1994
Phenols				
Cyanides				
Organic Analysis				
Semivolatiles AQ			04/20/1994	
Semivolatiles SO				
Pesticides/PCBs AQ				
Pesticides/PCBs SO				
Herbicides AQ				
Herbicides SO				
Volatile Organics AQ (GC/MS)		03/17/1994	03/18/1994	
Volatile Organics SO (GC/MS)				
Volatile Organics AQ (GC)				
Volatile Organics SO (GC)				
Acrolein & Acrylonitrile (GC)				
Selected Organics (GC)				
Petroleum Hydrocarbons AQ				
Petroleum Hydrocarbons SO				

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00826

NET ID	Client ID	Sampling Date	Date Received	MATRIX
134734	305S1	03/09/1994	03/10/1994	GR
134735	305S1 (DISS)	03/09/1994	03/10/1994	GR
134736	30713	03/09/1994	03/10/1994	GR
134737	30713 (DISS)	03/09/1994	03/10/1994	GR
134738	275D1	03/09/1994	03/10/1994	GR
134739	275D1 (DISS)	03/09/1994	03/10/1994	GR
134740	306D1	03/09/1994	03/10/1994	GR

Laboratory ID:	134734	134735	134736	134737	134738	134739	134740
Parameter							
Alkalinity	03/13/1994		03/13/1994		03/13/1994		03/13/1994
Alkalinity, Bicarb. at pH 4.	03/13/1994		03/13/1994		03/13/1994		03/13/1994
Ammonia	03/18/1994		03/18/1994		03/18/1994		03/18/1994
Chloride	03/31/1994		03/31/1994		03/31/1994		03/31/1994
Conductivity	03/11/1994		03/11/1994		03/11/1994		03/11/1994
Fluoride, Total	03/24/1994		03/24/1994		03/24/1994		03/24/1994
Nitrate/nitrite	03/22/1994		03/22/1994		03/22/1994		03/22/1994
Solids, dissolved (TDS)	03/14/1994		03/14/1994		03/14/1994		03/14/1994
Sulfate	03/22/1994		03/22/1994		03/22/1994		03/22/1994
Sulfide	03/16/1994		03/16/1994		03/16/1994		03/16/1994
Total Organic Carbon	03/22/1994		03/22/1994		03/22/1994		03/22/1994
Arsenic (As)	04/05/1994	04/05/1994	04/05/1994	04/05/1994	04/05/1994	04/05/1994	04/05/1994
Cobalt (Co)	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994
Iron (Fe)	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994
Lead (Pb)		04/04/1994	04/04/1994	04/04/1994	04/04/1994	04/04/1994	04/04/1994
Manganese (Mn)	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00826

NET ID	Client ID	Sampling Date	Date Received	MATRIX
134741	3060I (DISS)	03/09/1994	03/10/1994	GR
134742	TB200	03/09/1994	03/10/1994	BL
134763	3071I	03/09/1994	03/10/1994	GR
134764	3071I (DISS)	03/09/1994	03/10/1994	GR

Laboratory ID:	134741	134742	134763	134764
Parameter				
Alkalinity			03/13/1994	
Alkalinity, Bicarb. at pH 4.			03/13/1994	
Ammonia			03/18/1994	
Chloride			03/31/1994	
Conductivity			03/11/1994	
Fluoride, Total			03/24/1994	
Nitrate/nitrite			03/22/1994	
Solids, dissolved (TDS)			03/18/1994	
Sulfate			03/22/1994	
Sulfide			03/16/1994	
Total Organic Carbon			03/22/1994	
Arsenic (As)	04/05/1994		04/05/1994	04/05/1994
Cobalt (Co)	04/06/1994		04/06/1994	04/06/1994
Iron (Fe)	04/06/1994		04/06/1994	04/06/1994
Lead (Pb)	04/04/1994		03/23/1994	04/04/1994
Manganese (Mn)	04/06/1994		04/06/1994	04/06/1994

Definition of terms, abbreviations and flags that may be used in this report.

Flag/Term/Abbrev.	Definition
U	Compound was analyzed for but not detected. The laboratory has reported the method detection limit for the compound.
J	Compound was detected at a concentration below the practical reporting level, yet above the method detection limit. These values are estimates.
B	Compound was detected in the method/extraction blank as well as the sample. The data user is warned of possible laboratory introduced contamination.
NA	Not Applicable
ND	Not Detected
NC	Not Calculable
NR	Not Requested or Not Reported
MDL	Method detection limit. Can be a limit specified by the method or a number determined by performing an MDL study.
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
umhos	conductivity units; resistance is expressed in ohms.
NTU	Nephlometric Turbidity Units; used for turbidity.
col/9	Colonies per volume of sample analyzed; used for bacteriology.
deg C	degrees celcius
deg F	degrees fahrenheit
ug	microgram; there are 1000 ug in 1 mg.
mg	milligram; there are 1000 mg in 1 g.
g	gram; there are 1000 g in 1 Kg.
Kg	kilogram
ul	microliter; there are 1000 ul in 1 ml.
ml	milliliter; there are 1000 ml in 1 liter.
L	liter
dw	Dry weight; indicates that the reported value has been corrected for percent solids.
ppm	Parts per million = mg/Kg, ug/g, mg/L, ug/ml; 1 ppm = 1000ppb
ppb	Parts per billion = ug/Kg, ug/L

INORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00826
Sample No: 134734
Client Sample ID: 305S1

Parameter	Results	Units
Alkalinity	144	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	144	ppmCaCO3
Ammonia	2.7	mg/L N
Chloride	48	mg/L
Conductivity	424	umhos/cm
Fluoride, Total	0.67	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	270	mg/L
Sulfate	<10	mg/L
Sulfide	<0.2	mg/L
Total Organic Carbon	10	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	14.2	mg/L
Lead (Pb)	0.15	mg/L
Manganese (Mn)	0.97	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00826
Sample No: 134735
Client Sample ID: 305S1 (DISS)

Parameter	Results	Units
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	9.63	mg/L
Lead (Pb)	0.011	mg/L
Manganese (Mn)	0.92	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00826
Sample No: 134736
Client Sample ID: 307I3

Parameter	Results	Units
Alkalinity	<2	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	<2	ppmCaCO3
Ammonia	<0.1	mg/L N
Chloride	<2	mg/L
Conductivity	<1	umhos/cm
Fluoride, Total	<0.1	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	36	mg/L
Sulfate	<10	mg/L
Sulfide	<0.1	mg/L
Total Organic Carbon	<1	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	<0.10	mg/L
Lead (Pb)	0.007	mg/L
Manganese (Mn)	<0.01	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00826
Sample No: 134737
Client Sample ID: 307I3 (DISS)

Parameter	Results	Units
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	<0.10	mg/L
Lead (Pb)	0.002	mg/L
Manganese (Mn)	<0.01	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00826
Sample No: 134738
Client Sample ID: 275D1

Parameter	Results	Units
Alkalinity	550	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	550	ppmCaCO3
Ammonia	43.2	mg/L N
Chloride	58	mg/L
Conductivity	3901	umhos/cm
Fluoride, Total	0.42	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	4550	mg/L
Sulfate	2910	mg/L
Sulfide	4.08	mg/L
Total Organic Carbon	23	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	103	mg/L
Lead (Pb)	0.005	mg/L
Manganese (Mn)	4.52	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00826
Sample No: 134738
Client Sample ID: 275D1

Parameter	Results	Units
Alkalinity	550	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	550	ppmCaCO3
Ammonia	43.2	mg/L N
Chloride	58	mg/L
Conductivity	3901	umhos/cm
Fluoride, Total	0.42	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	4550	mg/L
Sulfate	2910	mg/L
Sulfide	4.08	mg/L
Total Organic Carbon	23	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	844	mg/L
Lead (Pb)	0.001	mg/L
Manganese (Mn)	26.9	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00826
Sample No: 134739
Client Sample ID: 275D1 (DISS)

Parameter	Results	Units
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	844	mg/L
Lead (Pb)	0.001	mg/L
Manganese (Mn)	26.9	mg/L

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NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00826
Sample No: 134739
Client Sample ID: 275D1 (DISS)

Parameter	Results	Units
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	103	mg/L
Lead (Pb)	0.005	mg/L
Manganese (Mn)	4.52	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00826
Sample No: 134740
Client Sample ID: 306D1

Parameter	Results	Units
Alkalinity	213	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	213	ppmCaCO3
Ammonia	<0.1	mg/L N
Chloride	52	mg/L
Conductivity	546	umhos/cm
Fluoride, Total	0.16	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	378	mg/L
Sulfate	30	mg/L
Sulfide	2.70	mg/L
Total Organic Carbon	9	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	0.72	mg/L
Lead (Pb)	0.010	mg/L
Manganese (Mn)	1.89	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00826
Sample No: 134741
Client Sample ID: 306D1 (DISS)

Parameter	Results	Units
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	<0.10	mg/L
Lead (Pb)	0.001	mg/L
Manganese (Mn)	1.97	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00826
Sample No: 134763
Client Sample ID: 307I1

Parameter	Results	Units
Alkalinity	149	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	149	ppmCaCO3
Ammonia	1.5	mg/L N
Chloride	43	mg/L
Conductivity	394	umhos/cm
Fluoride, Total	0.30	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	280	mg/L
Sulfate	<10	mg/L
Sulfide	0.42	mg/L
Total Organic Carbon	8	mg/L
Arsenic (As)	0.016	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	22.3	mg/L
Lead (Pb)	0.105	mg/L
Manganese (Mn)	1.21	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00826
Sample No: 134764
Client Sample ID: 307I1 (DISS)

Parameter	Results	Units
Arsenic (As)	0.007	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	8.65	mg/L
Lead (Pb)	0.004	mg/L
Manganese (Mn)	0.99	mg/L

ORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134734
Client Sample ID: 305S1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	4.7	J	ug/L	2.5	04/21/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Indene	10.	U	ug/L	2.5	04/21/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134734
Client Sample ID: 305S1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	20.	U	ug/L	20.	03/18/1994	res	197
Toluene	30.	U	ug/L	30.	03/18/1994	res	197
Ethylbenzene	30.	U	ug/L	30.	03/18/1994	res	197
m+p-Xylenes	25.	U	ug/L	25.	03/18/1994	res	197

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134736
Client Sample ID: 30713

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/19/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/19/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Indene	10.	U	ug/L	2.5	04/19/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134736
Client Sample ID: 30713

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/17/1994	res	199
Toluene	6.0	U	ug/L	6.0	03/17/1994	res	199
Ethylbenzene	6.0	U	ug/L	6.0	03/17/1994	res	199
m+p-Xylenes	5.0	U	ug/L	5.0	03/17/1994	res	199

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134738
Client Sample ID: 275D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/19/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/19/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	2.4	J	ug/L	2.5	04/19/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Indene	10.	U	ug/L	2.5	04/19/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134738
Client Sample ID: 27501

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/17/1994	res	199
Toluene	6.0	U	ug/L	6.0	03/17/1994	res	199
Ethylbenzene	6.0	U	ug/L	6.0	03/17/1994	res	199
m+p-Xylenes	5.0	U	ug/L	5.0	03/17/1994	res	199

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134740
Client Sample ID: 306D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	2.4	J	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	2.5	04/20/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134740
Client Sample ID: 306D1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/17/1994	res	199
Toluene	6.0	U	ug/L	6.0	03/17/1994	res	199
Ethylbenzene	6.0	U	ug/L	6.0	03/17/1994	res	199
m+p-Xylenes	5.0	U	ug/L	5.0	03/17/1994	res	199

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134742
Client Sample ID: TB200

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/17/1994	res	199
Toluene	6.0	U	ug/L	6.0	03/17/1994	res	199
Ethylbenzene	6.0	U	ug/L	6.0	03/17/1994	res	199
m+p-Xylenes	5.0	U	ug/L	5.0	03/17/1994	res	199

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134763
Client Sample ID: 30711

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	2.5	04/20/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134763
Client Sample ID: 30711

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/18/1994	res	197
Toluene	6.0	U	ug/L	6.0	03/18/1994	res	197
Ethylbenzene	6.0	U	ug/L	6.0	03/18/1994	res	197
m+p-Xylenes	5.0	U	ug/L	5.0	03/18/1994	res	197

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

ACID EXTRACTABLE/BASE NEUTRALS

Client: Elm Consulting Report No: 94 08821

Client ID	NET ID	Nitrobenzene-d5 (35-114)	2-Fluorobiphenyl (43-116)	p-terphenyl-d14 (33-141)	Phenol-d6 (10-94)	2-Fluorophenol (21-100)	2,4,6-Tribromophenol (10-123)
30551	134734	78	100	30*	9*	0*	0*
30773	134736	96	108	76	5*	0*	0*
27501	134738	100	100	32*	38	6*	14
30601	134740	100	102	28*	9*	0*	0*
30771	134763	65	102	28*	7*	0*	0*
Blank #2	A293A	70	76	94	2*	0*	0*
35	A293A	76	74	36	7*	0*	0*
350	A293A	74	72	46	12	0*	0*

COMMENTS: *Outside Control Limits

000037

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

VOLATILES

Client: Fluor Daniel Inc. Report No: 94.0082

Client ID	NET ID	Toluene-d8 (88-110)	BFB (86-115)	1,2-Dichloroethane-d4 (76-114)
130551	134734	92	96	92
130113	134736	102	100	100
12501	134738	98	94	94
130201	134740	100	102	96
TB205	134742	100	102	98
130111	134763	94	102	100
Blank	>F5157	100	98	90
Blank	>F5176	94	96	90
115	FBO196	100	102	102
120	FBO196	102	102	104

COMMENTS: _____

000038

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

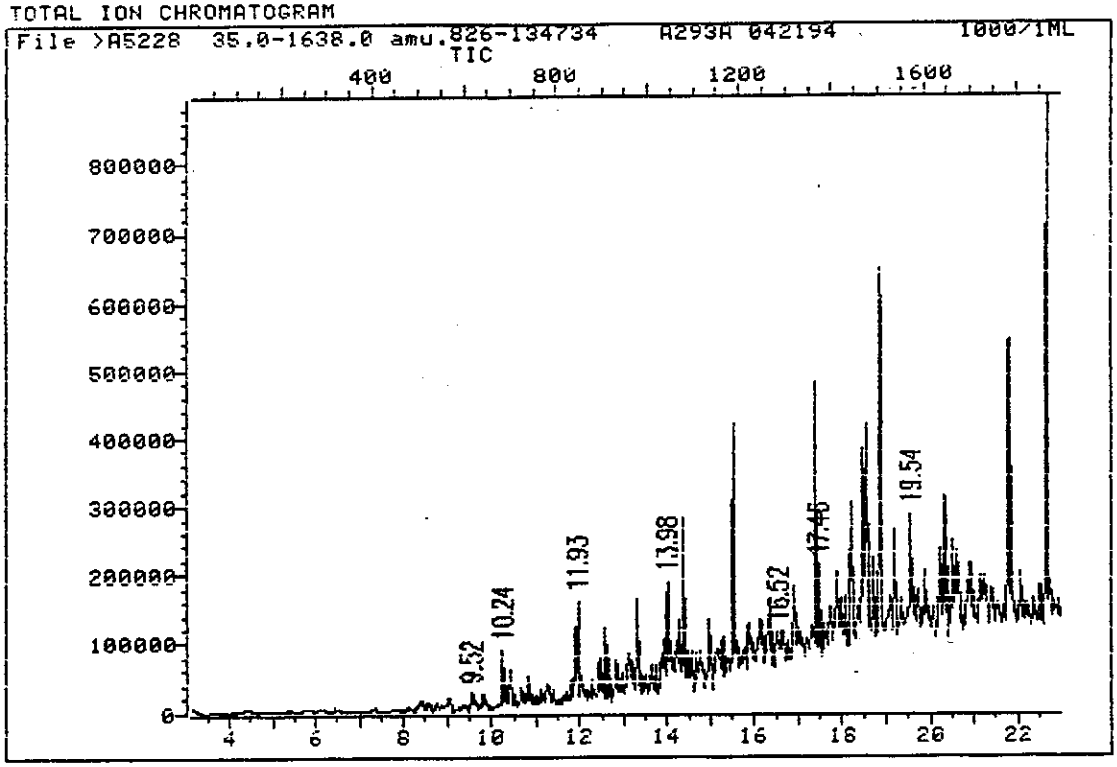
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134734
Client Sample ID: 305S1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	4.7	J	ug/L	2.5	04/21/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Indene	10.	U	ug/L	2.5	04/21/1994	jig	10	4

TOTAL ION CHROMATOGRAM



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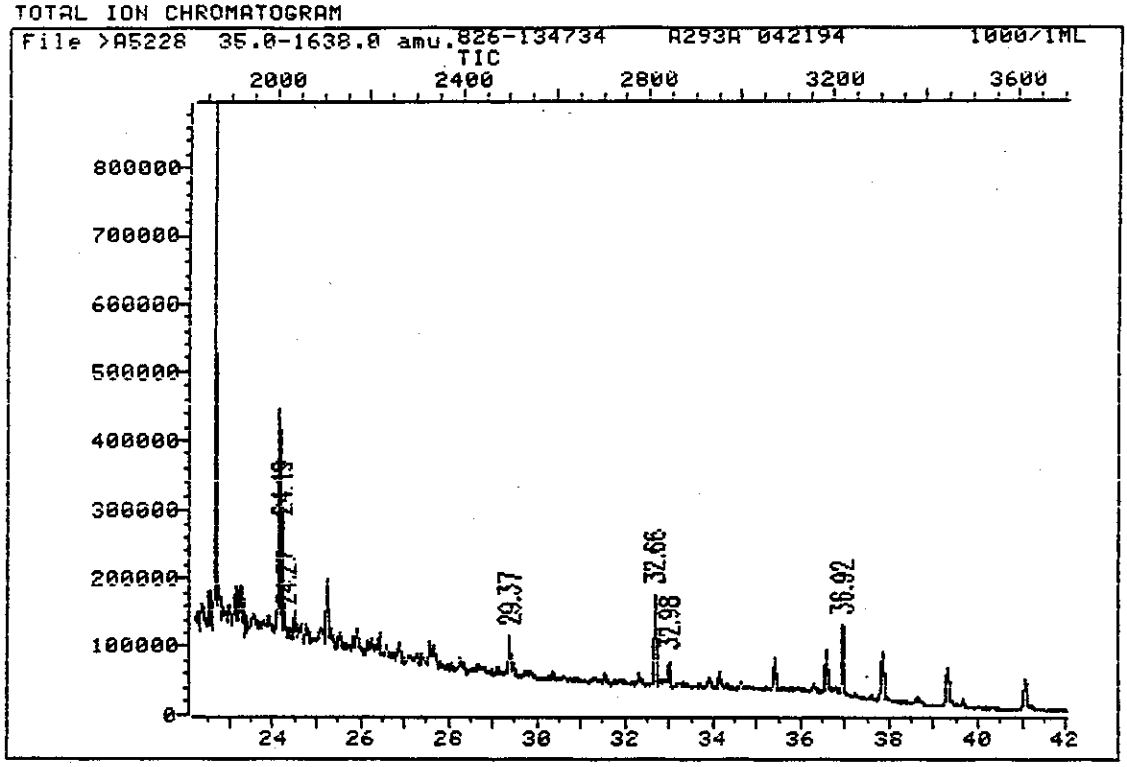
Name: 826-134734 A293A
Misc: 042194 1000/1ML HP5970 A BTL# 4

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 17:46
Injected at: 940421 17:00

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5228::E4 Quant Output File: ^A5228::D3
Name: 826-134734 A293A
Misc: 042194 1000/1ML HP5970 A BTL# 4

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 17:46
Injected at: 940421 17:00

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940421 17:46
Output File: ^A5228::D3 Injected at: 940421 17:00
Data File: >A5228::E4 Dilution Factor: 1.00000
Name: 826-134734 A293A
Misc: 042194 1000/1ML HP5970 A BTL# 4

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.24	152.0	36289	40.00	ug/L	
3)	CS45 D5-Phenol	9.52	99.0	11976	8.67	ug/L	8
15)	*CI40 D8-Naphthalene	13.98	136.0	133400	40.00	ug/L	9
16)	CS20 D5-Nitrobenzene	11.93	82.0	49221	38.86	ug/L	
20)	C471 1-Methylnaphthalene	16.52	142.0	5467	2.32	ug/L	8
21)	*CI50 D10-Acenaphthene	19.54	164.0	79457	40.00	ug/L	9
22)	CS25 2-Fluorobiphenyl	17.46	172.0	83540	30.16	ug/L	
28)	*CI60 D10-Phenanthrene	24.19	188.0	143680	40.00	ug/L	9
29)	C640 Phenanthrene	24.27	178.0	14882	3.74	ug/L	9
33)	*CI70 D12-Chrysene	32.66	240.0	119297	40.00	ug/L	
35)	CS30 D14-Terphenyl	29.37	244.0	46082	14.65	ug/L	8
39)	C745 bis(2Ethylhexyl)phthalate	32.98	149.0	18994	4.73	ug/L	8
40)	*CI75 D12-Perylene	36.92	264.0	117294	40.00	ug/L	

* Compound is ISTD

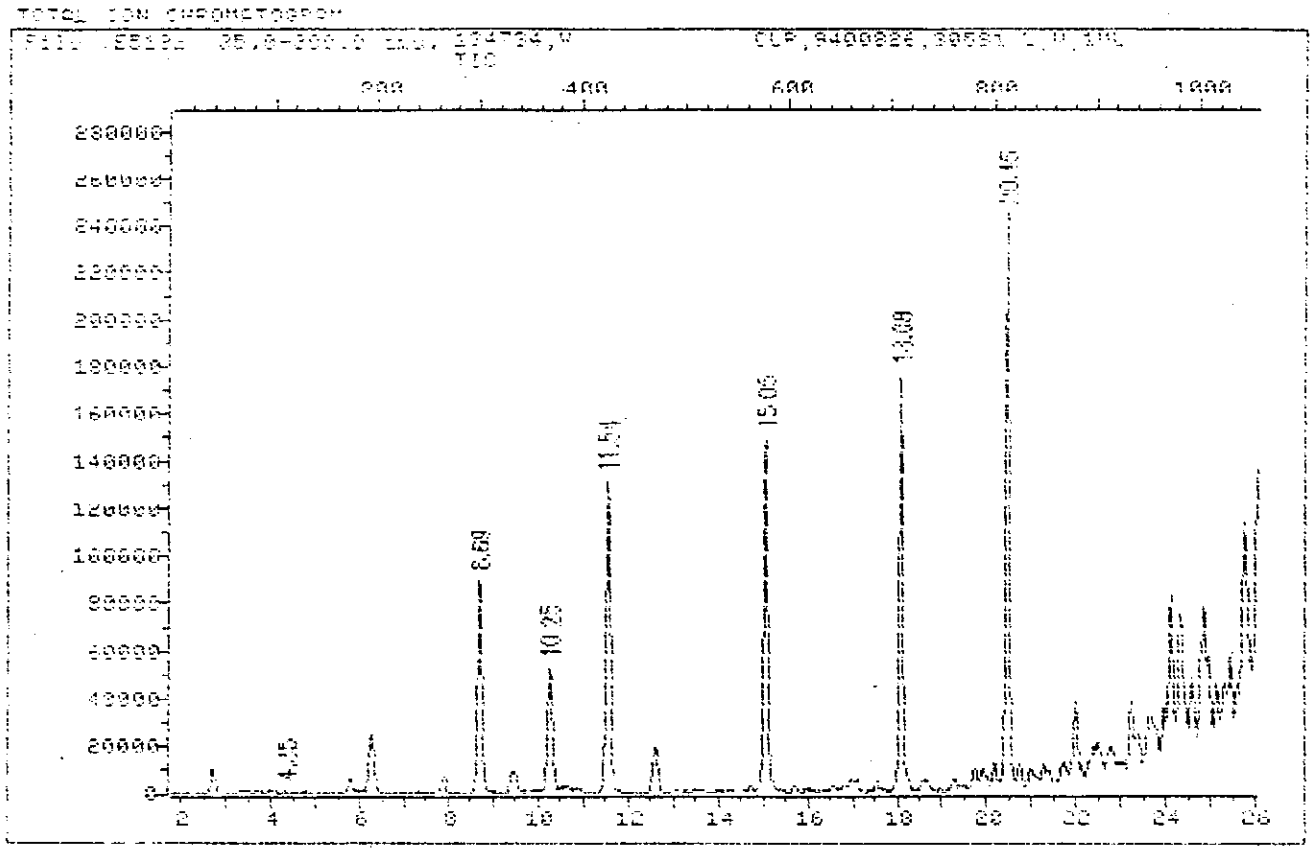
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134734
Client Sample ID: 305S1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	20.	U	ug/L	20.	03/18/1994	res	197
Toluene	30.	U	ug/L	30.	03/18/1994	res	197
Ethylbenzene	30.	U	ug/L	30.	03/18/1994	res	197
m+p-Xylenes	25.	U	ug/L	25.	03/18/1994	res	197



Data File: >E9182::D7 Quant Output File: ^E9182::D8
Name: 174734,U
Misc: CLP,940826,30581,L,W,1ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940318 09:17

Operator ID: RITA
Quant Time: 940318 13:28
Injected at: 940318 12:57

QUANT REPORT

Operator ID: PITA
Output File: ...\95182\:08
Data File: ...\95182\:07
Name: 13...,U
Misc: OLP,9400826,30551,L,W,1ML

Quant Rev: 6 Quant Time: 940318 13:08
Injected at: 940318 12:57
Dilution Factor: 1.00000

ID File: ID1LPF:04
Title: AQUEOUS OLP ID
Last Calibration: 940318 09:13

EAQ-196

	Compound	Rs	R.T.	Q Ion	Area	Conc	Units	Q
1)	*C101 Bromochloromethane	IS-1	8.69	128.0	91749	50.00	UG/L	
7)	C035 Acetone		4.35	43.0	1082	3.13	UG/L	88
13)	C515 D4-1,2-Dichloroethane	SS1	10.25	65.0	171278	46.39	UG/L	91
16)	*C110 1,4-Difluorobenzene	IS-2	11.54	114.0	362379	50.00	UG/L	
29)	*C120 D5-Chlorobenzene	IS-3	18.08	117.0	279001	50.00	UG/L	94
35)	C504 D8-Toluene	SS-2	15.05	98.0	306950	46.08	UG/L	97
42)	C510 Bromofluorobenzene	SS-3	20.45	95.0	229167	47.83	UG/L	

* Compound is ISTD

Sample cannot be run on lower dilution due to high concentration of late eluting analyte.

JCD.

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

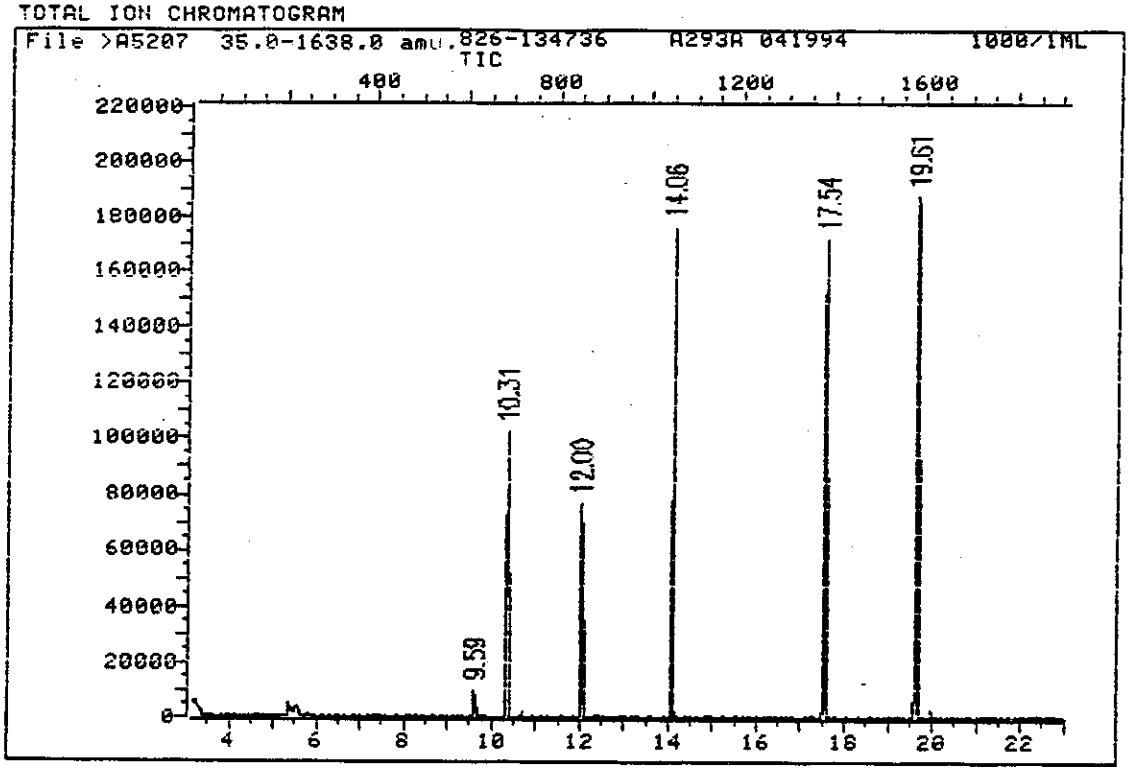
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134736
Client Sample ID: 30713

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/19/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/19/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Indene	10.	U	ug/L	2.5	04/19/1994	jig	10	4

TOTAL ION CHROMATOGRAM



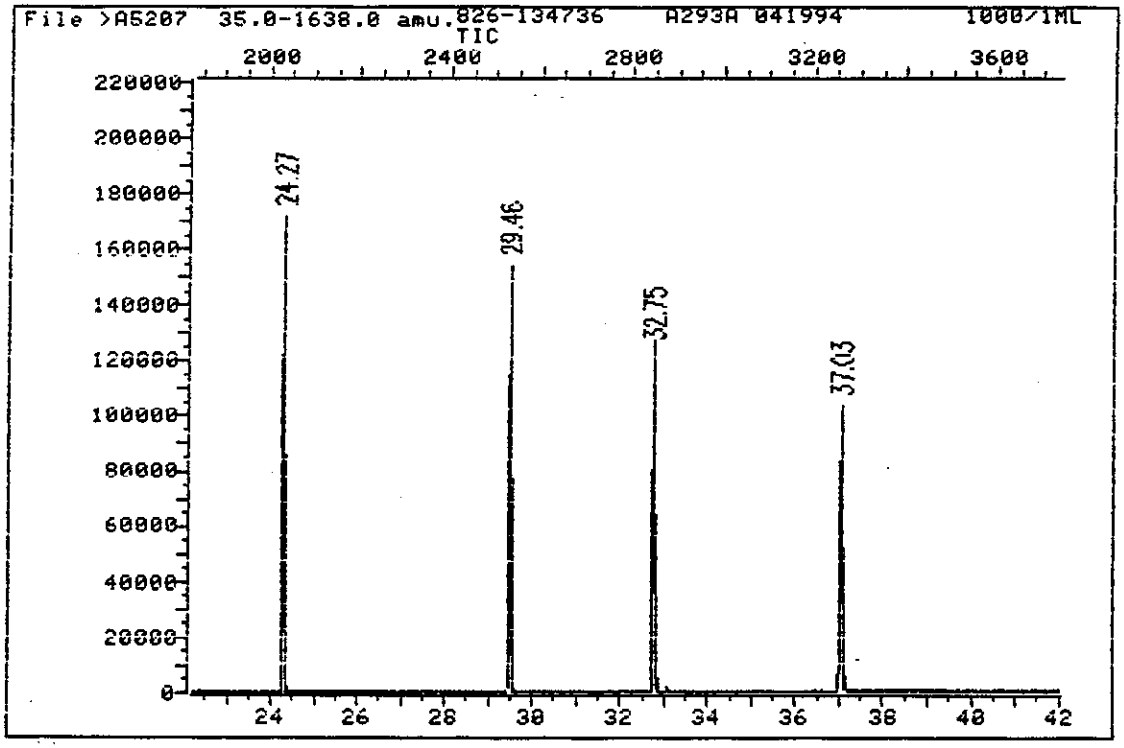
Data File: >A5207::E2 Quant Output File: ^A5207::D5
Name: 826-134736 A293A
Misc: 041994 1000/1ML HP5970 A BTL#12

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 20:53
Injected at: 940419 20:07

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5207::E2 Quant Output File: ^A5207::D5
Name: 826-134736 A293A
Misc: 041994 1000/1ML HP5970 A BTL#12

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 20:53
Injected at: 940419 20:07

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 20:53
Output File: ^A5207::D5 Injected at: 940419 20:07
Data File: >A5207::E2 Dilution Factor: 1.00000
Name: 826-134736 A293A
Misc: 041994 1000/1ML HP5970 A BTL#12

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	43140	40.00	ug/L	(9
3)	CS45 D5-Phenol	9.59	99.0	8491	5.17	ug/L	98
15)	*CI40 D8-Naphthalene	14.06	136.0	157047	40.00	ug/L	94
16)	CS20 D5-Nitrobenzene	12.00	82.0	48624	32.61	ug/L	(8
21)	*CI50 D10-Acenaphthene	19.61	164.0	92837	40.00	ug/L	96
22)	CS25 2-Fluorobiphenyl	17.54	172.0	108619	33.56	ug/L	95
28)	*CI60 D10-Phenanthrene	24.27	188.0	155469	40.00	ug/L	(9
33)	*CI70 D12-Chrysene	32.75	240.0	121766	40.00	ug/L	96
35)	CS30 D14-Terphenyl	29.46	244.0	123241	38.38	ug/L	84
40)	*CI75 D12-Perylene	37.03	264.0	126922	40.00	ug/L	(2

* Compound is ISTD

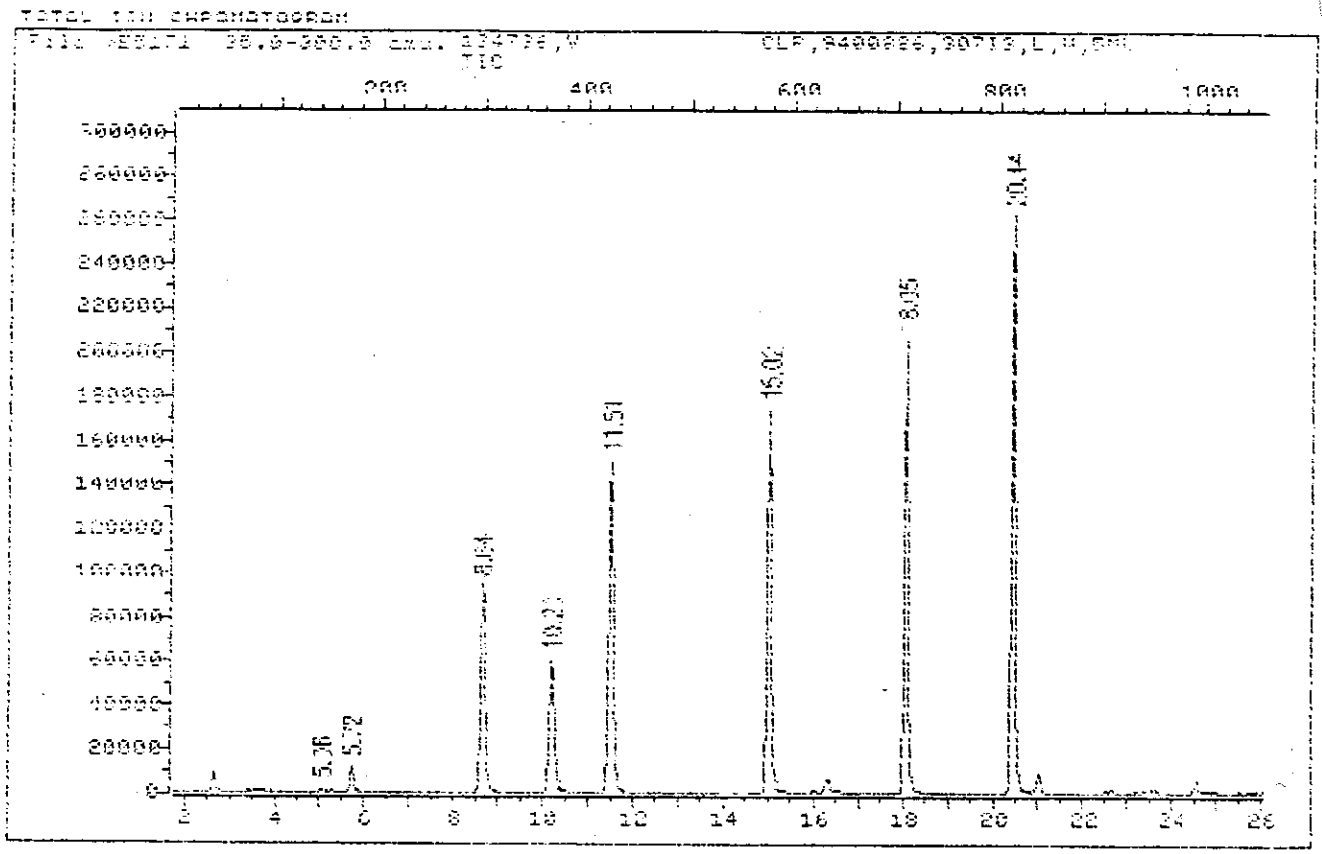
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134736
Client Sample ID: 30713

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/17/1994	res	199
Toluene	6.0	U	ug/L	6.0	03/17/1994	res	199
Ethylbenzene	6.0	U	ug/L	6.0	03/17/1994	res	199
m+p-Xylenes	5.0	U	ug/L	5.0	03/17/1994	res	199



Data File: >E5171::D5 Quant Output File: ^E5171::D8
Name: 134736,U
Misc: CLP.9400826,30713,L,W,5ML

Id File: !3CLPE::D4
Title: AQUEOUS CLP IB
Last Calibration: 940317 18:07

Operator ID: RITA
Quant Time: 940317 20:01
Injected at: 940317 19:30

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940317 20:01
Output File: ^E5171::D8 Injected at: 940317 19: 4
Data File: >E5171::D9 Dilution Factor: 1.0000
Name: 174776,U
Misc: CLP,9400826,30713,L,W,5ML

EAQ-196

ID File: IDCLPE::04
Title: AQUEOUS CLP ID
Last Calibration: 940317 10:07

	Compound		R.T.	Q ion	Area	Conc	Units	Q
1)	*C101 Bromochloromethane	IS-1	8.64	128.0	99697	50.00	UG/L	
6)	C030 Methylene Chloride	6=4	5.72	84.0	15211	6.57	UG/L	96
7)	C035 Acetone		5.06	43.0	4682	16.56	UG/L	89
13)	CS15 D4-1,2-Dichloroethane	SS1	10.20	65.0	202178	50.18	UG/L	97
16)	*C110 1,4-Difluorobenzene	IS-2	11.51	114.0	420766	50.00	UG/L	98
29)	*C120 D5-Chlorobenzene	IS-3	18.05	117.0	314754	50.00	UG/L	97
35)	CS05 D8-Toluene	SS-2	15.09	98.0	363254	50.99	UG/L	
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	266449	50.88	UG/L	97

* Compound is ISTD

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NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

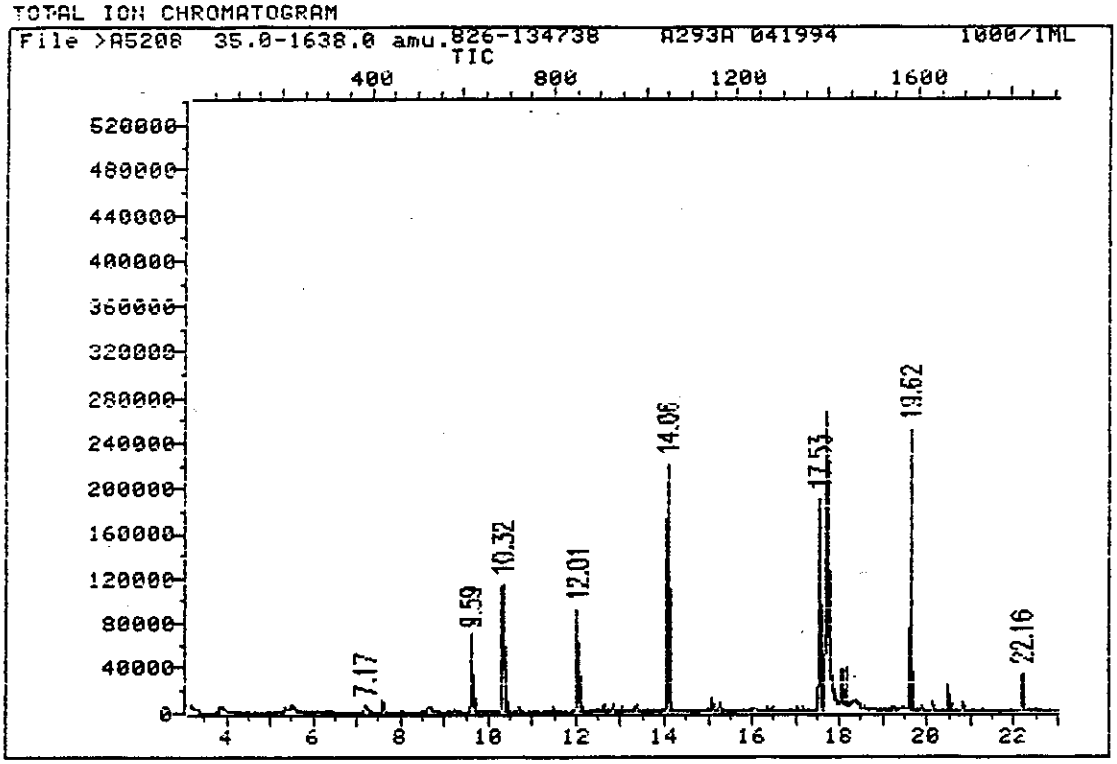
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134738
Client Sample ID: 275D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/19/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/19/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	2.4	J	ug/L	2.5	04/19/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/19/1994	jig	10	4
Indene	10.	U	ug/L	2.5	04/19/1994	jig	10	4

TOTAL ION CHROMATOGRAM



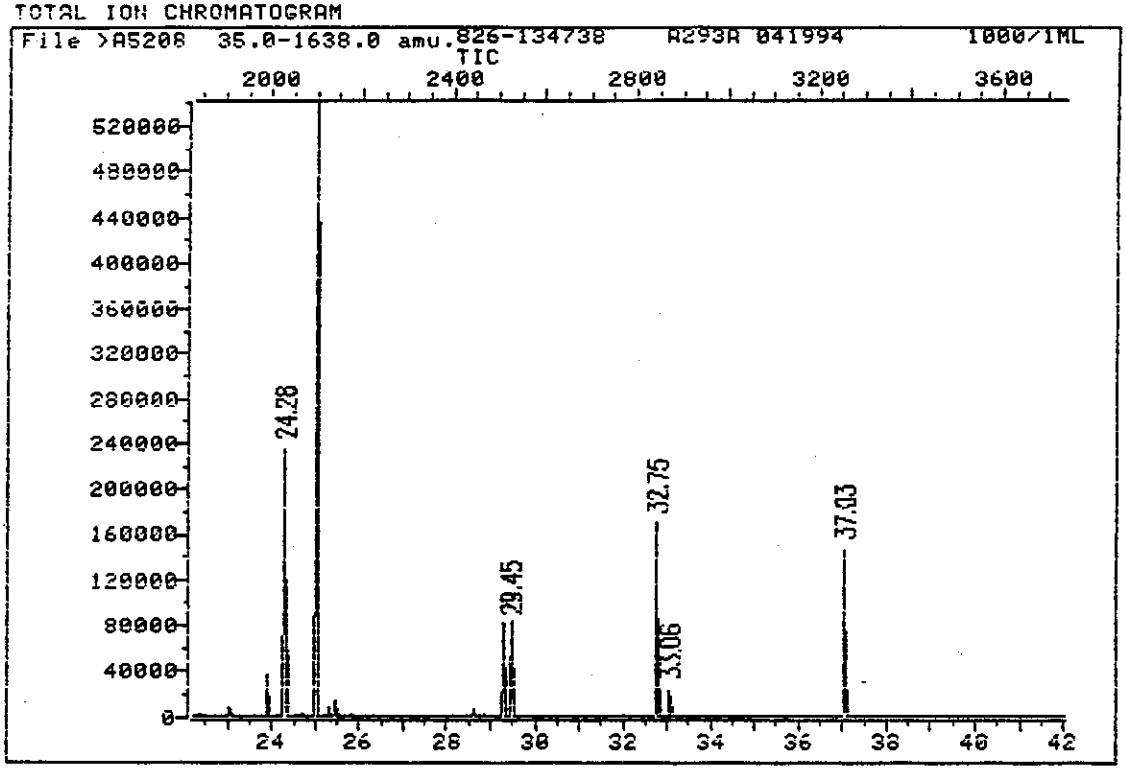
Data File: >A5208::E2 Quant Output File: ^A5208::D5
Name: 826-134738 A293A
Misc: 041994 1000/1ML HP5970 A BTL#13

Id File: 1ASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 21:44
Injected at: 940419 20:59

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5208::E2 Quant Output File: ^A5208::D5
Name: 826-134738 A293A
Misc: 041994 1000/1ML HP5970 A BTL#13

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 21:44
Injected at: 940419 20:59

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 21:44
Output File: ^A5208::D5 Injected at: 940419 20:59
Data File: >A5208::E2 Dilution Factor: 1.00000
Name: 826-134738 A293A
Misc: 041994 1000/1ML HP5970 A BTL#13

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.32	152.0	50473	40.00	ug/L	(9
2)	CS50 2-Fluorophenol	7.17	112.0	8392	5.69	ug/L	98
3)	CS45 D5-Phenol	9.59	99.0	73584	38.30	ug/L	96
15)	*CI40 D8-Naphthalene	14.06	136.0	194059	40.00	ug/L	(3
16)	CS20 D5-Nitrobenzene	12.01	82.0	56022	30.40	ug/L	92
21)	*CI50 D10-Acenaphthene	19.62	164.0	115094	40.00	ug/L	97
22)	CS25 2-Fluorobiphenyl	17.53	172.0	119462	29.78	ug/L	(5
27)	CS55 2,4,6-Tribromophenol	22.16	330.0	11160	13.95	ug/L	97
28)	*CI60 D10-Phenanthrene	24.28	188.0	200655	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.75	240.0	167565	40.00	ug/L	(3
35)	CS30 D14-Terphenyl	29.45	244.0	70211	15.89	ug/L	85
39)	C745 bis(2Ethylhexyl)phthalate	33.06	149.0	13717	2.43	ug/L	86
40)	*CI75 D12-Perylene	37.03	264.0	184074	40.00	ug/L	(5

* Compound is ISTD

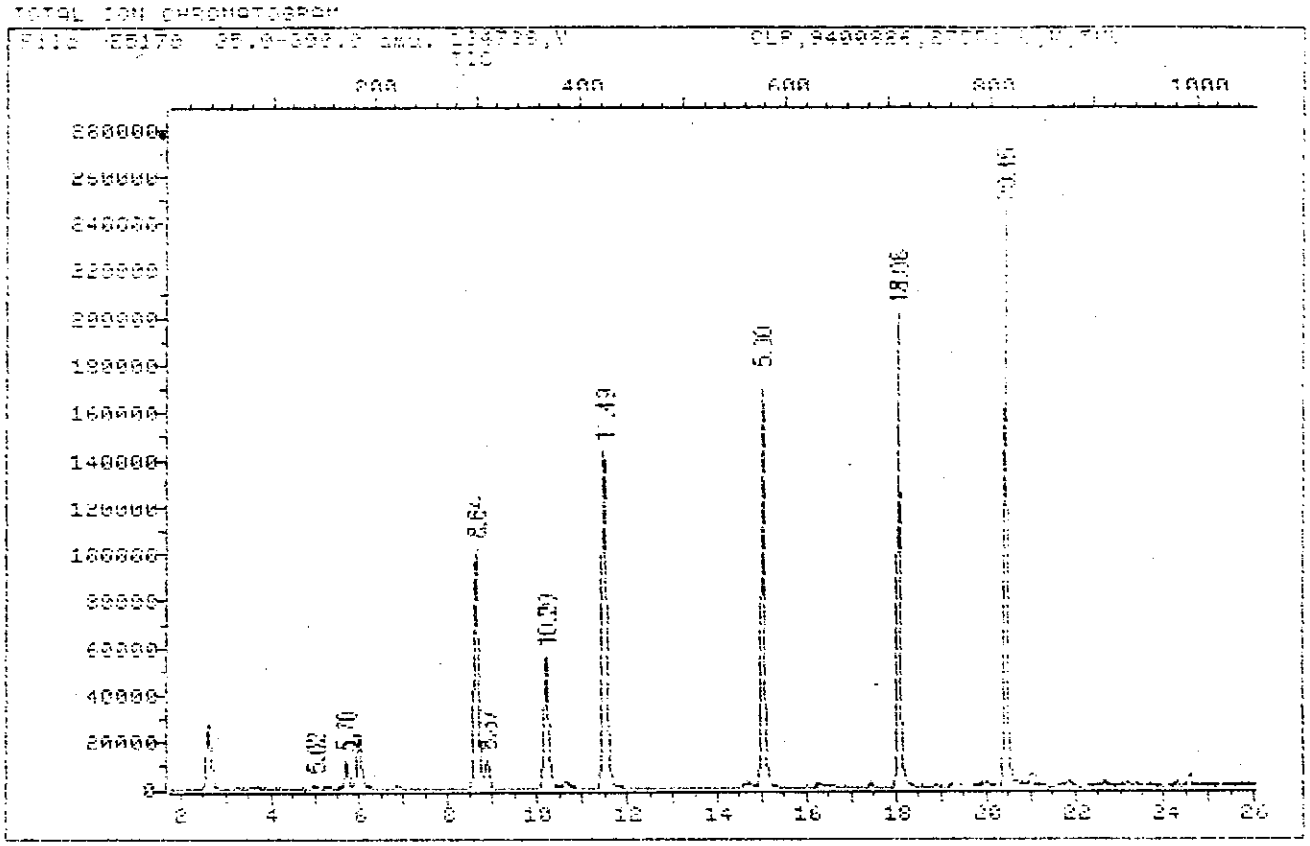
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134738
Client Sample ID: 275D1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/17/1994	res	199
Toluene	6.0	U	ug/L	6.0	03/17/1994	res	199
Ethylbenzene	6.0	U	ug/L	6.0	03/17/1994	res	199
m+p-Xylenes	5.0	U	ug/L	5.0	03/17/1994	res	199



Data File: >E5170::D5 Quant Output File: ^E5170::D8
Name: 134778,U
Misc: CLP.9400826,27501,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940317 10:07

Operator ID: RITA
Quant Time: 940317 19:25
Injected at: 940317 18:53

QUANT REPORT

Operator ID: PITA
Output File: ^E5170::08
Data File: :S5170::05
Name: 173718.11
Misc: CLP,940892e.27501.c.W,5ML

Quant Rev: e Quant Time: 940317 [illegible]
Injected at: 940317 18:53
Dilution Factor: 1.00000

ID File: IDF:PE::04
Title: AQUEOUS CLP ID
Last Calibration: 940317 10:07

EAQ-196

	Compound		R.T.	Q ion	Area	Conc	Units	
1)	*C101 Bromochloromethane	IS-1	8.64	128.0	100887	50.00	UG/L	4
6)	C030 Methylene Chloride		5.70	84.0	16129	6.88	UG/L	[illegible]
7)	C035 Acetone		5.02	43.0	6963	22.94	UG/L	6
12)	C060 Chloroform		8.87	83.0	29797	4.69	UG/L	94
13)	CS15 D4-1,2-Dichloroethane	SS1	10.20	65.0	191178	46.89	UG/L	[illegible]
16)	*C110 1,4-Difluorobenzene	IS-2	11.49	114.0	420227	50.00	UG/L	70
29)	*C120 D5-Chlorobenzene	IS-3	18.06	117.0	315800	50.00	UG/L	94
35)	CS05 D8-Toluene	SS-2	19.00	98.0	346996	48.50	UG/L	[illegible]
42)	CS10 Bromofluorobenzene	SS-3	20.45	95.0	248810	46.61	UG/L	94

* Compound is ISTD

000059

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

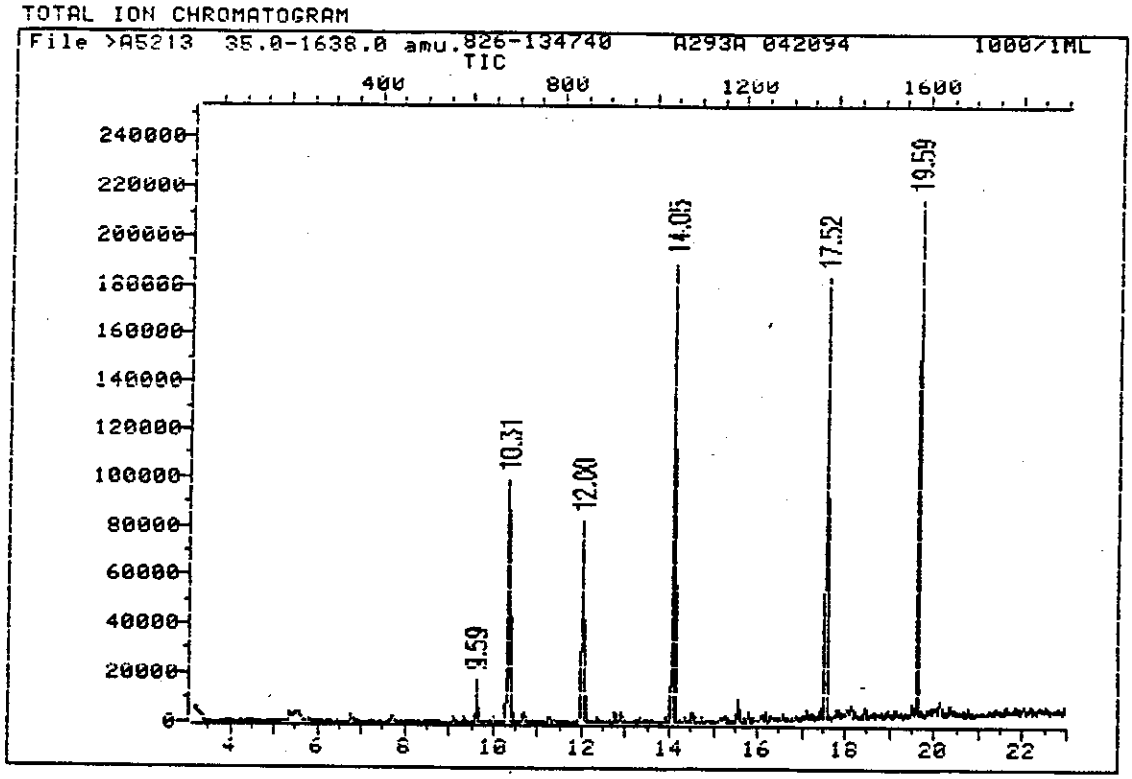
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134740
Client Sample ID: 306D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	2.4	J	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	2.5	04/20/1994	jig	10	4

TOTAL ION CHROMATOGRAM



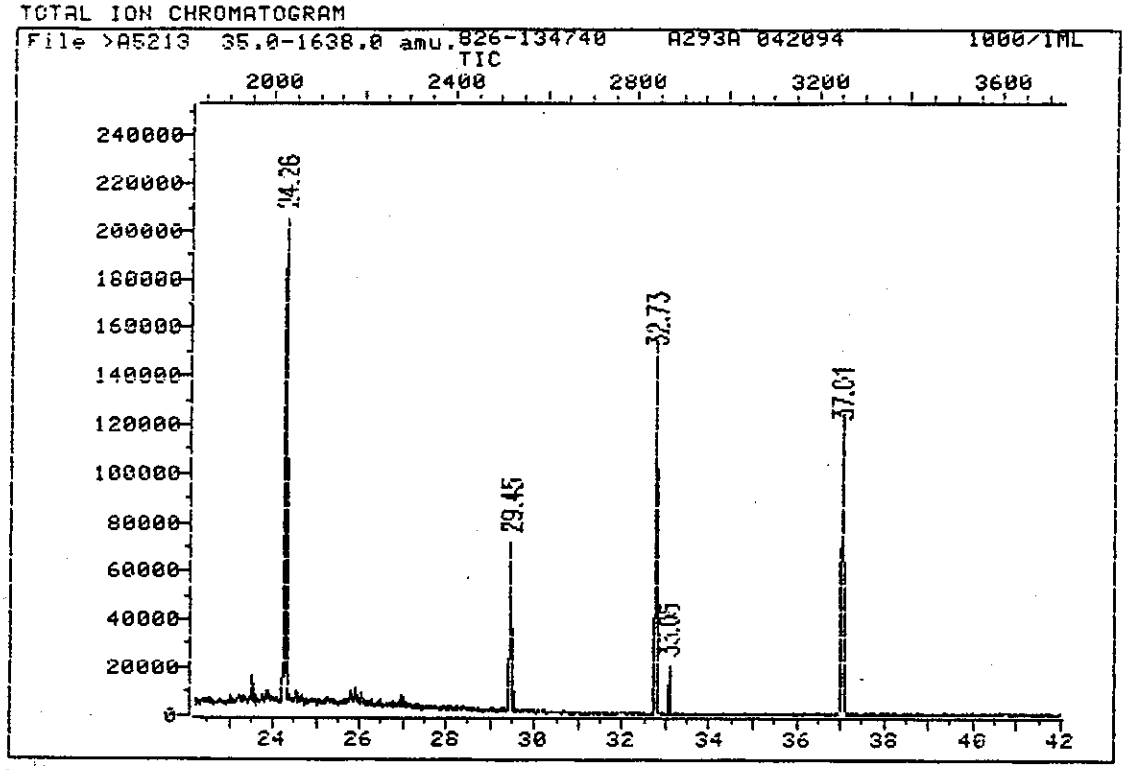
Data File: >A5213::E2 Quant Output File: ^A5213::D5
Name: 826-134740 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 4

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 12:38
Injected at: 940420 11:53

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5213::E2 Quant Output File: ^A5213::D5
Name: 826-134740 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 4

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 12:38
Injected at: 940420 11:53

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940420 12:38
Output File: ^A5213::D5 Injected at: 940420 11:53
Data File: >A5213::E2 Dilution Factor: 1.00000
Name: 826-134740 A293A
Misc: 042094 1000/1ML HP5970 A BIL# 4

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	45425	40.00	ug/L	6
3)	CS45 D5-Phenol	9.59	99.0	15102	8.73	ug/L	95
15)	*CI40 D8-Naphthalene	14.05	136.0	170165	40.00	ug/L	92
16)	CS20 D5-Nitrobenzene	12.00	82.0	48616	30.09	ug/L	5
21)	*CI50 D10-Acenaphthene	19.59	164.0	101727	40.00	ug/L	97
22)	CS25 2-Fluorobiphenyl	17.52	172.0	108729	30.66	ug/L	93
28)	*CI60 D10-Phenanthrene	24.26	188.0	174419	40.00	ug/L	8
33)	*CI70 D12-Chrysene	32.73	240.0	147729	40.00	ug/L	9
35)	CS30 D14-Terphenyl	29.45	244.0	55936	14.36	ug/L	85
39)	C745 bis(2Ethylhexyl)phthalate	33.05	149.0	11761	2.36	ug/L	6
40)	*CI75 D12-Perylene	37.01	264.0	152311	40.00	ug/L	93

* Compound is ISTD

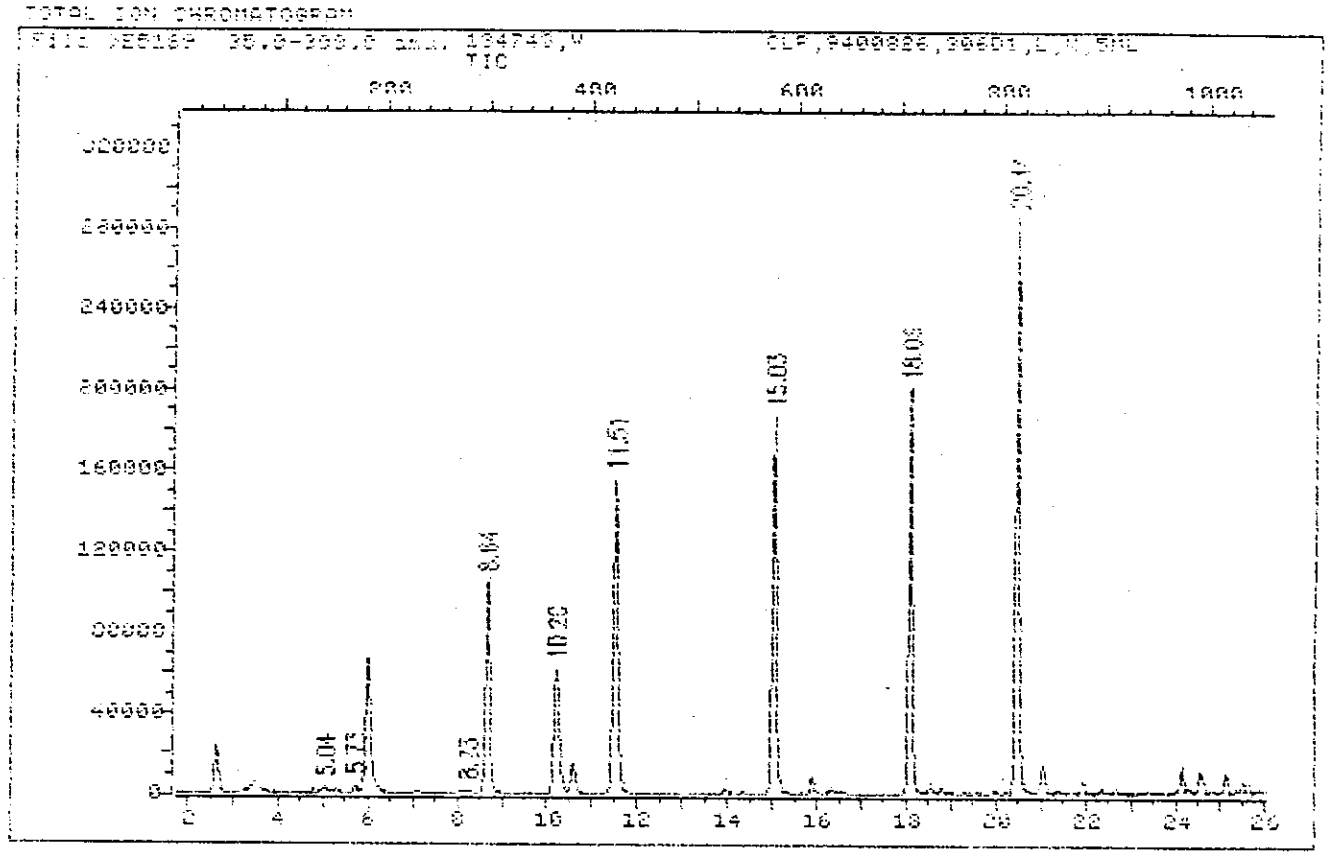
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134740
Client Sample ID: 30601

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/17/1994	res	199
Toluene	6.0	U	ug/L	6.0	03/17/1994	res	199
Ethylbenzene	6.0	U	ug/L	6.0	03/17/1994	res	199
m+p-Xylenes	5.0	U	ug/L	5.0	03/17/1994	res	199



Data File: >E5169::D5 Quant Output File: ^E5169::D8
Name: 134740,V
Misc: CLP,9400826,30601,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP 10
Last Calibration: 940717 10:07

Operator ID: RITA
Quant Time: 940717 18:49
Injected at: 940717 18:15

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940317 18:44
Output File: ^E5169::08 Injected at: 940317 18:15
Data File: >E5169::05 Dilution Factor: 1.0000
Name: 134740.U
Misc: CLP,940826,306D1,L.W,5ML

EAQ-196

ID File: IDCLPE::04
Title: AQUEOUS CLP ID
Last Calibration: 940317 10:07

	Compound		R.T.	Q ion	Area	Conc	Units	
1)	*C101 Bromochloromethane	IS-1	8.64	128.0	108079	50.00	UG/L	
6)	C030 Methylene Chloride		9.73	84.0	5346	2.13	UG/L	92
7)	C035 Acetone		9.84	43.0	6123	19.97	UG/L	73
13)	CS15 D4-1,2-Dichloroethane	SS1	10.20	65.0	210469	48.19	UG/L	87
15)	C110 2-Butanone		8.23	43.0	3421	8.76	UG/L	96
16)	*C110 1,4-Difluorobenzene	IS-2	11.51	114.0	477817	50.00	UG/L	70
29)	*C120 D5-Chlorobenzene	IS-3	18.06	117.0	332694	50.00	UG/L	0
35)	CS05 D8-Toluene	SS-2	15.03	98.0	375841	49.87	UG/L	98
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	284927	50.60	UG/L	90

* Compound is ISTD

000066

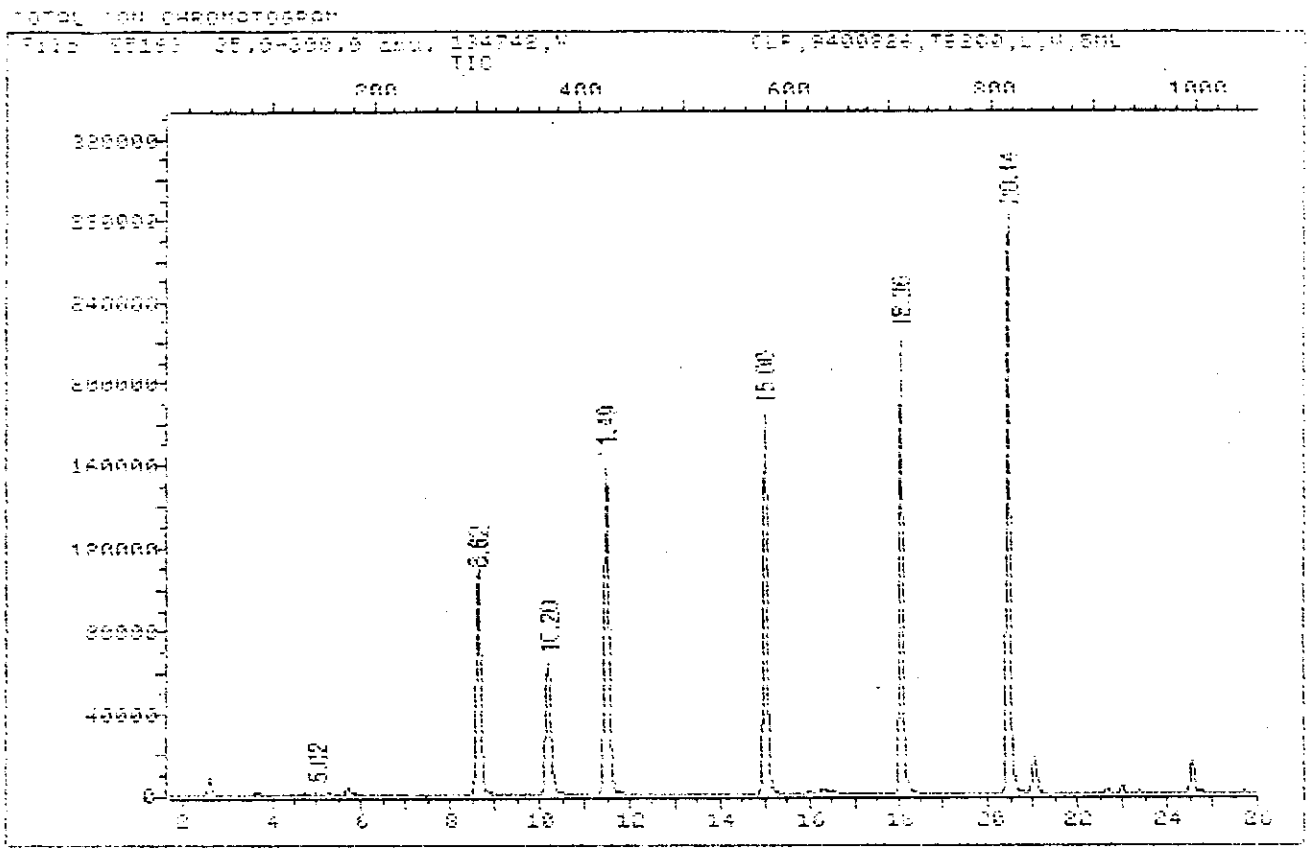
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134742
Client Sample ID: TB200

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/17/1994	res	199
Toluene	6.0	U	ug/L	6.0	03/17/1994	res	199
Ethylbenzene	6.0	U	ug/L	6.0	03/17/1994	res	199
m+p-Xylenes	5.0	U	ug/L	5.0	03/17/1994	res	199



Data File: >E5168::D5 Quant Output File: ^E5168::D8
Name: 17-742,U
Misc: CLP,940826,TB200,L,W,5ML

IM File: ^DOLPE::D4
Title: AT SOUS CLP ID
Last Calibration: 940317 10:07

Operator ID: RITA
Quant Time: 940317 18:13
Injected at: 940317 17:39

569a

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940317 18:13
Output File: ^F5168::08 Injected at: 940317 17:39
Data File: >F5168::05 Dilution Factor: 1.00000
Name: 134749,U
Misc: CLP,9400826,TB200,L,W,5ML

ID File: IDCLPE::04
Title: AQUEOUS CLP ID
Last Calibration: 940317 10:07

	Compound		R.T.	Q ion	Area	Conc	Units	%
1)	*C101 Bromochloromethane	IS-1	8.62	128.0	112438	50.00	UG/L	
7)	C035 Acetone		5.02	43.0	1043	3.27	UG/L	96
13)	CS15 D4-1,2-Dichloroethane	SS1	10.20	65.0	222211	48.90	UG/L	84
16)	*C110 1,4-Difluorobenzene	IS-2	11.49	114.0	454098	50.00	UG/L	
29)	*C120 D5-Chlorobenzene	IS-3	18.06	117.0	341192	50.00	UG/L	
35)	CS05 D8-Toluene	SS-2	15.00	98.0	387130	50.09	UG/L	
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	292607	50.74	UG/L	

* Compound is ISTD

000069

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

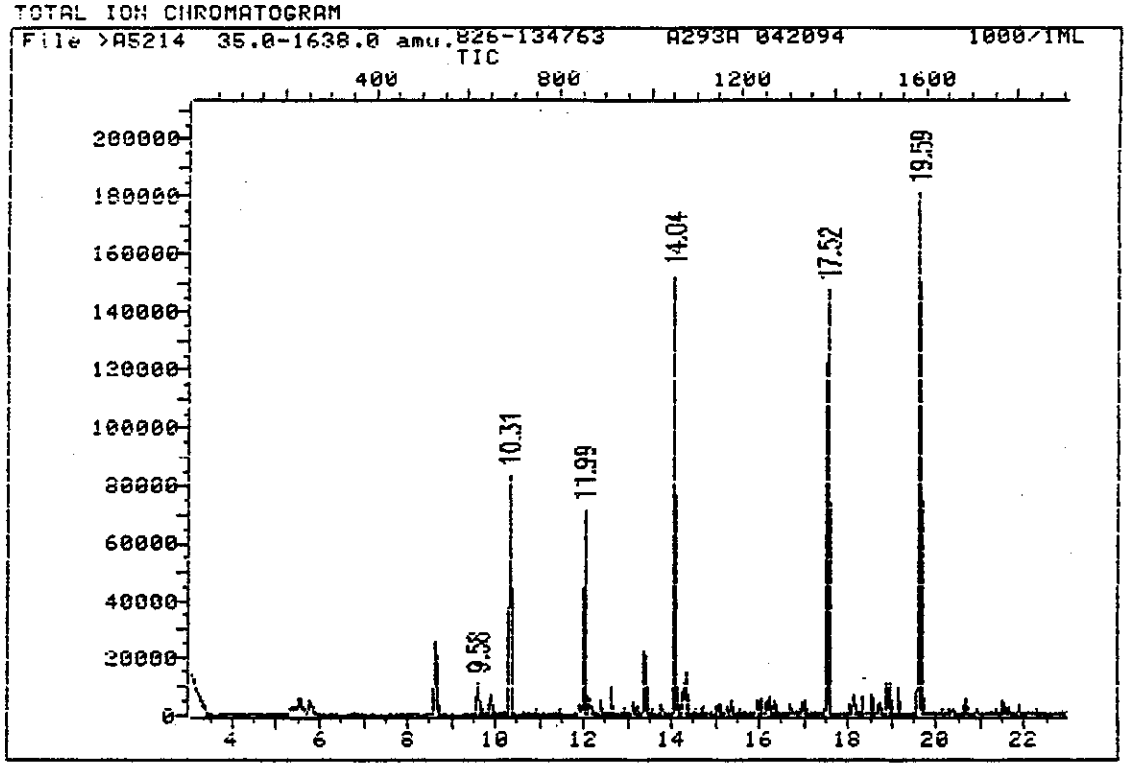
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134763
Client Sample ID: 30711

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	2.5	04/20/1994	jig	10	4

TOTAL ION CHROMATOGRAM



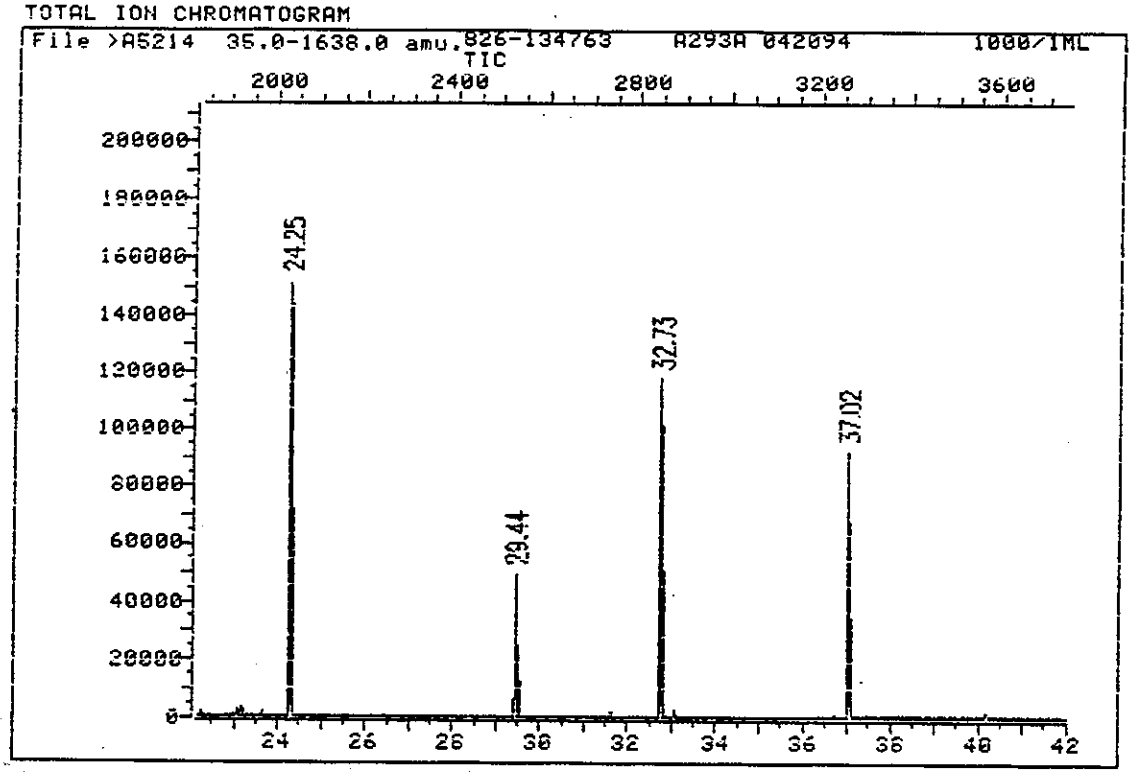
Data File: >A5214::E2 Quant Output File: ^A5214::D5
Name: 826-134763 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 5

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 13:29
Injected at: 940420 12:44

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5214::E2 Quant Output File: ^A5214::D5
Name: 826-134763 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 5

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 13:29
Injected at: 940420 12:44

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940420 13:29
Output File: ^A5214::D5 Injected at: 940420 12:44
Data File: >A5214::E2 Dilution Factor: 1.00000
Name: 826-134763 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 9

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	38598	40.00	ug/L	(
3)	CS45 D5-Phenol	9.58	99.0	9626	6.55	ug/L	9
15)	*CI40 D8-Naphthalene	14.04	136.0	137982	40.00	ug/L	9
16)	CS20 D5-Nitrobenzene	11.99	82.0	42455	32.41	ug/L	(
21)	*CI50 D10-Acenaphthene	19.59	164.0	84365	40.00	ug/L	9
22)	CS25 2-Fluorobiphenyl	17.52	172.0	90488	30.77	ug/L	9
28)	*CI60 D10-Phenanthrene	24.25	188.0	138688	40.00	ug/L	(
33)	*CI70 D12-Chrysene	32.73	240.0	112007	40.00	ug/L	9
35)	CS30 D14-Terphenyl	29.44	244.0	42398	14.35	ug/L	8
40)	*CI75 D12-Perylene	37.02	264.0	109930	40.00	ug/L	(

* Compound is ISTD

000073

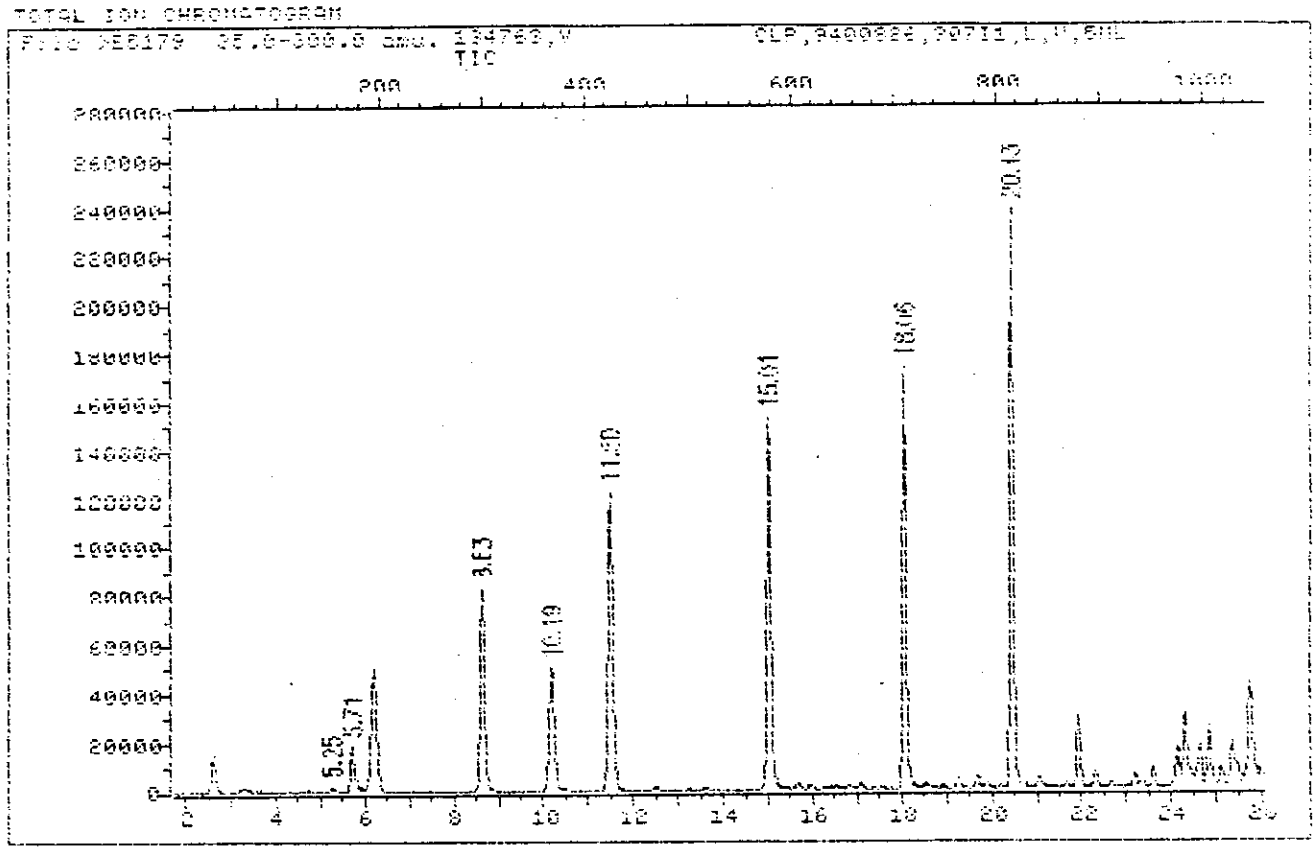
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00826
NET Sample No: 134763
Client Sample ID: 30711

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/18/1994	res	197
Toluene	6.0	U	ug/L	6.0	03/18/1994	res	197
Ethylbenzene	6.0	U	ug/L	6.0	03/18/1994	res	197
m+p-Xylenes	5.0	U	ug/L	5.0	03/18/1994	res	197



Data File: >E5179::D6 Quant Output File: ^E5179::D8
Name: 134763,V.
Misc: CLP,9400826,30711,L,M,5ML

Id File: I0CLPE::D4
Title: AQUEOUS CLP I0
Last Calibration: 940318 09:13

Operator ID: RITA
Quant Time: 940318 11:29
Injected at: 940318 10:59

QUANT REPORT

Operator ID: RITA
Output File: ^E5179::08
Data File: >F5179::D6
Name: 134763.U
Misc: CLP,940826,30711,L,W,5mL

Quant Rev: 6 Quant Time: 940918 11:04
Injected at: 940918 10:59
Dilution Factor: 1.00000

ID File: IDCLPF::D4
Title: AQUEOUS CLP ID
Last Calibration: 940918 09:13

EAQ-196

	Compound		R.T.	Q Ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	8.63	128.0	84469	50.00	UG/L	9
6)	C030 Methylene Chloride B=16		5.71	84.0	29442	15.29	UG/L	3
8)	C040 Carbon Disulfide		5.25	76.0	7288	1.47	UG/L	100
13)	CS15 D4-1,2-Dichloroethane	SS1	10.19	65.0	170842	50.26	UG/L	88
16)	*CI10 1,4-Difluorobenzene	IS-2	11.50	114.0	349698	50.00	UG/L	9
29)	*CI20 D5-Chlorobenzene	IS-3	18.06	117.0	276488	50.00	UG/L	96
35)	CS05 D8-Toluene	SS-2	15.01	98.0	311410	47.18	UG/L	9
42)	CS10 Bromofluorobenzene	SS-3	20.43	95.0	240695	50.68	UG/L	9

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

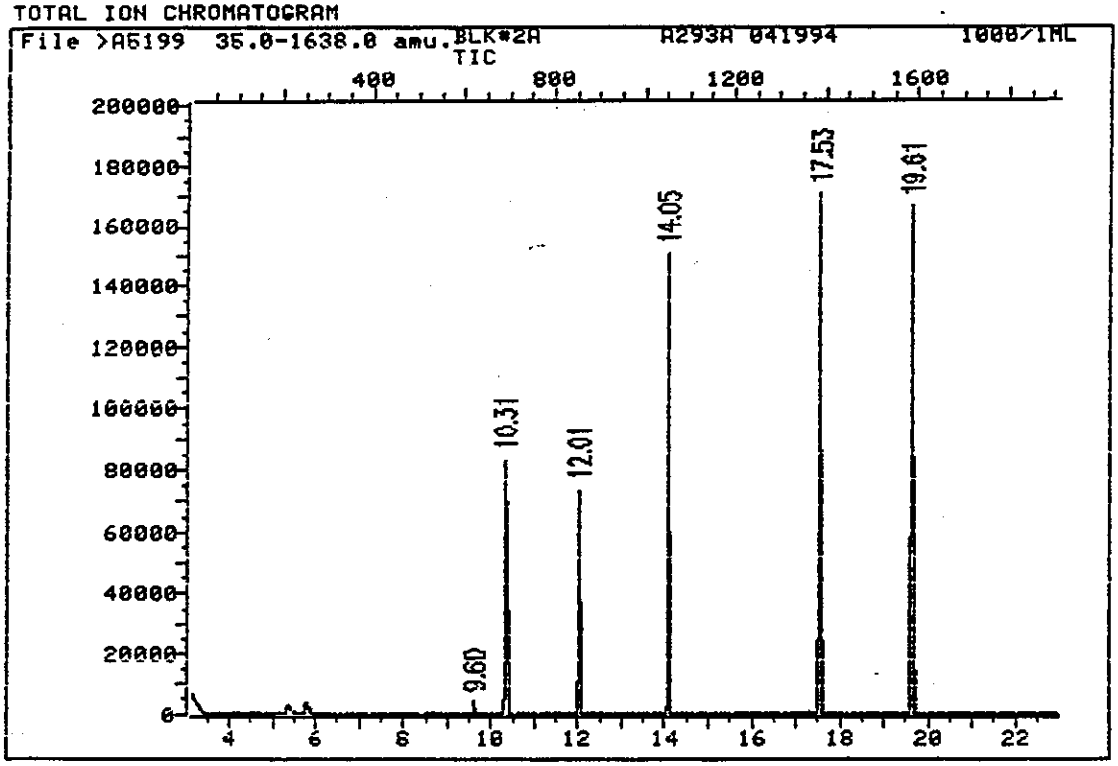
CLIENT ENSR Consulting

REPORT # 94.00826

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>A5199	04/19/94	BN	Aq	---	No Targets Found	NA	ug/L	NA

COMMENTS:

TOTAL ION CHROMATOGRAM



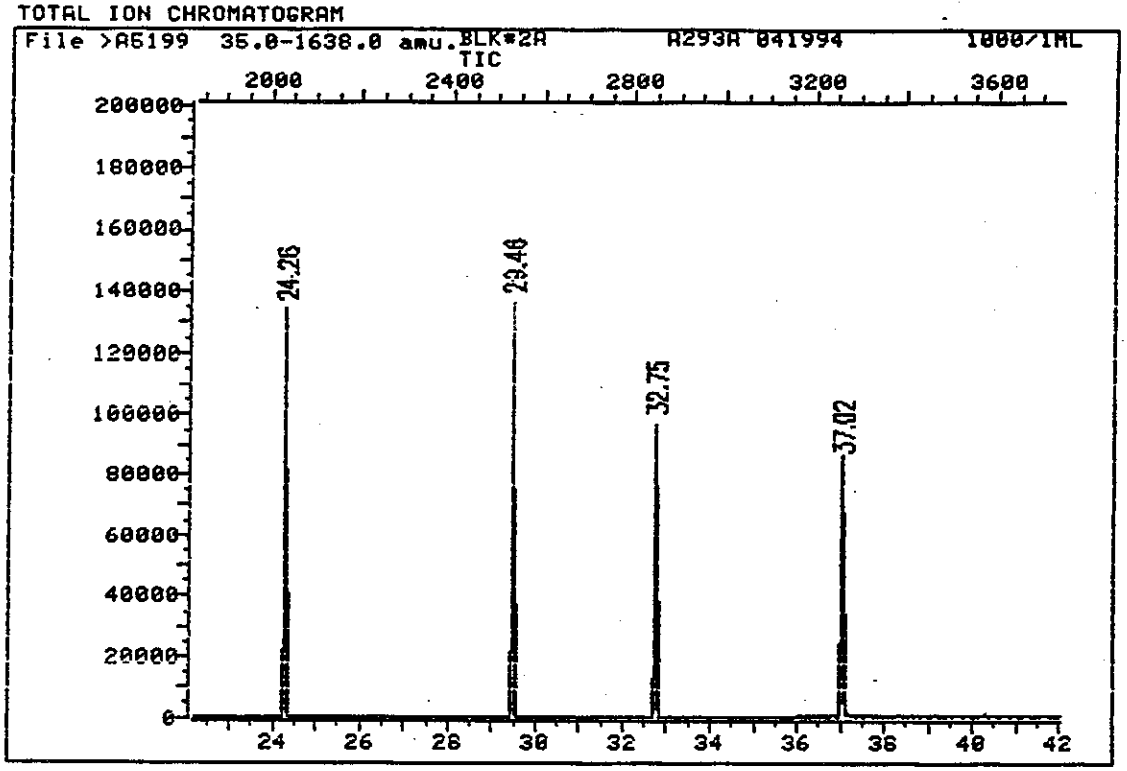
Data File: >A5199::E2 Quant Output File: ^A5199::D5
Name: BLK#2A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 4

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 14:00
Injected at: 940419 13:15

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5199::E2 Quant Output File: ^A5199::D5
Name: BLK#2A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 4

Id File: IASKNR::D4
Title: SP Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 14:00
Injected at: 940419 13:15

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 14:00
Output File: ^A5199::D5 Injected at: 940419 13:15
Data File: >A5199::E2 Dilution Factor: 1.00000
Name: BLK#2A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 4

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	37434	40.00	ug/L	95
3)	CS45 D5-Phenol	9.60	99.0	3381	2.37	ug/L	81
15)	*CI40 D8-Naphthalene	14.05	136.0	131058	40.00	ug/L	93
16)	CS20 D5-Nitrobenzene	12.01	82.0	43780	35.18	ug/L	97
21)	*CI50 D10-Acenaphthene	19.61	164.0	77849	40.00	ug/L	98
22)	CS25 2-Fluorobiphenyl	17.53	172.0	104418	38.48	ug/L	96
28)	*CI60 D10-Phenanthrene	24.26	188.0	124919	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.75	240.0	89773	40.00	ug/L	97
35)	CS30 D14-Terphenyl	29.46	244.0	111901	47.27	ug/L	85
40)	*CI75 D12-Perylene	37.02	264.0	103731	40.00	ug/L	93

* Compound is ISTD

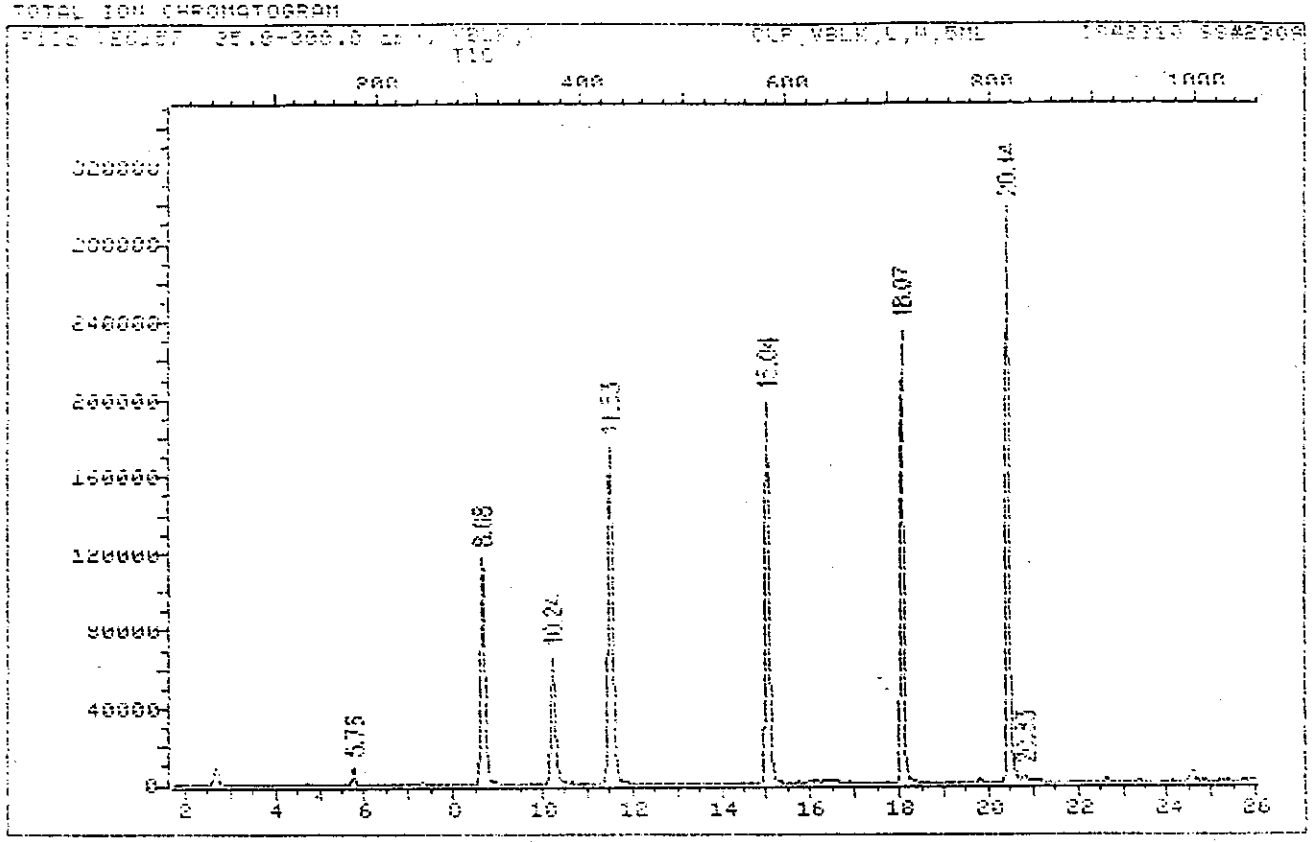
NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

CLIENT ENSR Consulting REPORT # 94.00826

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>E5157	03/17/94	VOA	Aq	---	No Targets Found	NA	ug/L	NA
>E5176	03/18/94	VOA	Aq	---	No Targets Found	NA	ug/L	NA

COMMENTS: _____

TOTAL ION CHROMATOGRAM



Data File: >E5157::D7 Quant Output File: ^E5157::D8
Name: VBLK,V
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940317 10:07

Operator ID: RITA
Quant Time: 940317 10:53
Injected at: 940317 10:17

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940317 10:53
Output File: ^E5157::08 Injected at: 940317 10:17
Data File: >E5157::07 Dilution Factor: 1.00000
Name: VBLK,U
Misc: CLP,UBLK,L,W,5ML IS#2310,SS#2309

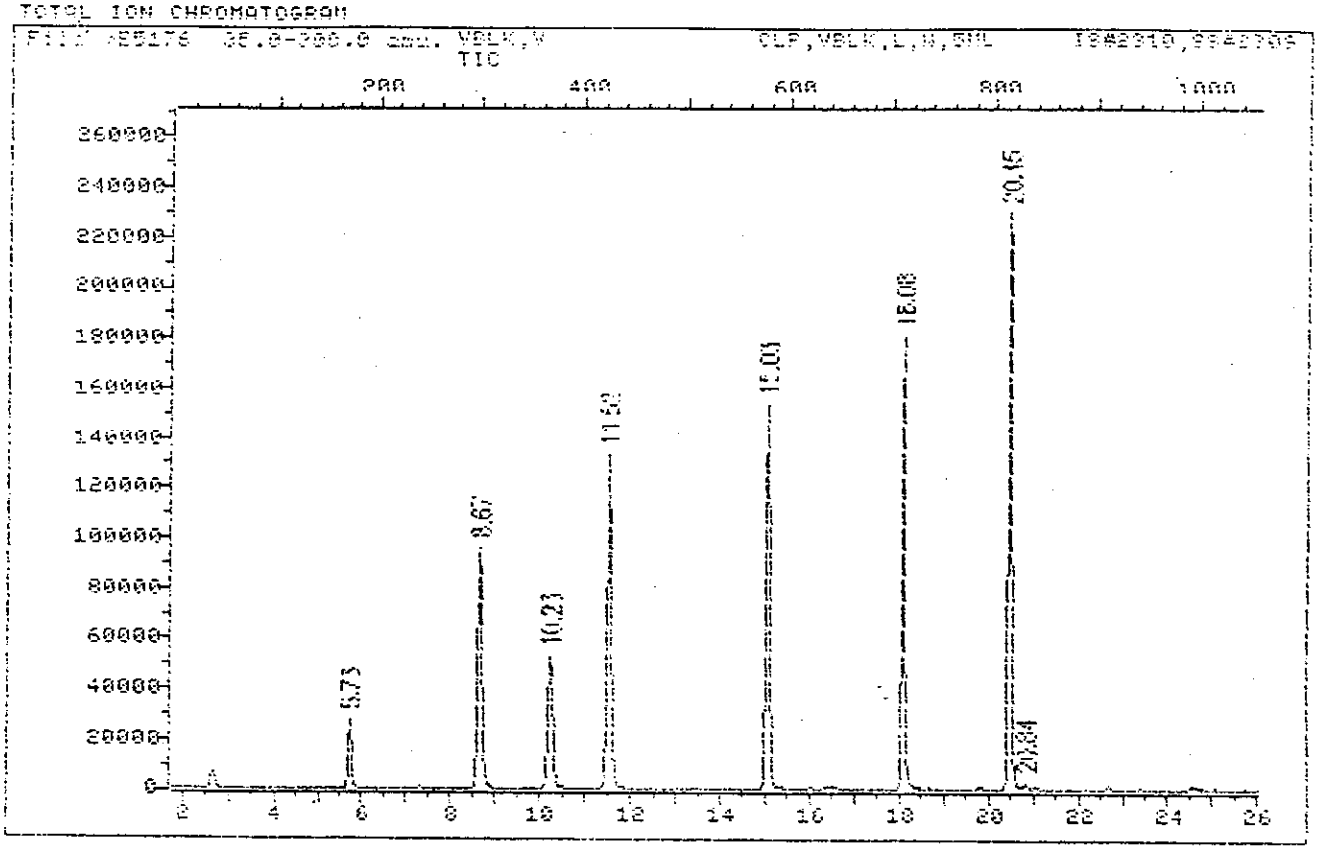
ID File: IDCLPE::04
Title: AQUEOUS CLP ID
Last Calibration: 940317 10:07

	Compound		R.T.	Q ion	Area	Conc	Units	Q
1)	*C101 Bromochloromethane	IS-1	8.68	128.0	120194	50.00	UG/L	
6)	C030 Methylene Chloride		9.76	84.0	10857	3.89	UG/L	97
13)	CS15 D4-1,2-Dichloroethane	SS1	10.24	65.0	218783	45.04	UG/L	88
16)	*C110 1,4-Difluorobenzene	IS-2	11.53	114.0	506964	50.00	UG/L	
29)	*C120 D5-Chlorobenzene	IS-3	18.07	117.0	368726	50.00	UG/L	97
33)	C225 1,1,2,2-Tetrachloroethane		20.83	83.0	6341	2.04	UG/L	84
35)	CS05 D8-Toluene	SS-2	19.04	98.0	414931	49.67	UG/L	
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	302448	48.53	UG/L	88

* Compound is ISTD

000083

TOTAL ION CHROMATOGRAM



Data File: >E5176::D6 Quant Output File: ^E5176::D8
Name: VBLK,U
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940318 09:13

Operator ID: RITA
Quant Time: 940318 09:39
Injected at: 940318 09:08

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940318 09:39
Output File: ^E5176::08 Injected at: 940318 09:08
Data File: >E5176::06 Dilution Factor: 1.00000
Name: VBLK,U
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

ID File: IDCLPE::04
Title: AQUEOUS CLP ID
Last Calibration: 940318 09:13

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.67	128.0	99798	50.00	UG/L	87
6)	CO30 Methylene Chloride		9.73	84.0	35512	16.27	UG/L	84
13)	CS15 D4-1,2-Dichloroethane	SS1	10.23	65.0	175133	45.45	UG/L	90
16)	*CI10 1,4-Difluorobenzene	IS-2	11.52	114.0	381723	50.00	UG/L	93
29)	*CI20 D5-Chlorobenzene	IS-3	18.08	117.0	284738	50.00	UG/L	94
33)	C225 1,1,2,2-Tetrachloroethane		20.84	83.0	4751	1.92	UG/L	91
35)	CS05 D8-Toluene	SS-2	19.03	98.0	316810	46.61	UG/L	93
42)	CS10 Bromofluorobenzene	SS-3	20.45	95.0	234592	47.97	UG/L	92

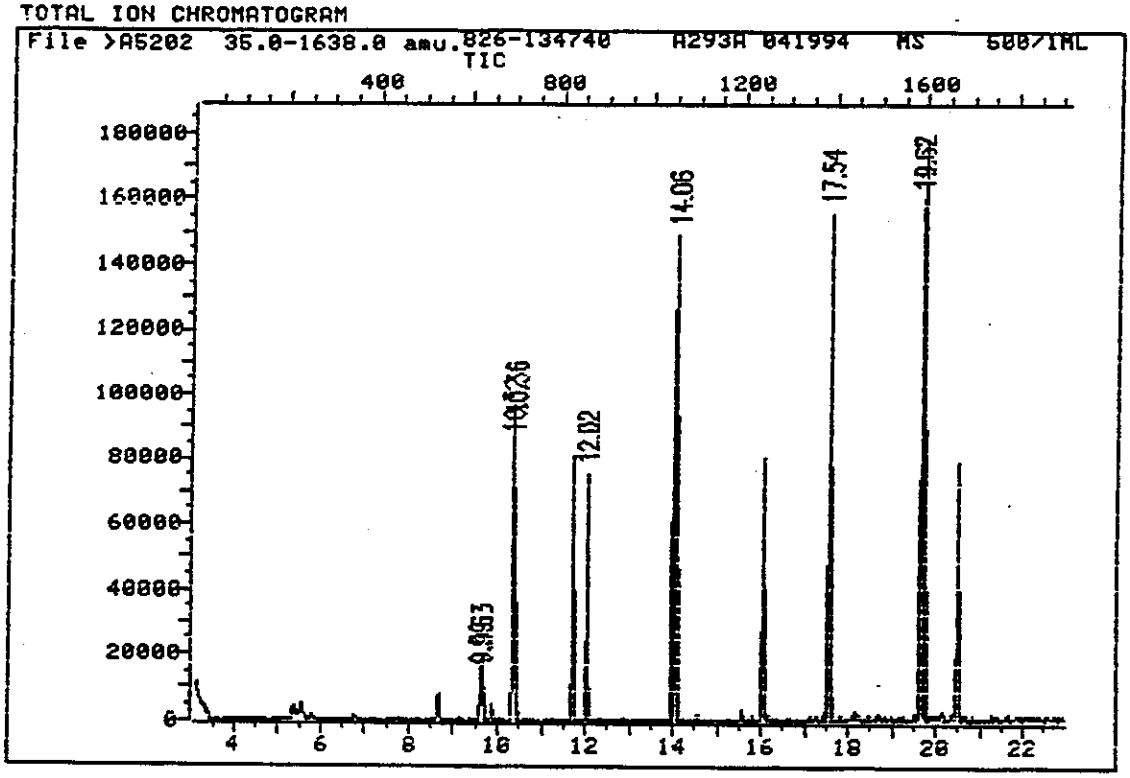
* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: A293A
QC Sample Number: 9400826-134740

Compound Name	Spike Added	Sample Result	MS Conc	Percent Recovery	MSD Conc	Percent Recovery	RPD
1,4-Dichlorobenzene	50	N.D.	33	66.00	31	62.00	6.0
Pyrene	50	N.D.	34	68.00	36	72.00	6.0

TOTAL ION CHROMATOGRAM



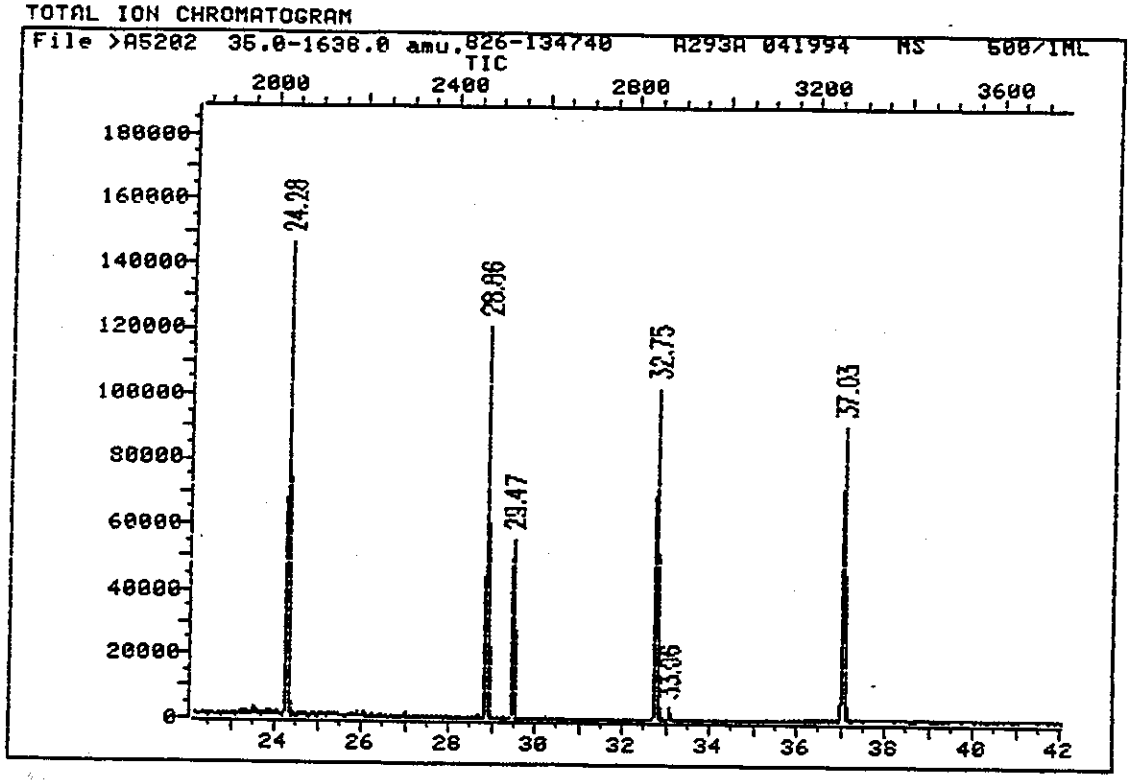
Data File: >A5202::E2 Quant Output File: ^A5202::D5
Name: 826-134740 A293A
Misc: 041994 MS 500/1ML HP5970 A BTL# 7

Id File: !ASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 16:35
Injected at: 940419 15:50

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5202::E2
Name: 826-134740 A293A
Misc: 041994 MS 500/1ML

Quant Output File: ^A5202::D5

HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 16:35
Injected at: 940419 15:50

TIC page 2 of 2

QUANT REPORT

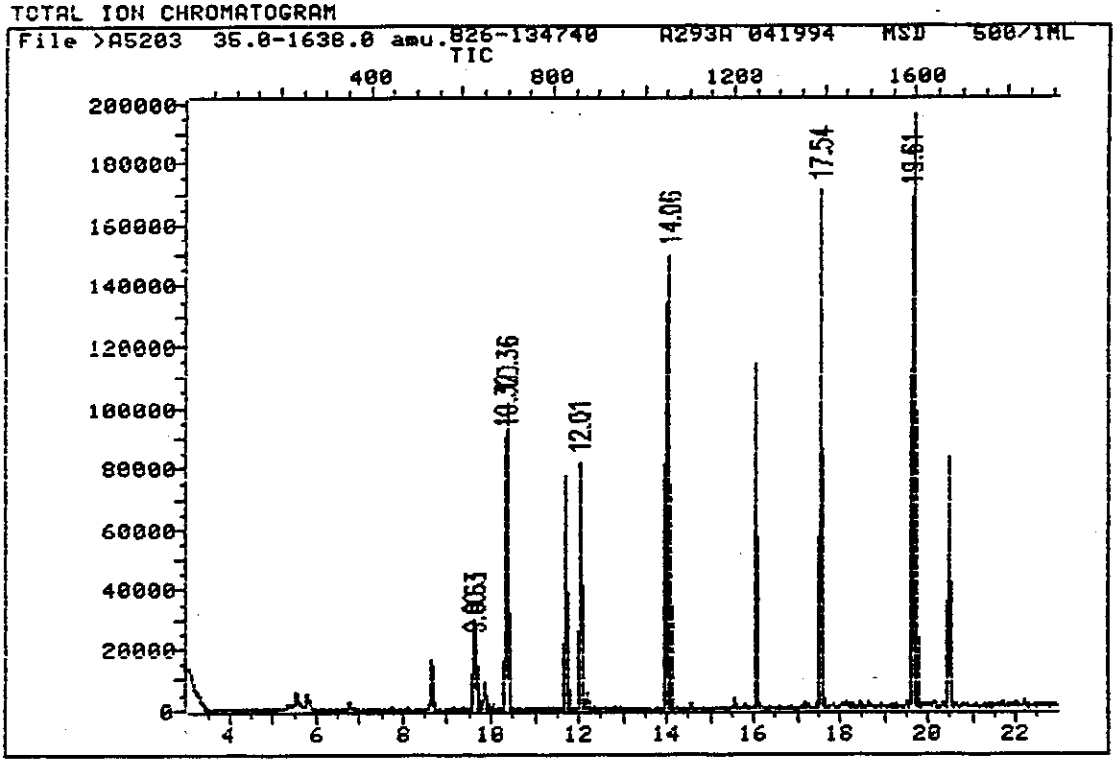
Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 16:35
Output File: ^A5202::D5 Injected at: 940419 15:50
Data File: >A5202::E2 Dilution Factor: 1.00000
Name: 826-134740 A293A
Misc: 041994 MS 500/1ML HP5970 A BTL# 7

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.32	152.0	35799	40.00	ug/L	97
3)	CS45 D5-Phenol	9.59	99.0	10082	7.40	ug/L	98
6)	C315 Phenol	9.63	94.0	10152	11.00	ug/L	94
9)	C340 1,4-Dichlorobenzene	10.36	146.0	51875	33.49	ug/L	96
15)	*CI40 D8-Naphthalene	14.06	136.0	128304	40.00	ug/L	95
16)	CS20 D5-Nitrobenzene	12.02	82.0	46508	38.18	ug/L	94
21)	*CI50 D10-Acenaphthene	19.62	164.0	75617	40.00	ug/L	97
22)	CS25 2-Fluorobiphenyl	17.54	172.0	97760	37.09	ug/L	93
28)	*CI60 D10-Phenanthrene	24.28	188.0	123763	40.00	ug/L	98
33)	*CI70 D12-Chrysene	32.75	240.0	95266	40.00	ug/L	97
34)	C715 Pyrene	28.86	202.0	125287	33.90	ug/L	97
35)	CS30 D14-Terphenyl	29.47	244.0	45055	17.93	ug/L	84
~~39)~~	~~C745 bis(2Ethylhexyl)phthalate~~	33.06	149.0	3013	.94	ug/L	1
40)	*CI75 D12-Perylene	37.03	264.0	109278	40.00	ug/L	93

* Compound is ISTD

TOTAL ION CHROMATOGRAM



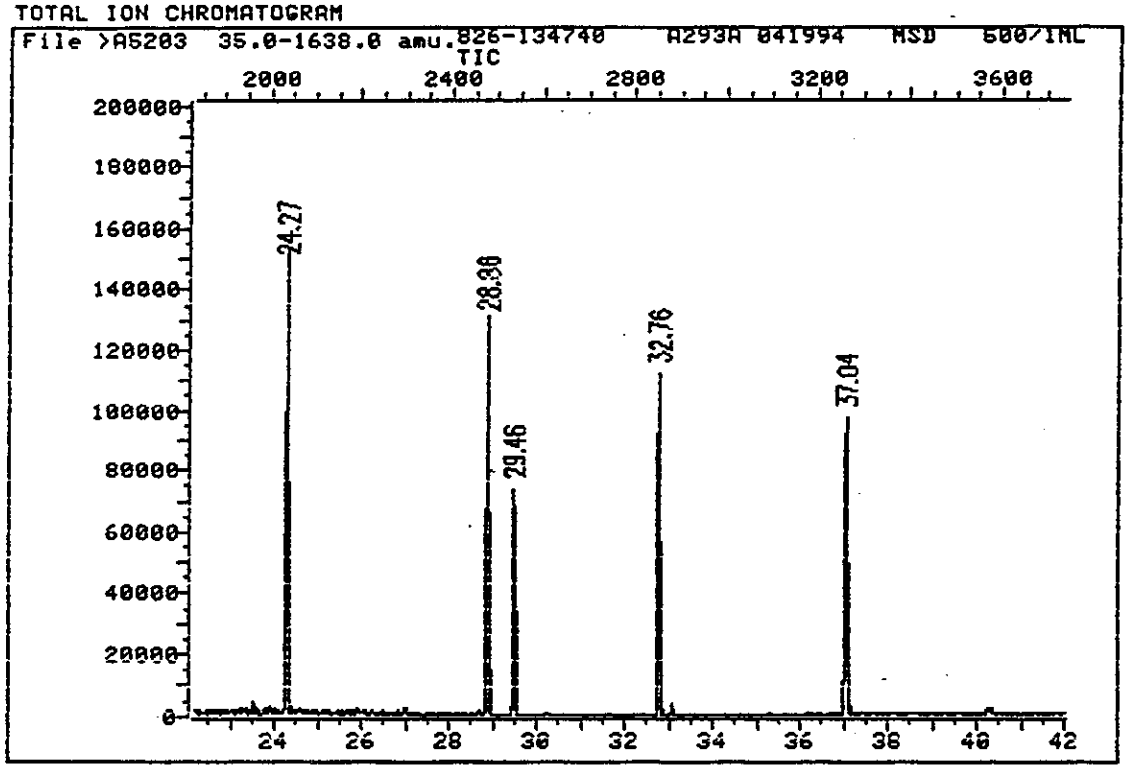
Data File: >A5203::E2 Quant Output File: ^A5203::D5
Name: 826-134740 A293A
Misc: 041994 MSD 500/1ML HP5970 A BTL# 8

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 17:27
Injected at: 940419 16:42

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5203::E2 Quant Output File: ^A5203::D5
Name: 826-134740 A293A
Misc: 041994 MSD 500/1ML HP5970 A BTL# 8

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 17:27
Injected at: 940419 16:42

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 17:27
Output File: ^A5203::D5 Injected at: 940419 16:42
Data File: >A5203::E2 Dilution Factor: 1.00000
Name: 826-134740 A293A
Misc: 041994 MSD 500/1ML HP5970 A BTL# 8

ID File: IASKNR::D4
Title: SP Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.32	152.0	37931	40.00	ug/L	1
3)	CS45 D5-Phenol	9.60	99.0	16697	11.57	ug/L	92
6)	C315 Phenol	9.63	94.0	16133	16.49	ug/L	89
9)	C340 1,4-Dichlorobenzene	10.36	146.0	51112	31.15	ug/L	7
15)	*CI40 D8-Naphthalene	14.06	136.0	136637	40.00	ug/L	96
16)	CS20 D5-Nitrobenzene	12.01	82.0	48029	37.02	ug/L	88
21)	*CI50 D10-Acenaphthene	19.61	164.0	81484	40.00	ug/L	6
22)	CS25 2-Fluorobiphenyl	17.54	172.0	102938	36.24	ug/L	93
28)	*CI60 D10-Phenanthrene	24.27	188.0	134728	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.76	240.0	103062	40.00	ug/L	7
34)	C715 Pyrene	28.86	202.0	142542	35.65	ug/L	94
35)	CS30 D14-Terphenyl	29.46	244.0	61488	22.62	ug/L	85
40)	*CI75 D12-Perylene	37.04	264.0	119440	40.00	ug/L	0

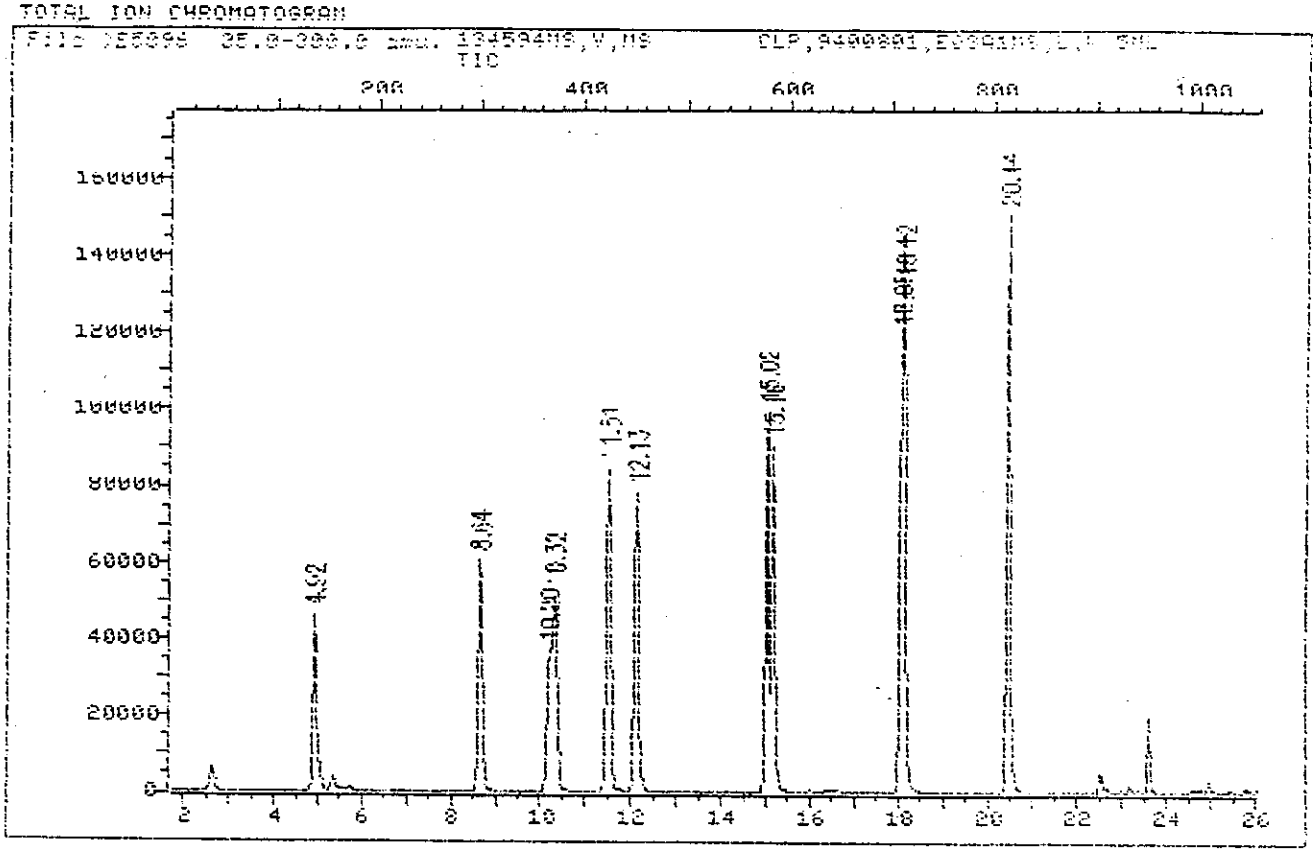
* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: EAQ-196
QC Sample Number: 9400801-134594

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Flag	Units	Spike Result	% recov.	Spike Dup. Result	% recov.	RPD
Volatiles by GC/MS CLP												
Benzene		62	03/15/1994	50.	10.	U	ug/L	50.96	101.9	51.80	103.6	1.7
Chlorobenzene		62	03/15/1994	50.	10.	U	ug/L	52.71	105.4	52.87	105.7	0.3
[illegible]-Dichloroethene		62	03/15/1994	50.	10.	U	ug/L	46.60	93.2	44.20	88.4	5.3
Toluene		62	03/15/1994	50.	10.	U	ug/L	53.11	106.2	52.32	104.6	1.5
Trichloroethene		62	03/15/1994	50.	10.	U	ug/L	50.18	100.4	46.81	93.6	6.9

TOTAL ION CHROMATOGRAM



Data File: >E5096::D5 Quant Output File: ^E5096::D8
Name: 134594MS,V,MS
Misc: CLP,9400801,E08A1MS,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940314 09:55

Operator ID: RITA
Quant Time: 940314 16:45
Injected at: 940314 16:14

E08A1MS 3.09.94

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940314 16:45
Output File: ^E5096::D8 Injected at: 940314 16:14
Data File: >E5096::D9 Dilution Factor: 1.00000
Name: 134594MS,U,MS
Misc: CLP,9400801,E08A1MS,L,W,5ML

EAQ-196

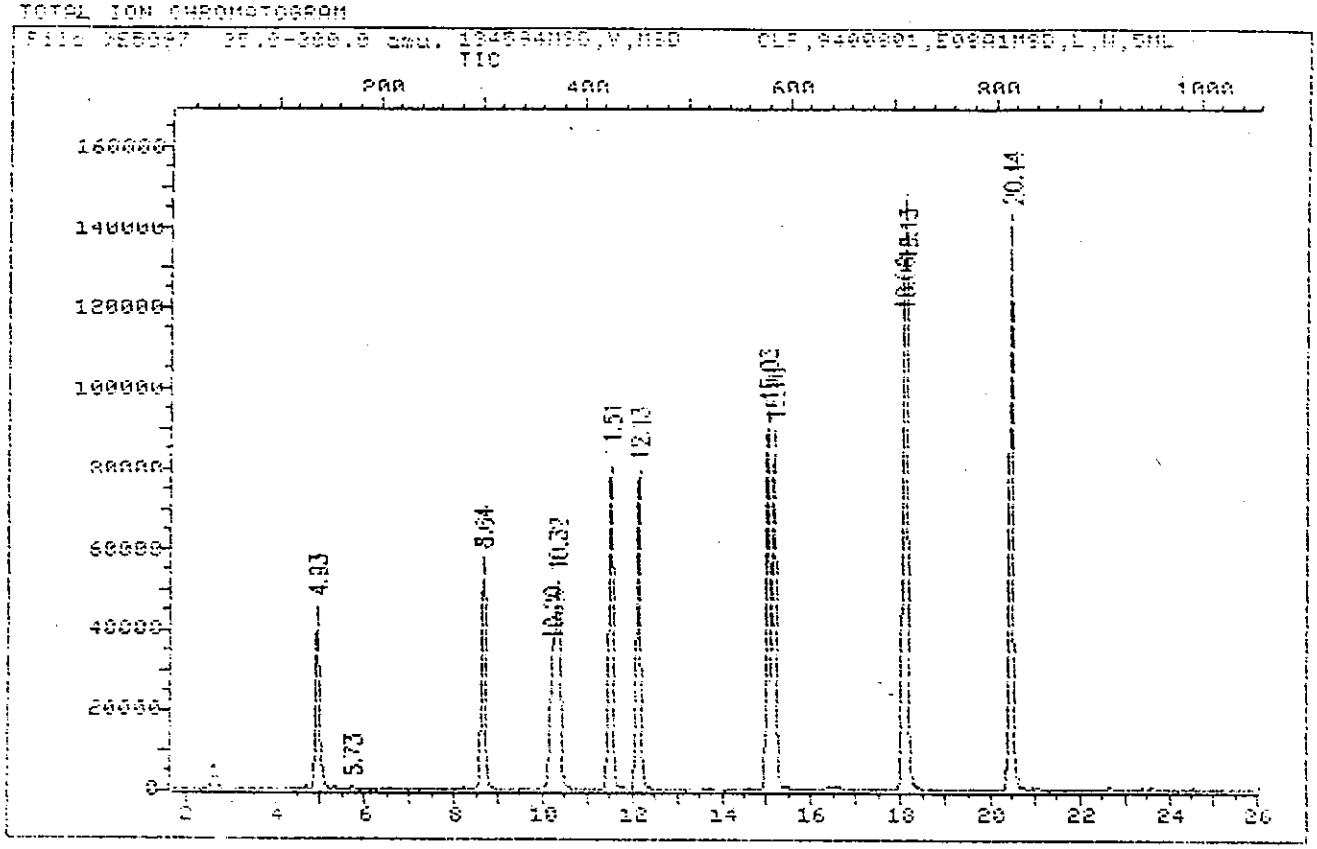
ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940314 09:55

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.64	128.0	57330	50.00	UG/L	
9)	C045 1,1-Dichloroethene		4.92	96.0	48703	41.47	UG/L	93
13)	CS15 D4-1,2-Dichloroethane	SS1	10.20	65.0	113523	51.15	UG/L	87
16)	*CI10 1,4-Difluorobenzene	IS-2	11.51	114.0	239343	50.00	UG/L	
23)	C150 Trichloroethene		12.13	130.0	93139	46.29	UG/L	96
26)	C165 Benzene		10.32	78.0	148830	46.51	UG/L	92
29)	*CI20 D5-Chlorobenzene	IS-3	18.05	117.0	175231	50.00	UG/L	
34)	C230 Toluene		15.16	91.0	186582	48.70	UG/L	98
39)	CS05 D8-Toluene	SS-2	15.02	98.0	198718	50.21	UG/L	97
36)	C235 Chlorobenzene		18.12	112.0	150943	46.93	UG/L	
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	142842	50.71	UG/L	91

* Compound is ISTD

JB

TOTAL ION CHROMATOGRAM



Data File: >E5097::D5 Quant Output File: ^E5097::D8
Name: 134594MSD,V,MSD
Misc: CLP,9400801,E08A1MSD,L,W,5ML

Id File: I:\CLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940314 09:59

Operator ID: RITA
Quant Time: 940314 17:22
Injected at: 940314 16:51

E08A1MSD 3.09.94

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940314 17:22
Output File: ^E5097::D8 Injected at: 940314 16:51
Data File: >E5097::D5 Dilution Factor: 1.00000
Name: 134594MSD,V,MSD
Misc: CLP,9400801,E08A1MSD,L,W,5ML

EAQ-196

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940314 09:55

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*C101 Bromochloromethane	IS-1	8.64	128.0	54792	50.00	UG/L	
9)	C045 1,1-Dichloroethene		4.93	96.0	48950	43.61	UG/L	99
13)	CS15 D4-1,2-Dichloroethane	SS1	10.20	65.0	109422	51.59	UG/L	86
16)	*C110 1,4-Difluorobenzene	IS-2	11.51	114.0	225319	50.00	UG/L	
23)	C150 Trichloroethene		12.13	130.0	91592	48.36	UG/L	92
26)	C165 Benzene		10.32	78.0	147987	49.13	UG/L	93
29)	*C120 D5-Chlorobenzene	IS-3	18.06	117.0	167887	50.00	UG/L	
34)	C230 Toluene		15.16	91.0	189457	51.61	UG/L	92
35)	CS05 D8-Toluene	SS-2	15.03	98.0	192346	50.23	UG/L	99
36)	C235 Chlorobenzene		18.13	112.0	154517	50.14	UG/L	
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	138150	51.19	UG/L	90

* Compound is ISTD

JP

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00826

External Standard Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Ext. Std. True Conc.	Units	Conc. Found	% Recovery
Alkalinity		32	03/08/1994	19.94	ppmCaCO	20.8	104.3
Alkalinity		32	03/13/1994	19.94	ppmCaCO	18.8	94.3
Alkalinity		33	03/13/1994	19.94	ppmCaCO	18.8	94.3
Alkalinity		33	03/16/1994	19.94	ppmCaCO	20.8	104.3
Alkalinity, Bicarb. at pH 4.		13	12/02/1993	20.7	ppmCaCO	20.4	98.6
Alkalinity, Bicarb. at pH 4.		13	03/13/1994	19.94	ppmCaCO	18.8	94.3
Alkalinity, Bicarb. at pH 4.		16	03/13/1994	19.94	ppmCaCO	18.8	94.3
Alkalinity, Bicarb. at pH 4.		16	03/24/1994	19.94	ppmCaCO	20.8	104.3
Ammonia		277	03/18/1994	0.74	mg/L N	0.75	101.4
Ammonia		277	03/18/1994	0.74	mg/L N	0.70	94.6
Chloride		162	03/31/1994	87.164	mg/L	86.93	99.7
Chloride		162	04/04/1994	87.16	mg/L	88.39	101.4
Conductivity		78	03/08/1994	100	umhos/c	102	102.0
Conductivity		78	03/09/1994	100	umhos/c	100	100.0
Conductivity		78	03/10/1994	100	umhos/c	98	98.0
Conductivity		78	03/11/1994	100	umhos/c	99	99.0
Conductivity		78	03/14/1994	100	umhos/c	100	100.0
Fluoride, Total		70	03/07/1994	5.34	mg/L	5.80	108.6
Fluoride, Total		70	03/15/1994	5.34	mg/L	5.44	101.9
Fluoride, Total		70	03/24/1994	5.34	mg/L	5.26	98.5
Fluoride, Total		70	03/25/1994	5.34	mg/L	5.45	102.1
Nitrate/nitrite		38	03/22/1994	1.21	mg/L N	1.21	100.0
Nitrate/nitrite		38	03/22/1994	1.21	mg/L N	1.18	97.5
Solids, dissolved (TDS)		507	03/14/1994	1110	mg/L	1026	92.4
Solids, dissolved (TDS)		507	03/15/1994	1110	mg/L	1082	97.5
Solids, dissolved (TDS)		507	03/16/1994	1110	mg/L	1072	96.6
Solids, dissolved (TDS)		508	03/16/1994	1110	mg/L	1072	96.6
Solids, dissolved (TDS)		508	03/17/1994	1110	mg/L	1084	97.7
Solids, dissolved (TDS)		508	03/18/1994	1110	mg/L	1064	95.9
Sulfate		135	03/22/1994	45.08	mg/L	40.8	90.5
Sulfate		135	03/30/1994	39.13	mg/L	43.21	110.4
Total Organic Carbon		628	03/22/1994	105.6	mg/L	101.3	95.9

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00826

Blank Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Blank Result
Alkalinity		32	03/08/1994	2.0	ppmCaC	<2
Alkalinity		32	03/13/1994	2.0	ppmCaC	<2
Alkalinity		33	03/13/1994	2.0	ppmCaC	<2
Alkalinity		33	03/16/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		13	11/22/1993		ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		13	12/02/1993		ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		13	03/13/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		16	03/13/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		16	03/24/1994	2.0	ppmCaC	<2
Ammonia		277	03/18/1994	0.1	mg/L N	<0.1
Chloride		162	03/31/1994	2.0	mg/L	<2
Chloride		162	04/04/1994	2.0	mg/L	<2
Conductivity		78	03/08/1994	1	umhos/	<1
Conductivity		78	03/09/1994	1	umhos/	<1
Conductivity		78	03/10/1994	1	umhos/	<1
Conductivity		78	03/11/1994	1	umhos/	<1
Conductivity		78	03/14/1994	1	umhos/	<1
Fluoride, Total		70	03/07/1994	0.1	mg/L	<0.1
Fluoride, Total		70	03/15/1994	0.1	mg/L	<0.1
Fluoride, Total		70	03/24/1994	0.1	mg/L	<0.1
Fluoride, Total		70	03/25/1994	0.1	mg/L	<0.1
Nitrate/nitrite		38	03/22/1994	0.1	mg/L N	<0.1
Solids, dissolved (TDS)		507	03/14/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		507	03/15/1994	<1.0	mg/L	2
Solids, dissolved (TDS)		507	03/16/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		508	03/16/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		508	03/17/1994	<1.0	mg/L	3
Solids, dissolved (TDS)		508	03/18/1994	<1.0	mg/L	<1
Sulfate		135	03/22/1994	5	mg/L	<10
Sulfate		135	03/30/1994	5	mg/L	<10
Sulfide		33	03/09/1994	0.1	mg/L	<0.1
Sulfide		33	03/17/1994	0.1	mg/L	<0.1
Total Organic Carbon		628	03/22/1994	1.0	mg/L	<1
Arsenic (As)	654	311	04/05/1994	0.01	mg/L	<0.003
Cobalt (Co)	654	427	03/31/1994	0.05	mg/L	<0.01
Iron (Fe)	654	348	03/31/1994	0.1	mg/L	<0.05
Lead (Pb)	654	378	03/23/1994	.003	mg/L	0.003
Manganese (Mn)	654	427	03/31/1994	0.01	mg/L	<0.01

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00826

Duplicate Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Sample Result	Duplicate Result	RPD
Alkalinity		32	03/08/1994	2.0	ppmCaC	<2	<2	
Alkalinity		33	03/13/1994	2.0	ppmCaC	550	545	0.9
Alkalinity, Bicarb. at pH 4.		16	03/13/1994	2.0	ppmCaC	550	545	0.9
Ammonia		277	03/18/1994		mg/L N	31.7	32.7	3.1
Chloride		162	03/31/1994	2.0	mg/L	54	52	3.8
Conductivity		78	03/08/1994		umhos/	639	654	2.3
Fluoride, Total		70	03/07/1994	0.1	mg/L	<0.1	<0.1	
Nitrate/nitrite		38	03/22/1994		mg/L N	<0.1	<0.1	
Solids, dissolved (TDS)		507	03/14/1994	<1.0	mg/L	228	196	15.1
Solids, dissolved (TDS)		508	03/16/1994	<1.0	mg/L	766	730	4.8
Sulfate		135	03/22/1994	5	mg/L	37	40	7.8
Sulfide		33	03/09/1994	0.1	mg/L	1.04	1.04	0.0
Total Organic Carbon		628	03/22/1994	1.0	mg/L	2.1	2.1	0.0
Arsenic (As)	654	311	04/05/1994	0.01	mg/L	0.021	0.021	0.0
Cobalt (Co)		434	04/06/1994	0.05	mg/L	0.014	0.011	24.0
Iron (Fe)		355	04/06/1994	0.1	mg/L	59.2	57.5	2.9
Lead (Pb)	654	382	04/04/1994	.003	mg/L	0.038	0.034	11.1
Manganese (Mn)		434	04/06/1994	0.01	mg/L	0.89	0.88	1.1

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00826

Spiked Sample Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Units	Spiked Sample Result	% Recovery
Alkalinity		32	03/08/1994	47.50	<2	ppmCaC	49.6	104.4
Alkalinity		33	03/13/1994	118.75	550	ppmCaC	622	60.6
Alkalinity, Bicarb. at p		16	03/13/1994	118.75	550	ppmCaC	622	60.6
Ammonia		277	03/18/1994	25.0	31.7	mg/L N	59.5	111.2
Chloride		162	03/31/1994	50.0	54	mg/L	104	100.0
Fluoride, Total		70	03/07/1994	5.0	<0.1	mg/L	5.04	100.8
Nitrate/nitrite		38	03/22/1994	1.0	<0.1	mg/L N	1.0	100.0
Sulfate		135	03/22/1994	20.0	37	mg/L	64	135.0
Total Organic Carbon		628	03/22/1994	5.0	2.1	mg/L	7.1	100.0
Arsenic (As)	654	311	04/05/1994	0.04	0.021	mg/L	0.049	70.0
Cobalt (Co)		434	04/06/1994	0.5	0.014	mg/L	0.495	96.2
Iron (Fe)		355	04/06/1994	0	59.2	mg/L	0	0
Lead (Pb)	654	382	04/04/1994	0.02	0.038	mg/L	0.049	55.0
Manganese (Mn)		434	04/06/1994	0.5	0.89	mg/L	1.36	94.0

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00826

Laboratory Control Sample (LCS) Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Units	Amount Found	% Recovery
Alkalinity		32	03/08/1994	475.0	ppmCaC	466	98.1
Alkalinity		32	03/13/1994	475.0	ppmCaC	468	98.5
Alkalinity		33	03/13/1994	475.0	ppmCaC	468	98.5
Alkalinity		33	03/16/1994	475.0	ppmCaC	463	97.5
Alkalinity, Bicarb. at p		13	12/02/1993	1	ppmCaC	475	47500
Alkalinity, Bicarb. at p		13	03/13/1994	475	ppmCaC	468	98.5
Alkalinity, Bicarb. at p		16	03/13/1994	475	ppmCaC	468	98.5
Alkalinity, Bicarb. at p		16	03/24/1994	475	ppmCaC	459	96.6
Ammonia		277	03/18/1994	3.0	mg/L N	2.91	97.0
Chloride		162	03/31/1994	1000	mg/L	998	99.8
Chloride		162	04/04/1994	1000	mg/L	1002	100.2
Conductivity		78	03/08/1994	104.5	umhos/	105.2	100.7
Conductivity		78	03/09/1994	104.5	umhos/	103.9	99.4
Conductivity		78	03/10/1994	104.5	umhos/	103	98.6
Conductivity		78	03/11/1994	104.5	umhos/	105.5	101.0
Conductivity		78	03/14/1994	104.5	umhos/	106.5	101.9
Fluoride, Total		70	03/07/1994	10.0	mg/L	10.21	102.1
Fluoride, Total		70	03/15/1994	10.0	mg/L	10.43	104.3
Fluoride, Total		70	03/24/1994	10.0	mg/L	10.53	105.3
Nitrate/nitrite		38	03/22/1994	2.0	mg/L N	2.00	100.0
Sulfate		135	03/22/1994	40.0	mg/L	39.8	99.5
Sulfate		135	03/30/1994	40.0	mg/L	39.7	99.3
Total Organic Carbon		628	03/22/1994	10.0	mg/L	10.07	100.7
Arsenic (As)	654	311	04/05/1994	0.05	mg/L	0.050	100.0
Cobalt (Co)	654	427	03/31/1994	1.0	mg/L	1.04	104.0
Iron (Fe)	654	348	03/31/1994	1.0	mg/L	1.02	102.0
Lead (Pb)	654	378	03/23/1994	0.05	mg/L	0.051	102.0
Manganese (Mn)	654	427	03/31/1994	1.0	mg/L	1.00	100.0

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/18/94 18:14
Data File: >A5189
Scan: 826

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.01	57.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	74.71	74.71	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	43.56	43.56	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.09	6.09	Ok
275	10-30% of mass 198	19.73	19.73	Ok
365	Greater than 1% of mass 198	2.11	2.11	Ok
441	Less than mass 443	9.17	76.29	Ok
442	Greater than 40% of mass 198	64.11	64.11	Ok
443	17-23% of mass 442	12.02	18.74	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID		DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
>A5190	50PPB	#3370	4/19/94	18:54
>A5191	20PPB	#3371		19:47
>A5192	160PPB	#3367		20:41
>A5193	120PPB	#3368		21:35
>A5194	80PPB	#3369		22:28

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/19/94 10:12
Data File: >A5195
Scan: 828

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	51.11	51.11	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	60.87	60.87	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.36	40.36	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.89	6.89	Ok
275	10-30% of mass 198	20.56	20.56	Ok
365	Greater than 1% of mass 198	2.59	2.59	Ok
441	Less than mass 443	11.98	84.76	Ok
442	Greater than 40% of mass 198	77.33	77.33	Ok
443	17-23% of mass 442	14.13	18.28	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
>A5196	50PPB #3370	4/19/94	10:35
>A5197	QCSpK A293A		11:32
>A5198	BLK#1A		12:24
>A5199	BLK#2A		13:15
>A5200	BLK#3A		14:07
>A5201	BLK#4A		14:58
>A5202	134740MS - 9400826		15:50
>A5203	134740MSD-9400826		16:42
>A5206	134613 -9400806		19:16
>A5207	100826-134736		20:07
>A5208	100826-134738		20:59
>A5211	9400806-134615	4-20-94	10:11
>A5212	9400806-134611		11:02

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/20/94 08:51
Data File: >A5209
Scan: 832

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	55.59	55.59	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	69.71	69.71	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	41.90	41.90	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	7.29	7.29	Ok
275	10-30% of mass 198	21.57	21.57	Ok
365	Greater than 1% of mass 198	2.56	2.56	Ok
441	Less than mass 443	11.52	87.93	Ok
442	Greater than 40% of mass 198	76.04	76.04	Ok
443	17-23% of mass 442	13.10	17.23	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
	#3370		

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET THOROFARE | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5209 DFTPP Injection Date: 4/20/94

Instrument ID: 70A70F DFTPP Injection Time: 8:51

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	55.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	69.7
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	7.3
275	10.0 - 30.0% of mass 198	21.6
365	Greater than 1.00% of mass 198	2.6
441	Present, but less than mass 443	11.5
442	Greater than 40.0% of mass 198	76.0
443	17.0 - 23.0% of mass 442	13.1 (17.2)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB	50PPB #3370	>A5210	04/20/94	09:16
02	134615	00806 A293A	>A5211	04/20/94	10:11
03	134611	00806 A293A	>A5212	04/20/94	11:02
04	134740	00826 A293A	>A5213	04/20/94	11:53
05	134763	00826 A293A	>A5214	04/20/94	12:44
06	134874	00856 A293A	>A5215	04/20/94	13:35
07	134875	00856 A293A	>A5216	04/20/94	14:27
08	134871	00856 A293A	>A5217	04/20/94	15:19
09	134872	00856 A293A	>A5218	04/20/94	16:10
10	134873	00856 A293A	>A5219	04/20/94	17:02
11	134870	00856 A293A	>A5220	04/20/94	17:58
12	135101	00893 A293A	>A5223	04/20/94	20:35
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/21/94 13:55
Data File: >A5224
Scan: 838

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	53.96	53.96	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	66.46	66.46	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	41.29	41.29	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.22	6.22	Ok
275	10-30% of mass 198	20.39	20.39	Ok
365	Greater than 1% of mass 198	1.97	1.97	Ok
441	Less than mass 443	8.61	73.66	Ok
442	Greater than 40% of mass 198	59.19	59.19	Ok
443	17-23% of mass 442	11.70	19.76	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET THOROUGHBRED | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5224 DFTPP Injection Date: 4/21/94

Instrument ID: /GA/GF DFTPP Injection Time: 13:55

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	54.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	66.5
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.2
275	10.0 - 30.0% of mass 198	20.4
365	Greater than 1.00% of mass 198	2.0
441	Present, but less than mass 443	8.6
442	Greater than 40.0% of mass 198	59.2
443	17.0 - 23.0% of mass 442	11.7 (19.8)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB	50PPB #33/0	>A5225	04/21/94	14:25
02	WCSPK	LCS A295A	>A5226	04/21/94	15:17
03	BLK#1	BLK#1 A295A	>A5227	04/21/94	16:09
04	134734	00826 A295A	>A5228	04/21/94	17:00
05	134869	00896 A295A	>A5229	04/21/94	17:51
06	135107 MS	00893 A295A	>A5230	04/21/94	18:42
07	135107 MSD	00893 A295A	>A5231	04/21/94	19:33
08	135107	00893 A295A	>A5232	04/21/94	20:23
09	135099	00893 A295A	>A5233	04/21/94	21:14
10	135342	00938 A295A	>A5234	04/21/94	22:05
11	135344	00938 A295A	>A5236	04/21/94	23:47
12	135105	00893 A295A	>A5237	04/22/94	00:37
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22					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5124 BFB Injection Date: 3/16/94

Instrument ID: 70 1 BFB Injection Time: 3/16/94 10:0[illegible]

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	25.2	
75	30.0 - 66.0% OF MASS 95	61.4	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	8.3	
173	Less than 2.0% of mass 174	.7	.8)1
174	50.0 - 120.0% of mass 95	90.5(	
175	4.0 - 9.0% of mass 174	7.1	7.9)1
176	93.0 - 101% of mass 174	87.0	96.1)1
177	5.0 - 9.0% of mass 176	5.5	6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03		[illegible]			
04		[illegible]			
05					
06		Next			
07					
08					
09					
10		Page			
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22					

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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5124 BFB Injection Date: 3/16/94

Instrument ID: HP5970 BFB Injection Time: 10:06

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	25.2
75	30.0 - 66.0% of mass 95	61.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.3
173	Less than 2.0% of mass 174	.7 (.8)1
174	50-120% of mass 95	90.5
175	4.0 - 9.0% of mass 174	7.1 (7.9)1
176	93.0 - 101.0% of mass 174	87.0 (96.1)1
177	5.0 - 9.0% of mass 176	5.5 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB STD	50 STD#2312	>E5126	03/16/94	11:28
02	10 PPB STD	10 STD#2312	>E5127	03/16/94	12:07
03	100 PPB ST	100 STD2312	>E5128	03/16/94	12:49
04	20 PPB STD	20 STD#2312	>E5130	03/16/94	14:03
05	200 PPB ST	200 STD#2312	>E5131	03/16/94	14:52
06	VBLK	VBLK	>E5133	03/16/94	17:03
07	134468	00780	>E5134	03/16/94	17:40
08	134489	00783	>E5135	03/16/94	18:17
09	134490	00783	>E5136	03/16/94	18:53
10	134491	00783	>E5137	03/16/94	19:30
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17					
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19					
20					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5155 BFB Injection Date: 3/17/94

Instrument ID: 70 1 BFB Injection Time: 3/17/94 8:54

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	22.1	
75	30.0 - 66.0% OF MASS 95	53.6	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	6.7	
173	Less than 2.0% of mass 174	.5	.6)1
174	50.0 - 120.0% of mass 95	89.0(	
175	4.0 - 9.0% of mass 174	7.0	7.9)1
176	93.0 - 101% of mass 174	85.0	95.4)1
177	5.0 - 9.0% of mass 176	5.3	6.2)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04					
05					
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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5155 BFB Injection Date: 3/17/94

Instrument ID: HP5970 BFB Injection Time: 8:54

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	22.1
75	30.0 - 66.0% of mass 95	53.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	.5 (.6)1
174	50-120% of mass 95	89.0
175	4.0 - 9.0% of mass 174	7.0 (7.9)1
176	93.0 - 101.0% of mass 174	85.0 (95.4)1
177	5.0 - 9.0% of mass 176	5.3 (6.2)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB STD	50 STD#2312	>E5156	03/17/94	09:15
02	VBLK	VBLK	>E5157	03/17/94	10:17
03	134783	00833	>E5158	03/17/94	11:14
04	134601	00801	>E5159	03/17/94	11:51
05	134689	00819	>E5161	03/17/94	13:05
06	134688	00819	>E5162	03/17/94	13:41
07	134690	00819	>E5163	03/17/94	14:26
08	134687	00819	>E5164	03/17/94	15:04
09	134686	00819	>E5165	03/17/94	15:46
10	134685	00819	>E5166	03/17/94	16:24
11	134684	00819	>E5167	03/17/94	17:01
12	134742	00826	>E5168	03/17/94	17:39
13	134740	00826	>E5169	03/17/94	18:15
14	134738	00826	>E5170	03/17/94	18:53
15	134736	00826	>E5171	03/17/94	19:30
16	134866	00854	>D0583	03/17/94	18:14
17	134867	00854	>D0584	03/17/94	18:50
18					
19					
20					
21					
22					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name:NET ATLANTIC

Lab File ID: >E5174 BFB Injection Date: 3/18/94

Instrument ID: /0 1 BFB Injection Time: 3/18/94 /:5?

Matrix:(soil/water) Level:(low/med) Column:(pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	21.7	
75	30.0 - 66.0% OF MASS 95	52.8	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	6.9	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	90.1(	
175	4.0 - 9.0% of mass 174	7.3	8.1)1
176	93.0 - 101% of mass 174	85.2	94.6)1
177	5.0 - 9.0% of mass 176	7.3	8.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04					
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18					
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5174 BFB Injection Date: 3/18/94

Instrument ID: HP5970 BFB Injection Time: 7:51

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	21.7
75	30.0 - 66.0% of mass 95	52.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50-120% of mass 95	90.1
175	4.0 - 9.0% of mass 174	7.3 (8.1)1
176	93.0 - 101.0% of mass 174	85.2 (94.6)1
177	5.0 - 9.0% of mass 176	7.3 (8.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 ppb	#2312	>E5175	03/18/94	08:16
02	VBLK	VBLK	>E5176	03/18/94	09:08
03	134761	00831	>E5177	03/18/94	09:44
04	134763	00826	>E5179	03/18/94	10:59
05	134749	00831	>E5180	03/18/94	11:36
06	134751	00831	>E5181	03/18/94	12:13
07	134734	00826	>E5182	03/18/94	12:57
08	134752	00831	>E5183	03/18/94	13:35
09	134753	00831	>E5184	03/18/94	14:12
10	134755	00831	>E5185	03/18/94	14:49
11	134756	00831	>E5186	03/18/94	15:26
12	134757	00831	>E5187	03/18/94	16:04
13	134757MS	00831	>E5188	03/18/94	16:41
14	134757MSD	00831	>E5189	03/18/94	17:19
15	134759	00831	>E5190	03/18/94	17:56
16	134884	00857	>E5191	03/18/94	18:34
17	134885	00857	>E5192	03/18/94	19:12
18					
19					
20					
21					
22					

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5196
Injection Time: 940419 10:35

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.19071	1.92	Average	
CS45 D5-Phenol	1.52248	1.52020	.15	Average	
C309 Pyridine	1.10561	1.11151	.53	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.40786	.83	Average	
C335 1,3-Dichlorobenzene	1.70502	1.71011	.30	Average	
C340 1,4-Dichlorobenzene	1.73050	1.74607	.90	Average	
C350 1,2-Dichlorobenzene	1.65558	1.67928	1.43	Average	
C349 Indene	2.27085	2.28963	.83	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.08716	.91	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.37428	1.45	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.13186	4.16	Average	
C459 Quinoline	.69188	.70904	2.48	Average	
C471 1-Methylnaphthalene	.70593	.70425	.24	Average	
CS25 2-Fluorobiphenyl	1.39436	1.45984	4.70	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.77931	6.01	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.91166	7.06	Average	
CS55 2,4,6-Tribromophenol	.27799	.31451	13.14	Average	
C640 Phenanthrene	1.10703	1.17621	6.25	Average	
C645 Anthracene	1.06492	1.15285	8.26	Average	
C650 Di-n-butylphthalate	1.68960	1.93877	14.75	Average	
C655 Fluoranthene	1.28823	1.36883	6.26	Average	
C715 Pyrene	1.55165	1.62115	4.48	Average	
CS30 D14-Terphenyl	1.05487	1.06808	1.25	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.94996	1.87	Average	
C730 Benzo(a)anthracene	1.24875	1.28052	2.54	Average	
C740 Chrysene	1.22525	1.27821	4.32	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.37521	2.11	Average	
C759 6-Methyl chrysene	.91148	.91033	.13	Average	
C760 Di-n-octylphthalate	2.02659	2.29613	13.30	Average	
C765 Benzo(b)fluoranthene	1.31752	1.33701	1.48	Average	
C770 Benzo(k)fluoranthene	1.17763	1.18831	.91	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.15338	10.41	Average	
C775 Benzo(a)pyrene	1.10417	1.09765	.59	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: SP Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5196
Injection Time: 940419 10:35

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.88786	1.62	Average
C785 Dibenz(a,h)anthracene	.96071	.93334	2.85	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5210
Injection Time: 940420 09:16

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.24494	6.56	Average	
CS45 D5-Phenol	1.52248	1.58499	4.11	Average	
C309 Pyridine	1.10561	1.13868	2.99	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.42903	2.35	Average	
C335 1,3-Dichlorobenzene	1.70502	1.75195	2.75	Average	
C340 1,4-Dichlorobenzene	1.73050	1.78733	3.28	Average	
C350 1,2-Dichlorobenzene	1.65558	1.70494	2.98	Average	
C349 Indene	2.27085	2.29001	.84	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.07406	2.10	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.38020	.11	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.10999	2.15	Average	
C459 Quinoline	.69188	.70917	2.50	Average	
C471 1-Methylnaphthalene	.70593	.70466	.18	Average	
CS25 2-Fluorobiphenyl	1.39436	1.47036	5.45	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.74800	4.14	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.85606	3.95	Average	
CS55 2,4,6-Tribromophenol	.27799	.34637	24.60	Average	
C640 Phenanthrene	1.10703	1.15832	4.63	Average	
C645 Anthracene	1.06492	1.12257	5.41	Average	
C650 Di-n-butylphthalate	1.68960	1.95245	15.56	Average	
C655 Fluoranthene	1.28823	1.39144	8.01	Average	
C715 Pyrene	1.55165	1.47042	5.24	Average	
CS30 D14-Terphenyl	1.05487	1.08470	2.83	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.91381	2.00	Average	
C730 Benzo(a)anthracene	1.24875	1.27775	2.32	Average	
C740 Chrysene	1.22525	1.21284	1.01	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.34224	.34	Average	
C759 6-Methyl chrysene	.91148	.87310	4.21	Average	
C760 Di-n-octylphthalate	2.02659	2.21469	9.28	Average	
C765 Benzo(b)fluoranthene	1.31752	1.30605	.87	Average	
C770 Benzo(k)fluoranthene	1.17763	1.14114	3.10	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.16443	18.37	Average	
C775 Benzo(a)pyrene	1.10417	1.09243	1.06	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5210
Injection Time: 940420 09:16

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.92378	2.37	Average
C785 Dibenz(a,h)anthracene	.96071	.97159	1.13	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5225
Injection Time: 940421 14:25

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.19976	2.70	Average	
CS45 D5-Phenol	1.52248	1.56515	2.80	Average	
C309 Pyridine	1.10561	1.11425	.78	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.40772	.82	Average	
C335 1,3-Dichlorobenzene	1.70502	1.69577	.54	Average	
C340 1,4-Dichlorobenzene	1.73050	1.74854	1.04	Average	
C350 1,2-Dichlorobenzene	1.65558	1.64498	.64	Average	
C349 Indene	2.27085	2.24461	1.16	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.04849	4.43	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.39155	3.10	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.09507	.78	Average	
C459 Quinoline	.69188	.71602	3.49	Average	
C471 1-Methylnaphthalene	.70593	.71784	1.69	Average	
CS25 2-Fluorobiphenyl	1.39436	1.53251	9.91	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.78030	6.07	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.99144	11.53	Average	
CS55 2,4,6-Tribromophenol	.27799	.34367	23.62	Average	
C640 Phenanthrene	1.10703	1.17278	5.94	Average	
C645 Anthracene	1.06492	1.18625	11.39	Average	
C650 Di-n-butylphthalate	1.68960	1.90489	12.74	Average	
C655 Fluoranthene	1.28823	1.37797	6.97	Average	
C715 Pyrene	1.55165	1.48907	4.03	Average	
CS30 D14-Terphenyl	1.05487	1.07335	1.75	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.90796	2.63	Average	
C730 Benzo(a)anthracene	1.24875	1.24441	.35	Average	
C740 Chrysene	1.22525	1.22980	.37	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.34225	.34	Average	
C759 6-Methyl chrysene	.91148	.86878	4.68	Average	
C760 Di-n-octylphthalate	2.02659	2.21768	9.43	Average	
C765 Benzo(b)fluoranthene	1.31752	1.25089	5.06	Average	
C770 Benzo(k)fluoranthene	1.17763	1.20783	2.56	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.10295	25.89	Average	
C775 Benzo(a)pyrene	1.10417	1.06629	3.43	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5225
Injection Time: 940421 14:25

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.89307	1.04	Average
C785 Dibenz(a,h)anthracene	.96071	.93431	2.75	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Check Standard Data File: >E5156
Injection Time: 940317 09:15

Compound		$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane		.48681	.55200	13.39	Average	
C015 Bromomethane		1.22893	1.31216	6.77	Average	
C020 Vinyl Chloride		.67188	.74517	10.91	Average	
C025 Chloroethane		.49539	.53866	8.74	Average	
C030 Methylene Chloride		1.06493	1.16172	9.09	Average	
C035 Acetone		.17724	.14182	19.99	Average	
C040 Carbon Disulfide		2.71252	2.86956	5.79	Average	
C045 1,1-Dichloroethene		1.12849	1.20946	7.17	Average	
C050 1,1-Dichloroethane		1.96487	2.01285	2.44	Average	
C053 1,2-Dichloroethene(total)		1.20240	1.25666	4.51	Average	(Conc=100.00)
C060 Chloroform		3.16820	3.18575	.55	Average	
CS15 D4-1,2-Dichloroethane	SS1	2.12865	2.02056	5.08	Average	
C065 1,2-Dichloroethane		2.25702	2.22692	1.33	Average	
C110 2-Butanone		.22720	.18063	20.50	Average	
C115 1,1,1-Trichloroethane		.79437	.82874	4.33	Average	
C120 Carbon Tetrachloride		.81692	.84839	3.85	Average	
C125 Vinyl Acetate		.34705	.37579	8.28	Average	
C130 Bromodichloromethane		.67801	.69549	2.58	Average	
C140 1,2-Dichloropropane		.23583	.25275	7.17	Average	
C143 Cis-1,3-Dichloropropene		.42772	.46314	8.28	Average	(Conc=50.00)
C150 Trichloroethene		.41503	.43194	4.08	Average	
C155 Dibromochloromethane		.67860	.71650	5.58	Average	
C160 1,1,2-Trichloroethane		.26307	.27993	6.41	Average	
C165 Benzene		.66286	.70397	6.20	Average	
C172 Trans-1,3-Dichloropropene		.41301	.43969	6.46	Average	(Conc=50.00)
C180 Bromoform		.47930	.49656	3.60	Average	
C205 4-Methyl-2-Pentanone		.20266	.17966	13.32	Average	
C210 2-Hexanone		.12706	.10408	18.09	Average	
C220 Tetrachloroethene		.53846	.55721	3.48	Average	
C225 1,1,2,2-Tetrachloroethane		.47137	.42127	10.63	Average	
C230 Toluene		1.09081	1.11333	2.06	Average	
CS05 D8-Toluene	SS-2	1.15196	1.13267	1.67	Average	
C235 Chlorobenzene		.88943	.91656	3.05	Average	
C240 Ethylbenzene		.40374	.41611	3.06	Average	
C245 Styrene		.83188	.86361	3.81	Average	
C250 Xylene (total)		.48538	.50659	4.37	Average	
meta+para Xylene		.50718	.53116	4.73	Average	(Conc=100.00)
ortho Xylene		.48538	.50659	4.37	Average	
CS10 Bromofluorobenzene	SS-3	.85928	.84512	1.65	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: AQUEOUS CLP 1D
Calibrated: 940316 15:48

Check Standard Data File: >E5175
Injection Time: 940318 08:16

Compound		$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane		.48681	.52187	7.20	Average	
C015 Bromomethane		1.22893	1.26915	3.27	Average	
C020 Vinyl Chloride		.67188	.75107	11.79	Average	
C025 Chloroethane		.49539	.51763	4.49	Average	
C030 Methylene Chloride		1.06493	1.13991	7.04	Average	
C035 Acetone		.17724	.18810	6.12	Average	
C040 Carbon Disulfide		2.71252	2.94051	8.40	Average	
C045 1,1-Dichloroethene		1.12849	1.19745	6.11	Average	
C050 1,1-Dichloroethane		1.96487	1.98465	1.01	Average	
C053 1,2-Dichloroethene(total)		1.20240	1.22714	2.06	Average	(Conc=100.00)
C060 Chloroform		3.16820	3.01333	4.89	Average	
CS15 D4-1,2-Dichloroethane	SS1	2.12865	2.01195	5.48	Average	
C065 1,2-Dichloroethane		2.25702	2.15929	4.33	Average	
C110 2-Butanone		.22720	.19826	12.74	Average	
C115 1,1,1-Trichloroethane		.79437	.78389	1.32	Average	
C120 Carbon Tetrachloride		.81692	.80090	1.96	Average	
C125 Vinyl Acetate		.34705	.36933	6.42	Average	
C130 Bromodichloromethane		.67801	.65860	2.86	Average	
C140 1,2-Dichloropropane		.23583	.24288	2.99	Average	
C143 Cis-1,3-Dichloropropene		.42772	.43052	.65	Average	(Conc=50.00)
C150 Trichloroethene		.41503	.42231	1.76	Average	
C155 Dibromochloromethane		.67860	.66037	2.69	Average	
C160 1,1,2-Trichloroethane		.26307	.25093	4.62	Average	
C165 Benzene		.66286	.68475	3.30	Average	
C172 Trans-1,3-Dichloropropene		.41301	.41008	.71	Average	(Conc=50.00)
C180 Bromoform		.47930	.42532	11.26	Average	
C205 4-Methyl-2-Pentanone		.20266	.18116	10.61	Average	
C210 2-Hexanone		.12706	.10426	17.95	Average	
C220 Tetrachloroethene		.53846	.56236	4.44	Average	
C225 1,1,2,2-Tetrachloroethane		.47137	.43485	7.75	Average	
C230 Toluene		1.09081	1.13629	4.17	Average	
CS05 D8-Toluene	SS-2	1.15196	1.19364	3.62	Average	
C235 Chlorobenzene		.88943	.92899	4.45	Average	
C240 Ethylbenzene		.40374	.42578	5.46	Average	
C245 Styrene		.83188	.86480	3.96	Average	
C250 Xylene (total)		.48538	.50003	3.02	Average	
meta+para Xylene		.50718	.53234	4.96	Average	(Conc=100.00)
ortho Xylene		.48538	.50003	3.02	Average	
CS10 Bromofluorobenzene	SS-3	.85928	.85871	.07	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

	Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
CS50	2-Fluorophenol	1.03827	1.16064	1.17525	1.27220	1.19497	.694	1.16827	7.228	
CS45	D5-Phenol	1.35302	1.59272	1.51650	1.61665	1.53348	.930	1.52248	6.784	
C309	Pyridine	.98492	1.10807	1.11202	1.17507	1.14798	.399	1.10561	6.590	
C314	Benzenethiol	-	-	-	-	-	-	-	-	
C315	Phenol	-	-	-	-	-	-	-	-	
CS70	D4-2-Chlorophenol	1.27943	1.42308	1.41542	1.47761	1.38555	.950	1.39622	5.247	
C335	1,3-Dichlorobenzene	1.74228	1.73781	1.68614	1.73984	1.61903	.989	1.70502	3.135	
C340	1,4-Dichlorobenzene	1.76983	1.75900	1.73272	1.76950	1.62145	1.004	1.73050	3.629	
C350	1,2-Dichlorobenzene	1.72534	1.70458	1.63722	1.66707	1.54371	1.055	1.65558	4.298	
C349	Indene	2.29853	2.37249	2.24515	2.30462	2.13346	1.077	2.27085	3.925	
CS75	1,2-Dichlorobenzene-D4	1.11976	1.12617	1.08691	1.10562	1.04703	1.051	1.09710	2.897	(Conc=10.0,25.0,40.0,60.0,80.
C355	2-Methylphenol	-	-	-	-	-	-	-	-	
C364	3&4-Methylphenol	-	-	-	-	-	-	-	-	(Conc=40.0,100.0,160.0,240.0,
CS20	D5-Nitrobenzene	.31913	.38886	.38333	.40069	.40694	.854	.37979	9.261	(Conc=10.0,25.0,40.0,60.0,80.
C425	2,4-Dimethylphenol	-	-	-	-	-	-	-	-	
C450	Naphthalene	1.19262	1.10325	1.11941	1.03885	.97893	1.005	1.08661	7.486	
C459	Quinoline	.67225	.69664	.70675	.69664	.68714	1.080	.69188	1.876	
C471	1-Methylnaphthalene	.78012	.71147	.71847	.67481	.64480	1.182	.70593	7.222	
CS25	2-Fluorobiphenyl	1.42042	1.42299	1.39953	1.38005	1.34878	.894	1.39436	2.213	(Conc=10.0,25.0,40.0,60.0,80.
C535	Dimethylphthalate	1.73962	1.70347	1.71171	1.65495	1.58256	.970	1.67846	3.675	
C555	2,4-Dinitrophenol	-	-	-	-	-	-	-	-	
C560	4-Nitrophenol	-	-	-	-	-	-	-	-	
C580	Diethylphthalate	1.82011	1.83848	1.85278	1.72709	1.68923	1.085	1.78554	4.078	
CS55	2,4,6-Tribromophenol	.18311	.24903	.32936	.31676	.31170	1.130	.27799	22.116	
C640	Phenanthrene	1.17574	1.13885	1.10791	1.08607	1.02658	1.003	1.10703	5.079	
C645	Anthracene	1.08061	1.11195	1.10056	1.03391	.99758	1.009	1.06492	4.509	
C650	Di-n-butylphthalate	1.90183	1.97845	1.85027	1.45253	1.26492	1.090	1.68960	18.501	
C655	Fluoranthene	1.30155	1.34302	1.32624	1.26702	1.20330	1.161	1.28823	4.302	
C715	Pyrene	1.71895	1.68738	1.48860	1.45192	1.41141	.881	1.55165	9.114	
CS30	D14-Terphenyl	1.01481	1.09258	1.07287	1.04078	1.05329	.899	1.05487	2.825	(Conc=10.0,25.0,40.0,60.0,80.
C720	Butylbenzylphthalate	.93384	1.03906	.92013	.87831	.89118	.952	.93250	6.815	
C730	Benzo(a)anthracene	1.25034	1.29521	1.22848	1.23289	1.23684	.999	1.24875	2.180	
C740	Chrysene	1.28555	1.28865	1.16987	1.20193	1.18026	1.003	1.22525	4.705	
C745	bis(2Ethylhexyl)phthalate	1.44790	1.52478	1.32976	1.25544	1.17602	1.010	1.34678	10.481	
C759	6-Methyl chrysene	.89527	.93097	.92132	.90194	.90789	.926	.91148	1.593	
C760	Di-n-octylphthalate	2.20932	2.47809	2.20570	1.71643	1.52341	.942	2.02659	19.407	
C765	Benzo(b)fluoranthene	1.26457	1.32535	1.28964	1.36072	1.34733	.971	1.31752	3.035	
C770	Benzo(k)fluoranthene	1.25798	1.24701	1.25598	1.11106	1.01615	.973	1.17763	9.294	
C771	7,12-Di-ME-benz[a]anthra	.13812	.15343	.11689	.15561	.13051	.973	.13891	11.641	

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD
C775 Benzo(a)pyrene	1.06220	1.14064	1.11095	1.08716	1.11989	.996	1.10417	2.745
C779 Dibenz[a,h]acridine	.83611	.88589	.93770	.92014	.93236	1.079	.90244	4.677
C785 Dibenz(a,h)anthracene	.91301	.93989	.99196	.98215	.97656	1.099	.96071	3.451

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

IDCLPE
CBCLPE
3-16-94

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Compound	Files: >E5127 RF 10.00	>E5130 RF 20.00	>E5126 RF 50.00	>E5128 RF 100.00	>E5131 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
C010 Chloromethane	.51172	.47259	.46088	.49691	.49196	.377	.48681	4.139	
C015 Bromomethane	1.27192	1.18328	1.19858	1.24007	1.25082	.432	1.22893	3.005	
C020 Vinyl Chloride	.67622	.65477	.66362	.67251	.69229	.390	.67188	2.101	
C025 Chloroethane	.49785	.49039	.48228	.48813	.51830	.448	.49539	2.819	
C030 Methylene Chloride	1.17573	1.06124	1.00141	1.02446	1.06181	.661	1.06493	6.295	
C035 Acetone	.24375	.19416	.14599	.15504	.14728	.581	.17724	23.731	
C040 Carbon Disulfide	2.65213	2.62270	2.69980	2.78784	2.80014	.606	2.71252	2.928	
C045 1,1-Dichloroethene	1.12512	1.09348	1.11136	1.11813	1.19439	.568	1.12849	3.426	
C050 1,1-Dichloroethane	1.97385	1.87047	1.98801	1.98914	2.00291	.802	1.96487	2.736	
C053 1,2-Dichloroethene(total)	1.22279	1.12950	1.20835	1.20391	1.24743	.714	1.20240	3.671	(Conc=20.0,40.0,100.0,200.0,
C060 Chloroform	3.39301	2.90462	3.19269	3.17660	3.17409	1.029	3.16820	5.483	
CS15 D4-1,2-Dichloroethane SS1	2.20246	2.06731	2.11924	2.17429	2.07993	1.181	2.12865	2.755	
C065 1,2-Dichloroethane	2.35066	2.14415	2.28279	2.28669	2.22080	1.208	2.25702	3.458	
C110 2-Butanone	.23987	.25783	.20816	.21675	.21337	.949	.22720	9.237	
C115 1,1,1-Trichloroethane	.84328	.74092	.81301	.77067	.80398	.807	.79437	4.976	
C120 Carbon Tetrachloride	.84712	.76478	.84096	.79409	.83764	.845	.81692	4.396	
C125 Vinyl Acetate	.33983	.33218	.33835	.34932	.37555	.614	.34705	4.920	
C130 Bromodichloromethane	.69331	.63648	.66576	.70247	.69206	1.166	.67801	3.974	
C140 1,2-Dichloropropane	.23835	.22701	.23217	.23746	.24416	1.103	.23583	2.762	
C143 Cis-1,3-Dichloropropene	.42816	.40777	.41921	.44174	.44173	1.258	.42772	3.435	
C150 Trichloroethene	.43327	.40040	.41111	.41339	.41695	1.054	.41503	2.873	
C155 Dibromochloromethane	.68310	.69094	.64551	.68157	.69190	1.470	.67860	2.809	
C160 1,1,2-Trichloroethane	.27583	.29099	.23819	.25549	.25483	1.401	.26307	7.806	
C165 Benzene	.68929	.64279	.65251	.64717	.68253	.898	.66286	3.237	
C172 Trans-1,3-Dichloropropene	.41162	.38838	.39494	.43073	.43941	1.369	.41301	5.341	
C180 Bromoform	.50761	.50893	.42277	.46158	.49559	1.721	.47930	7.705	
C205 4-Methyl-2-Pentanone	.22807	.23619	.18498	.18328	.18076	.824	.20266	13.372	
C210 2-Hexanone	.14905	.14252	.10947	.11700	.11728	.926	.12706	13.794	
C220 Tetrachloroethene	.57728	.50970	.53290	.53385	.53856	.903	.53846	4.536	
C225 1,1,2,2-Tetrachloroethane	.54185	.55361	.40549	.41685	.43904	1.151	.47137	15.034	
C230 Toluene	1.14645	1.03052	1.09420	1.11681	1.06608	.859	1.09081	4.108	
CS05 D8-Toluene SS-2	1.16943	1.13006	1.15406	1.19836	1.10788	.831	1.15196	3.034	
C235 Chlorobenzene	.92960	.85141	.87000	.90008	.89605	1.003	.88943	3.370	
C240 Ethylbenzene	.42079	.37615	.39371	.40697	.42108	1.017	.40374	4.737	
C245 Styrene	.84642	.78192	.80524	.84761	.87818	1.076	.83188	4.581	
C250 Xylene (total)	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
meta+para Xylene	.53076	.48181	.50197	.51647	.50491	1.031	.50718	3.579	(Conc=20.0,40.0,100.0,200.0,
ortho Xylene	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
CS10 Bromofluorobenzene SS-3	.88811	.84852	.82771	.86112	.87093	1.132	.85928	2.655	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

Thorofare Division
100 Grove Road
P.O. Box 248
Thorofare, NJ 08086
Tel: (609) 848-3939
Fax: (609) 848-9195

FOR:

ENSR Consulting

35 Nagog Park
Acton, MA 01720

Attention: Charlie Martin
Project: Philly Sun Oil

Report #: 94.00893
Date: April 29, 1994

NET ATLANTIC, INC.
Thorofare Division

Approved and released by:

John Visicaro
QA Coordinator

Review and approval of
technical data by:

Neil Rossiter
Project Manager

OCEAN GROUP

REPORT NARRATIVE

This report contains the results of the analysis of samples by NET Atlantic, Inc. for ENSR Consulting. The samples were from the Philly Sun Oil project and were analyzed for the parameters specified on the chain of custody. The following page lists the samples associated with this job, the date the samples were received by the laboratory and correlates the lab sample ID with the client ID. A laboratory chronicle has been provided that shows the date on which each test was performed.

NATIONAL ENVIRONMENTAL TESTING, INC.

The following table identifies all samples submitted to NET for analysis.

Client: ENSR CONSULTING

Job No: 94.00893

NET ID	Client ID	Date Sampled	Date Received
135099	230D1	03/14/1994	03/15/1994
135100	230D1 (DISS)	03/14/1994	03/15/1994
135101	250D1	03/14/1994	03/15/1994
135102	250D1 (DISS)	03/14/1994	03/15/1994
135103	251S1	03/14/1994	03/15/1994
135104	251S1 (DISS)	03/14/1994	03/15/1994
135105	238S1	03/14/1994	03/15/1994
135106	238S1 (DISS)	03/14/1994	03/15/1994
135107	229S1 +QC	03/14/1994	03/15/1994
135108	229S1 + QC (DISS)	03/14/1994	03/15/1994
135109	TB-400	03/14/1994	03/15/1994

Listed below are the current certifications that are held by NET, Inc. - Thorofare Division.

NJ Certification No: 08153
NY Certification No: 10867
PA Certification No: 68-212
SC Certification No: 94008
CT Certification No: PH-0784
MA Certification No: NJ119
DE Certification No: 08153(NJ)
VA Certification No: 00043
FL Certification No: E87427

M90137

ENSR CHAIN OF CUSTODY RECORD

Page 1 of 5

Client/Project Name: ENSR / SUN	Project Location: Philadelphia, PA
Project Number: 6445-051	Field Logbook No.:
Sampler: (Print Name/Affiliation): T. Sopp / ENSR	Chain of Custody Tape No.:
Signature:	Send Results/Report to: Charles Martin ENSR 35 Nagog Park Acton, MA 01720 (508) 635-9500

Analysis Requested: BTEX; BN; Sulfide; Iron, Wastewater; Chloride & Fluoride; Sulfate; TDS; Bicarb. alkalinity; Spec. Cond.; Nitrate, Nitrite, Total Phosphorus; TOC; Ammonia; Tal I Metals

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	Lab I.D.	Remarks
23001	3-14-94	1030			2-40 ml	water	HCl			
					2-1L Amber		—			
					1-1L Plastic		NaOH			
					1-1L Plastic		HNO_3	X		Field Filtered
					1-1L Plastic		—			
					1-1L Plastic		—			
					1-1L Amber		H_2SO_4			
					1-1L Plastic		HNO_3			
22951/ms/msd		1000			2-1L Amber		H_2SO_4			
22951/ms/msd		1000			2-1L Plastic		HNO_3			

Relinquished by: (Print Name) J. Sopp	Date: 3-14-93	Received by: (Print Name) Sharon Sabatini	Date: 3/15/94	Analytical Laboratory (Destination):
Signature:	Time: 1600	Signature: Sharon Sabatini	Time: 1305	cooler temp - 2.3°c
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:	
Signature:	Time:	Signature:	Time:	
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:	
Signature:	Time:	Signature:	Time:	

Serial No. 10363

000003

M901376

ENSR CHAIN OF CUSTODY RECORD

Page 2 of 5

Client/Project Name: ENSR/SUN	Project Location: Philadelphia, PA
Project Number: 6445-051	Field Logbook No.:
Sampler: (Print Name) /Affiliation:	Chain of Custody Tape No.:
Signature:	Send Results/Report to: Charles Martin ENSR 35 Nagog Park Acton, MA 01720 (508)635-9500

Analysis Requested: BTEX; BN 3vHinds; Iron manganese; chloride Fluoride; Sulfate; TDS; Bicarb, Hydroxide Carb Alkalinity; Nitrate, Nitrite; TOC; Total Metals

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	Lab I.D.	Remarks
25001	3-14-94	1430			2-40ml	water	HCl			
					2-1L Amber		—			
					1-1L Plastic		NaOH			
					1-1L Plastic		HNO_3	X		Field Filtered
					1-1L Plastic		—			
					1-1L Plastic		—			
					1-1L Amber		H_2SO_4			
					1L Plastic		HNO_3			
TB-400		1600			2-40ml		HCl			

Relinquished by: (Print Name) T. Sapper Signature:	Date: 3-14-94 Time: 1600	Received by: (Print Name) Sharon Sabatini Signature: Sharon Sabatini	Date: 3/15/94 Time: 1305
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:
Relinquished by: (Print Name) Signature:	Date: Time:	Received by: (Print Name) Signature:	Date: Time:

Analytical Laboratory (Destination):

cooler temp - 3.8°C

Serial No. 10358

0000004

M001376

ENSR CHAIN OF CUSTODY RECORD

Page 3 of 5

Client/Project Name: ENSR/SUN	Project Location: Philadelphia, PA
Project Number: 6455-051	Field Logbook No.:
Sampler: (Print Name) /Affiliation: J. Soper ENSR	Chain of Custody Tape No.:
Signature:	Send Results/Report to: Charles Martin ENSR 35 Nagog Park Acton, MA 01720 (508)635-9500

Analysis Requested: BTEX; BN; Sulfide; Iron; Manganese; Chloride; Fluoride; Sulfate; TPS/Alkalinity (Bicarb. as CaCO3); Specific Gravity; Nitrate-N; Ammonia; TOC; Total Phosphorus

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	Lab I.D.	Remarks
25151	3-11-93	1500			2-40ml	water	HCl			
					2-1L Amber		—			
					1-1L Plastic		NaOH			
					1-1L Plastic		HNO_3	X		Field Filtered
					1-1L Plastic		—			
					1-1L Plastic		—			
					1-1L Amber		H_2SO_3			
					1-1L Plastic		HNO_3			
22951/ms/msd		1000			2-1L Plastic		—			
22951/ms/msd		1000			2-1L Plastic		—			

Relinquished by: (Print Name) J. Soper	Date: 3-14-94	Received by: (Print Name) Sharon Sabatini	Date: 3/15/94
Signature:	Time: 1600	Signature: Sharon Sabatini	Time: 1305
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Signature:	Time:	Signature:	Time:
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Signature:	Time:	Signature:	Time:

Analytical Laboratory (Destination):

Cooler temp- 3.1°C

Serial No. 10359

000005

M901378

ENSR **CHAIN OF CUSTODY RECORD** Page 4 of 5

Client/Project Name: ENSR/SUN
Project Location: Philadelphia, PA
Project Number: 6445-051
Field Logbook No.:
Sampler: (Print Name) /Affiliation: J. Sopp / ENSR
Chain of Custody Tape No.:
Signature:
Send Results/Report to: Charles Martin, ENSR 35 Nagog Park, Acton, MA 01720, (508) 635-9500

Analysis Requested: BTEX; PAH Suite; Iron; Chloride; Fluoride; Sulfate; TDS; Alkalinity; Total Cyanide; Phenols; Nitrate/Nitrite; TOC; Ammonia; TKN; Metals

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	Lab I.D.	Remarks
23851	3-14-94	1230			2-40ml	water	HCl			
					2-1L Amber		—			
					1-1L Plastic		NaOH			
					1-1L Plastic		HNO_3	X		Field Filtered
					1-1L Plastic		—			
					1-1L Plastic		—			
					1-1L Amber		H_2SO_4			
					1-1L Plastic		HNO_3			
22951/ms/msd		1000			2-1L Plastic		NaOH			
22951/ms/msd		1000			2-1L Plastic		HNO_3	X		Field Filtered

Relinquished by: (Print Name) / Signature:	Date:	Time:	Received by: (Print Name) / Signature:	Date:	Time:
J. Sopp	3-14-94	1600	Sharon Sabatini	3/15/94	1305
			Sharon Sabatini		

Analytical Laboratory (Destination):

cooler temp - 3.1°C

Serial No. 10357

900000

M901378

ENSR

CHAIN OF CUSTODY RECORD

Page 5 of 5

Client/Project Name: ENSR / SUN

Project Location: Philadelphia, PA

Project Number: 6415-051

Field Logbook No.:

Sampler: (Print Name) / Affiliation: J. Sopyr / ENSR

Chain of Custody Tape No.:

Signature:

Send Results/Report to: Charles Martin
ENSR 35 Nagog Park
Acton, MA 01720 (508) 635-9500

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BTEX	BJ	Sulfide	Iron, Manganese	Chloride, Fluoride, Sulfate	TDS, Bicarb, Total Alkalinity, Spec. Cond.	Nitrate, Nitrite, Ammonia	TOC, Immunoassay	Total Cr, Pb	Lab I.D.	Remarks
~~22951~~	3-14-94	1250			2-40ml	water	HCl		X										
22951					2-1L Amber		—			X									
					1-1L Plastic		NaOH				X								
					1-1L Plastic		HNO_3	X				X							Field Filtered
					1-1L Plastic		—						X						
					1-1L Plastic		—							X					
					1-1L Amber		H_2SO_4								X				
					1-1L Plastic		HNO_3									X			
22951 MS/MSD					4-40ml		HCl		X										MS/MSD
					4-1L Amber		—			X									MS/MSD

Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
J. Sopyr	3-14-94	Sharon Sabatini	3/15/94
Signature:	Time: 1600	Signature: Sharon Sabatini	Time: 1325
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Signature:	Time:	Signature:	Time:
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Signature:	Time:	Signature:	Time:

Analytical Laboratory (Destination):

cooler temp - 2.3°C

Serial No. 10356

400000

METHODOLOGY SUMMARY

PURGEABLES GC/MS

USEPA Method 624(40 CFR Ch. I (7-1-91 Edition), Method 8240 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are purge and trap methods applicable to the determination of purgeable organic compounds. An inert gas is bubbled thru a sample aliquot contained in a purging chamber where the purgeables are transferred to the vapor phase. The purgeables are collected on a sorbent trap which is rapidly heated and backflushed with helium to desorb the purgeables onto a capillary GC column. The GC is temperature programmed to allow the separation of the purgeables which are then detected with a mass spectrometer. Refer to the method for specific interferences.

As per the applicable methodology the laboratory supplies vials containing Hydrochloric Acid (HCL) for preservation of aqueous samples. 2-Chloroethylvinyl ether is susceptible to acidic degradation which can adversely affect the detectability of this compound.

BASE/NEUTRALS

USEPA Method 625(40 CFR Ch. I (7-1-91 Edition), Method 8270 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are GC/MS methods applicable to the determination of organic compounds that are partitioned into an organic solvent and amenable to gas chromatography. A sample aliquot is extracted with methylene chloride (continuous liquid-liquid for waters, sonication for soils) which is dried, concentrated and analyzed on a Hewlett-Packard GC/MS fitted with a capillary column. Extracts may be subjected to one or more clean-up steps to eliminate matrix interferences. Refer to the method for specific interferences.

METALS

Aqueous samples for metals analysis were run in accordance with the methods prescribed in "Methods for Analysis of Water and Wastes" (EPA-600/4-79-020), Metals-4, as modified for use in the USEPA CLP.

INORGANIC PARAMETERS

The following USEPA Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020 were used by the laboratory.

Ammonia Nitrogen (Ammonia) - Method 350.2
Chloride - Method 325.3
Conductance - Method 120.1
Fluoride - Method 340.2
Nitrate/Nitrie - Method 353.1
Sulfate - Method 375.4
Sulfide - Method 376.1
Total Dissolved Solids (TDS) - Method 160.1
Total Organic Carbon (TOC) - Method AQ 415.1 SO 415.1 MOD

ALKALINITY

An aliquot of the unaltered sample is titrated against standardized sulfuric acid to pH 4.5 using a pH meter. Results are reported as ug of Calcium Carbonate per Liter of sample. USEPA Method 310.1

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis

Client: ENSR CONSULTING Job No: 94.00893

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135099	230D1	03/14/1994	03/15/1994	GR
135100	230D1 (DISS)	03/14/1994	03/15/1994	GR
135101	250D1	03/14/1994	03/15/1994	GR
135102	250D1 (DISS)	03/14/1994	03/15/1994	GR
135103	251S1	03/14/1994	03/15/1994	GR
135104	251S1 (DISS)	03/14/1994	03/15/1994	GR
135105	238S1	03/14/1994	03/15/1994	GR

Laboratory ID:	135099	135100	135101	135102	135103	135104	135105
Organic Extraction							
Semivolatile AQ (GC/MS)	03/20/1994		03/20/1994		03/20/1994		03/20/1994
Semivolatile SO (GC/MS)							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							
TCLP Non-volatiles extraction							
TCLP Volatiles extraction							
Inorganic Preparation							
Metals(Except Hg & CrVI)	04/09/1994	04/09/1994	04/09/1994	04/09/1994	04/09/1994	04/09/1994	04/09/1994
Phenols							
Cyanides							
Organic Analysis							
Semivolatiles AQ	04/21/1994		04/20/1994		04/23/1994		04/21/1994
Semivolatiles SO							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Volatile Organics AQ (GC/MS)	03/21/1994		03/21/1994		03/21/1994		03/19/1994
Volatile Organics SO (GC/MS)							
Volatile Organics AQ (GC)							
Volatile Organics SO (GC)							
Acrolein & Acrylonitrile (GC)							
Selected Organics (GC)							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis

Client: ENSR CONSULTING Job No: 94.00893

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135106	238S1 (DISS)	03/14/1994	03/15/1994	GR
135107	229S1 +QC	03/14/1994	03/15/1994	GR
135108	229S1 + QC (DISS)	03/14/1994	03/15/1994	GR
135109	TB-400	03/14/1994	03/15/1994	BL

Laboratory ID:	135106	135107	135108	135109
Organic Extraction				
Semivolatile AQ (GC/MS)		03/21/1994		
Semivolatile SO (GC/MS)				
Pesticides/PCBs AQ				
Pesticides/PCBs SO				
Herbicides AQ				
Herbicides SO				
Petroleum Hydrocarbons AQ				
Petroleum Hydrocarbons SO				
TCLP Non-volatiles extraction				
TCLP Volatiles extraction				
Inorganic Preparation				
Metals(Except Hg & CrVI)	04/09/1994	04/09/1994	04/09/1994	
Phenols				
Cyanides				
Organic Analysis				
Semivolatiles AQ		04/21/1994		
Semivolatiles SO				
Pesticides/PCBs AQ				
Pesticides/PCBs SO				
Herbicides AQ				
Herbicides SO				
Volatile Organics AQ (GC/MS)		03/21/1994	03/21/1994	
Volatile Organics SO (GC/MS)				
Volatile Organics AQ (GC)				
Volatile Organics SO (GC)				
Acrolein & Acrylonitrile (GC)				
Selected Organics (GC)				
Petroleum Hydrocarbons AQ				
Petroleum Hydrocarbons SO				

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00893

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135099	230D1	03/14/1994	03/15/1994	GR
135100	230D1 (DISS)	03/14/1994	03/15/1994	GR
135101	250D1	03/14/1994	03/15/1994	GR
135102	250D1 (DISS)	03/14/1994	03/15/1994	GR
135103	251S1	03/14/1994	03/15/1994	GR
135104	251S1 (DISS)	03/14/1994	03/15/1994	GR
135105	238S1	03/14/1994	03/15/1994	GR

Laboratory ID:	135099	135100	135101	135102	135103	135104	135105
Parameter							
Alkalinity	03/25/1994		03/25/1994		03/25/1994		03/25/1994
Alkalinity, Bicarb. at pH 4.	03/25/1994		03/25/1994		03/25/1994		03/25/1994
Ammonia	03/31/1994		03/31/1994		03/31/1994		03/31/1994
Chloride	04/04/1994		04/04/1994		04/04/1994		04/04/1994
Conductivity	03/17/1994		03/17/1994		03/17/1994		03/17/1994
Fluoride, Total	03/25/1994		03/25/1994		03/25/1994		03/25/1994
Nitrate/nitrite	04/05/1994		04/05/1994		04/05/1994		04/05/1994
Solids, dissolved (TDS)	03/18/1994		03/18/1994		03/18/1994		03/18/1994
Sulfate	03/30/1994		03/30/1994		03/30/1994		03/30/1994
Sulfide	03/17/1994		03/17/1994		03/17/1994		03/17/1994
Total Organic Carbon	03/25/1994		03/25/1994		03/25/1994		03/25/1994
Arsenic (As)	04/19/1994		04/19/1994		04/20/1994		04/19/1994
Cobalt (Co)	04/21/1994		04/21/1994		04/21/1994		04/21/1994
Iron (Fe)	04/21/1994	04/21/1994	04/21/1994	04/21/1994	04/21/1994	04/21/1994	04/21/1994
Lead (Pb)	04/19/1994		04/19/1994		04/20/1994		04/19/1994
Manganese (Mn)	04/21/1994	04/21/1994	04/21/1994	04/21/1994	04/21/1994	04/21/1994	04/21/1994

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00893

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135106	238S1 (DISS)	03/14/1994	03/15/1994	GR
135107	229S1 +QC	03/14/1994	03/15/1994	GR
135108	229S1 + QC (DISS)	03/14/1994	03/15/1994	GR
135109	TB-400	03/14/1994	03/15/1994	BL

Laboratory ID:	135106	135107	135108	135109
Parameter				
Alkalinity		03/25/1994		
Alkalinity, Bicarb. at pH 4.		03/25/1994		
Ammonia		03/31/1994		
Chloride		04/04/1994		
Conductivity		03/17/1994		
Fluoride, Total		03/25/1994		
Nitrate/nitrite		04/06/1994		
Solids, dissolved (TDS)		03/21/1994		
Sulfate		03/30/1994		
Sulfide		03/17/1994		
Total Organic Carbon		03/25/1994		
Arsenic (As)		04/15/1994		
Cobalt (Co)		04/21/1994		
Iron (Fe)	04/21/1994	04/21/1994	04/21/1994	
Lead (Pb)		04/19/1994		
Manganese (Mn)	04/21/1994	04/21/1994	04/21/1994	

Definition of terms, abbreviations and flags that may be used in this report.

Flag/Term/Abbrev.	Definition
U	Compound was analyzed for but not detected. The laboratory has reported the method detection limit for the compound.
J	Compound was detected at a concentration below the practical reporting level, yet above the method detection limit. These values are estimates.
B	Compound was detected in the method/extraction blank as well as the sample. The data user is warned of possible laboratory introduced contamination.
NA	Not Applicable
ND	Not Detected
NC	Not Calculable
NR	Not Requested or Not Reported
MDL	Method detection limit. Can be a limit specified by the method or a number determined by performing an MDL study.
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
umhos	conductivity units; resistance is expressed in ohms.
NTU	Nephlometric Turbidity Units; used for turbidity.
col/9	Colonies per volume of sample analyzed; used for bacteriology.
deg C	degrees celcius
deg F	degrees fahrenheit
ug	microgram; there are 1000 ug in 1 mg.
mg	milligram; there are 1000 mg in 1 g.
g	gram; there are 1000 g in 1 Kg.
Kg	kilogram
ul	microliter; there are 1000 ul in 1 ml.
ml	milliliter; there are 1000 ml in 1 liter.
L	liter
dw	Dry weight; indicates that the reported value has been corrected for percent solids.
ppm	Parts per million = mg/Kg, ug/g, mg/L, ug/ml; 1 ppm = 1000ppb
ppb	Parts per billion = ug/Kg, ug/L

INORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00893
Sample No: 135099
Client Sample ID: 230D1

Parameter	Results	Units
Alkalinity	71	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	71	ppmCaCO3
Ammonia	0.2	mg/L N
Chloride	58	mg/L
Conductivity	817	umhos/cm
Fluoride, Total	<0.1	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	604	mg/L
Sulfate	179	mg/L
Sulfide	1.26	mg/L
Total Organic Carbon	3	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	53.6	mg/L
Lead (Pb)	0.013	mg/L
Manganese (Mn)	0.38	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00893
Sample No: 135100
Client Sample ID: 230D1 (DISS)

Parameter	Results	Units
Iron (Fe)	41.2	mg/L
Manganese (Mn)	0.32	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00893
Sample No: 135101
Client Sample ID: 250D1

Parameter	Results	Units
Alkalinity	556	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	556	ppmCaCO3
Ammonia	1.3	mg/L N
Chloride	68	mg/L
Conductivity	1218	umhos/cm
Fluoride, Total	<0.1	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	820	mg/L
Sulfate	<10	mg/L
Sulfide	1.57	mg/L
Total Organic Carbon	37	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	49.3	mg/L
Lead (Pb)	<0.001	mg/L
Manganese (Mn)	0.59	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00893
Sample No: 135102
Client Sample ID: 250D1 (DISS)

Parameter	Results	Units
Iron (Fe)	45.7	mg/L
Manganese (Mn)	0.55	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00893
Sample No: 135103
Client Sample ID: 251S1

Parameter	Results	Units
Alkalinity	418	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	418	ppmCaCO3
Ammonia	5.4	mg/L N
Chloride	18	mg/L
Conductivity	763	umhos/cm
Fluoride, Total	0.41	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	490	mg/L
Sulfate	<10	mg/L
Sulfide	<0.2	mg/L
Total Organic Carbon	29	mg/L
Arsenic (As)	0.25	mg/L
Cobalt (Co)	0.12	mg/L
Iron (Fe)	171	mg/L
Lead (Pb)	0.19	mg/L
Manganese (Mn)	2.74	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00893
Sample No: 135104
Client Sample ID: 251S1 (DISS)

Parameter	Results	Units
Iron (Fe)	8.83	mg/L
Manganese (Mn)	1.46	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00893
Sample No: 135105
Client Sample ID: 238S1

Parameter	Results	Units
Alkalinity	507	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	507	ppmCaCO3
Ammonia	4.8	mg/L N
Chloride	29	mg/L
Conductivity	974	umhos/cm
Fluoride, Total	0.66	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	540	mg/L
Sulfate	12	mg/L
Sulfide	3.55	mg/L
Total Organic Carbon	27	mg/L
Arsenic (As)	0.046	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	38.7	mg/L
Lead (Pb)	0.030	mg/L
Manganese (Mn)	1.88	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00893
Sample No: 135106
Client Sample ID: 23851 (DISS)

Parameter	Results	Units
Iron (Fe)	12.7	mg/L
Manganese (Mn)	1.65	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00893
Sample No: 135107
Client Sample ID: 22951 +QC

Parameter	Results	Units
Alkalinity	119	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	119	ppmCaCO3
Ammonia	<0.1	mg/L N
Chloride	10	mg/L
Conductivity	552	umhos/cm
Fluoride, Total	<0.1	mg/L
Nitrate/nitrite	6.3	mg/L N
Solids, dissolved (TDS)	390	mg/L
Sulfate	106	mg/L
Sulfide	1.62	mg/L
Total Organic Carbon	1.4	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	0.37	mg/L
Lead (Pb)	<0.001	mg/L
Manganese (Mn)	<0.01	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00893
Sample No: 135108
Client Sample ID: 229S1 + QC (DISS)

Parameter	Results	Units
Iron (Fe)	<0.05	mg/L
Manganese (Mn)	<0.01	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135099
Client Sample ID: 230D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	1.7	J	ug/L	2.5	04/21/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/21/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135099
Client Sample ID: 2300D1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135101
Client Sample ID: 250D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135101
Client Sample ID: 250D1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135103
Client Sample ID: 251S1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	100	U	ug/L	78.	04/23/1994	jig	10	4
Benzo(b)Fluoranthene	100	U	ug/L	48.	04/23/1994	jig	10	4
Benzo(a)Pyrene	100	U	ug/L	25.	04/23/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	100	U	ug/L	25.	04/23/1994	jig	10	4
Chrysene	100	U	ug/L	25.	04/23/1994	jig	10	4
Dibenz(a,h)Anthracene	100	U	ug/L	25.	04/23/1994	jig	10	4
Indene	100	U	ug/L	100.	04/23/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135103
Client Sample ID: 251S1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	40.	U	ug/L	40.	03/21/1994	res		198
Toluene	60.	U	ug/L	60.	03/21/1994	res		198
Ethylbenzene	60.	U	ug/L	60.	03/21/1994	res		198
m+p-Xylenes	50.	U	ug/L	50.	03/21/1994	res		198

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135105
Client Sample ID: 238S1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.		ug/L	2.5	04/21/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/21/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135105
Client Sample ID: 238S1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/19/1994	res		201
Toluene	6.0	U	ug/L	6.0	03/19/1994	res		201
Ethylbenzene	6.0	U	ug/L	6.0	03/19/1994	res		201
m+p-Xylenes	5.0	U	ug/L	5.0	03/19/1994	res		201

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135107
Client Sample ID: 229S1 +QC

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	1.7	J	ug/L	2.5	04/21/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/21/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135107
Client Sample ID: 229S1 +QC

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135109
Client Sample ID: TB-400

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

ACID EXTRACTABLE/BASE NEUTRALS

Client: Ellis Consulting Report No: 94 0393

Client ID	NET ID	Nitrobenzene-d5 (35-114)	2-Fluorobiphenyl (43-116)	p-terphenyl-d14 (33-141)	Phenol-d6 (10-94)	2-Fluorophenol (21-100)	2,4,6-Tribromophenol (10-123)
23001	135099	16	58	24*	17	0*	0*
25001	135101	70	72	38	42	3*	15
25151	135103	0*			0*	0*	0*
23851	135105	72	58	24*	22	0*	5*
22951+DL	135107	88	82	94	5*	0*	0*
BLANK #4	A295A	92	90	112	4*	0*	0*
BLANK #1	A295A	76	72	100	3*	0*	0*
MS	A295A	88	76	88	12	0*	0*
MSD	A295A	80	70	74	10	0*	0*

COMMENTS: * Outside Control Limits

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

VOLATILES

Client: [illegible] Consulting Report No: 94 0293

Client ID	NET ID	Toluene-d8 (88-110)	BFB (86-115)	1,2-Dichloroethane-d4 (76-114)
23001	135099	98	108	96
25001	135101	96	102	94
25151	135103	100	102	94
23851	135105	98	102	102
22951+DE	135107	100	102	96
TB 400	135109	98	100	96
BLANK	>DC..13	100	100	102
BLANK	>F5220	100	102	98
135	DC1221.8	100	102	98
135D	DC1221.8	102	102	96
135	EBC..147	94	98	104
135D	EBC 147	92	100	102
135	EBC 193	88	96	94
135D	EBC 193	88	92	90
135	EBC 199	96	104	98
135D	EBC 199	98	102	94

COMMENTS: _____

000038

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

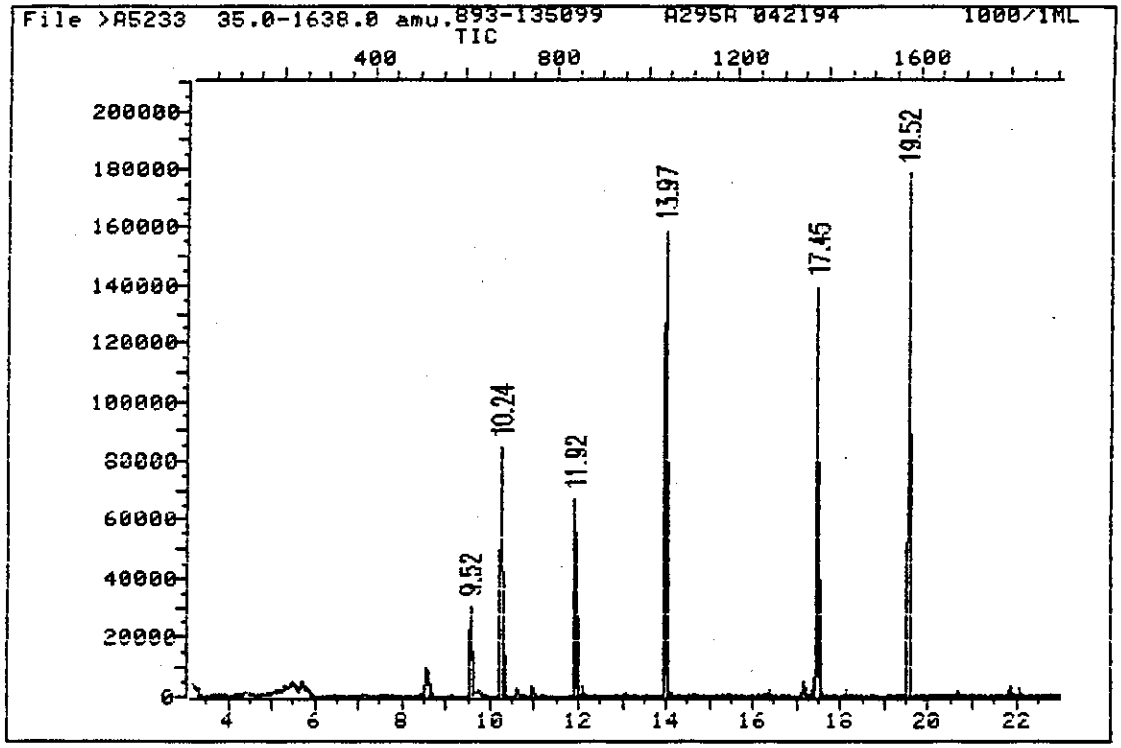
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135099
Client Sample ID: 230D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	1.7	J	ug/L	2.5	04/21/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/21/1994	jig	10	4

TOTAL ION CHROMATOGRAM



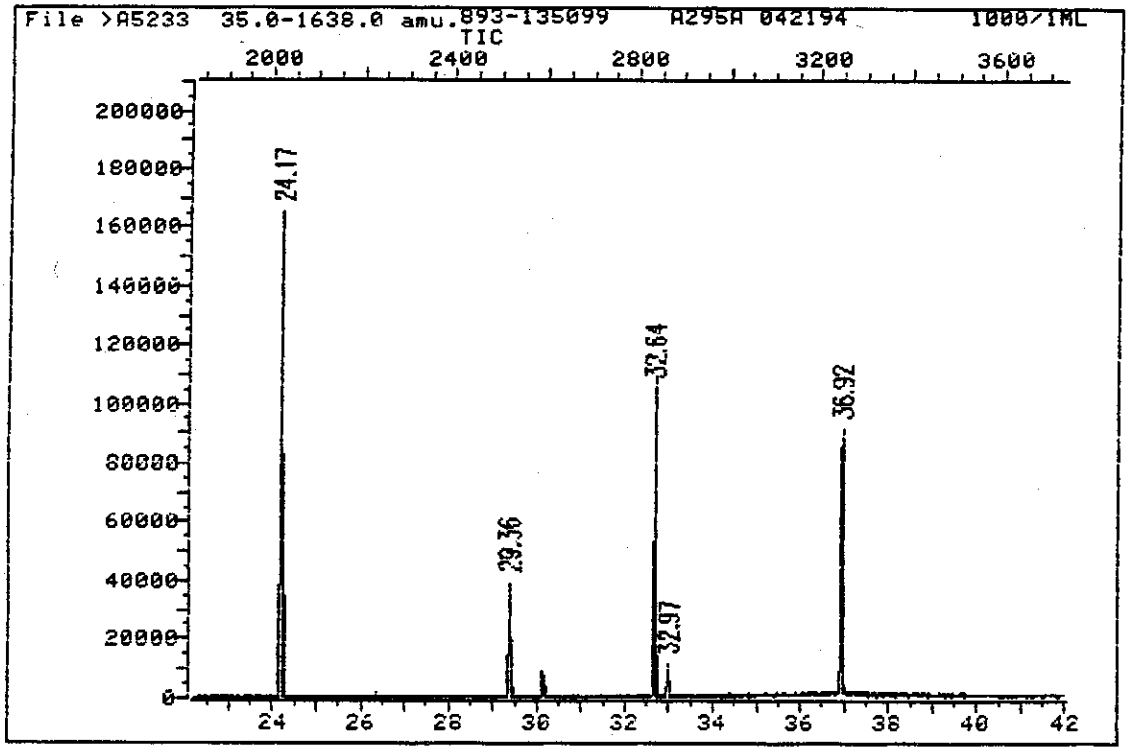
Data File: >A5233::E4 Quant Output File: ^A5233::D3
Name: 893-135099 A295A
Misc: 042194 1000/1ML HP5970 A BTL# 9

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 21:59
Injected at: 940421 21:14

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5233::E4 Quant Output File: ^A5233::D3
Name: 893-135099 A295A
Misc: 042194 1000/1ML HP5970 A BTL# 9

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 21:59
Injected at: 940421 21:14

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940421 21:59
Output File: ^A5233::D3 Injected at: 940421 21:14
Data File: >A5233::E4 Dilution Factor: 1.00000
Name: 893-135099 A295A
Misc: 042194 1000/1ML HP5970 A BTL# 9

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.24	152.0	38117	40.00	ug/L	5
3)	CS45 D5-Phenol	9.52	99.0	24228	16.70	ug/L	99
15)	*CI40 D8-Naphthalene	13.97	136.0	143252	40.00	ug/L	93
16)	CS20 D5-Nitrobenzene	11.92	82.0	41386	30.43	ug/L	2
21)	*CI50 D10-Acenaphthene	19.52	164.0	85845	40.00	ug/L	93
22)	CS25 2-Fluorobiphenyl	17.45	172.0	86367	28.86	ug/L	94
28)	*CI60 D10-Phenanthrene	24.17	188.0	144505	40.00	ug/L	9
33)	*CI70 D12-Chrysene	32.64	240.0	105106	40.00	ug/L	95
35)	CS30 D14-Terphenyl	29.36	244.0	36060	13.01	ug/L	83
39)	C745 bis(2Ethylhexyl)phthalate	32.97	149.0	6005	1.70	ug/L	9
40)	*CI75 D12-Perylene	36.92	264.0	107418	40.00	ug/L	93

* Compound is ISTD

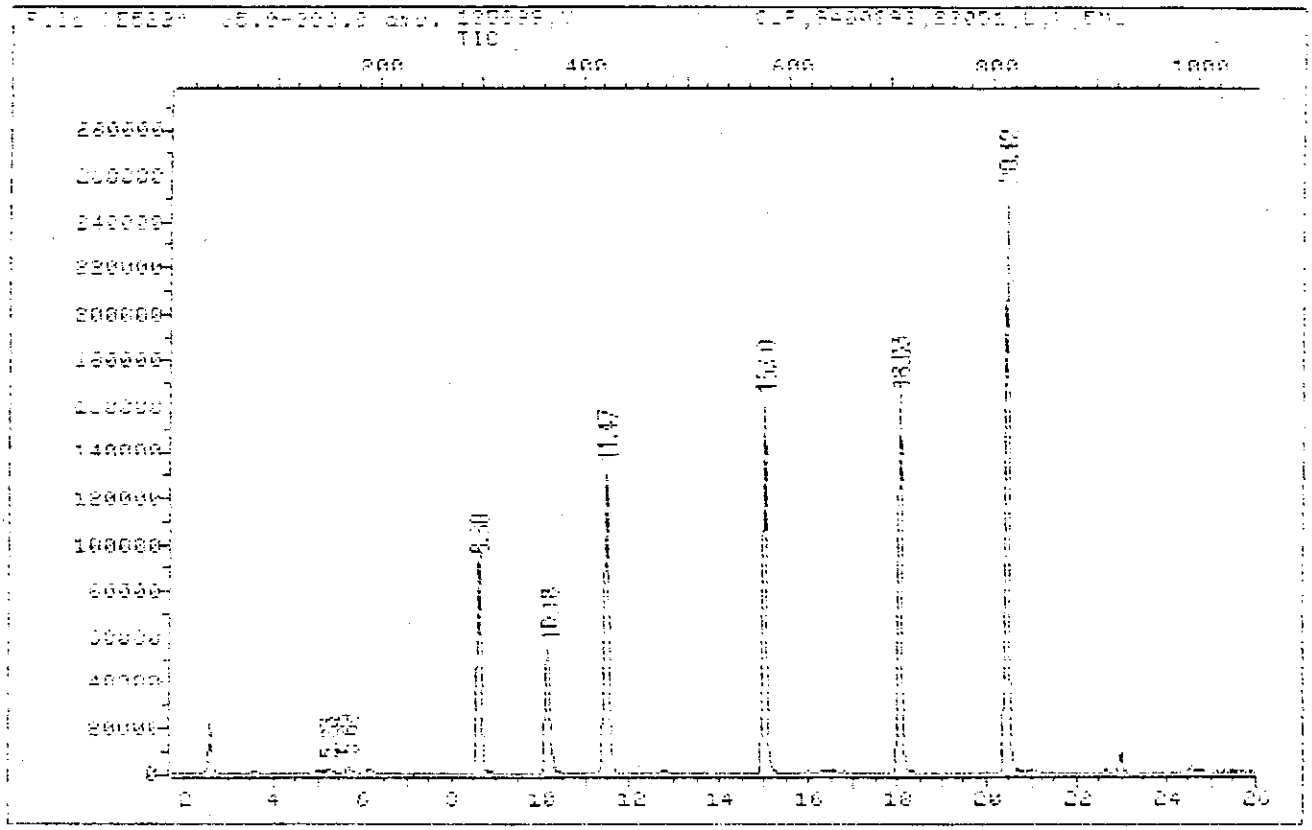
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135099
Client Sample ID: 230D1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198



Data File: >E5224::D5 Quant Output File: ^E5224::D8
Name: 135099,U
Misc: CLP,9400997,23801,L,w,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: RITA
Quant Time: 940321 13:18
Injected at: 940321 12:47

QUANT REPORT

Operator ID: PITA
Output File: ^E5004::08
Data File: ^E5004::05
Name: 13^099,0
Misc: CLP,9400893,23001,L,W,5ML

Quant Rev: 6
Quant Time: 94(21 13:18
Injected at: 940321 10:47
Dilution Factor: 1.00000

ID File: IDCLPE::04
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:52

EAQ-197

	Compound		R.T.	Q Ion	Area	Conc	Units	%
1)	*C101 Bromochloromethane	IS-1	8.66	128.0	96892	50.00	UG/L	
6)	C030 Methylene Chloride B-4		9.08	84.0	4517	1.89	UG/L	83
8)	C040 Carbon Disulfide		9.23	76.0	7682	1.40	UG/L	100
17)	C915 Dichlorodifluoromethane	SS1	10.18	85.0	184827	47.93	UG/L	77
20)	*C110 1,4-Difluorobenzene	IS-2	11.47	114.0	282931	50.00	UG/L	70
29)	*C120 D5-Chlorobenzene	IS-3	18.03	117.0	281624	50.00	UG/L	94
30)	C625 D8-Toluene	SS-2	15.08	98.0	324850	49.30	UG/L	77
40)	*C510 Bromofluorobenzene	SS-3	20.42	95.0	248515	53.64	UG/L	88

* Compound is ISTD

JB

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

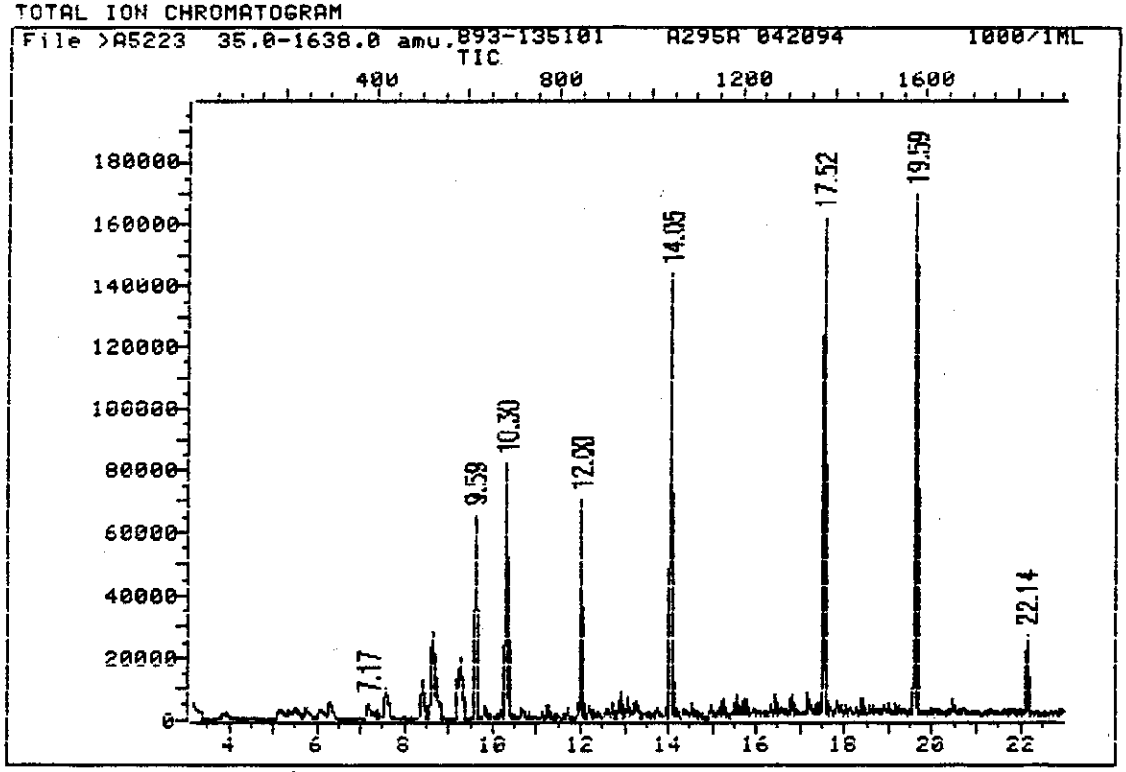
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135101
Client Sample ID: 250D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

TOTAL ION CHROMATOGRAM



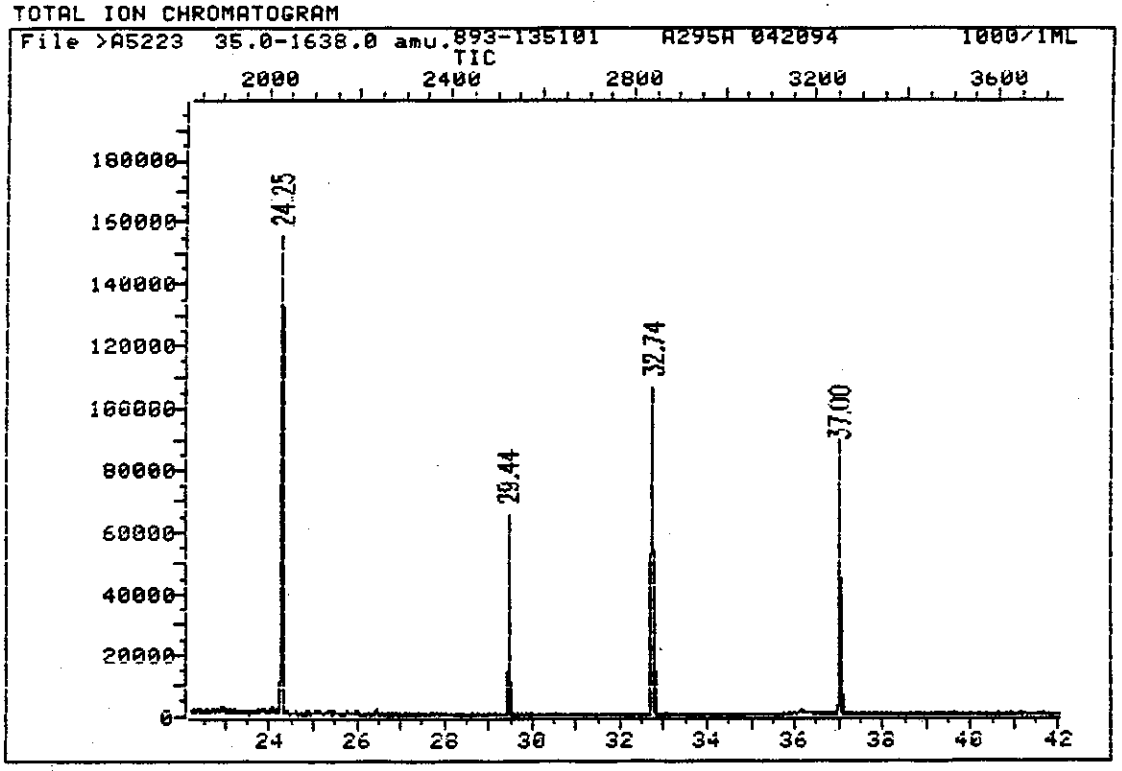
Data File: >A5223::E4 Quant Output File: ^A5223::D5
Name: 893-135101 A295A
Misc: 042094 1000/1ML HP5970 A BTL#14

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 21:20
Injected at: 940420 20:35

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5223::E4 Quant Output File: ^A5223::D5
Name: 893-135101 A295A
Misc: 042094 1000/1ML HP5970 A BTL#14

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 21:20
Injected at: 940420 20:35

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940420 21:20
Output File: ^A5223::D5 Injected at: 940420 20:35
Data File: >A5223::E4 Dilution Factor: 1.00000
Name: 893-135101 A295A
Misc: 042094 1000/1ML HP5970 A BTL#14

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.30	152.0	35773	40.00	ug/L	9
2)	CS50 2-Fluorophenol	7.17	112.0	8482	8.12	ug/L	9
3)	CS45 D5-Phenol	9.59	99.0	56575	41.55	ug/L	94
15)	*CI40 D8-Naphthalene	14.05	136.0	129532	40.00	ug/L	4
16)	CS20 D5-Nitrobenzene	12.00	82.0	43497	35.37	ug/L	92
21)	*CI50 D10-Acenaphthene	19.59	164.0	76939	40.00	ug/L	98
22)	CS25 2-Fluorobiphenyl	17.52	172.0	96986	36.16	ug/L	9
27)	CS55 2,4,6-Tribromophenol	22.14	330.0	7910	14.79	ug/L	98
28)	*CI60 D10-Phenanthrene	24.25	188.0	131174	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.74	240.0	100965	40.00	ug/L	/
35)	CS30 D14-Terphenyl	29.44	244.0	50843	19.10	ug/L	8
40)	*CI75 D12-Perylene	37.00	264.0	108959	40.00	ug/L	9

* Compound is ISTD

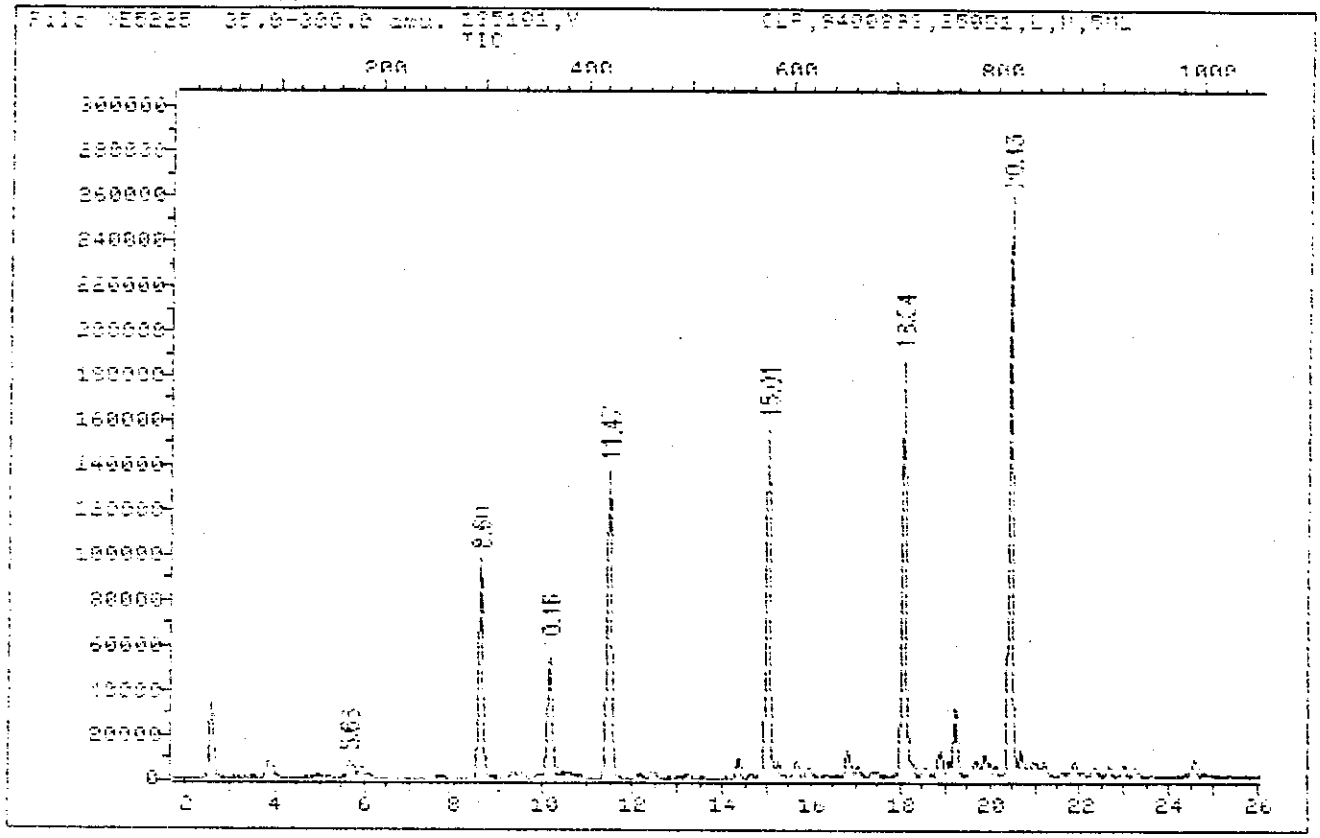
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135101
Client Sample ID: 250D1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198



Data File: >E5225::D5 Quant Output File: ^E5225::D8
Name: 135101,U
Misc: CLP,9400893,2501.L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: PITA
Quant Time: 940321 13:55
Injected at: 940321 13:24

QUANT REPORT

Operator ID: PITA
Output File: ^E5225::D8
Data File: >E5225::D5
Name: 135161,U
Misc: CLP,940893,25001,L,W,5ML

Quant Rev: 6 Quant Time: 940321 11:4-
Injected at: 940321 17:24
Dilution Factor: 1.0000

ID File: IDCLPS::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

EAQ-195

	Compound	RS	R.T.	Q ion	Area	Conc	Units	
1)	*C101 Bromochloromethane	IS-1	8.60	128.0	9e18?	50.00	UG/L	
6)	C030 Methylene Chloride	B=4	5.66	84.0	62?1	2.63	UG/L	
13)	C519 Cis-1,2-Dichloroethene	SS1	10.16	65.6	1?9227	45.62	UG/L	
14)	*C130 1,4-Difluorobenzene	IS-2	11.47	114.0	3?0429	50.00	UG/L	
18)	*C120 Chlorobenzene-D5	IS-3	16.84	117.0	2?6457	50.00	UG/L	
20)	C595 Cis-Toluene	SS-2	19.01	98.0	?30?77	47.70	UG/L	
22)	C519 Bromofluorobenzene	SS-3	20.43	95.0	2?19?2	51.11	UG/L	

* Compound is ISTD

000052

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

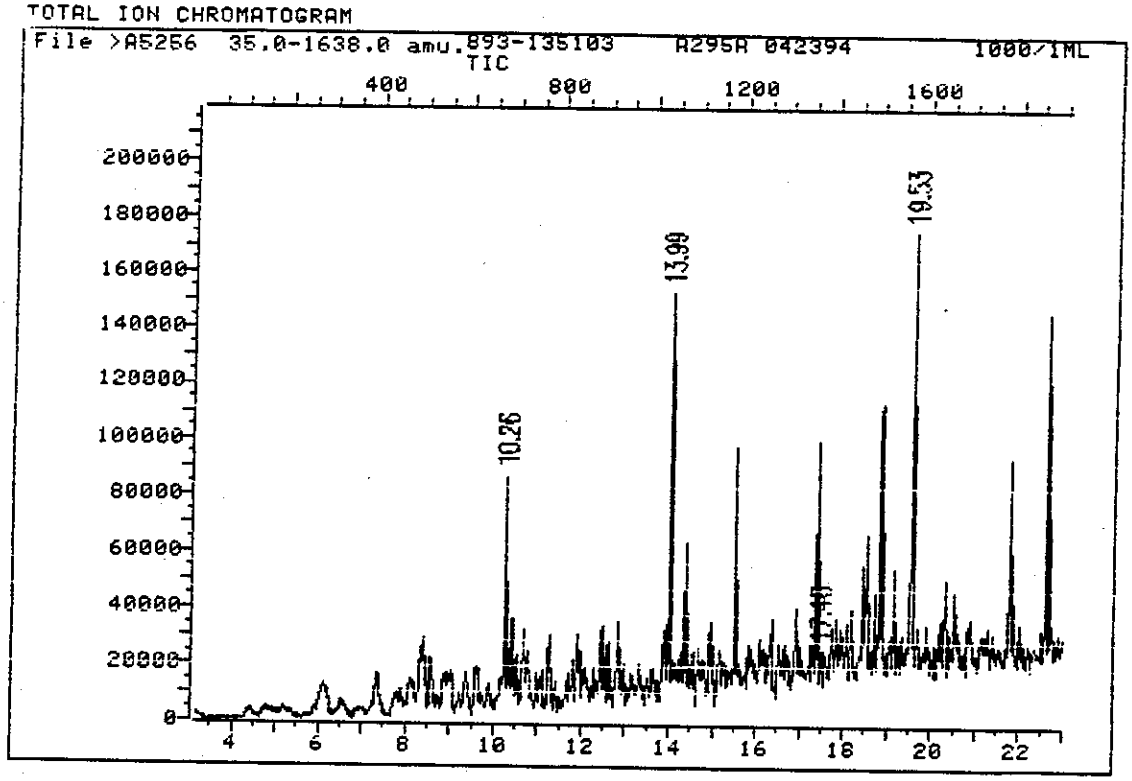
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135103
Client Sample ID: 251S1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	100	U	ug/L	78.	04/23/1994	jig	10	4
Benzo(b)Fluoranthene	100	U	ug/L	48.	04/23/1994	jig	10	4
Benzo(a)Pyrene	100	U	ug/L	25.	04/23/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	100	U	ug/L	25.	04/23/1994	jig	10	4
Chrysene	100	U	ug/L	25.	04/23/1994	jig	10	4
Dibenz(a,h)Anthracene	100	U	ug/L	25.	04/23/1994	jig	10	4
Indene	100	U	ug/L	100.	04/23/1994	jig	10	4

TOTAL ION CHROMATOGRAM



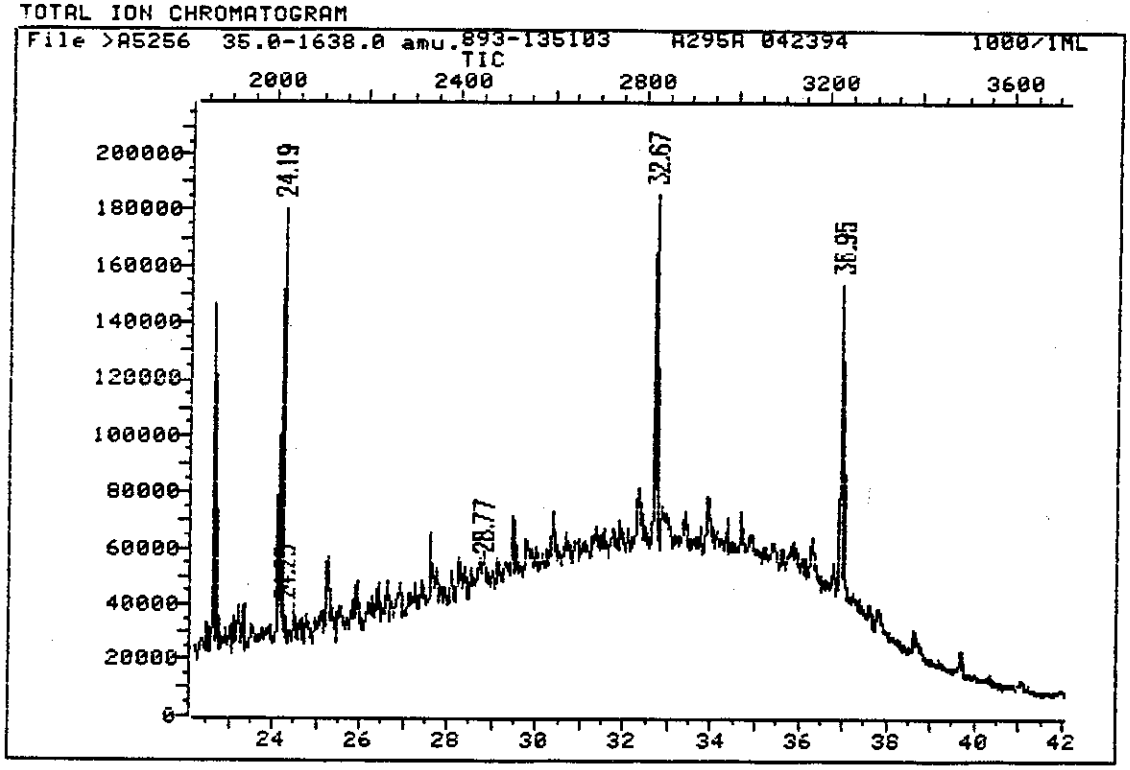
Data File: >A5256::E5 Quant Output File: ^A5256::D5
Name: 893-135103 A295A
Misc: 042394 1000/1ML 10X HP5970 A BTL# 2

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940423 13:06
Injected at: 940423 12:21

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5256::E5 Quant Output File: ^A5256::D5
Name: 893-135103 A295A
Misc: 042394 1000/1ML 10X HP5970 A BTL# 2

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940423 13:06
Injected at: 940423 12:21

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940423 13:06
Output File: ^A5256::D5 Injected at: 940423 12:21
Data File: >A5256::E5 Dilution Factor: 1.00000
Name: 893-135103 A295A
Misc: 042394 1000/1ML 10X HP5970 A BTL# 2

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.26	152.0	33488	40.00	ug/L	3
15)	*CI40 D8-Naphthalene	13.99	136.0	126593	40.00	ug/L	92
21)	*CI50 D10-Acenaphthene	19.53	164.0	73603	40.00	ug/L	95
22)	CS25 2-Fluorobiphenyl	17.46	172.0	7026	2.74	ug/L	>
28)	*CI60 D10-Phenanthrene	24.19	188.0	127739	40.00	ug/L	99
29)	C640 Phenanthrene	24.25	178.0	8600	2.43	ug/L	95
33)	*CI70 D12-Chrysene	32.67	240.0	110124	40.00	ug/L	7
34)	C715 Pyrene	28.77	202.0	5617	1.31	ug/L	93
35)	CS30 D14-Terphenyl	29.38	244.0	2170M	.75	ug/L	
40)	*CI75 D12-Perylene	36.95	264.0	127165	40.00	ug/L	4

* Compound is ISTD

000056

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

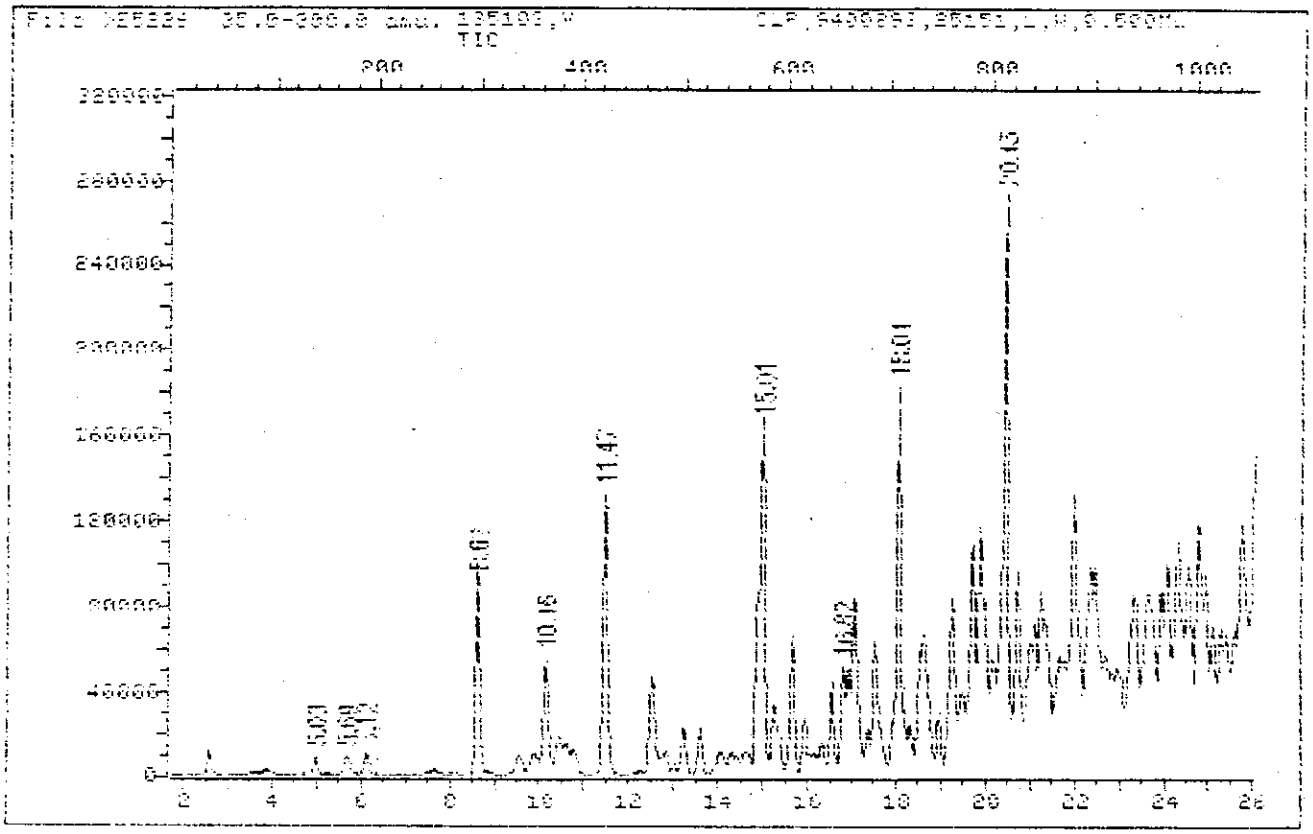
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135103
Client Sample ID: 251S1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	40.	U	ug/L	40.	03/21/1994	res		198
Toluene	60.	U	ug/L	60.	03/21/1994	res		198
Ethylbenzene	60.	U	ug/L	60.	03/21/1994	res		198
m+p-Xylenes	50.	U	ug/L	50.	03/21/1994	res		198

TOTAL ION CHROMATOGRAM



Data File: >E5226::D5 Quant Output File: ^E5226::D8
Name: 135103.V
Misc: CLP,9400893,25151,L,W,0.500ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: PITA
Quant Time: 940322 14:32
Injected at: 940321 14:01

QUANT REPORT

Operator ID: RITA
Outout File: ^E5226::08
Data File: >E5226::05
Name: 175103,U
Misc: CLP,9400893,25151,L,W,0.500ML

Quant Rev: 6 Quant Time: 940321 14:32
Injected at: 940321 14:01
Dilution Factor: 1.00000

ID File: IDCLPE::04
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

EAQ-198

	Compound	RS		R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane		IS-1	8.62	128.0	96226	50.00	UG/L	8
6)	C030 Methylene Chloride	B-4		5.69	84.0	7353	3.10	UG/L	
7)	C035 Acetone			5.00	43.0	32477	93.45	UG/L	78
13)	CS15 D4-1,2-Dichloroethane		SS1	10.16	65.0	178771	46.68	UG/L	87
16)	*CI10 1,4-Difluorobenzene		IS-2	11.47	114.0	379086	50.00	UG/L	
~~14~~	~~C175 Vinyl Acetate~~			6.12	43.0	5001	~~4.56~~	UG/L	97
~~25~~	~~C160 1,1,2-Trichloroethane~~			16.82	97.0	10120	~~4.79~~	UG/L	67
29)	*CI20 D5-Chlorobenzene		IS-3	18.04	117.0	282917	50.00	UG/L	
35)	CS05 D8-Toluene		SS-2	19.01	98.0	332723	50.46	UG/L	99
42)	CS10 Bromofluorobenzene		SS-3	20.43	95.0	238146	51.24	UG/L	89

* Compound is ISTD

JCA

High concentration of non target analyte caused sample to be run on dilution.

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

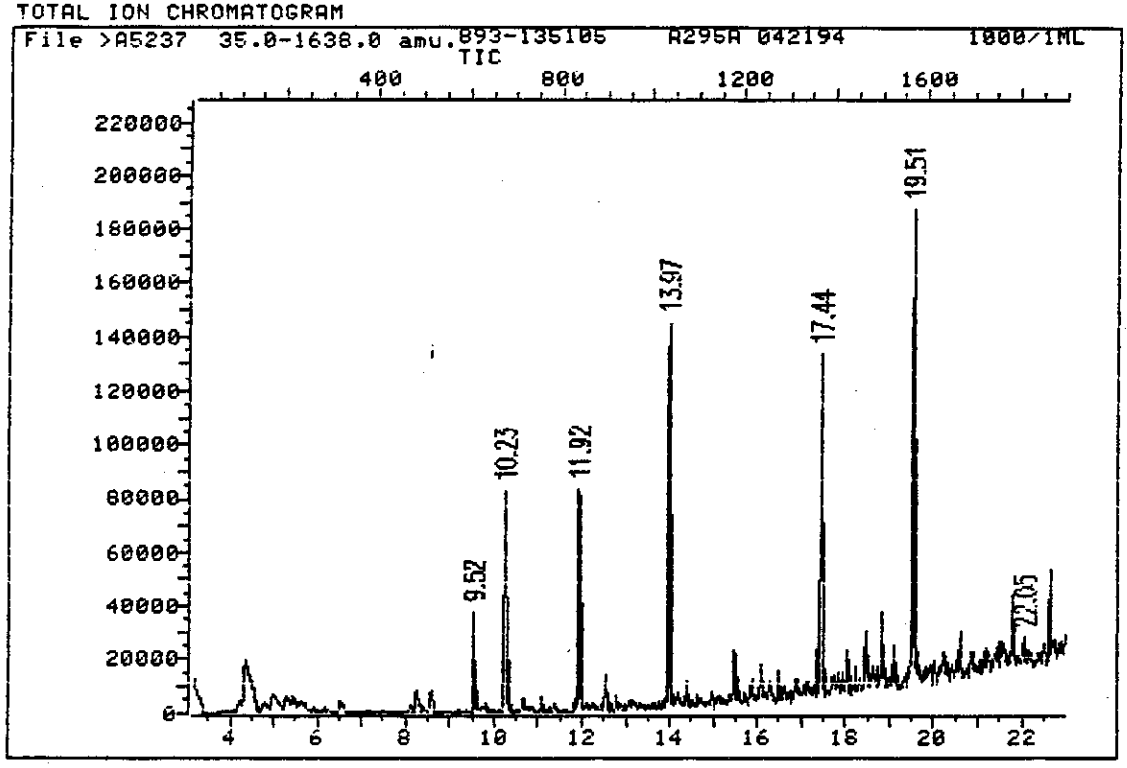
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135105
Client Sample ID: 238S1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.		ug/L	2.5	04/21/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/21/1994	jig	10	4

TOTAL ION CHROMATOGRAM



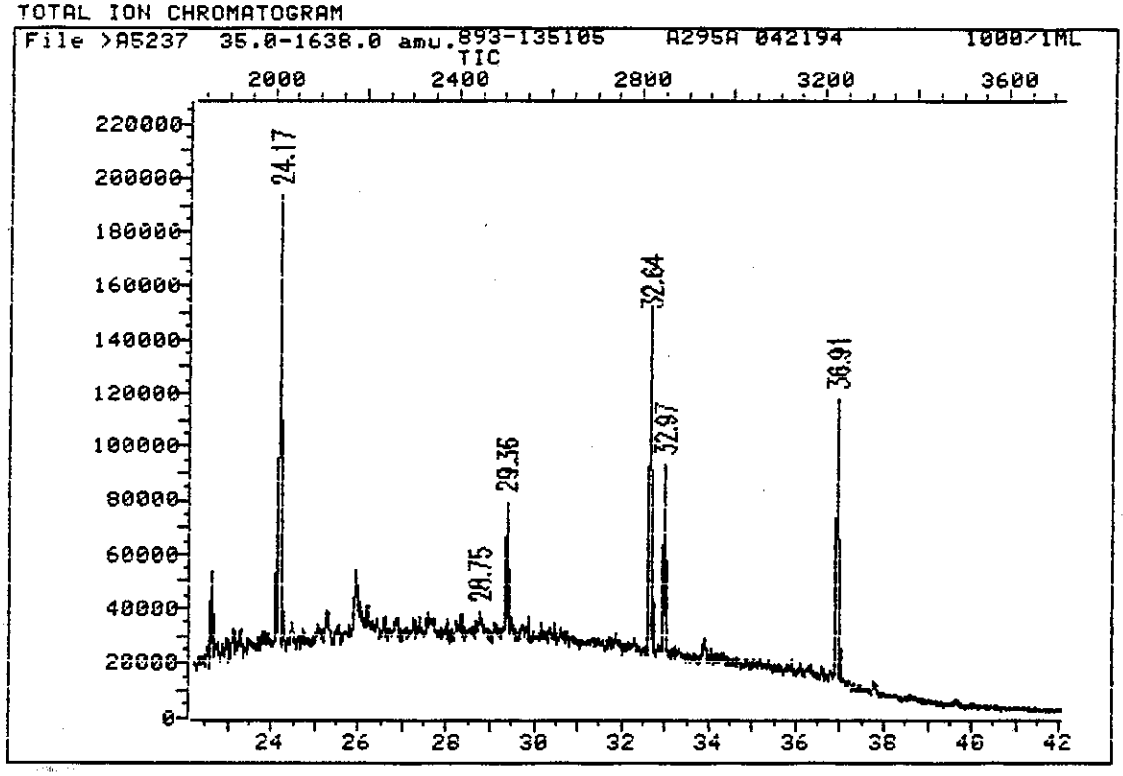
Data File: >A5237::E4 Quant Output File: ^A5237::D3
Name: 893-135105 A295A
Misc: 042194 1000/1ML HP5970 A BTL#13

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 01:22
Injected at: 940422 00:37

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5237::E4 Quant Output File: ^A5237::D3
Name: 893-135105 A295A
Misc: 042194 1000/1ML HP5970 A BTL#13

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 01:22
Injected at: 940422 00:37

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940422 01:22
Output File: ^A5237::D3 Injected at: 940422 00:37
Data File: >A5237::E4 Dilution Factor: 1.00000
Name: 893-135105 A295A
Misc: 042194 1000/1ML HP5970 A BTL#13

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.23	152.0	36575	40.00	ug/L	2
3)	CS45 D5-Phenol	9.52	99.0	30825	22.14	ug/L	98
15)	*CI40 D8-Naphthalene	13.97	136.0	132455	40.00	ug/L	93
16)	CS20 D5-Nitrobenzene	11.92	82.0	44827	35.64	ug/L	9
21)	*CI50 D10-Acenaphthene	19.51	164.0	80330	40.00	ug/L	93
22)	CS25 2-Fluorobiphenyl	17.44	172.0	81738	29.19	ug/L	94
27)	CS55 2,4,6-Tribromophenol	22.05	330.0	3060	5.48	ug/L	7
28)	*CI60 D10-Phenanthrene	24.17	188.0	146365	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.64	240.0	119557	40.00	ug/L	95
34)	C715 Pyrene	28.75	202.0	8250	1.78	ug/L	7
35)	CS30 D14-Terphenyl	29.36	244.0	37077	11.76	ug/L	86
39)	C745 bis(2Ethylhexyl)phthalate	32.97	149.0	41713	10.36	ug/L	9
40)	*CI75 D12-Perylene	36.91	264.0	119337	40.00	ug/L	

* Compound is ISTD

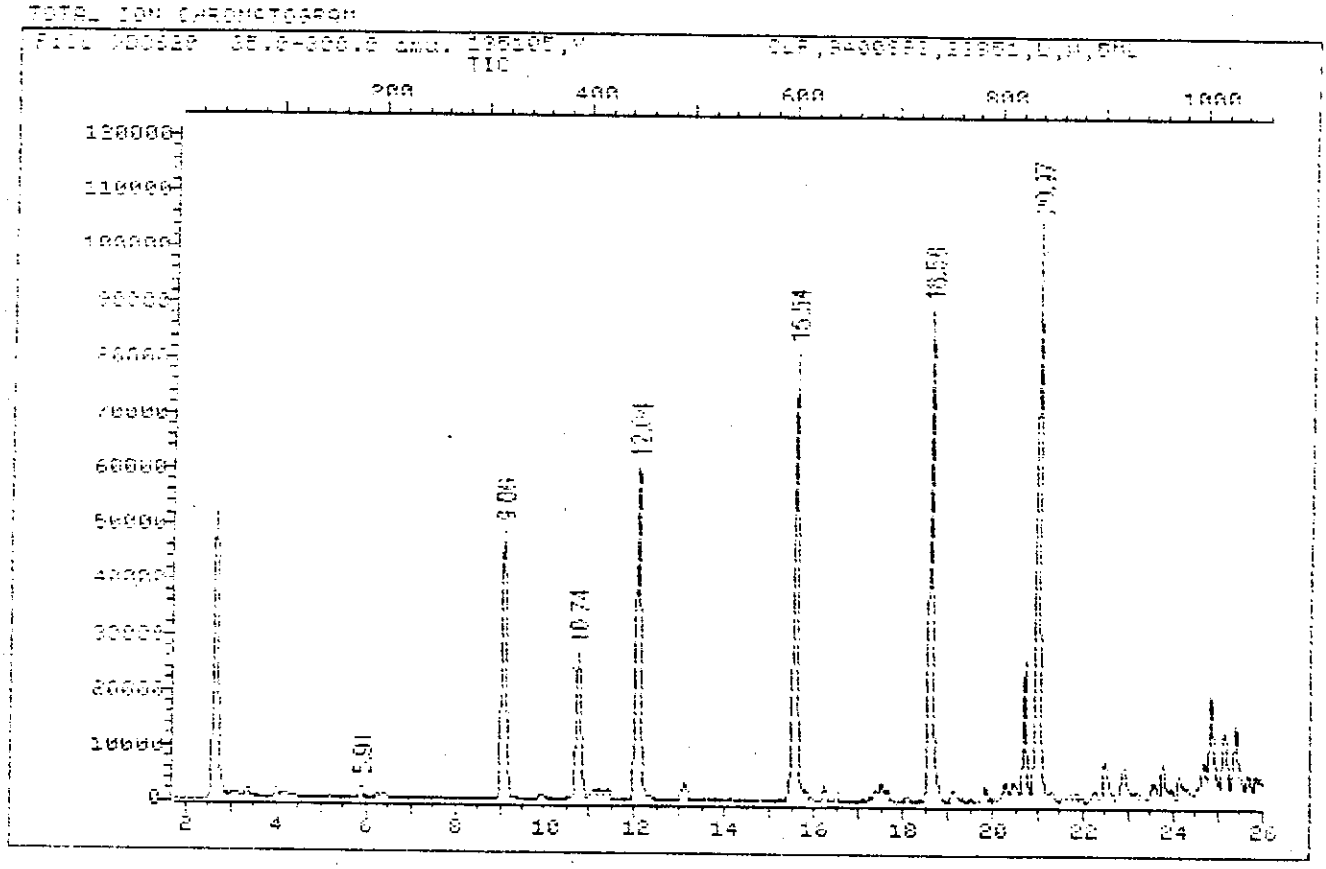
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135105
Client Sample ID: 238S1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/19/1994	res		201
Toluene	6.0	U	ug/L	6.0	03/19/1994	res		201
Ethylbenzene	6.0	U	ug/L	6.0	03/19/1994	res		201
m+p-Xylenes	5.0	U	ug/L	5.0	03/19/1994	res		201



Data File: >D0620::D1 Quant Output File: ^D0620::D3
Name: 139105,U
Misc: CLP,9400893,23851,L,W,5ML

Id File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940719 09:41

Operator ID: BURT
Quant Time: 940719 14:50
Injected at: 940719 14:19

QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940719 14:50
Output File: ^D0620::03 Injected at: 940719 14:19
Data File: >D0620::01 Dilution Factor: 1.00000
Name: 179109,U
Misc: CLP,9400893,23851,L.W,5ML

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940719 09:41

	Compound		R.T.	Q ion	Area	Conc	Units	Q
1)	*C101 Bromochloromethane	IS-1	9.06	128.0	53692	50.00	UG/L	87
6)	C030 Methylene Chloride		9.91	84.0	2e31	2.65	UG/L	92
13)	C515 D4-1,2-Dichloroethane	SS1	10.74	65.0	77089	52.73	UG/L	93
30)	*C110 1,4-Difluorobenzene	IS-2	12.04	114.0	180175	50.00	UG/L	0
99)	*C120 D5-Chlorobenzene	IS-3	18.98	117.0	161962	50.00	UG/L	92
75)	C505 D8-Toluene	SS-2	15.54	98.0	173178	48.84	UG/L	93
40)	C510 Bromofluorobenzene	SS-3	20.97	95.0	123359	50.94	UG/L	91

* Compound is ISTD

000066

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

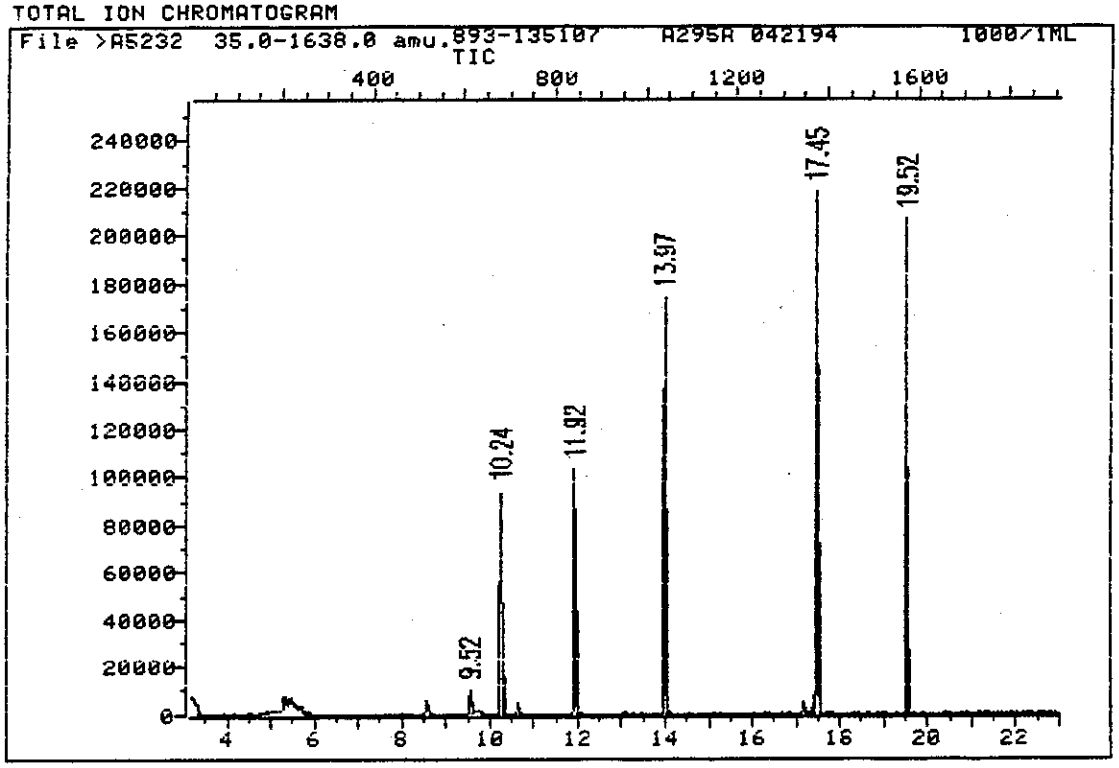
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135107
Client Sample ID: 229S1 +QC

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	1.7	J	ug/L	2.5	04/21/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/21/1994	jig	10	4

TOTAL ION CHROMATOGRAM



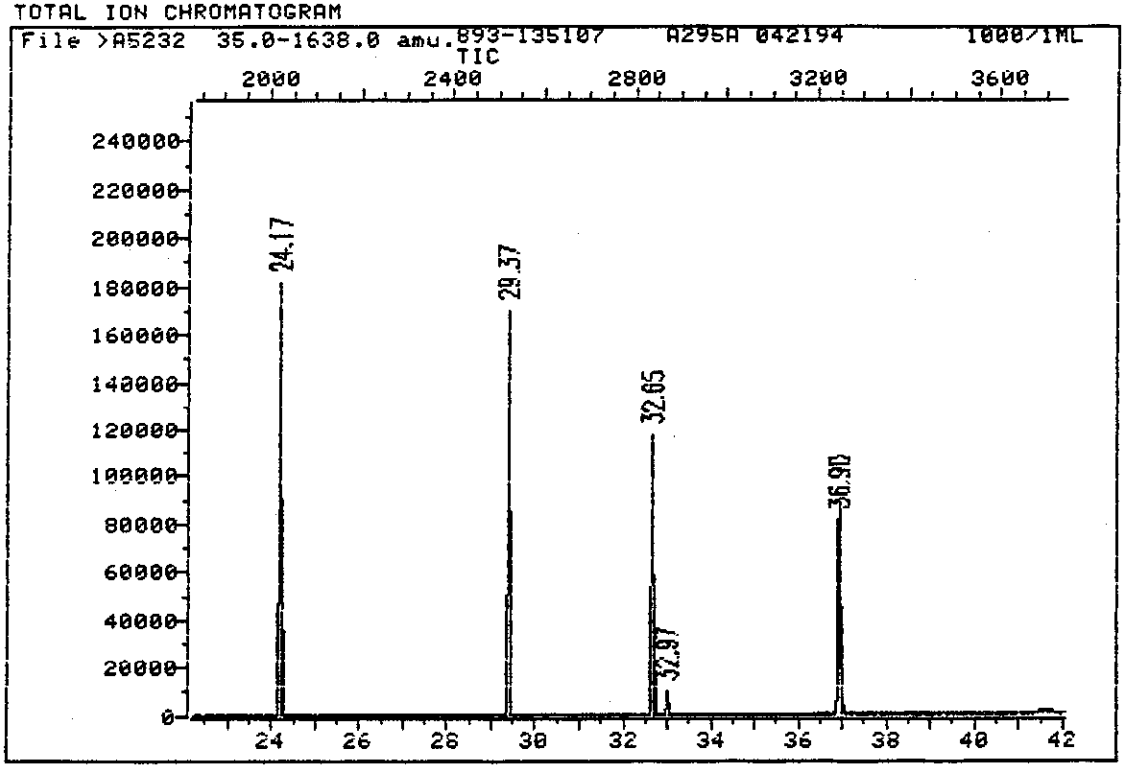
Data File: >A5232::E4 Quant Output File: ^A5232::D3
Name: 893-135107 A295A
Misc: 042194 1000/1ML HP5970 A BTL# 8

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 21:09
Injected at: 940421 20:23

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5232::E4 Quant Output File: ^A5232::D3
Name: 893-135107 A295A
Misc: 042194 1000/1ML HP5970 A BTL# 8

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 21:09
Injected at: 940421 20:23

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940421 21:09
Output File: ^A5232::D3 Injected at: 940421 20:23
Data File: >A5232::E4 Dilution Factor: 1.00000
Name: 893-135107 A295A
Misc: 042194 1000/1ML HP5970 A BTL# 8

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.24	152.0	42932	40.00	ug/L	7
3)	CS45 D5-Phenol	9.52	99.0	8422	5.15	ug/L	9
15)	*CI40 D8-Naphthalene	13.97	136.0	154387	40.00	ug/L	90
16)	CS20 D5-Nitrobenzene	11.92	82.0	63833	43.55	ug/L	3
21)	*CI50 D10-Acenaphthene	19.52	164.0	93828	40.00	ug/L	95
22)	CS25 2-Fluorobiphenyl	17.45	172.0	132895	40.63	ug/L	94
28)	*CI60 D10-Phenanthrene	24.17	188.0	162763	40.00	ug/L	9
33)	*CI70 D12-Chrysene	32.65	240.0	111961	40.00	ug/L	95
35)	CS30 D14-Terphenyl	29.37	244.0	138056	46.76	ug/L	85
39)	C745 bis(2Ethylhexyl)phthalate	32.97	149.0	6451	1.71	ug/L	1
40)	*CI75 D12-Perylene	36.90	264.0	108766	40.00	ug/L	94

* Compound is ISTD

000070

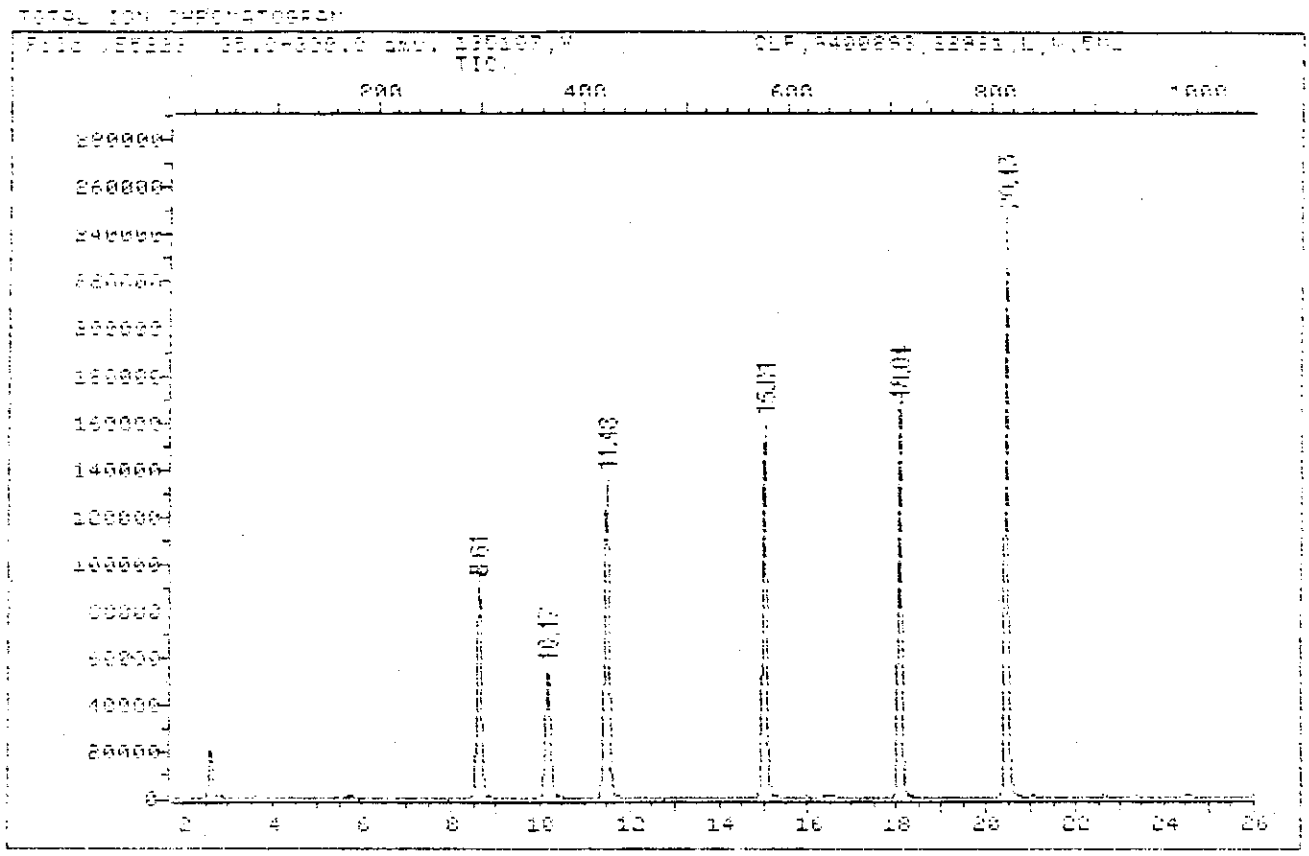
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135107
Client Sample ID: 229S1 +QC

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198



Data File: >E5228::06 Quant Output File: ^E5228::08
Name: 135107.U
Misc: CLP 9400893.22951.L,W,5ML

Id File: IDCLPE::04
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: PITA
Quant Time: 940321 15:48
Injected at: 940321 15:17

QUANT REPORT

Operator ID: RITA
Output File: ^E9228::D8
Data File: >E9228::D6
Name: 135107,U
Misc: CLP,9400893,2?9S1,L.W,5ML

Quant Rev: 6 Quant Time: 940721 15:4?
Injected at: 940321 18:17
Dilution Factor: 1.00000

ID File: IOOLFE::04
Title: AQUEOUS CLP ID
Last Calibration: 940321 08:57

EA8-199

	Compound	RS	R.T.	Q ion	Area	Conc	Units	%
1)	*C191 Bromochloromethane	IS-1	8.61	128.0	96598	50.00	UG/L	96
2)	C915 D4-1,2-Dichloroethane	SS1	10.17	65.0	183?54	47.??	UG/L	9?
3)	*C110 1,4-Difluorobenzene	IS-2	11.48	114.0	381082	50.00	UG/L	??
4)	*C12? D5-Chlorobenzene	IS-3	18.04	117.0	9812?6	50.00	UG/L	95
5)	C905 D8-Toluene	SS-2	15.01	98.0	331045	5?.??	UG/L	??
6)	C910 Bromofluorobenzene	SS-3	20.43	95.0	2??4?3	52.??	UG/L	95

* Compound is ISTD

000073

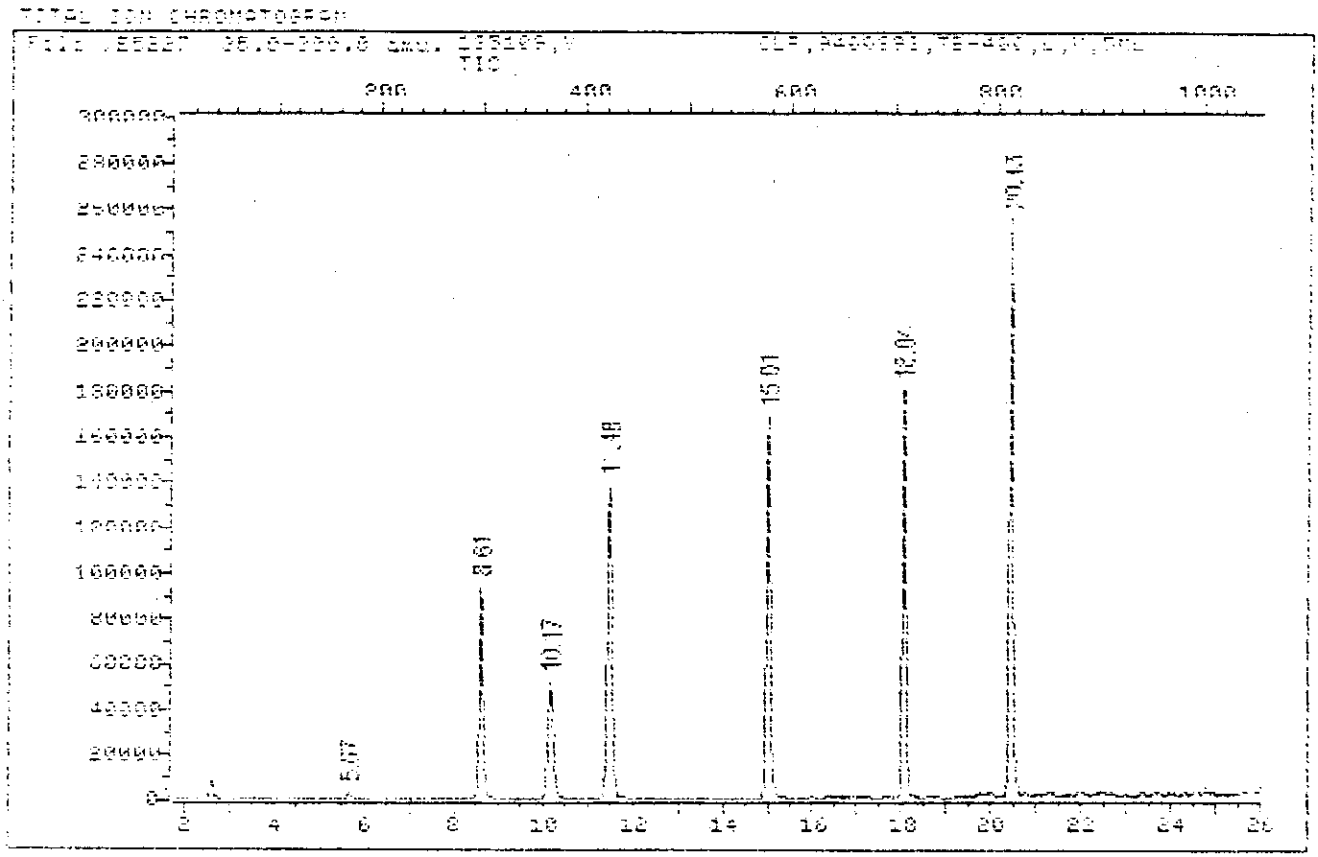
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00893
NET Sample No: 135109
Client Sample ID: TB-400

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198



Data File: >E5227::D6 Quant Output File: ~E5227::D8
Name: 135109,U
Misc: CLP,9400893,TB-400,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: RITA
Quant Time: 940321 15:12
Injected at: 940321 14:41

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940721 15:12
Output File: ^E5227::D8 Injected at: 940721 14:41
Data File: >E5227::D6 Dilution Factor: 1.00000
Name: 135109,U
Misc: CLP,9400893,TB-400,L,W,5ML

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940721 09:57

		Compound	RS	R.T.	Q ion	Area	Conc	Units	
1)	*C101	Bromochloromethane	IS-1	8.61	128.0	92042	50.00	UG/L	9
6)	C030	Methylene Chloride	B=4	5.67	84.0	3190	1.40	UG/L	
13)	C519	D4-1,2-Dichloroethane	SS1	10.17	65.0	175366	47.68	UG/L	9
36)	*C110	1,4-Difluorobenzene	IS-2	11.48	114.0	396780	50.00	UG/L	68
39)	*C100	Chlorobenzene-D5	IS-3	18.04	117.0	304186	50.00	UG/L	
35)	C905	D8-Toluene	SS-2	15.01	98.0	344904	48.58	UG/L	95
49)	C510	Bromofluorobenzene	SS-3	20.43	95.0	251323	50.22	UG/L	90

* Compound is ISTD

000076

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

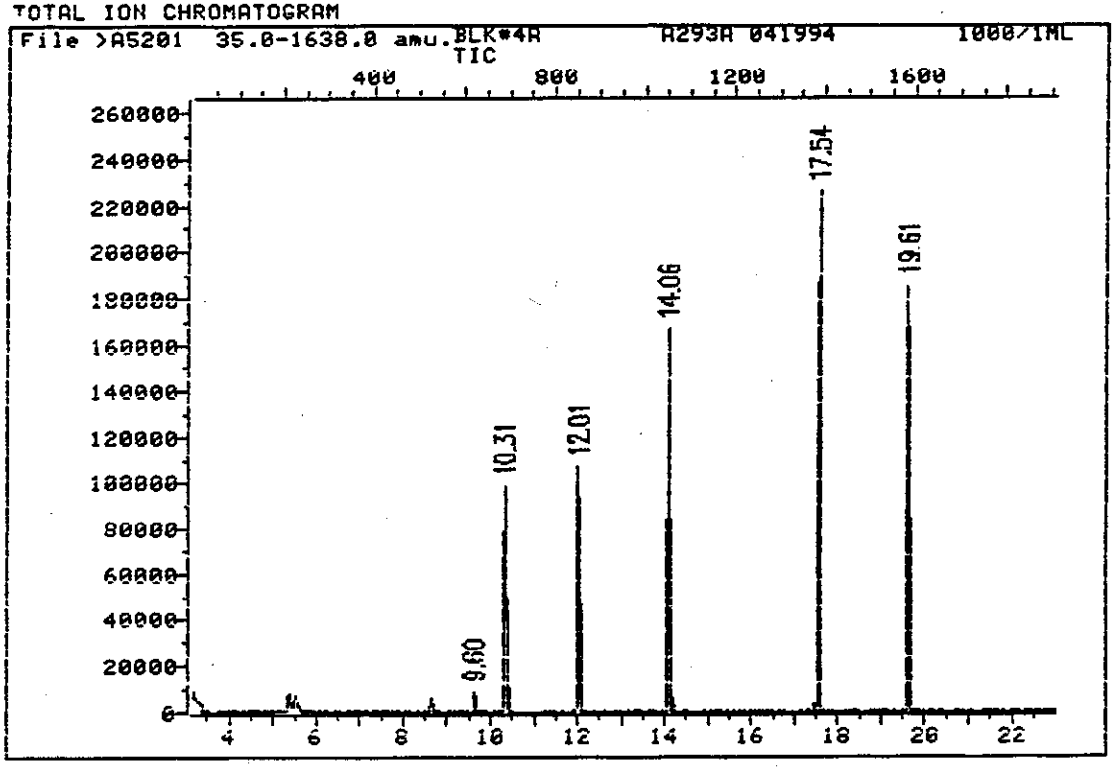
CLIENT ENSR Consulting

REPORT # 94.00893

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>A5201	04/19/94	BN	Aq	---	No Targets Found	NA	ug/L	NA
>A5227	04/21/94	BN	Aq	---	No Targets Found	NA	ug/L	NA

COMMENTS:

TOTAL ION CHROMATOGRAM



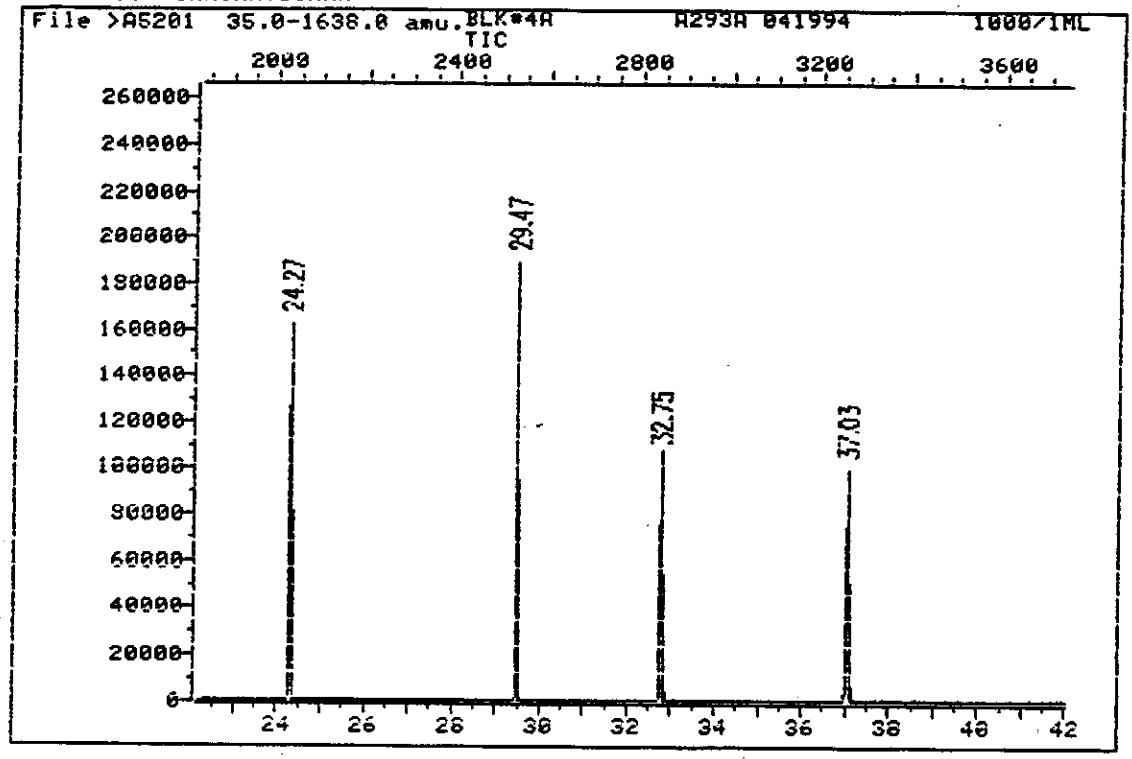
Data File: >A5201::E2 Quant Output File: ^A5201::D5
Name: BLK#4A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 6

Id File: IASKNR::D4
Title: SP Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 15:44
Injected at: 940419 14:58

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5201::E2 Quant Output File: ^A5201::D5
Name: BLK#4A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 6

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 15:44
Injected at: 940419 14:58

TIC page 2 of 2

QUANT REPORT

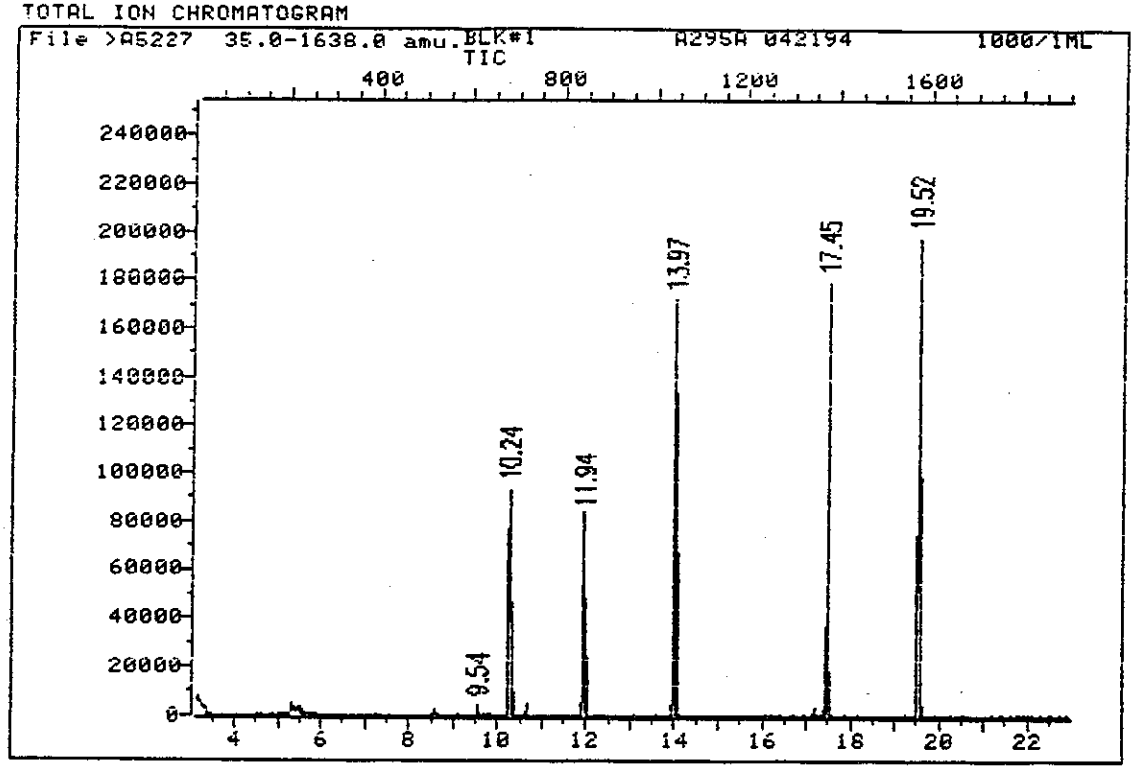
Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 15:44
Output File: ^A5201::D5 Injected at: 940419 14:58
Data File: >A5201::E2 Dilution Factor: 1.00000
Name: BLK#4A A293A
Misc: 041994 1000/1ML HP5970 A BtL# 6

ID File: IASKNR::D4
Title: SP Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	42463	40.00	ug/L	(9
3)	CS45 D5-Phenol	9.60	99.0	6844	4.23	ug/L	99
15)	*CI40 D8-Naphthalene	14.06	136.0	150427	40.00	ug/L	95
16)	CS20 D5-Nitrobenzene	12.01	82.0	65546	45.89	ug/L	(1
21)	*CI50 D10-Acenaphthene	19.61	164.0	87412	40.00	ug/L	97
22)	CS25 2-Fluorobiphenyl	17.54	172.0	138518	45.46	ug/L	94
28)	*CI60 D10-Phenanthrene	24.27	188.0	141282	40.00	ug/L	(9
33)	*CI70 D12-Chrysene	32.75	240.0	104625	40.00	ug/L	96
35)	CS30 D14-Terphenyl	29.47	244.0	155047	56.19	ug/L	85
40)	*CI75 D12-Perylene	37.03	264.0	117973	40.00	ug/L	>

* Compound is ISTD

TOTAL ION CHROMATOGRAM



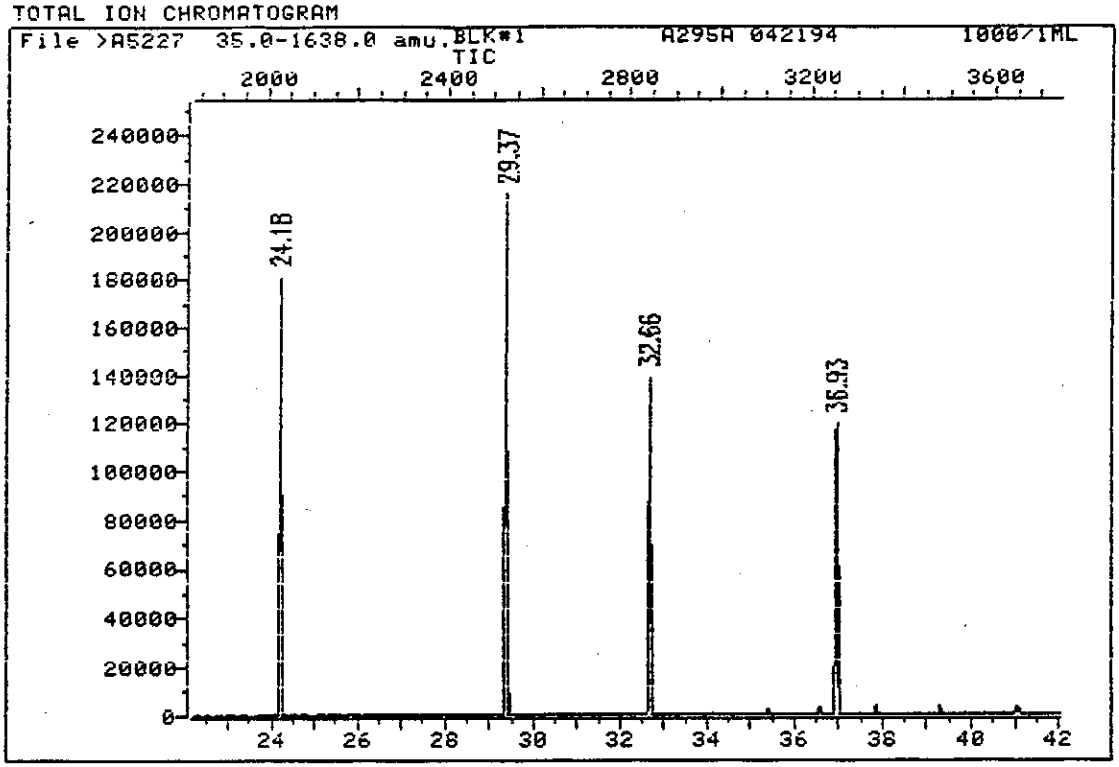
Data File: >A5227::E4 Quant Output File: ^A5227::D3
Name: BLK#1 A295A
Misc: 042194 1000/1ML HP5970 A BTL# 3

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 16:54
Injected at: 940421 16:09

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5227::E4 Quant Output File: ^A5227::D3
Name: BLK#1 A295A
Misc: 042194 1000/1ML HP5970 A BTL# 3

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 16:54
Injected at: 940421 16:09

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940421 16:54
Output File: ^A5227::D3 Injected at: 940421 16:09
Data File: >A5227::E4 Dilution Factor: 1.00000
Name: BLK#1 A295A
Misc: 042194 1000/1ML HP5970 A BTL# 3

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.24	152.0	40400	40.00	ug/L	9
3)	CS45 D5-Phenol	9.54	99.0	4369	2.84	ug/L	93
15)	*CI40 D8-Naphthalene	13.97	136.0	149887	40.00	ug/L	94
16)	CS20 D5-Nitrobenzene	11.94	82.0	53985	37.93	ug/L	3
21)	*CI50 D10-Acenaphthene	19.52	164.0	88510	40.00	ug/L	97
22)	CS25 2-Fluorobiphenyl	17.45	172.0	111954	36.29	ug/L	95
28)	*CI60 D10-Phenanthrene	24.18	188.0	159066	40.00	ug/L	9
33)	*CI70 D12-Chrysene	32.66	240.0	129297	40.00	ug/L	98
35)	CS30 D14-Terphenyl	29.37	244.0	170591	50.03	ug/L	85
40)	*CI75 D12-Perylene	36.93	264.0	146967	40.00	ug/L	4

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

CLIENT ENSR Consulting

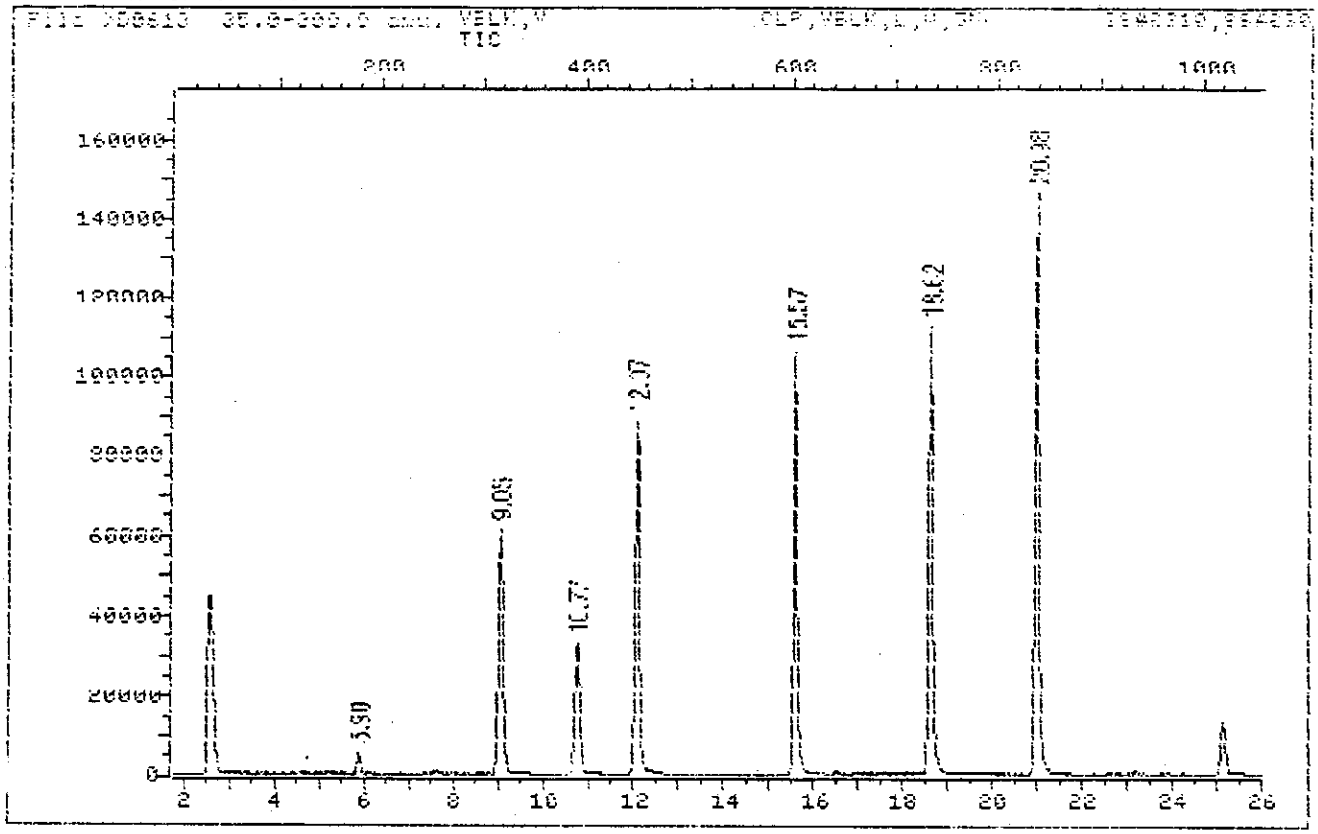
REPORT # 94.00893

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>D0613	03/19/94	VOA	Aq	---	No Targets Found	NA	uq/L	NA
>E5220	03/21/94	VOA	Aq	---	No Targets Found	NA	uq/L	NA

COMMENTS:

000084

TOTAL ION CHROMATOGRAM



Data File: >D0613::D2 Quant Output File: ^D0613::D3
Name: VBLK,U
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

Id File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940319 09:41

Operator ID: BURT
Quant Time: 940319 10:07
Injected at: 940319 09:36

QUANT REPORT

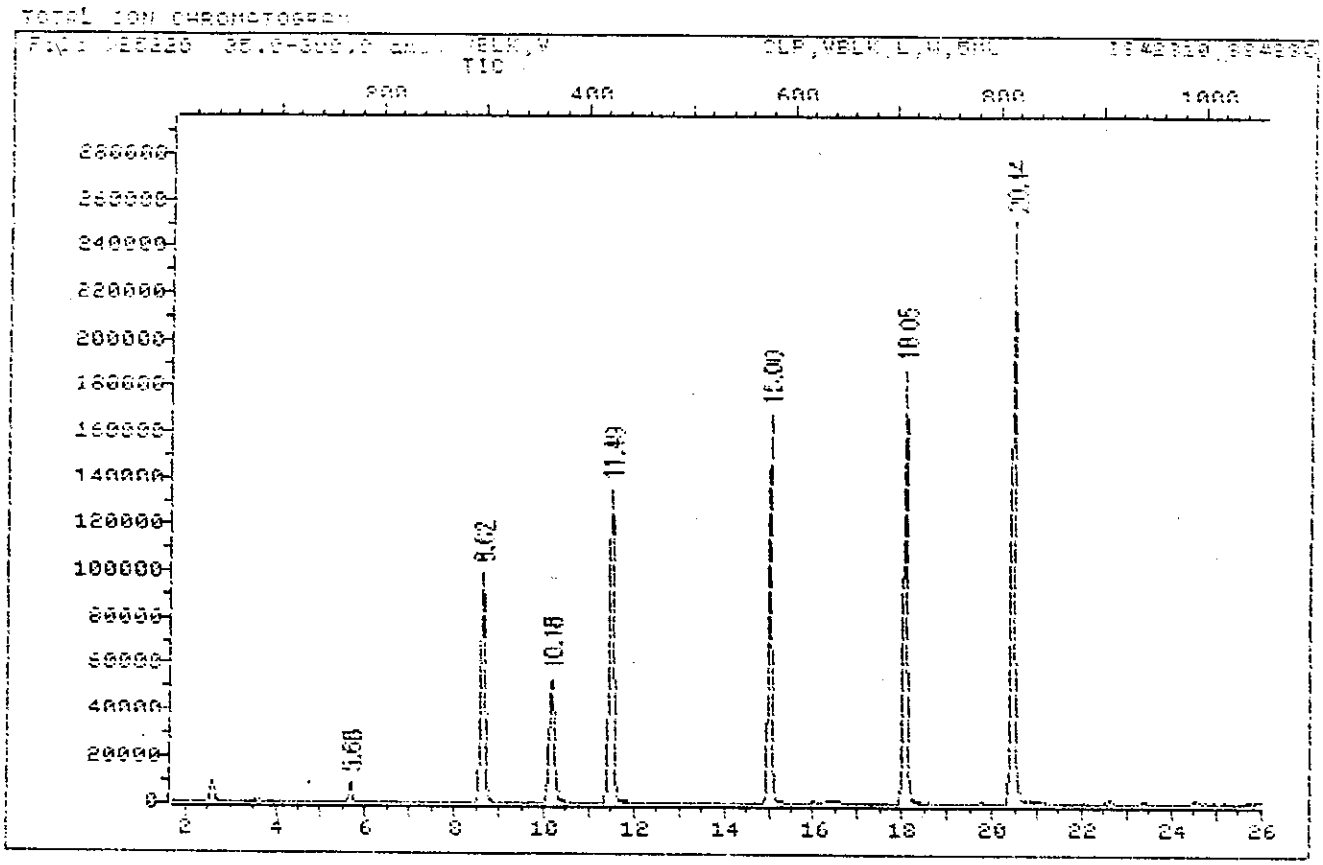
Operator ID: BURT Quant Rev: 6 Quant Time: 940319 10:07
Output File: ^D0613::03 Injected at: 940319 09:36
Data File: >D0613::02 Dilution Factor: 1.00000
Name: VBLK,V
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940319 09:41

	Compound		R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	9.05	128.0	67719	50.00	UG/L	93
6)	C030 Methylene Chloride		5.90	84.0	6241	4.98	UG/L	[illegible]
13)	CS15 D4-1,2-Dichloroethane	SS1	10.77	65.0	93627	50.78	UG/L	98
16)	*CI10 1,4-Difluorobenzene	IS-2	12.07	114.0	276227	50.00	UG/L	67
29)	*CI20 D5-Chlorobenzene	IS-3	18.62	117.0	221250	50.00	UG/L	[illegible]
35)	CS09 D8-Toluene	SS-2	15.57	98.0	240066	49.56	UG/L	94
42)	CS10 Bromofluorobenzene	SS-3	20.98	95.0	163957	49.57	UG/L	79

* Compound is ISTD

JCB



Data File: >E5220::D6 Quant Output File: ^E5220::D8
Name: VBLK,U
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: RITA
Quant Time: 940321 10:38
Injected at: 940321 10:07

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940321 10:38
Output File: ^E5220::D8 Injected at: 940321 10:07
Data File: >E5220::D6 Dilution Factor: 1.00000
Name: VBLK,V
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

	Compound	QCs	R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	8.62	128.0	97416	50.00	UG/L	94
6)	C030 Methylene Chloride		5.68	84.0	10340	4.30	UG/L	
13)	CS15 D4-1,2-Dichloroethane	SS1	10.18	65.0	176432	45.51	UG/L	91
16)	*CI10 1,4-Difluorobenzene	IS-2	11.49	114.0	408161	50.00	UG/L	68
29)	*CI20 D5-Chlorobenzene	IS-3	18.05	117.0	296009	50.00	UG/L	
35)	CS05 D8-Toluene	SS-2	15.00	98.0	347672	50.32	UG/L	99
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	246931	50.71	UG/L	91

* Compound is ISTD

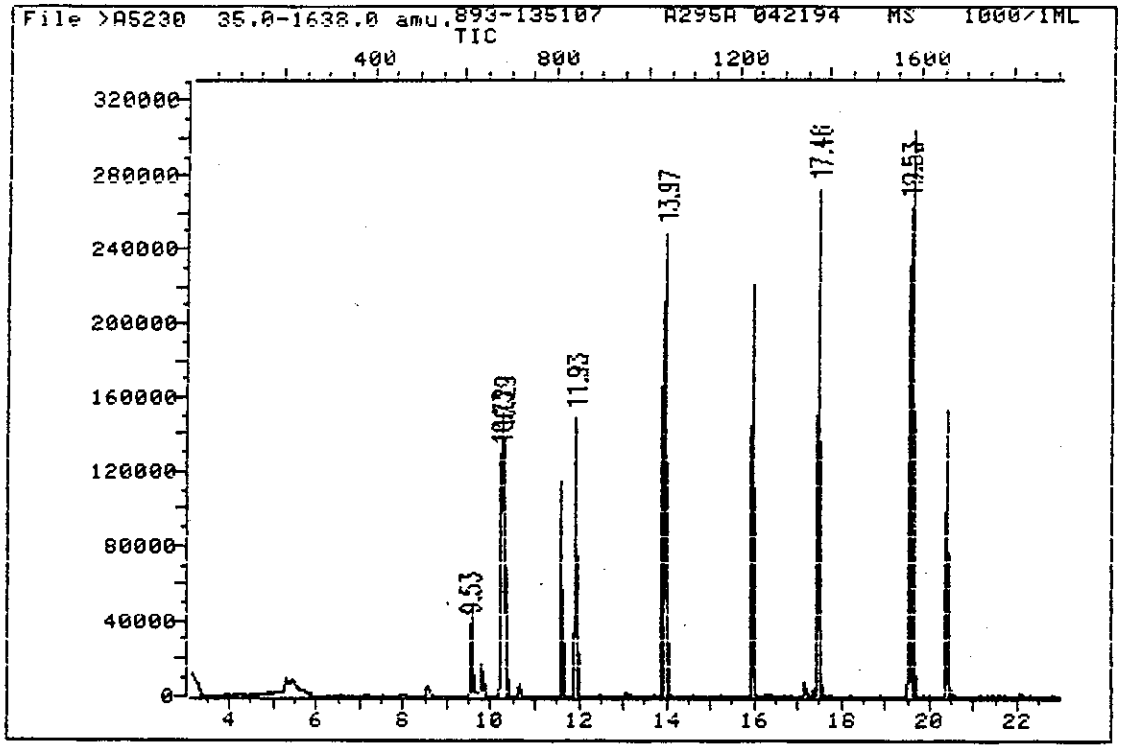
JCD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: A295A
QC Sample Number: 9400893-135107

Compound Name	Spike Added	Sample Result	MS Conc	Percent Recovery	MSD Conc	Percent Recovery	RPD
1,4-Dichlorobenzene	50	N.D.	32	64.00	31	62.00	3.0
Pyrene	50	N.D.	46	92.00	41	82.00	11

TOTAL ION CHROMATOGRAM



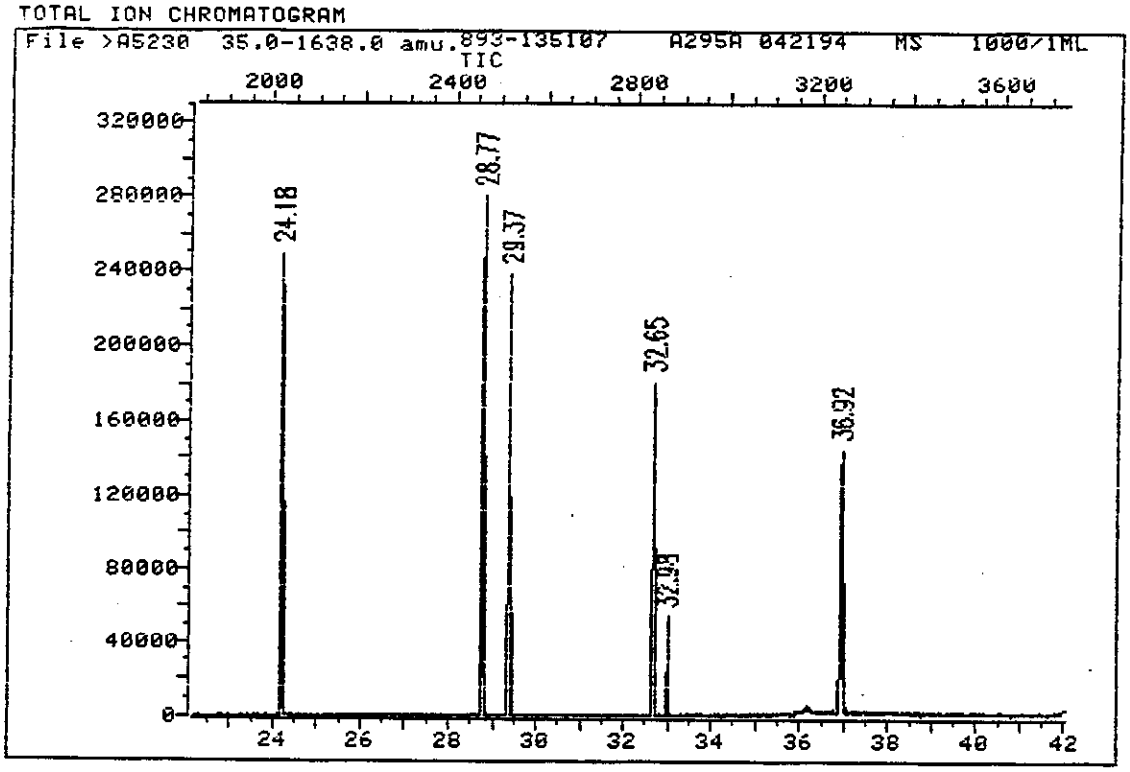
Data File: >A5230::E4 Quant Output File: ^A5230::D3
Name: 893-135107 A295A
Misc: 042194 MS 1000/1ML HP5970 A BTL# 6

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 19:27
Injected at: 940421 18:42

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5230::E4 Quant Output File: ^A5230::D3
Name: 893-135107 A295A
Misc: 042194 MS 1000/1ML HP5970 A BTL# 6

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 19:27
Injected at: 940421 18:42

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940421 19:27
Output File: ^A5230::D3 Injected at: 940421 18:42
Data File: >A5230::E4 Dilution Factor: 1.00000
Name: 893-135107 A295A
Misc: 042194 MS 1000/1ML HP5970 A BTL# 6

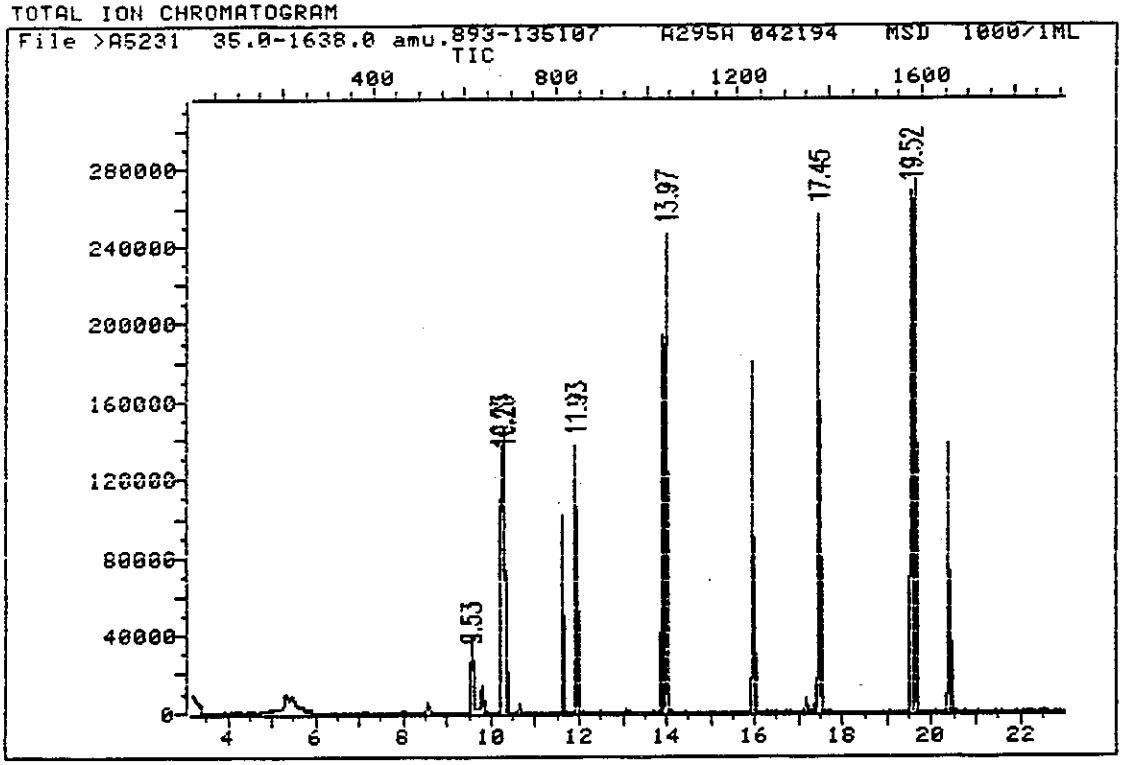
ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.23	152.0	58959	40.00	ug/L	(5
3)	CS45 D5-Phenol	9.53	99.0	26216	11.68	ug/L	9E
9)	C340 1,4-Dichlorobenzene	10.29	146.0	82792	32.46	ug/L	9E
15)	*CI40 D8-Naphthalene	13.97	136.0	218608	40.00	ug/L	(1
16)	CS20 D5-Nitrobenzene	11.93	82.0	90516	43.61	ug/L	9C
21)	*CI50 D10-Acenaphthene	19.53	164.0	130820	40.00	ug/L	97
22)	CS25 2-Fluorobiphenyl	17.46	172.0	175442	38.47	ug/L	(5
28)	*CI60 D10-Phenanthrene	24.18	188.0	230079	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.65	240.0	171669	40.00	ug/L	9E
34)	C715 Pyrene	28.77	202.0	309043	46.41	ug/L	(5
35)	CS30 D14-Terphenyl	29.37	244.0	200909	44.38	ug/L	89
39)	C745 bis(2Ethylhexyl)phthalate	32.98	149.0	31242	5.41	ug/L	89
40)	*CI75 D12-Perylene	36.92	264.0	168202	40.00	ug/L	(1

* Compound is ISTD

000092

TOTAL ION CHROMATOGRAM



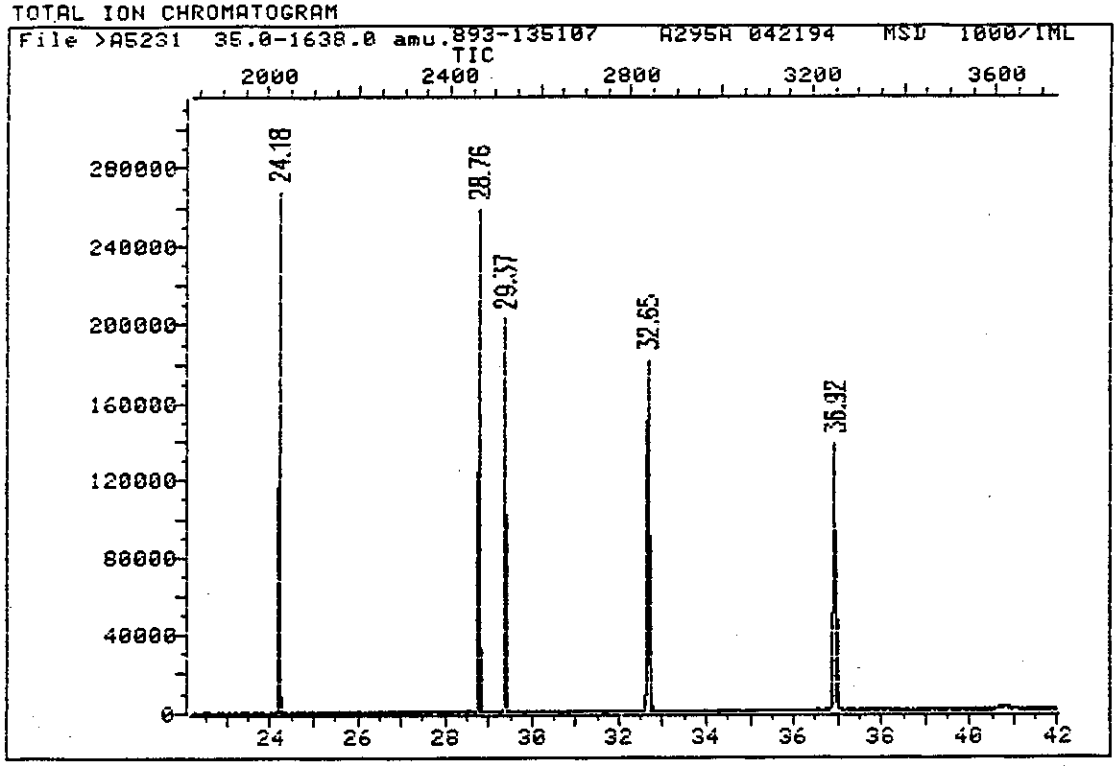
Data File: >A5231::E4 Quant Output File: ^A5231::D3
Name: 893-135107 A295A
Misc: 042194 MSD 1000/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 20:18
Injected at: 940421 19:33

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5231::E4 Quant Output File: ^A5231::D3
Name: 893-135107 A295A
Misc: 042194 MSD 1000/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 20:18
Injected at: 940421 19:33

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940421 20:18
Output File: ^A5231::D3 Injected at: 940421 19:33
Data File: >A5231::E4 Dilution Factor: 1.00000
Name: 893-135107 A295A
Misc: 042194 MSD 1000/1ML HP5970 A BTL# 7

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

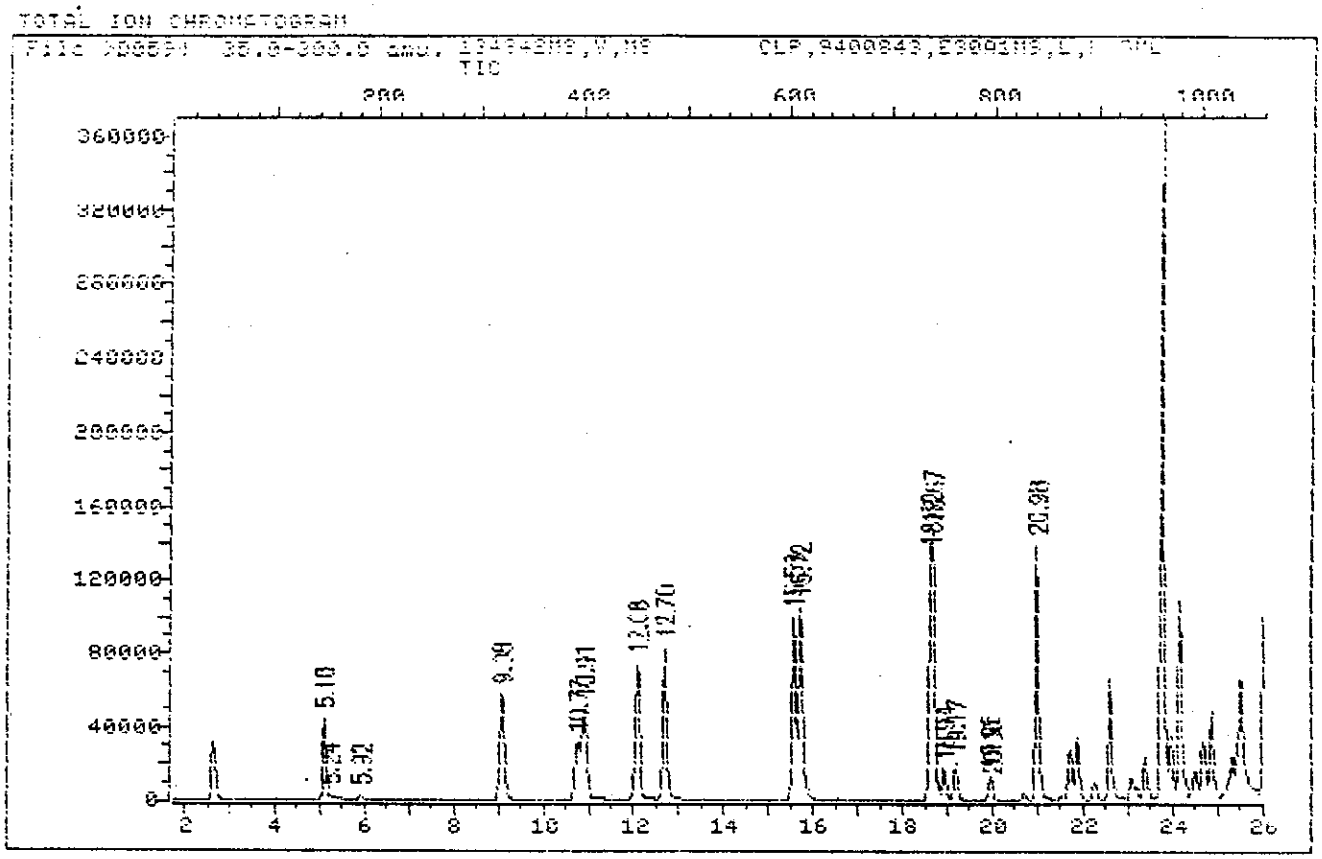
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.23	152.0	58917	40.00	ug/L	(9
3)	CS45 D5-Phenol	9.53	99.0	21945	9.79	ug/L	99
9)	C340 1,4-Dichlorobenzene	10.29	146.0	78258	30.70	ug/L	97
15)	*CI40 D8-Naphthalene	13.97	136.0	215030	40.00	ug/L	(3
16)	CS20 D5-Nitrobenzene	11.93	82.0	82286	40.30	ug/L	92
21)	*CI50 D10-Acenaphthene	19.52	164.0	133687	40.00	ug/L	96
22)	CS25 2-Fluorobiphenyl	17.45	172.0	162246	34.82	ug/L	(3
28)	*CI60 D10-Phenanthrene	24.18	188.0	239001	40.00	ug/L	98
33)	*CI70 D12-Chrysene	32.65	240.0	172131	40.00	ug/L	96
34)	C715 Pyrene	28.76	202.0	273558	40.97	ug/L	(9
35)	CS30 D14-Terphenyl	29.37	244.0	167594	36.92	ug/L	84
40)	*CI75 D12-Perylene	36.92	264.0	169956	40.00	ug/L	9

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: DCLP26A
QC Sample Number: 9400843-134842

Compound Name	Spike Added	Sample Result	MS Conc	Percent Recovery	MSD Conc	Percent Recovery	RPD
1,1-Dichloroethene	50	N.D.	42	85.00	42	85.00	0.0
Trichloroethene	50	N.D.	48	96.00	49	98.00	2.0
Benzene	50	N.D.	51	102.00	52	104.00	2.0
Methylene Chloride	50	N.D.	2	5.00	2	5.00	0.0
Toluene	50	N.D.	56	111.00	58	116.00	4.0
Chlorobenzene	50	N.D.	50	99.00	52	104.00	5.0
Ethylbenzene	50	N.D.	7	14.00	7	15.00	7.0



Data File: >D0594::D1 Quant Output File: ^D0594::D3
Name: 134842MS,V,MS
Misc: CLP,9400843,E30A1MS,L,W,5ML

Id File: DCLPID::QT
Title: D Instrument IOFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

Operator ID: BURT
Quant Time: 940318 14:46
Injected at: 940318 14:15

E30A1+ QCMS 3.11.94

QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940318 14:46
Output File: ^D0594::D3 Injected at: 940318 14:15
Data File: >D0594::D1 Dilution Factor: 1.00000
Name: 134842MS,V,MS
Misc: CLP,9400843,E30A1MS,L,W,5ML

DCLP2.1A

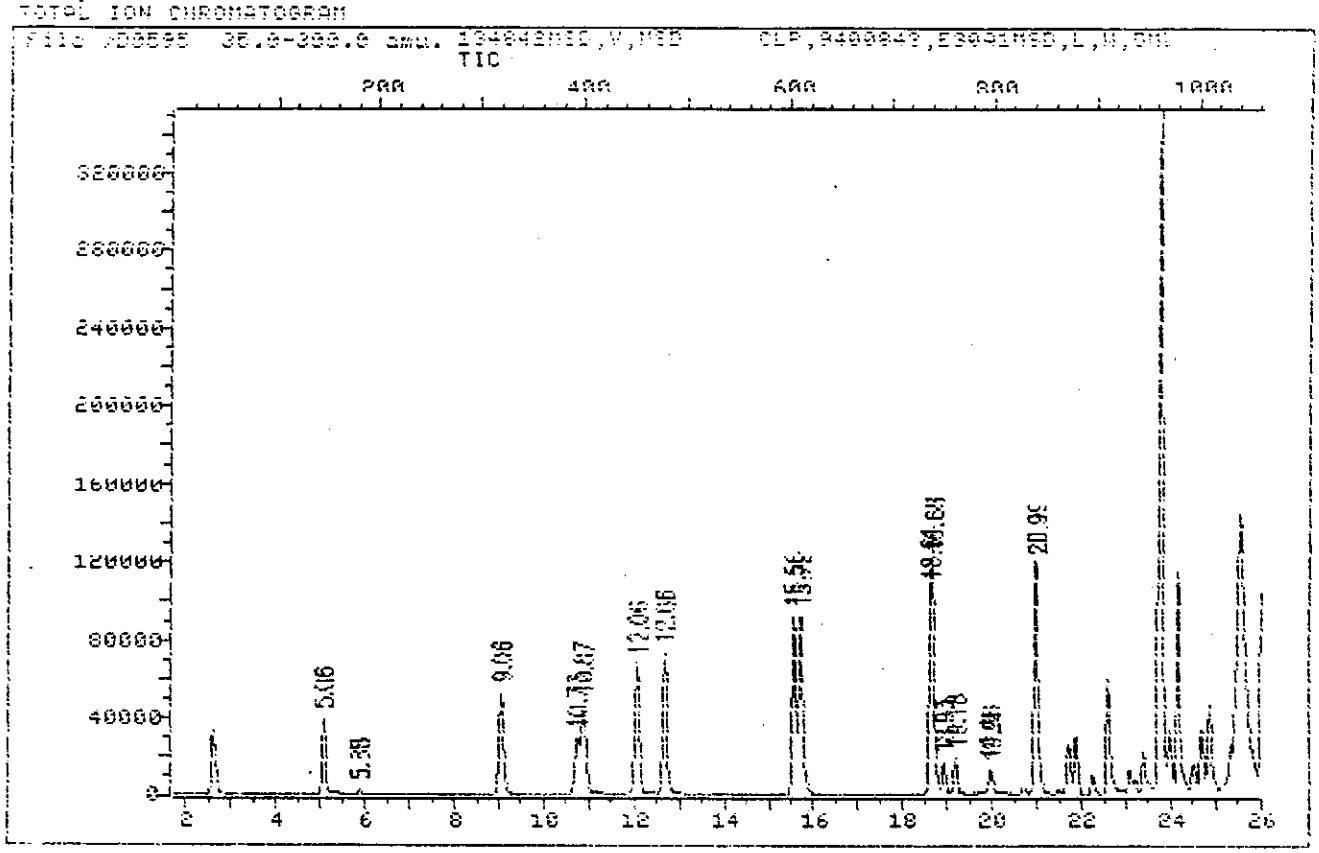
ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	9.08	128.0	61804	50.00	UG/L	
6)	C030 Methylene Chloride		5.92	84.0	2850	2.34	UG/L	80
7)	C035 Acetone		5.24	43.0	2559	11.13	UG/L	91
9)	C045 1,1-Dichloroethene		5.10	96.0	46087	42.32	UG/L	
13)	CS15 D4-1,2-Dichloroethane	SS1	10.77	65.0	86604	46.42	UG/L	97
16)	*CI10 1,4-Difluorobenzene	IS-2	12.08	114.0	230161	50.00	UG/L	69
23)	C150 Trichloroethene		12.70	130.0	106932	48.22	UG/L	
26)	C165 Benzene		10.91	78.0	158917	50.89	UG/L	95
29)	*CI20 D5-Chlorobenzene	IS-3	18.62	117.0	202888	50.00	UG/L	98
34)	C230 Toluene		15.72	91.0	247275	55.63	UG/L	
35)	CS05 D8-Toluene	SS-2	15.58	98.0	229655	50.37	UG/L	93
36)	C235 Chlorobenzene		18.67	112.0	185297	49.68	UG/L	88
37)	C240 Ethylbenzene		18.94	106.0	11638	7.23	UG/L	
38)	C245 Styrene		20.00	104.0	5363	1.65	UG/L	84
39)	C250 Xylene (total)		19.17	106.0	27540M	14.27	UG/L	90
40)	meta+para XYLENE		19.17	106.0	18335	9.36	UG/L	
41)	ortho XYLENE		19.95	106.0	9213	4.77	UG/L	95
42)	CS10 Bromofluorobenzene	SS-3	20.98	95.0	158015	50.99	UG/L	80

* Compound is ISTD

JB

TOTAL ION CHROMATOGRAM



Data File: >D0595::D1 Quant Output File: ^D0595::D3
Name: 134842MSD,V,MSD
Misc: CLP,9400843,E30A1MSD,L,W,5ML

Id File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

Operator ID: BURT
Quant Time: 940318 15:23
Injected at: 940318 14:51

E30A1+QCMSD 3.11.94

QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940318 15:23
Output File: ^D0595::D3 Injected at: 940318 14:51
Data File: >D0595::D1 Dilution Factor: 1.00000
Name: 134842MSD,U,MSD
Misc: CLP,9400843,E30A1MSD,L,W,5ML

DCLP26a

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

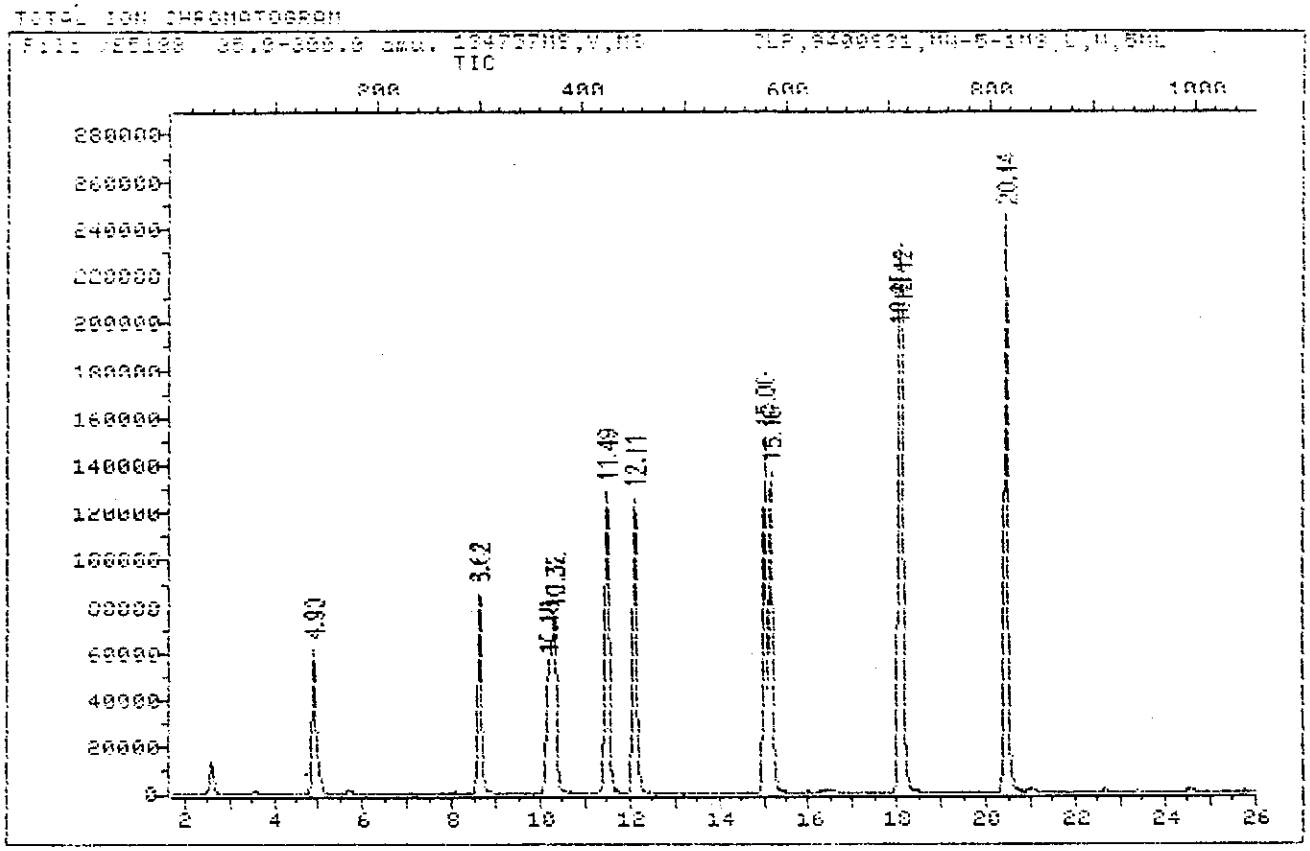
	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	9.06	128.0	57988	50.00	UG/L	
6)	C030 Methylene Chloride	B=8	5.88	84.0	2641	2.31	UG/L	76
9)	C045 1,1-Dichloroethene		5.06	96.0	43362	42.44	UG/L	86
13)	CS15 D4-1,2-Dichloroethane	SS1	10.73	65.0	83236	47.56	UG/L	
16)	*CI10 1,4-Difluorobenzene	IS-2	12.06	114.0	205388	50.00	UG/L	68
23)	C150 Trichloroethene		12.66	130.0	96645	48.84	UG/L	96
26)	C165 Benzene		10.67	78.0	144942	52.01	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.61	117.0	177907	50.00	UG/L	95
34)	C230 Toluene		15.72	91.0	225171	57.77	UG/L	91
35)	CS05 D8-Toluene	SS-2	15.56	98.0	213380	53.38	UG/L	
36)	C235 Chlorobenzene		18.68	112.0	169681	51.88	UG/L	91
37)	C240 Ethylbenzene		18.93	106.0	10550	7.47	UG/L	95
38)	C245 Styrene		19.98	104.0	4973	1.79	UG/L	
39)	C250 Xylene (total)		19.18	106.0	25783M	15.24	UG/L	93
40)	meta+para XYLENE		19.18	106.0	16705	9.72	UG/L	98
41)	ortho XYLENE		19.96	106.0	8848	5.23	UG/L	
42)	CS10 Bromofluorobenzene	SS-3	20.99	95.0	138982	51.14	UG/L	87

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: EAQ-197
QC Sample Number: 9400831-134757

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Flag	Units	Spike Result	% recov.	Spike Dup. Result	% recov.	RPD
Volatiles by GC/MS CLP												
Benzene		68	03/18/1994	50.	10.	U	ug/L	45.	90.0	45.	90.0	0.0
Chlorobenzene		68	03/18/1994	50.	10.	U	ug/L	46.	92.0	46.	92.0	0.0
1,1-Dichloroethene		68	03/18/1994	50.	10.	U	ug/L	37.	74.0	35.	70.0	5.6
Toluene		68	03/18/1994	50.	10.	U	ug/L	46.	92.0	45.	90.0	2.2
Trichloroethene		68	03/18/1994	50.	10.	U	ug/L	46.	92.0	48.	96.0	4.3



Data File: >E5188::D6 Quant Output File: ^E5188::D8
Name: 134757MS,V,MS
Misc: CLP,9400831,MW-5-1MS,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940318 09:13

Operator ID: RITA
Quant Time: 940318 17:12
Injected at: 940318 16:41

MW-5-1MS 3-10-94

QUANT REPORT

Operator ID: RITA
Output File: ^E5188::D8
Data File: >E5188::D6
Name: 134757MS,U,MS
Misc: CLP,9400831,MW-5-1MS,L,W,5ML

Quant Rev: 6 Quant Time: 940318 17:12
Injected at: 940318 16:41
Dilution Factor: 1.00000

EAQ-197

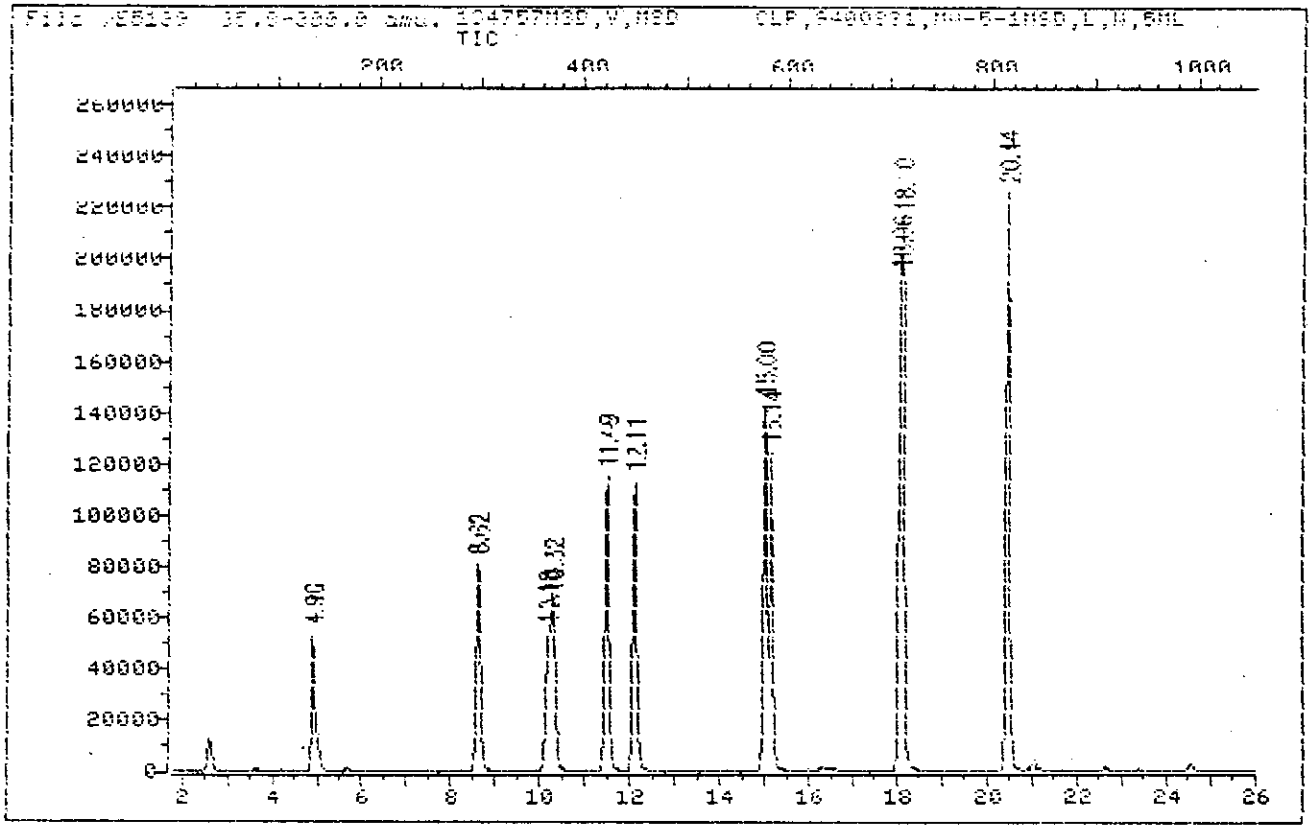
ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940318 09:13

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.62	128.0	86972	50.00	UG/L	
9)	C045 1,1-Dichloroethene		4.90	96.0	76245	36.61	UG/L	92
13)	CS15 D4-1,2-Dichloroethane	SS1	10.18	65.0	182259	52.08	UG/L	90
16)	*CI10 1,4-Difluorobenzene	IS-2	11.49	114.0	366442	50.00	UG/L	
23)	C150 Trichloroethene		12.11	130.0	143196	46.27	UG/L	91
26)	C165 Benzene		10.32	78.0	227876	45.41	UG/L	92
29)	*CI20 D5-Chlorobenzene	IS-3	18.09	117.0	286995	50.00	UG/L	
34)	C230 Toluene		15.16	91.0	298607	45.78	UG/L	94
35)	CS05 D8-Toluene	SS-2	15.00	98.0	320197	46.73	UG/L	96
36)	C235 Chlorobenzene		18.12	112.0	247898	46.49	UG/L	
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	240819	48.86	UG/L	94

* Compound is ISTD

000103

TOTAL ION CHROMATOGRAM



Data File: >E5189::D6 Quant Output File: ^E5189::D8
Name: 134757MSD,V,MSD
Misc: CLP,9400831,MW-5-1MSD,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940318 09:13

Operator ID: RITA
Quant Time: 940318 17:51
Injected at: 940318 17:19

MW-5-1+QCMSD 3.10.94

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940318 17:51
Output File: E5189::D8 Injected at: 940318 17:19
Data File: E5189::D6 Dilution Factor: 1.00000
Name: 134757MSD,V,MSD
Misc: CLP,9400831,MW-5-1MSD,L,W,5ML

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940318 09:13

EAQ-197

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.62	128.0	81611	50.00	UG/L	[illegible]
9)	C045 1,1-Dichloroethene		4.90	96.0	68246	34.92	UG/L	94
13)	CS15 D4-1,2-Dichloroethane	SS1	10.18	65.0	168336	51.26	UG/L	90
16)	*CI10 1,4-Difluorobenzene	IS-2	11.49	114.0	326376	50.00	UG/L	[illegible]
23)	C150 Trichloroethene		12.11	130.0	131957	47.87	UG/L	95
26)	C165 Benzene		10.32	78.0	203190	45.46	UG/L	90
29)	*CI20 D5-Chlorobenzene	IS-3	18.06	117.0	264738	50.00	UG/L	[illegible]
34)	C230 Toluene		15.14	91.0	272366	45.27	UG/L	97
35)	CS05 D8-Toluene	SS-2	15.00	98.0	290620	45.98	UG/L	97
36)	C235 Chlorobenzene		18.10	112.0	224673	45.68	UG/L	[illegible]
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	228749	50.31	UG/L	94

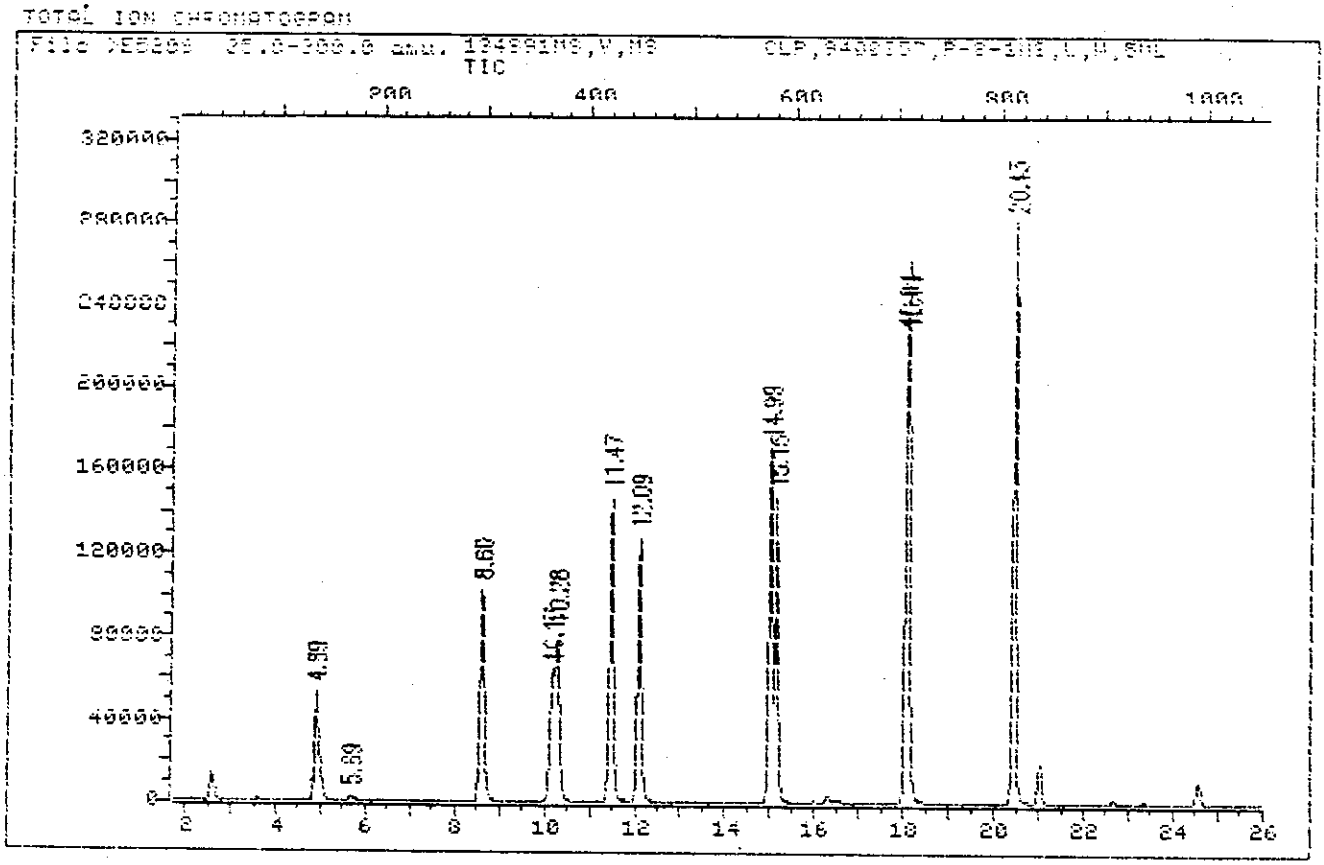
* Compound is ISTD

000105

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: EAQ-198
QC Sample Number: 9400857-134891

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Flag	Units	Spike Result	% recov.	Spike Dup. Result	% recov.	RPD
Volatiles by GC/MS CLP												
Benzene		69	03/19/1994	50.	10.	U	ug/L	43.	86.0	47.	94.0	8.9
Chlorobenzene		69	03/19/1994	50.	10.	U	ug/L	45.	90.0	49.	98.0	8.5
1,1-Dichloroethene		69	03/19/1994	50.	10.	U	ug/L	38.	76.0	42.	84.0	10.0
Toluene		69	03/19/1994	50.	10.	U	ug/L	44.	88.0	46.	92.0	4.4
Trichloroethene		69	03/19/1994	50.	10.	U	ug/L	42.	84.0	46.	92.0	9.1



Data File: >E5206::D7 Quant Output File: ^E5206::D5
Name: 134891MS,V,MS
Misc: CLP,9400857,P-8-1MS,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940319 09:42

Operator ID: RITA
Quant Time: 940319 15:45
Injected at: 940319 15:14

P:8-14QCMS 3-12-94

QUANT REPORT

Operator ID: RITA
Output File: ^E5206::D5
Data File: >E5206::D7
Name: 134891MS,V,MS
Misc: CLP,9400857,P-8-1MS,L,W,5ML

Quant Rev: 6 Quant Time: 940319 15:49
Injected at: 940319 15:14
Dilution Factor: 1.00000

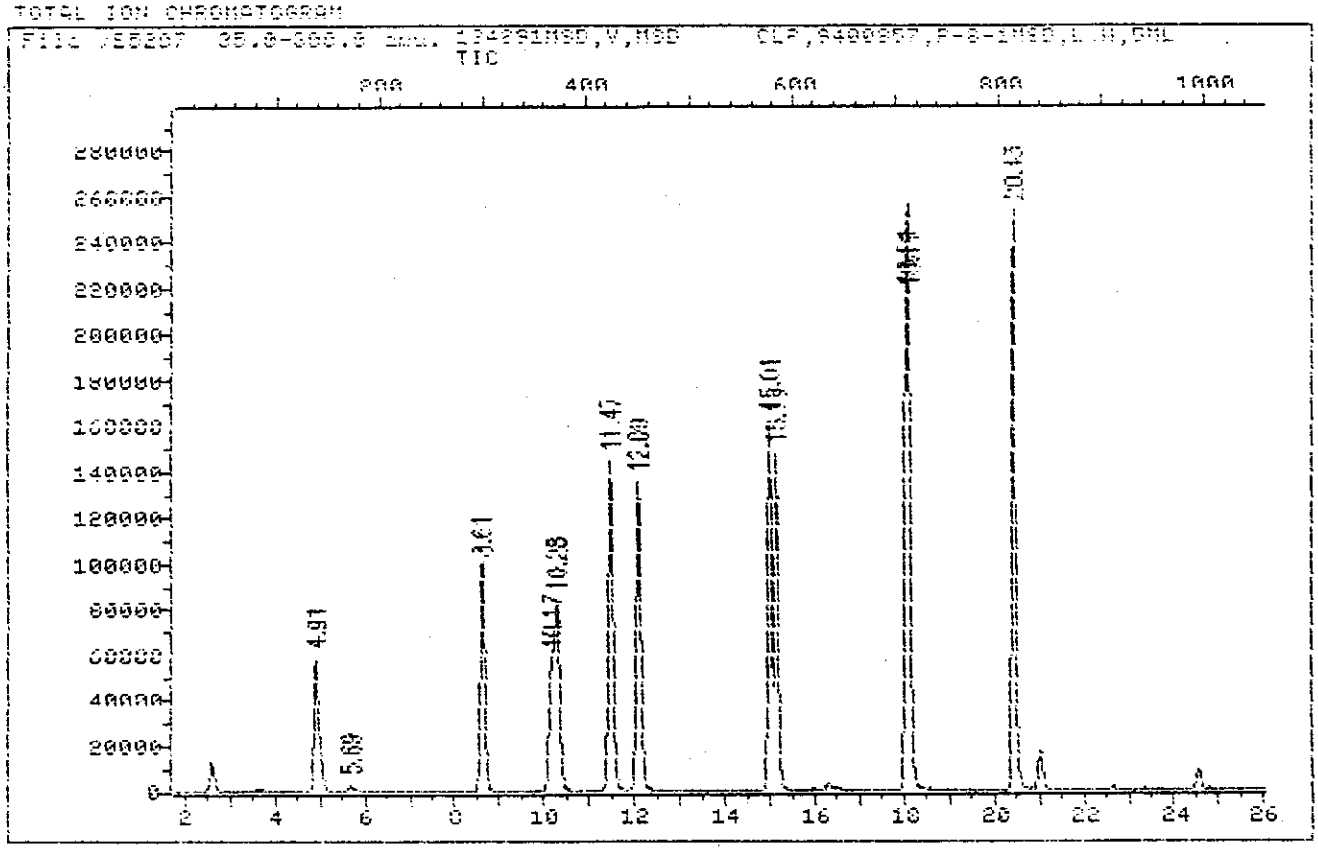
EAQ-198

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940319 09:42

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.60	128.0	102635	50.00	UG/L	[illegible]
6)	C030 Methylene Chloride		5.69	84.0	3818	1.86	UG/L	92
9)	C045 1,1-Dichloroethene		4.89	96.0	79995	38.10	UG/L	93
13)	CS15 D4-1,2-Dichloroethane	SS1	10.17	65.0	196651	47.24	UG/L	[illegible]
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	417224	50.00	UG/L	68
23)	C150 Trichloroethene		12.09	130.0	144625	42.26	UG/L	96
26)	C165 Benzene		10.28	78.0	232831	42.65	UG/L	[illegible]
29)	*CI20 D5-Chlorobenzene	IS-3	18.04	117.0	330459	50.00	UG/L	93
34)	C230 Toluene		15.15	91.0	315339	43.50	UG/L	93
35)	CS05 D8-Toluene	SS-2	14.99	98.0	361093	44.41	UG/L	[illegible]
36)	C235 Chlorobenzene		18.11	112.0	263029	44.98	UG/L	90
42)	CS10 Bromofluorobenzene	SS-3	20.43	95.0	273601	47.56	UG/L	92

* Compound is ISTD

000108



Data File: >E5207::D7 Quant Output File: ^E5207::D5
Name: 134891MSD,V,MSD
Misc: CLP,9400857,P-8-1MSD,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940319 09:42

Operator ID: RITA
Quant Time: 940319 16:22
Injected at: 940319 15:51

P-8-1+QCMSD 3-12-94

QUANT REPORT

Operator ID: RITA
Output File: ^E5207::D5
Data File: >E5207::D7
Name: 134891MSD,V,MSD
Misc: CLP,9400857,P-8-1MSD,L,W,5ML

Quant Rev: 6 Quant Time: 940319 16:22
Injected at: 940319 15:51
Dilution Factor: 1.00000

EAQ-195

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940319 09:42

	Compound		R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	8.61	128.0	101692	50.00	UG/L	
6)	C030 Methylene Chloride		5.69	84.0	4487	2.21	UG/L	
9)	C045 1,1-Dichloroethene		4.91	96.0	87569	42.09	UG/L	
13)	CS15 D4-1,2-Dichloroethane	SS1	10.17	65.0	186994	45.34	UG/L	
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	403791	50.00	UG/L	
23)	C150 Trichloroethene		12.09	130.0	153688	46.40	UG/L	
26)	C165 Benzene		10.28	78.0	246549	46.66	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.04	117.0	309708	50.00	UG/L	
34)	C230 Toluene		15.15	91.0	315894	46.50	UG/L	
35)	CS05 D8-Toluene	SS-2	15.01	98.0	337984	44.35	UG/L	
36)	C235 Chlorobenzene		18.11	112.0	267635	48.83	UG/L	
42)	CS10 Bromofluorobenzene	SS-3	20.43	95.0	250308	46.43	UG/L	

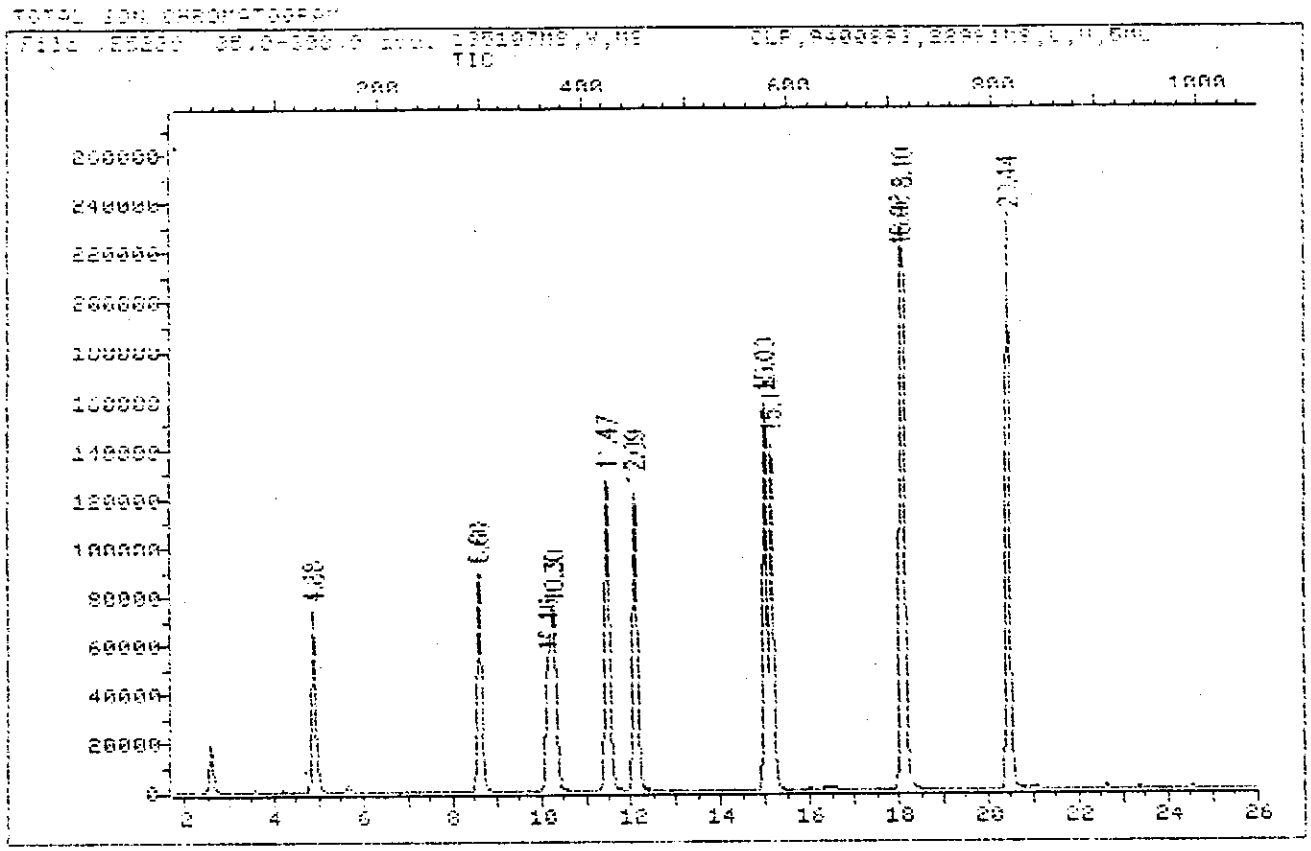
* Compound is ISTD

000110

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: EAQ-199
QC Sample Number: 9400893-135107

Compound Name	Spike Added	Sample Result	MS Conc	Percent Recovery	MSD Conc	Percent Recovery	RPD
1,1-Dichloroethene	50	N.D.	37	75.00	34	69.00	8.0
Trichloroethene	50	N.D.	46	91.00	43	86.00	6.0
Benzene	50	N.D.	45	89.00	43	85.00	5.0
Toluene	50	N.D.	47	94.00	47	94.00	0.0
Chlorobenzene	50	N.D.	49	98.00	48	96.00	2.0



Data File: >E5230::D6 Quant Output File: ^E5230::D8
Name: 135107MS,V,MS
Misc: CLP.9400893,22951MS,L,W,5ML

Id File: !DCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: RITA
Quant Time: 940321 17:03
Injected at: 940321 16:32

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940321 17:0?
Output File: E5230::08 Injected at: 940321 16:??
Data File: E5230::D6 Dilution Factor: 1.00000
Name: 135107MS.U,MS
Misc: CLP,9400893,22951MS,L,W,5ML

ID File: DOCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

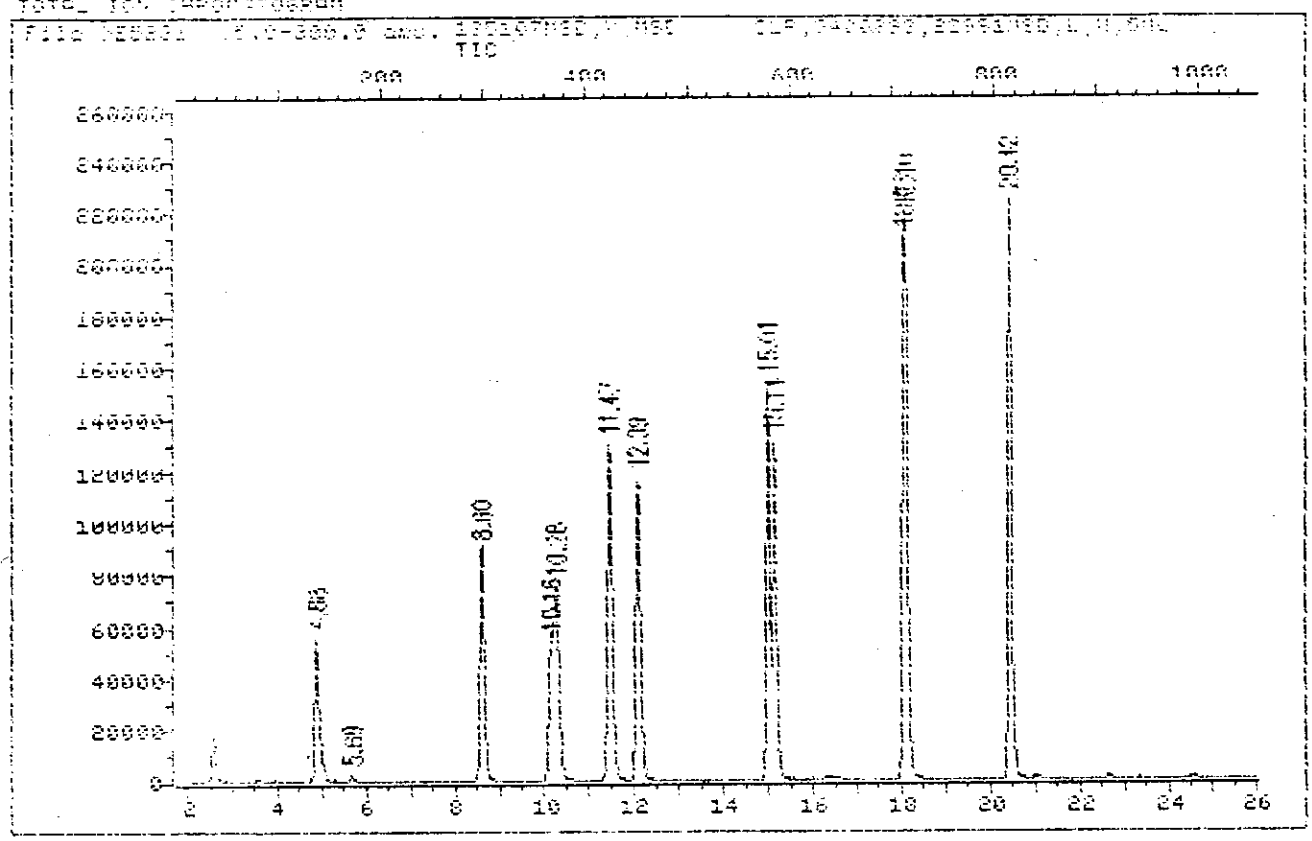
EAQ-199

	Compound		R.T.	Q ion	Area	Conc	Units	Q
1)	*C101 Bromochloromethane	IS-1	8.60	128.0	92600	50.00	UG/L	?
9)	C045 1,1-Dichloroethene		4.88	96.0	77542	37.38	UG/L	93
13)	C515 D4-1,2-Dichloroethane	SS1	10.16	65.0	170709	46.32	UG/L	98
16)	*C110 1,4-Difluorobenzene	IS-2	11.47	114.0	368019	50.00	UG/L	?
23)	C150 Trichloroethene		12.09	130.0	142872	45.65	UG/L	9?
26)	C165 Benzene		10.30	78.0	226999	44.58	UG/L	90
29)	*C120 D5-Chlorobenzene	IS-3	18.06	117.0	291257	50.00	UG/L	?
34)	C230 Toluene		15.14	91.0	306543	47.18	UG/L	94
35)	C506 D8-Toluene	SS-2	15.00	98.0	325309	47.85	UG/L	94
36)	C235 Chlorobenzene		18.10	112.0	255500	49.14	UG/L	?
42)	C510 Bromofluorobenzene	SS-3	20.44	95.0	247250	51.60	UG/L	9?

* Compound is ISTD

JCD

000113



Data File: >E5231::D6 Quant Output File: ^E5231::D8
Name: 175107MSD,U,MSD
Misc: CLP,9400893,22951MSD,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: RITA
Quant Time: 940321 17:40
Injected at: 940321 17:09

QUANT REPORT

Operator ID: FITA Quant Rev: a Quant Time: 940321 17:40
Output File: >F5231::D8 Injected at: 940321 17:09
Data File: >F5231::D6 Dilution Factor: 1.00000
Name: 135107MSD,W.MSD
Misc: CLP,9400893,2295IMSD,L,W,5ML

EAQ-199

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57 ✓

	Compound	RS	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.60	128.0	93761	50.00	UG/L	
6)	C030 Methylene Chloride	B=4	5.69	84.0	3420	1.48	UG/L	93
9)	C045 1,1-Dichloroethene		4.88	96.0	72306	34.43	UG/L	93
13)	CS15 D4-1,2-Dichloroethane	SS1	10.16	65.0	175935	47.04	UG/L	
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	378846	50.00	UG/L	69
23)	C150 Trichloroethene		12.09	130.0	138687	43.04	UG/L	91
26)	C165 Benzene		10.28	78.0	223378	42.62	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.06	117.0	273567	50.00	UG/L	98
34)	C230 Toluene		15.14	91.0	285815	46.84	UG/L	99
35)	CS05 D8-Toluene	SS-2	15.01	98.0	309962	48.55	UG/L	
36)	C235 Chlorobenzene		18.10	112.0	235028	48.17	UG/L	97
42)	CS10 Bromofluorobenzene	SS-3	20.42	95.0	229603	51.02	UG/L	

* Compound is ISTD

JCD.

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00893

External Standard Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Ext. Std. True Conc.	Units	Conc. Found	% Recovery
Alkalinity		34	03/25/1994	19.94	ppmCaCO	19.5	97.8
Alkalinity, Bicarb. at pH 4.		17	03/24/1994	19.94	ppmCaCO	20.8	104.3
Alkalinity, Bicarb. at pH 4.		17	03/25/1994	19.94	ppmCaCO	19.5	97.8
Ammonia		279	03/28/1994	0.74	mg/L N	0.73	98.6
Ammonia		279	03/28/1994	0.74	mg/L N	0.71	95.9
Ammonia		279	03/29/1994	0.74	mg/L N	0.71	95.9
Ammonia		279	03/29/1994	0.74	mg/L N	0.64	86.5
Ammonia		279	03/30/1994	0.74	mg/L N	0.72	97.3
Ammonia		279	03/30/1994	0.74	mg/L N	0.68	91.9
Ammonia		279	03/31/1994	0.74	mg/L N	0.73	98.6
Ammonia		279	03/31/1994	0.74	mg/L N	0.69	93.2
Ammonia		280	03/31/1994	0.74	mg/L N	0.73	98.6
Ammonia		280	03/31/1994	0.74	mg/L N	0.69	93.2
Ammonia		280	03/31/1994	0.74	mg/L N	0.72	97.3
Ammonia		280	03/31/1994	0.74	mg/L N	0.72	97.3
Ammonia		280	04/04/1994	0.74	mg/L N	0.75	101.4
Ammonia		280	04/04/1994	0.74	mg/L N	0.73	98.6
Ammonia		280	04/04/1994	0.74	mg/L N	0.76	102.7
Ammonia		280	04/04/1994	0.74	mg/L N	0.75	101.4
Chloride		162	03/31/1994	87.164	mg/L	86.93	99.7
Chloride		162	04/04/1994	87.16	mg/L	88.39	101.4
Chloride		163	04/04/1994	87.16	mg/L	88.36	101.4
Conductivity		79	03/14/1994	100	umhos/c	100	100.0
Conductivity		79	03/16/1994	100	umhos/c	99	99.0
Conductivity		79	03/17/1994	100	umhos/c	99	99.0
Conductivity		79	03/18/1994	100	umhos/c	98	98.0
Conductivity		79	03/21/1994	100	umhos/c	106	106.0
Fluoride, Total		71	03/25/1994	5.34	mg/L	5.45	102.1
Fluoride, Total		71	04/04/1994	5.34	mg/L	4.66	87.3
Nitrate/nitrite		42	04/04/1994	1.21	mg/L N	1.20	99.2
Nitrate/nitrite		42	04/04/1994	1.21	mg/L N	1.20	99.2
Nitrate/nitrite		42	04/05/1994	1.21	mg/L N	1.24	102.5
Nitrate/nitrite		42	04/05/1994	1.96	mg/L N	1.22	62.2
Nitrate/nitrite		42	04/05/1994	1.21	mg/L N	1.19	98.3
Nitrate/nitrite		42	04/05/1994	1.21	mg/L N	1.21	100.0
Nitrate/nitrite		45	04/06/1994	1.21	mg/L N	1.22	100.8
Nitrate/nitrite		45	04/06/1994	1.21	mg/L N	1.17	96.7
Nitrate/nitrite		45	04/08/1994	1.21	mg/L N	1.21	100.0
Nitrate/nitrite		45	04/08/1994	1.21	mg/L N	1.23	101.7
Nitrate/nitrite		45	04/11/1994	1.21	mg/L N	1.21	100.0
Nitrate/nitrite		45	04/11/1994	1.21	mg/L N	1.21	100.0
Solids, dissolved (TDS)		508	03/16/1994	1110	mg/L	1072	96.6
Solids, dissolved (TDS)		508	03/17/1994	1110	mg/L	1084	97.7
Solids, dissolved (TDS)		508	03/18/1994	1110	mg/L	1064	95.9
Solids, dissolved (TDS)		509	03/18/1994	1110	mg/L	1064	95.9
Solids, dissolved (TDS)		509	03/21/1994	1110	mg/L	1072	96.6
Solids, dissolved (TDS)		509	03/22/1994	1110	mg/L	1068	96.2
Sulfate		137	03/30/1994	39.13	mg/L	43.21	110.4
Sulfate		137	04/05/1994	39.13	mg/L	40.37	103.2
Total Organic Carbon		631	03/25/1994	105.6	mg/L	98.6	93.4

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00893

External Standard Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Ext. Std. True Conc.	Units	Conc. Found	% Recovery
Total Organic Carbon		631	03/28/1994	105.6	mg/L	99.1	93.8
Total Organic Carbon		631	03/29/1994	105.6	mg/L	102.6	97.2

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00893

Blank Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Blank Result
Alkalinity		34	03/25/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		17	03/24/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		17	03/25/1994	2.0	ppmCaC	<2
Ammonia		279	03/28/1994	0.1	mg/L N	<0.1
Ammonia		279	03/29/1994	0.1	mg/L N	<0.1
Ammonia		279	03/30/1994	0.1	mg/L N	<0.1
Ammonia		279	03/31/1994	0.1	mg/L N	<0.1
Ammonia		280	03/31/1994	0.1	mg/L N	<0.1
Ammonia		280	03/31/1994	0.1	mg/L N	<0.1
Ammonia		280	04/04/1994	0.1	mg/L N	<0.1
Ammonia		280	04/04/1994	0.1	mg/L N	<0.1
Chloride		162	03/31/1994	2.0	mg/L	<2
Chloride		162	04/04/1994	2.0	mg/L	<2
Chloride		163	04/04/1994	2.0	mg/L	<2
Conductivity		79	03/14/1994	1	umhos/	<1
Conductivity		79	03/16/1994	1	umhos/	<1
Conductivity		79	03/17/1994	1	umhos/	<1
Conductivity		79	03/18/1994	1	umhos/	<1
Conductivity		79	03/21/1994	1	umhos/	<1
Fluoride, Total		71	03/25/1994	0.1	mg/L	<0.1
Fluoride, Total		71	04/04/1994	0.1	mg/L	<0.1
Nitrate/nitrite		42	04/04/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		42	04/05/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		42	04/05/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		45	04/06/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		45	04/08/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		45	04/11/1994	0.1	mg/L N	<0.1
Solids, dissolved (TDS)		508	03/16/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		508	03/17/1994	<1.0	mg/L	3
Solids, dissolved (TDS)		508	03/18/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		509	03/18/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		509	03/21/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		509	03/22/1994	<1.0	mg/L	<1
Sulfate		137	03/30/1994	5	mg/L	<10
Sulfate		137	04/05/1994	5	mg/L	<10
Sulfide		34	03/17/1994	0.1	mg/L	<0.1
Sulfide		34	03/24/1994	0.1	mg/L	<0.1
Total Organic Carbon		631	03/25/1994	1.0	mg/L	<1
Total Organic Carbon		631	03/28/1994	1.0	mg/L	<1
Total Organic Carbon		631	03/29/1994	1.0	mg/L	<1
Arsenic (As)	659	312	04/15/1994	0.01	mg/L	<0.003
Cobalt (Co)	659	448	04/21/1994	0.05	mg/L	<0.01
Iron (Fe)	659	369	04/21/1994	0.1	mg/L	<0.05
Lead (Pb)	659	386	04/19/1994	.003	mg/L	<0.001
Manganese (Mn)	659	448	04/21/1994	0.01	mg/L	<0.01

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00893

Duplicate Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Sample Result	Duplicate Result	RPD
Alkalinity		34	03/25/1994	2.0	ppmCaC	689	710	3.0
Alkalinity		34	03/25/1994	2.0	ppmCaC	119	118	0.8
Alkalinity, Bicarb. at pH 4.		17	03/24/1994	2.0	ppmCaC	689	710	3.0
Alkalinity, Bicarb. at pH 4.		17	03/25/1994	2.0	ppmCaC	119	118	0.8
Ammonia		279	03/28/1994		mg/L N	10.4	10.4	0.0
Ammonia		280	03/31/1994	0.1	mg/L N	<0.1	<0.1	
Chloride		162	03/31/1994	2.0	mg/L	54	52	3.8
Chloride		163	04/04/1994	2.0	mg/L	10	11	9.5
Conductivity		79	03/14/1994	1	umhos/	3190	3113	2.4
Fluoride, Total		71	03/25/1994	0.1	mg/L	<0.1	<0.1	
Nitrate/nitrite		42	04/05/1994	0.1	mg/L N	<1.0	<1.0	
Nitrate/nitrite		45	04/06/1994		mg/L N	6.3	6.3	0.0
Solids, dissolved (TDS)		508	03/16/1994	<1.0	mg/L	766	730	4.8
Solids, dissolved (TDS)		509	03/18/1994	<1.0	mg/L	738	788	6.6
Sulfate		137	03/30/1994	5	mg/L	106	129	19.6
Sulfide		34	03/17/1994	0.1	mg/L	1.62	1.62	0.0
Total Organic Carbon		631	03/25/1994	1.0	mg/L	1.4	1.5	6.9
Arsenic (As)	659	312	04/15/1994	0.01	mg/L	<0.003	<0.003	
Cobalt (Co)	659	448	04/21/1994	0.05	mg/L	<0.01	<0.01	
Iron (Fe)	659	369	04/21/1994	0.1	mg/L	0.37	0.059	145.0
Iron (Fe)	659	369	04/21/1994	0.1	mg/L	<0.05	0.61	
Lead (Pb)	659	386	04/19/1994	.003	mg/L	<0.001	0.001	
Manganese (Mn)	659	448	04/21/1994	0.01	mg/L	<0.01	<0.01	
Manganese (Mn)	659	448	04/21/1994	0.01	mg/L	<0.01	<0.01	

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00893

Spiked Sample Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Units	Spiked Sample Result	% Recovery
Alkalinity		34	03/25/1994	118.8	689	ppmCaC	820	110.3
Alkalinity		34	03/25/1994	47.50	119	ppmCaC	156	77.9
Alkalinity, Bicarb. at p		17	03/24/1994	118.8	689	ppmCaC	820	110.3
Alkalinity, Bicarb. at p		17	03/25/1994	47.5	119	ppmCaC	156	77.9
Ammonia		279	03/28/1994	40.0	10.4	mg/L N	48.4	95.0
Ammonia		280	03/31/1994	1.0	<0.1	mg/L N	0.8	80.0
Chloride		162	03/31/1994	50.0	54	mg/L	104	100.0
Chloride		163	04/04/1994	50.0	10	mg/L	44	68.0
Fluoride, Total		71	03/25/1994	5.0	<0.1	mg/L	5.69	113.8
Nitrate/nitrite		42	04/05/1994	10.0	<1.0	mg/L N	9.8	98.0
Nitrate/nitrite		45	04/06/1994	10.0	6.3	mg/L N	14.9	86.0
Sulfate		137	03/30/1994	100	106	mg/L	224	118.0
Total Organic Carbon		631	03/25/1994	5.0	1.4	mg/L	6.4	100.0
Arsenic (As)	659	312	04/15/1994	0.04	<0.003	mg/L	0.044	110.0
Cobalt (Co)	659	448	04/21/1994	0.5	<0.01	mg/L	0.43	86.0
Iron (Fe)	659	369	04/21/1994	1.0	0.37	mg/L	1.26	89.0
Iron (Fe)	659	369	04/21/1994	1.0	<0.05	mg/L	0.91	91.0
Lead (Pb)	659	386	04/19/1994	0.02	<0.001	mg/L	0.020	100.0
Manganese (Mn)	659	448	04/21/1994	0.5	<0.01	mg/L	0.44	88.0
Manganese (Mn)	659	448	04/21/1994	0.5	<0.01	mg/L	0.45	90.0

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00893

Laboratory Control Sample (LCS) Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Units	Amount Found	% Recovery
Alkalinity		34	03/25/1994	475.0	ppmCaC	477	100.4
Alkalinity, Bicarb. at p		17	03/24/1994	475	ppmCaC	459	96.6
Alkalinity, Bicarb. at p		17	03/25/1994	475	ppmCaC	477	100.4
Ammonia		279	03/28/1994	3.0	mg/L N	2.98	99.3
Ammonia		279	03/29/1994	3.0	mg/L N	2.90	96.7
Ammonia		279	03/31/1994	3.0	mg/L N	2.89	96.3
Ammonia		280	03/31/1994	3.0	mg/L N	2.89	96.3
Ammonia		280	03/31/1994	3.0	mg/L N	2.89	96.3
Ammonia		280	04/04/1994	3.0	mg/L N	3.01	100.3
Ammonia		280	04/04/1994	3.0	mg/L N	3.00	100.0
Chloride		162	03/31/1994	1000	mg/L	998	99.8
Chloride		162	04/04/1994	1000	mg/L	1002	100.2
Chloride		163	04/04/1994	1000	mg/L	1002	100.2
Conductivity		79	03/14/1994	104.5	umhos/	106.5	101.9
Conductivity		79	03/16/1994	104.5	umhos/	102.2	97.8
Conductivity		79	03/17/1994	104.5	umhos/	103.3	98.9
Conductivity		79	03/18/1994	104.5	umhos/	100	95.7
Conductivity		79	03/21/1994	104.5	umhos/	105.8	101.2
Fluoride, Total		71	04/04/1994	10.0	mg/L	10.22	102.2
Nitrate/nitrite		42	04/04/1994	2.0	mg/L N	2.01	100.5
Nitrate/nitrite		42	04/05/1994	2.0	mg/L N	2.04	102.0
Nitrate/nitrite		42	04/05/1994	2.0	mg/L N	2.01	100.5
Nitrate/nitrite		45	04/06/1994	2.0	mg/L N	1.98	99.0
Nitrate/nitrite		45	04/08/1994	2.0	mg/L N	1.96	98.0
Nitrate/nitrite		45	04/11/1994	2.0	mg/L N	1.99	99.5
Sulfate		137	03/30/1994	40.0	mg/L	39.7	99.3
Sulfate		137	04/05/1994	40.0	mg/L	36.2	90.5
Total Organic Carbon		631	03/25/1994	10.0	mg/L	10.04	100.4
Total Organic Carbon		631	03/28/1994	10.0	mg/L	9.87	98.7
Total Organic Carbon		631	03/29/1994	10.0	mg/L	9.77	97.7
Arsenic (As)	659	312	04/15/1994	0.05	mg/L	0.057	114.0
Cobalt (Co)	659	448	04/21/1994	1.0	mg/L	1.00	100.0
Iron (Fe)	659	369	04/21/1994	1.0	mg/L	1.03	103.0
Lead (Pb)	659	386	04/19/1994	0.05	mg/L	0.053	106.0
Manganese (Mn)	659	448	04/21/1994	1.0	mg/L	0.99	99.0

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/18/94 18:14
Data File: >A5189
Scan: 826

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.01	57.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	74.71	74.71	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	43.56	43.56	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.09	6.09	Ok
275	10-30% of mass 198	19.73	19.73	Ok
365	Greater than 1% of mass 198	2.11	2.11	Ok
441	Less than mass 443	9.17	76.29	Ok
442	Greater than 40% of mass 198	64.11	64.11	Ok
443	17-23% of mass 442	12.02	18.74	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID		DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
>A5190	50PPB	#3370	4/19/94	18:54
>A5191	20PPB	#3371		19:47
>A5192	160PPB	#3367		20:41
>A5193	120 PPB	#3368		21:35
>A5194	80PPB	#3369		22:28

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/19/94 10:12
Data File: >A5195
Scan: 828

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	51.11	51.11	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	60.87	60.87	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.36	40.36	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.89	6.89	Ok
275	10-30% of mass 198	20.56	20.56	Ok
365	Greater than 1% of mass 198	2.59	2.59	Ok
441	Less than mass 443	11.98	84.76	Ok
442	Greater than 40% of mass 198	77.33	77.33	Ok
443	17-23% of mass 442	14.13	18.28	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
>A5196	50PPB #3370	4/19/94	10:35
>A5197	QCSpK A393A		11:32
>A5198	BLK#1A		12:29
>A5199	BLK#2A		13:15
>A5200	BLK#3A		14:07
>A5201	BLK#4A		14:58
>A5202	134740MS - 9400826		15:50
>A5203	134740MSD-9400826		16:42
>A5206	134613 - 9400806		19:16
>A5207	00826-134736		20:07
>A5208	00826-134738		20:59
>A5211	9400806-134615	4-20-94	10:11
>A5212	9400806-134611		11:02

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/20/94 08:51
Data File: >A5209
Scan: 832

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	55.59	55.59	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	69.71	69.71	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	41.90	41.90	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	7.29	7.29	Ok
275	10-30% of mass 198	21.57	21.57	Ok
365	Greater than 1% of mass 198	2.56	2.56	Ok
441	Less than mass 443	11.52	87.93	Ok
442	Greater than 40% of mass 198	76.04	76.04	Ok
443	17-23% of mass 442	13.10	17.23	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
	#3370		

1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET THOROFARE | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5209 DFTPP Injection Date: 4/20/94

Instrument ID: 70A70F DFTPP Injection Time: 8:51

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	55.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	69.7
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	7.3
275	10.0 - 30.0% of mass 198	21.6
365	Greater than 1.00% of mass 198	2.6
441	Present, but less than mass 443	11.5
442	Greater than 40.0% of mass 198	76.0
443	17.0 - 23.0% of mass 442	13.1 (17.2)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB	50PPB #3370	>A5210	04/20/94	09:16
02	134615	00806 A293A	>A5211	04/20/94	10:11
03	134611	00806 A293A	>A5212	04/20/94	11:02
04	134740	00826 A293A	>A5213	04/20/94	11:53
05	134763	00826 A293A	>A5214	04/20/94	12:44
06	134874	00856 A293A	>A5215	04/20/94	13:35
07	134875	00856 A293A	>A5216	04/20/94	14:27
08	134871	00856 A293A	>A5217	04/20/94	15:19
09	134872	00856 A293A	>A5218	04/20/94	16:10
10	134873	00856 A293A	>A5219	04/20/94	17:02
11	134870	00856 A293A	>A5220	04/20/94	17:58
12	135101	00893 A293A	>A5223	04/20/94	20:35
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/21/94 13:55
Data File: >A5224
Scan: 838

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	53.96	53.96	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	66.46	66.46	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	41.29	41.29	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.22	6.22	Ok
275	10-30% of mass 198	20.39	20.39	Ok
365	Greater than 1% of mass 198	1.97	1.97	Ok
441	Less than mass 443	8.61	73.66	Ok
442	Greater than 40% of mass 198	59.19	59.19	Ok
443	17-23% of mass 442	11.70	19.76	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS

1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET PHOENIX | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5224 DFTPP Injection Date: 4/21/94

Instrument ID: /GA/GF DFTPP Injection Time: 13:55

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	54.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	66.5
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.2
275	10.0 - 30.0% of mass 198	20.4
365	Greater than 1.00% of mass 198	2.0
441	Present, but less than mass 443	8.6
442	Greater than 40.0% of mass 198	99.2
443	17.0 - 23.0% of mass 442	11.7 (19.8)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB	50PPB #33/0	>A5225	04/21/94	14:25
02	WCSPK	LCS A295A	>A5226	04/21/94	15:17
03	BLK#1	BLK#1 A295A	>A5227	04/21/94	16:09
04	134734	00826 A295A	>A5228	04/21/94	17:00
05	134869	00856 A295A	>A5229	04/21/94	17:51
06	135107 MS	00893 A295A	>A5230	04/21/94	18:42
07	135107 MSD	00893 A295A	>A5231	04/21/94	19:33
08	135107	00893 A295A	>A5232	04/21/94	20:23
09	135099	00893 A295A	>A5233	04/21/94	21:14
10	135342	00938 A295A	>A5234	04/21/94	22:05
11	135344	00938 A295A	>A5236	04/21/94	23:47
12	135105	00893 A295A	>A5237	04/22/94	00:37
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/23/94 11:04
Data File: >A5254
Scan: 834

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	55.43	55.43	Ok
68	Less than 2% of mass 69	1.43	1.96	Ok
69	(reference only)	72.98	72.98	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.10	40.10	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.92	6.92	Ok
275	10-30% of mass 198	21.14	21.14	Ok
365	Greater than 1% of mass 198	2.49	2.49	Ok
441	Less than mass 443	7.90	68.58	Ok
442	Greater than 40% of mass 198	62.07	62.07	Ok
443	17-23% of mass 442	11.52	18.56	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS

1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET THOROFARE | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5254 DFTPP Injection Date: 4/23/94

Instrument ID: 70A70F DFTPP Injection Time: 11:04

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	55.4
68	Less than 2.0% of mass 69	1.4 (2.0)1
69	Mass 69 relative abundance	73.0
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	40.1
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.9
275	10.0 - 30.0% of mass 198	21.1
365	Greater than 1.00% of mass 198	2.5
441	Present, but less than mass 443	7.9
442	Greater than 40.0% of mass 198	62.1
443	17.0 - 23.0% of mass 442	11.5 (18.6)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	050 PPB	50PPB #3370	>A5255	04/23/94	11:28
02	135103	00893 295A	>A5256	04/23/94	12:21
03	135341	00938 295A	>A5257	04/23/94	13:13
04					
05					
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21					
22					

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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >D0504 BFB Injection Date: 3/14/94

Instrument ID: 70 2 BFB Injection Time: 3/14/94 9:4?

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	19.7	
75	30.0 - 66.0% OF MASS 95	47.4	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	7.2	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	94.7(	
175	4.0 - 9.0% of mass 174	5.9	6.2)1
176	93.0 - 101% of mass 174	95.0	100.3)1
177	5.0 - 9.0% of mass 176	6.4	6.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
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14					
15					
16					
17					
18					
19					
20					
21					
22					

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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >D0504 BFB Injection Date: 3/14/94

Instrument ID: HP5970 BFB Injection Time: 9:02

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	19.7
75	30.0 - 66.0% of mass 95	47.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50-120% of mass 95	94.7
175	4.0 - 9.0% of mass 174	5.9 (6.2)1
176	93.0 - 101.0% of mass 174	95.0 (100.3)1
177	5.0 - 9.0% of mass 176	6.4 (6.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB STD	50 STD#2312	>D0505	03/14/94	09:44
02	100 PPB ST	100STD#2312	>D0506	03/14/94	10:27
03	20 PPB STD	20 STD#2312	>D0507	03/14/94	11:07
04	200 PPB ST	200STD#2312	>D0508	03/14/94	11:47
05	10 PPB STD	10 STD#2312	>D0511	03/14/94	14:37
06	VBLK	VBLK	>D0512	03/14/94	15:38
07	134402	00763	>D0513	03/14/94	16:23
08	134401	00763	>D0514	03/14/94	16:59
09	134398	00763	>D0515	03/14/94	17:35
10	134397	00763	>D0516	03/14/94	18:12
11	134396	00763	>D0517	03/14/94	18:47
12	134410	00764	>D0518	03/14/94	19:23
13					
14					
15					
16					
17					
18					
19					
20					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5124 BFB Injection Date: 3/16/94

Instrument ID: 70 1 BFB Injection Time: 3/16/94 10:00

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	25.2	
75	30.0 - 66.0% OF MASS 95	61.4	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	8.3	
173	Less than 2.0% of mass 174	.7	.8)1
174	50.0 - 120.0% of mass 95	90.5(	
175	4.0 - 9.0% of mass 174	7.1	7.9)1
176	93.0 - 101% of mass 174	87.0	96.1)1
177	5.0 - 9.0% of mass 176	5.5	6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04					
05					
06					
07					
08					
09					
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11					
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14					
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18					
19					
20					
21					
22					

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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5124 BFB Injection Date: 3/16/94

Instrument ID: HP5970 BFB Injection Time: 10:06

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	25.2
75	30.0 - 66.0% of mass 95	61.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.3
173	Less than 2.0% of mass 174	.7 (.8)1
174	50-120% of mass 95	90.5
175	4.0 - 9.0% of mass 174	7.1 (7.9)1
176	93.0 - 101.0% of mass 174	87.0 (96.1)1
177	5.0 - 9.0% of mass 176	5.5 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB STD	50 STD#2312	>E5126	03/16/94	11:28
02	10 PPB STD	10 STD#2312	>E5127	03/16/94	12:07
03	100 PPB ST	100 STD2312	>E5128	03/16/94	12:49
04	20 PPB STD	20 STD#2312	>E5130	03/16/94	14:03
05	200 PPB ST	200 STD#2312	>E5131	03/16/94	14:52
06	VBLK	VBLK	>E5133	03/16/94	17:03
07	134468	00780	>E5134	03/16/94	17:40
08	134489	00783	>E5135	03/16/94	18:17
09	134490	00783	>E5136	03/16/94	18:53
10	134491	00783	>E5137	03/16/94	19:30
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >D0611

BFB Injection Date: 3/19/94

Instrument ID: 70 2

BFB Injection Time: 3/19/94 7:57

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	20.3	
75	30.0 - 66.0% OF MASS 95	51.0	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	7.1	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	94.6(	
175	4.0 - 9.0% of mass 174	6.9	7.3)1
176	93.0 - 101% of mass 174	92.2	97.4)1
177	5.0 - 9.0% of mass 176	6.1	6.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04		[illegible]			
05					
06		[illegible]			
07					
08					
09		[illegible]			
10					
11					
12					
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15					
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17					
18					
19					
20					
21					
22					

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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THUROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >D0611 BFB Injection Date: 3/19/94

Instrument ID: HP5970 BFB Injection Time: 7:57

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	20.3
75	30.0 - 66.0% of mass 95	51.0
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	0.0 (0.0)1
174	50-120% of mass 95	94.6
175	4.0 - 9.0% of mass 174	6.9 (7.3)1
176	93.0 - 101.0% of mass 174	92.2 (97.4)1
177	5.0 - 9.0% of mass 176	6.1 (6.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 ppb	#2312	>D0612	03/19/94	08:30
02	VBLK	VBLK	>D0613	03/19/94	09:36
03	134873	00856	>D0614	03/19/94	10:42
04	134869	00856	>D0615	03/19/94	11:18
05	135058	00879	>D0617	03/19/94	12:30
06	135059	00879	>D0618	03/19/94	13:07
07	135105	00893	>D0620	03/19/94	14:19
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5218

BFB Injection Date: 3/21/94

Instrument ID: 70 1

BFB Injection Time: 3/21/94 8:28

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	22.8	
75	30.0 - 66.0% OF MASS 95	49.9	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	1.1	1.3)1
174	50.0 - 120.0% of mass 95	87.8	
175	4.0 - 9.0% of mass 174	7.3	8.3)1
176	93.0 - 101% of mass 174	83.8	95.5)1
177	5.0 - 9.0% of mass 176	7.1	8.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

:DU,MAR21E,1
1

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5218 BFB Injection Date: 3/21/94

Instrument ID: HP5970 BFB Injection Time: 8:28

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	22.8
75	30.0 - 66.0% of mass 95	49.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	1.1 (1.3)1
174	50-120% of mass 95	87.8
175	4.0 - 9.0% of mass 174	7.3 (8.3)
176	93.0 - 101.0% of mass 174	83.8 (95.5)1
177	5.0 - 9.0% of mass 176	7.1 (8.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 ppb	#2312	>E5219	03/21/94	08:50
02	VBLK	VBLK	>E5220	03/21/94	10:07
03	134870	00856	>E5221	03/21/94	10:55
04	134531	00792	>E5222	03/21/94	11:33
05	135093	00888	>E5223	03/21/94	12:10
06	135099	00893	>E5224	03/21/94	12:47
07	135101	00893	>E5225	03/21/94	13:24
08	135103	00893	>E5226	03/21/94	14:01
09	135109	00893	>E5227	03/21/94	14:41
10	135107	00893	>E5228	03/21/94	15:17
11	135340	00938	>E5229	03/21/94	15:55
12	135107MS	00893	>E5230	03/21/94	16:32
13	135107MSD	00893	>E5231	03/21/94	17:09
14	135342	00938	>E5233	03/21/94	18:23
15	135344	00938	>E5235	03/21/94	19:38
16	135345	00938	>E5236	03/21/94	20:15
17					
18					
19					

Calibration Check Report

Title: SP Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5196
Injection Time: 940419 10:35

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.19071	1.92	Average	
CS45 D5-Phenol	1.52248	1.52020	.15	Average	
C309 Pyridine	1.10561	1.11151	.53	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.40786	.83	Average	
C335 1,3-Dichlorobenzene	1.70502	1.71011	.30	Average	
C340 1,4-Dichlorobenzene	1.73850	1.74607	.90	Average	
C350 1,2-Dichlorobenzene	1.65558	1.67928	1.43	Average	
C349 Indene	2.27085	2.28963	.83	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.08716	.91	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.37428	1.45	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.13186	4.16	Average	
C459 Quinoline	.69188	.70904	2.48	Average	
C471 1-Methylnaphthalene	.70593	.70425	.24	Average	
CS25 2-Fluorobiphenyl	1.39436	1.45984	4.70	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.77931	6.01	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.91166	7.06	Average	
CS55 2,4,6-Tribromophenol	.27799	.31451	13.14	Average	
C640 Phenanthrene	1.10703	1.17621	6.25	Average	
C645 Anthracene	1.06492	1.15285	8.26	Average	
C650 Di-n-butylphthalate	1.68960	1.93877	14.75	Average	
C655 Fluoranthene	1.28823	1.36883	6.26	Average	
C715 Pyrene	1.55165	1.62115	4.48	Average	
CS30 D14-Terphenyl	1.05487	1.06808	1.25	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.94996	1.87	Average	
C730 Benzo(a)anthracene	1.24875	1.28052	2.54	Average	
C740 Chrysene	1.22525	1.27821	4.32	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.37921	2.11	Average	
C759 6-Methyl chrysene	.91148	.91033	.13	Average	
C760 Di-n-octylphthalate	2.02659	2.29613	13.30	Average	
C765 Benzo(b)fluoranthene	1.31752	1.33701	1.48	Average	
C770 Benzo(k)fluoranthene	1.17763	1.18831	.91	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.15338	10.41	Average	
C775 Benzo(a)pyrene	1.10417	1.09765	.59	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5196
Injection Time: 940419 10:35

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.88786	1.62	Average
C785 Dibenz(a,h)anthracene	.96071	.93334	2.85	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5210
Injection Time: 940420 09:16

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.24494	6.56	Average	
CS45 D5-Phenol	1.52248	1.58499	4.11	Average	
C309 Pyridine	1.10561	1.13868	2.99	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.42903	2.35	Average	
C335 1,3-Dichlorobenzene	1.70502	1.75195	2.75	Average	
C340 1,4-Dichlorobenzene	1.73050	1.78733	3.28	Average	
C350 1,2-Dichlorobenzene	1.65558	1.70494	2.98	Average	
C349 Indene	2.27085	2.29001	.84	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.07406	2.10	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.38020	.11	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.10999	2.15	Average	
C459 Quinoline	.69188	.70917	2.50	Average	
C471 1-Methylnaphthalene	.70593	.70466	.18	Average	
CS25 2-Fluorobiphenyl	1.39436	1.47036	5.45	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.74800	4.14	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.85606	3.95	Average	
CS55 2,4,6-Tribromophenol	.27799	.34637	24.60	Average	
C640 Phenanthrene	1.10703	1.15832	4.63	Average	
C645 Anthracene	1.06492	1.12257	5.41	Average	
C650 Di-n-butylphthalate	1.68960	1.95245	15.56	Average	
C655 Fluoranthene	1.28823	1.39144	8.01	Average	
C715 Pyrene	1.55165	1.47042	5.24	Average	
CS30 D14-Terphenyl	1.05487	1.08470	2.83	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.91381	2.00	Average	
C730 Benzo(a)anthracene	1.24875	1.27775	2.32	Average	
C740 Chrysene	1.22525	1.21284	1.01	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.34224	.34	Average	
C759 6-Methyl chrysene	.91148	.87310	4.21	Average	
C760 Di-n-octylphthalate	2.02659	2.21469	9.28	Average	
C765 Benzo(b)fluoranthene	1.31752	1.30605	.87	Average	
C770 Benzo(k)fluoranthene	1.17763	1.14114	3.10	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.16443	18.37	Average	
C775 Benzo(a)pyrene	1.10417	1.09243	1.06	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

000140

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5210
Injection Time: 940420 09:16

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.92378	2.37	Average
C785 Dibenz(a,h)anthracene	.96071	.97159	1.13	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5225
Injection Time: 940421 14:25

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.19976	2.70	Average	
CS45 D5-Phenol	1.52248	1.56515	2.80	Average	
C309 Pyridine	1.10561	1.11425	.78	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.40772	.82	Average	
C335 1,3-Dichlorobenzene	1.70502	1.69577	.54	Average	
C340 1,4-Dichlorobenzene	1.73050	1.74854	1.04	Average	
C350 1,2-Dichlorobenzene	1.65558	1.64498	.64	Average	
C349 Indene	2.27085	2.24461	1.16	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.04849	4.43	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.39155	3.10	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.09507	.78	Average	
C459 Quinoline	.69188	.71602	3.49	Average	
C471 1-Methylnaphthalene	.70593	.71784	1.69	Average	
CS25 2-Fluorobiphenyl	1.39436	1.53251	9.91	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.78030	6.07	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.99144	11.53	Average	
CS55 2,4,6-Tribromophenol	.27799	.34367	23.62	Average	
C640 Phenanthrene	1.10703	1.17278	5.94	Average	
C645 Anthracene	1.06492	1.18625	11.39	Average	
C650 Di-n-butylphthalate	1.68960	1.90489	12.74	Average	
C655 Fluoranthene	1.28823	1.37797	6.97	Average	
C715 Pyrene	1.55165	1.48907	4.03	Average	
CS30 D14-Terphenyl	1.05487	1.07335	1.75	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.90796	2.63	Average	
C730 Benzo(a)anthracene	1.24875	1.24441	.35	Average	
C740 Chrysene	1.22525	1.22980	.37	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.34225	.34	Average	
C759 6-Methyl chrysene	.91148	.86878	4.68	Average	
C760 Di-n-octylphthalate	2.02659	2.21768	9.43	Average	
C765 Benzo(b)fluoranthene	1.31752	1.25089	5.06	Average	
C770 Benzo(k)fluoranthene	1.17763	1.20783	2.56	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.10295	25.89	Average	
C775 Benzo(a)pyrene	1.10417	1.06629	3.43	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5225
Injection Time: 940421 14:25

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.89307	1.04	Average
C785 Dibenz(a,h)anthracene	.96071	.93431	2.75	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/1ASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5255
Injection Time: 940423 11:28

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.20777	3.38	Average	
CS45 D5-Phenol	1.52248	1.52478	.15	Average	
C309 Pyridine	1.10561	1.14946	3.97	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.39371	.18	Average	
C335 1,3-Dichlorobenzene	1.70502	1.68929	.92	Average	
C340 1,4-Dichlorobenzene	1.73050	1.72762	.17	Average	
C350 1,2-Dichlorobenzene	1.65558	1.67349	1.08	Average	
C349 Indene	2.27085	2.25720	.60	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.07347	2.15	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.37469	1.34	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.13677	4.62	Average	
C459 Quinoline	.69188	.70050	1.25	Average	
C471 1-Methylnaphthalene	.70593	.72708	3.00	Average	
CS25 2-Fluorobiphenyl	1.39436	1.46543	5.10	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.79161	6.74	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.95212	9.33	Average	
CS55 2,4,6-Tribromophenol	.27799	.34135	22.79	Average	
C640 Phenanthrene	1.10703	1.20956	9.26	Average	
C645 Anthracene	1.06492	1.14193	7.23	Average	
C650 Di-n-butylphthalate	1.68960	2.00912	18.91	Average	
C655 Fluoranthene	1.28823	1.37559	6.78	Average	
C715 Pyrene	1.55165	1.55349	.12	Average	
CS30 D14-Terphenyl	1.05487	1.04719	.73	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.92370	.94	Average	
C730 Benzo(a)anthracene	1.24875	1.23201	1.34	Average	
C740 Chrysene	1.22525	1.21219	1.07	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.30005	3.47	Average	
C759 6-Methyl chrysene	.91148	.90057	1.20	Average	
C760 Di-n-octylphthalate	2.02659	2.15876	6.52	Average	
C765 Benzo(b)fluoranthene	1.31752	1.25218	4.96	Average	
C770 Benzo(k)fluoranthene	1.17763	1.25556	6.62	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.09127	34.29	Average	
C775 Benzo(a)pyrene	1.10417	1.07984	2.20	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5255
Injection Time: 940423 11:28

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.90012	.26	Average
C785 Dibenz[a,h]anthracene	.96071	.92311	3.91	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Calibrated: 940314 15:17

Check Standard Data File: >D0612
Injection Time: 940319 08:30

Compound		$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane		.61196	.53227	13.02	Average	
C015 Bromomethane		1.06191	.93889	11.59	Average	
C020 Vinyl Chloride		.65269	.57847	11.37	Average	
C025 Chloroethane		.44510	.38999	12.38	Average	
C030 Methylene Chloride		.97889	.92440	5.57	Average	
C035 Acetone		.14233	.15133	6.32	Average	
C040 Carbon Disulfide		2.60039	2.40042	7.69	Average	
C045 1,1-Dichloroethene		.95412	.86597	9.24	Average	
C050 1,1-Dichloroethane		1.78620	1.64384	7.97	Average	
C053 1,2-Dichloroethene(total)		1.13293	1.02393	9.62	Average	(Conc=100.00)
C060 Chloroform		2.57943	2.51171	2.63	Average	
CS15 D4-1,2-Dichloroethane	SS1	1.34442	1.36134	1.26	Average	
C065 1,2-Dichloroethane		1.53105	1.56079	1.94	Average	
C110 2-Butanone		.24219	.26693	10.22	Average	
C115 1,1,1-Trichloroethane		.58322	.58265	.10	Average	
C120 Carbon Tetrachloride		.58081	.57939	.24	Average	
C125 Vinyl Acetate		.25346	.31914	25.91	Average	
C130 Bromodichloromethane		.65457	.64783	1.03	Average	
C140 1,2-Dichloropropane		.29968	.28821	3.83	Average	
C143 Cis-1,3-Dichloropropene		.45854	.46364	1.11	Average	(Conc=50.00)
C150 Trichloroethene		.48114	.47966	.31	Average	
C155 Dibromochloromethane		.70231	.73560	4.74	Average	
C160 1,1,2-Trichloroethane		.29860	.31849	6.66	Average	
C165 Benzene		.67286	.69264	2.94	Average	
C172 Trans-1,3-Dichloropropene		.39951	.42226	5.70	Average	(Conc=50.00)
C180 Bromoform		.51148	.57156	11.75	Average	
C205 4-Methyl-2-Pentanone		.21847	.27175	24.39	Average	
C210 2-Hexanone		.14201	.18304	28.89	Average	
C220 Tetrachloroethene		.51955	.51512	.85	Average	
C225 1,1,2,2-Tetrachloroethane		.46702	.56570	21.13	Average	
C230 Toluene		1.06213	1.06054	.15	Average	
CS05 D8-Toluene	SS-2	1.08803	1.09457	.60	Average	
C235 Chlorobenzene		.88176	.87580	.68	Average	
C240 Ethylbenzene		.37711	.38447	1.95	Average	
C245 Styrene		.77370	.77641	.35	Average	
C250 Xylene (total)		.43906	.46003	4.78	Average	
meta+para XYLENE		.46337	.45427	1.96	Average	(Conc=100.00)
ortho XYLENE		.43906	.46003	4.78	Average	
CS10 Bromofluorobenzene	SS-3	.73449	.74755	1.78	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: AQUEOUS CLP 1D
Calibrated: 940316 15:48

Check Standard Data File: >E5219
Injection Time: 940321 08:50

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane	.48681	.47521	2.38	Average	
C015 Bromomethane	1.22893	1.22371	.43	Average	
C020 Vinyl Chloride	.67188	.69325	3.18	Average	
C025 Chloroethane	.49539	.51185	3.32	Average	
C030 Methylene Chloride	1.06493	1.23362	15.84	Average	
C035 Acetone	.17724	.18058	1.88	Average	
C040 Carbon Disulfide	2.71252	2.84120	4.74	Average	
C045 1,1-Dichloroethene	1.12849	1.12000	.75	Average	
C050 1,1-Dichloroethane	1.96487	1.91334	2.62	Average	
C053 1,2-Dichloroethene(total)	1.20240	1.19455	.65	Average	(Conc=100.00)
C060 Chloroform	3.16820	2.92315	7.73	Average	
CS15 D4-1,2-Dichloroethane SS1	2.12865	1.98981	6.52	Average	
C065 1,2-Dichloroethane	2.25702	2.09661	7.11	Average	
C110 2-Butanone	.22720	.22070	2.86	Average	
C115 1,1,1-Trichloroethane	.79437	.76673	3.48	Average	
C120 Carbon Tetrachloride	.81692	.80553	1.39	Average	
C125 Vinyl Acetate	.34705	.39341	13.36	Average	
C130 Bromodichloromethane	.67801	.67216	.86	Average	
C140 1,2-Dichloropropane	.23583	.25405	7.72	Average	
C143 Cis-1,3-Dichloropropene	.42772	.45090	5.42	Average	(Conc=50.00)
C150 Trichloroethene	.41503	.42524	2.46	Average	
C155 Dibromochloromethane	.67860	.68880	1.50	Average	
C160 1,1,2-Trichloroethane	.26307	.26885	2.20	Average	
C165 Benzene	.66286	.69177	4.36	Average	
C172 Trans-1,3-Dichloropropene	.41301	.43688	5.78	Average	(Conc=50.00)
C180 Bromoform	.47930	.47585	.72	Average	
C205 4-Methyl-2-Pentanone	.20266	.19787	2.36	Average	
C210 2-Hexanone	.12706	.12615	.72	Average	
C220 Tetrachloroethene	.53846	.55001	2.15	Average	
C225 1,1,2,2-Tetrachloroethane	.47137	.47766	1.33	Average	
C230 Toluene	1.09081	1.11536	2.25	Average	
CS05 D8-Toluene SS-2	1.15196	1.16699	1.30	Average	
C235 Chlorobenzene	.88943	.89256	.35	Average	
C240 Ethylbenzene	.40374	.41005	1.56	Average	
C245 Styrene	.83188	.84333	1.38	Average	
C250 Xylene (total)	.48538	.49200	1.37	Average	
meta+para Xylene	.50718	.51021	.60	Average	(Conc=100.00)
ortho Xylene	.48538	.49200	1.37	Average	
CS10 Bromofluorobenzene SS-3	.85928	.82252	4.28	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

000147

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
CS50 2-Fluorophenol	1.03827	1.16064	1.17525	1.27220	1.19497	.694	1.16827	7.228	
CS45 D5-Phenol	1.35302	1.59272	1.51650	1.61665	1.53348	.930	1.52248	6.784	
C309 Pyridine	.98492	1.10807	1.11202	1.17507	1.14798	.399	1.10561	6.590	
C314 Benzenethiol	-	-	-	-	-	-	-	-	
C315 Phenol	-	-	-	-	-	-	-	-	
CS70 D4-2-Chlorophenol	1.27943	1.42308	1.41542	1.47761	1.38555	.950	1.39622	5.247	
C335 1,3-Dichlorobenzene	1.74228	1.73781	1.68614	1.73984	1.61903	.989	1.70502	3.135	
C340 1,4-Dichlorobenzene	1.76983	1.75900	1.73272	1.76950	1.62145	1.004	1.73050	3.629	
C350 1,2-Dichlorobenzene	1.72534	1.70458	1.63722	1.66707	1.54371	1.055	1.65558	4.298	
C349 Indene	2.29853	2.37249	2.24515	2.30462	2.13346	1.077	2.27085	3.925	
CS75 1,2-Dichlorobenzene-D4	1.11976	1.12617	1.08691	1.10562	1.04783	1.051	1.09710	2.897	(Conc=10.0,25.0,40.0,60.0,80.0
C355 2-Methylphenol	-	-	-	-	-	-	-	-	
C364 3&4-Methylphenol	-	-	-	-	-	-	-	-	(Conc=40.0,100.0,160.0,240.0,3
CS20 D5-Nitrobenzene	.31913	.38886	.38333	.40069	.40694	.854	.37979	9.261	(Conc=10.0,25.0,40.0,60.0,80.0
C425 2,4-Dimethylphenol	-	-	-	-	-	-	-	-	
C450 Naphthalene	1.19262	1.10325	1.11941	1.03885	.97893	1.005	1.08661	7.486	
C459 Quinoline	.67225	.69664	.70675	.69664	.68714	1.080	.69188	1.876	
C471 1-Methylnaphthalene	.78012	.71147	.71847	.67481	.64480	1.182	.70593	7.222	
CS25 2-Fluorobiphenyl	1.42042	1.42299	1.39953	1.38005	1.34878	.894	1.39436	2.213	(Conc=10.0,25.0,40.0,60.0,80.0
C535 Dimethylphthalate	1.73962	1.70347	1.71171	1.65495	1.58256	.970	1.67846	3.675	
C555 2,4-Dinitrophenol	-	-	-	-	-	-	-	-	
C560 4-Nitrophenol	-	-	-	-	-	-	-	-	
C580 Diethylphthalate	1.82011	1.83848	1.85278	1.72709	1.68923	1.085	1.78554	4.078	
CS55 2,4,6-Tribromophenol	.18311	.24903	.32936	.31676	.31170	1.130	.27799	22.116	
C640 Phenanthrene	1.17574	1.13885	1.10791	1.08607	1.02658	1.003	1.10703	5.079	
C645 Anthracene	1.08061	1.11195	1.10056	1.03391	.99758	1.009	1.06492	4.509	
C650 Di-n-butylphthalate	1.90183	1.97845	1.85027	1.45253	1.26492	1.090	1.68960	18.501	
C655 Fluoranthene	1.30155	1.34302	1.32624	1.26702	1.20330	1.161	1.28823	4.302	
C715 Pyrene	1.71895	1.68738	1.48860	1.45192	1.41141	.881	1.55165	9.114	
CS30 D14-Terphenyl	1.01481	1.09258	1.07287	1.04078	1.05329	.899	1.05487	2.825	(Conc=10.0,25.0,40.0,60.0,bd.(
C720 Butylbenzylphthalate	.93384	1.03906	.92013	.87831	.89118	.952	.93250	6.815	
C730 Benzo(a)anthracene	1.25034	1.29521	1.22848	1.23289	1.23684	.999	1.24875	2.180	
C740 Chrysene	1.28555	1.28865	1.16987	1.20193	1.18026	1.003	1.22525	4.705	
C745 bis(2Ethylhexyl)phthalate	1.44790	1.52478	1.32976	1.25544	1.17602	1.010	1.34678	10.481	
C759 6-Methyl chrysene	.89527	.93097	.92132	.90194	.90789	.926	.91148	1.593	
C760 Di-n-octylphthalate	2.20932	2.47809	2.20570	1.71643	1.52341	.942	2.02659	19.407	
C765 Benzo(b)fluoranthene	1.26457	1.32535	1.28964	1.36072	1.34733	.971	1.31752	3.035	
C770 Benzo(k)fluoranthene	1.25798	1.24701	1.25598	1.11106	1.01615	.973	1.17763	9.294	
C771 7,12-Di-ME-benz[a]anthra	.13812	.15343	.11689	.15561	.13051	.973	.13891	11.641	

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD
C775 Benzo(a)pyrene	1.06220	1.14064	1.11095	1.08716	1.11989	.996	1.10417	2.745
C779 Dibenz[a,h]acridine	.83611	.88589	.93770	.92014	.93236	1.075	.90244	4.677
C785 Dibenz(a,h)anthracene	.91301	.93989	.99196	.98215	.97656	1.099	.96071	3.451

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

DCLP1D
CBCLPA
3-14-94

Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Calibrated: 940314 15:17

Compound	Files:	>D0511 RF 10.00	>D0507 RF 20.00	>D0505 RF 50.00	>D0506 RF 100.00	>D0508 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
C010 Chloromethane		.73977	.64608	.56882	.54150	.56365	.351	.61196	13.340	
C015 Bromomethane		1.22974	1.12402	.92372	1.04836	.98373	.430	1.06191	11.282	
C020 Vinyl Chloride		.76754	.67085	.57705	.63957	.60844	.370	.65269	11.199	
C025 Chloroethane		.53678	.46226	.38507	.43425	.40712	.458	.44510	13.227	
C030 Methylene Chloride		1.16121	.96800	.95186	.95331	.86007	.650	.97889	11.291	
C035 Acetone		.18883	.11004	.17286	.11619	.12375	.573	.14233	25.247	
C040 Carbon Disulfide		2.82991	2.62595	2.36419	2.63407	2.54785	.595	2.60039	6.464	
C045 1,1-Dichloroethene		1.07006	1.00472	.85028	.96166	.88387	.559	.95412	9.342	
C050 1,1-Dichloroethane		1.93802	1.81654	1.64780	1.78799	1.74064	.795	1.78620	5.952	
C053 1,2-Dichloroethene(total)		1.21101	1.14042	1.03923	1.17042	1.10356	.706	1.13293	5.788	(Conc=20.0,40.0,100.0,200.0,400.0)
C060 Chloroform		2.81458	2.62625	2.40546	2.56152	2.48934	1.030	2.57943	6.012	
CS15 D4-1,2-Dichloroethane	SS1	1.32975	1.32829	1.37385	1.33998	1.35021	1.185	1.34442	1.389	
C065 1,2-Dichloroethane		1.66438	1.53138	1.51403	1.49374	1.45172	1.210	1.53105	5.240	
C110 2-Butanone		.27090	.22472	.29669	.22024	.19838	.950	.24219	16.645	
C115 1,1,1-Trichloroethane		.58678	.56957	.55009	.62258	.58710	.812	.58322	4.585	
C120 Carbon Tetrachloride		.57684	.56317	.54521	.62238	.59643	.853	.58081	5.141	
C125 Vinyl Acetate		.23425	.18875	.30124	.27190	.27116	.612	.25346	17.076	
C130 Bromodichloromethane		.66566	.62314	.64432	.69256	.64716	1.155	.65457	3.980	
C140 1,2-Dichloropropane		.31495	.30462	.28489	.30677	.28718	1.096	.29968	4.361	
C143 Cis-1,3-Dichloropropene		.46308	.43616	.44720	.48640	.45985	1.242	.45854	4.121	
C150 Trichloroethene		.51710	.48349	.46065	.50753	.43692	1.050	.48114	6.870	
C155 Dibromochloromethane		.72789	.66361	.69884	.72613	.69506	1.443	.70231	3.757	
C160 1,1,2-Trichloroethane		.31656	.29460	.29569	.30199	.28414	1.377	.29860	3.989	
C165 Benzene		.70151	.65078	.67831	.68064	.65305	.904	.67286	3.145	
C172 Trans-1,3-Dichloropropene		.39908	.37185	.40342	.42040	.40278	1.346	.39951	4.385	
C180 Bromoform		.50603	.46629	.56141	.52538	.49832	1.680	.51148	6.865	
C205 4-Methyl-2-Pentanone		.23629	.19783	.26722	.20510	.18590	.830	.21847	15.112	
C210 2-Hexanone		.15654	.11936	.17716	.13386	.12313	.927	.14201	17.185	
C220 Tetrachloroethene		.55755	.53477	.50718	.51541	.48285	.907	.51955	5.437	
C225 1,1,2,2-Tetrachloroethane		.49659	.43439	.54553	.45018	.40844	1.144	.46702	11.639	
C230 Toluene		1.12942	1.04510	1.05111	1.06469	1.02030	.845	1.06213	3.852	
CS05 D8-Toluene	SS-2	1.01490	1.09569	1.15691	1.10428	1.06839	.837	1.08803	4.776	
C235 Chlorobenzene		.93729	.88481	.86642	.88801	.83228	1.003	.88176	4.324	
C240 Ethylbenzene		.40385	.38097	.37615	.37643	.34815	1.017	.37711	5.253	
C245 Styrene		.82883	.78240	.78066	.77521	.70136	1.074	.77370	5.923	
C250 Xylene (total)		.47739	.44651	.44282	.43573	.39282	1.072	.43906	6.916	
meta+para XYLENE		.50211	.47238	.46622	.44888	.42729	1.030	.46337	6.010	(Conc=20.0,40.0,100.0,200.0,400.0)
ortho XYLENE		.47739	.44651	.44282	.43573	.39282	1.072	.43906	6.916	
CS10 Bromofluorobenzene	SS-3	.71266	.74683	.77543	.73649	.70105	1.128	.73449	3.985	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

IDCLPE
CBCLPE
3-16-94

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Compound	Files: >E5127 RF 10.00	>E5130 RF 20.00	>E5126 RF 50.00	>E5128 RF 100.00	>E5131 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
C010 Chloromethane	.51172	.47259	.46088	.49691	.49196	.377	.48681	4.139	
C015 Bromomethane	1.27192	1.18328	1.19858	1.24007	1.25082	.432	1.22893	3.005	
C020 Vinyl Chloride	.67622	.65477	.66362	.67251	.69229	.390	.67188	2.101	
C025 Chloroethane	.49785	.49039	.48228	.48813	.51830	.448	.49539	2.819	
C030 Methylene Chloride	1.17573	1.06124	1.00141	1.02446	1.06181	.661	1.06493	6.295	
C035 Acetone	.24375	.19416	.14599	.15504	.14728	.581	.17724	23.731	
C040 Carbon Disulfide	2.65213	2.62270	2.69980	2.78784	2.80014	.606	2.71252	2.928	
C045 1,1-Dichloroethene	1.12512	1.09348	1.11136	1.11813	1.19439	.568	1.12849	3.426	
C050 1,1-Dichloroethane	1.97385	1.87047	1.98801	1.98914	2.00291	.802	1.96487	2.736	
C053 1,2-Dichloroethene(total)	1.22279	1.12950	1.20835	1.20391	1.24743	.714	1.20240	3.671	(Conc=20.0,40.0,100.0,200.0,
C060 Chloroform	3.39301	2.90462	3.19269	3.17660	3.17409	1.029	3.16820	5.483	
CS15 D4-1,2-Dichloroethane SS1	2.20246	2.06731	2.11924	2.17429	2.07993	1.181	2.12865	2.755	
C065 1,2-Dichloroethane	2.35066	2.14415	2.28279	2.28669	2.22080	1.208	2.25702	3.458	
C110 2-Butanone	.23987	.25783	.20816	.21675	.21337	.949	.22720	9.237	
C115 1,1,1-Trichloroethane	.84328	.74092	.81301	.77067	.80398	.807	.79437	4.976	
C120 Carbon Tetrachloride	.84712	.76478	.84096	.79409	.83764	.845	.81692	4.396	
C125 Vinyl Acetate	.33983	.33218	.33835	.34932	.37555	.614	.34705	4.920	
C130 Bromodichloromethane	.69331	.63648	.66576	.70247	.69206	1.166	.67801	3.974	
C140 1,2-Dichloropropane	.23835	.22701	.23217	.23746	.24416	1.103	.23583	2.762	
C143 Cis-1,3-Dichloropropene	.42816	.40777	.41921	.44174	.44173	1.258	.42772	3.435	
C150 Trichloroethene	.43327	.40040	.41111	.41339	.41695	1.054	.41503	2.873	
C155 Dibromochloromethane	.68310	.69094	.64551	.68157	.69190	1.470	.67860	2.809	
C160 1,1,2-Trichloroethane	.27583	.29099	.23819	.25549	.25483	1.401	.26307	7.806	
C165 Benzene	.68929	.64279	.65251	.64717	.68253	.898	.66286	3.237	
C172 Trans-1,3-Dichloropropene	.41162	.38838	.39494	.43073	.43941	1.369	.41301	5.341	
C180 Bromoform	.50761	.50893	.42277	.46158	.49559	1.721	.47930	7.705	
C205 4-Methyl-2-Pentanone	.22807	.23619	.18498	.18328	.18076	.824	.20266	13.372	
C210 2-Hexanone	.14905	.14252	.10947	.11700	.11728	.926	.12706	13.794	
C220 Tetrachloroethene	.57728	.50970	.53290	.53385	.53856	.903	.53846	4.536	
C225 1,1,2,2-Tetrachloroethane	.54185	.55361	.40549	.41685	.43904	1.151	.47137	15.034	
C230 Toluene	1.14645	1.03052	1.09420	1.11681	1.06608	.839	1.09081	4.108	
CS05 D8-Toluene SS-2	1.16943	1.13006	1.15406	1.19836	1.10788	.831	1.15196	3.034	
C235 Chlorobenzene	.92960	.85141	.87000	.90008	.89605	1.003	.88943	3.370	
C240 Ethylbenzene	.42079	.37615	.39371	.40697	.42108	1.017	.40374	4.737	
C245 Styrene	.84642	.78192	.80524	.84761	.87818	1.076	.83188	4.581	
C250 Xylene (total)	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
meta+para Xylene	.53076	.48181	.50197	.51647	.50491	1.031	.50718	3.579	(Conc=20.0,40.0,100.0,200.0,
ortho Xylene	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
CS10 Bromofluorobenzene SS-3	.88811	.84852	.82771	.86112	.87093	1.132	.85928	2.655	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

NATIONAL ENVIRONMENTAL TESTING, INC.

Thorofare Division
100 Grove Road
P.O. Box 248
Thorofare, NJ 08086
Tel: (609) 848-3939
Fax: (609) 848-9195

FOR:

ENSR Consulting

35 Nagog Park
Acton, MA 01720

Attention: Charlie Martin
Project: Philly Sun Oil

Report #: 94.00938
Date: May 02, 1994

NET ATLANTIC, INC.
Thorofare Division

Approved and released by:

John Visicaro
QA Coordinator

Review and approval of
technical data by:

Neil Rossiter
Project Manager

REPORT NARRATIVE

This report contains the results of the analysis of samples by NET Atlantic, Inc. for ENSR Consulting. The samples were from the Philly Sun Oil project and were analyzed for the parameters specified on the chain of custody. The following page lists the samples associated with this job, the date the samples were received by the laboratory and correlates the lab sample ID with the client ID. A laboratory chronicle has been provided that shows the date on which each test was performed.

NATIONAL ENVIRONMENTAL TESTING, INC.

The following table identifies all samples submitted to NET for analysis.

Client: ENSR CONSULTING Job No: 94.00938

NET ID	Client ID	Date Sampled	Date Received
135340	TB500	03/11/1994	03/17/1994
135341	10851	03/16/1994	03/17/1994
135342	109D1	03/16/1994	03/17/1994
135343	369D3	03/17/1994	03/17/1994
135344	369D1	03/17/1994	03/17/1994
135345	369D2	03/17/1994	03/17/1994
135346	10851 (FILTERED)	03/16/1994	03/17/1994
135347	109D1 (FILTERED)	03/16/1994	03/17/1994
135348	369D3 (FILTERED)	03/17/1994	03/17/1994
135349	369D1 (FILTERED)	03/17/1994	03/17/1994
135350	369D2 (FILTERED)	03/17/1994	03/17/1994

Listed below are the current certifications that are held by NET, Inc. - Thorofare Division.

NJ Certification No: 08153
NY Certification No: 10867
PA Certification No: 68-212
SC Certification No: 94008
CT Certification No: PH-0784
MA Certification No: NJ119
DE Certification No: 08153(NJ)
VA Certification No: 00043
FL Certification No: E87427

M901376

ENSR CHAIN OF CUSTODY RECORD

Page 1 of 1

Client/Project Name: ENSR C+E/Sun R+M

Project Location: Philadelphia Refinery

Project Number: 6445-051

Field Logbook No.:

Sampler: (Print Name) /Affiliation: Mark J. Irani (ENSR)

Signature: Mark J. Irani

Chain of Custody Tape No.:

Send Results/Report to: Charlie Martin, ENSR

(508)635-9500 35 Nagog Park Acton, MA 01720

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BTEX	Base Neutrals	Total Metals	* Iron, Manganese	Chloride, Fluoride, Sulfate	Nitrate/Nitrite, TOC, ammonia	TDS, Bicarbonates, total alk.	Sulfide	Remarks
TB500	3/11/94	—			2	aqueous			V2								
10851	3/16/94	1400	✓		10				V2	V2	V1	V1	V1	V1	V1	V1	
109D1	3/16/94	1600	✓		10				V2	V2	V1	V1	V1	V1	V1	V1	
369D3	3/17/94	1030	✓		10				V2	V2	V1	V1	V1	V1	V1	V1	
369D1	3/17/94	1100	✓		10				V2	V2	V1	V1	V1	V1	V1	V1	
369D2	3/17/94	1130	✓		10				V2	V2	V1	V1	V1	V1	V1	V1	
																	* field filtered

Relinquished by: (Print Name)	Date	Received by: (Print Name)	Date
Mark J. Irani	3/17/94	M Reese	3/17/94
Signature: Mark J. Irani	Time: 1430	Signature: M Reese	Time: 1545
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Signature:	Time:	Signature:	Time:
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Signature:	Time:	Signature:	Time:

Analytical Laboratory (Destination): NET - Thoroughfare, NJ.

Serial No. 10347

000003

METHODOLOGY SUMMARY

PURGEABLES GC/MS

USEPA Method 624(40 CFR Ch. I (7-1-91 Edition), Method 8240 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are purge and trap methods applicable to the determination of purgeable organic compounds. An inert gas is bubbled thru a sample aliquot contained in a purging chamber where the purgeables are transferred to the vapor phase. The purgeables are collected on a sorbent trap which is rapidly heated and backflushed with helium to desorb the purgeables onto a capillary GC column. The GC is temperature programmed to allow the separation of the purgeables which are then detected with a mass spectrometer. Refer to the method for specific interferences.

As per the applicable methodology the laboratory supplies vials containing Hydrochloric Acid (HCL) for preservation of aqueous samples. 2-Chloroethylvinyl ether is susceptible to acidic degradation which can adversely affect the detectability of this compound.

BASE/NEUTRALS

USEPA Method 625(40 CFR Ch. I (7-1-91 Edition), Method 8270 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are GC/MS methods applicable to the determination of organic compounds that are partitioned into an organic solvent and amenable to gas chromatography. A sample aliquot is extracted with methylene chloride (continuous liquid-liquid for waters, sonication for soils) which is dried, concentrated and analyzed on a Hewlett-Packard GC/MS fitted with a capillary column. Extracts may be subjected to one or more clean-up steps to eliminate matrix interferences. Refer to the method for specific interferences.

METALS

Aqueous samples for metals analysis were run in accordance with the methods prescribed in "Methods for Analysis of Water and Wastes" (EPA-600/4-79-020), Metals-4, as modified for use in the USEPA CLP.

INORGANIC PARAMETERS

The following USEPA Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020 were used by the laboratory.

Ammonia Nitrogen (Ammonia) - Method 350.2
Chloride - Method 325.3
Conductance - Method 120.1
Nitrate/Nitrite - Method 353.1
Sulfate - Method 375.4
Sulfide - Method 376.1
Total Dissolved Solids (TDS) - Method 160.1
Total Organic Carbon (TOC) - Method AQ 415.1 SO 415.1 MOD

ALKALINITY

An aliquot of the unaltered sample is titrated against standardized sulfuric acid to pH 4.5 using a pH meter. Results are reported as ug of Calcium Carbonate per Liter of sample. USEPA Method 310.1

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis

Client: ENSR CONSULTING Job No: 94.00938

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135340	TB500	03/11/1994	03/17/1994	BL
135341	10851	03/16/1994	03/17/1994	GR
135342	109D1	03/16/1994	03/17/1994	GR
135343	369D3	03/17/1994	03/17/1994	GR
135344	369D1	03/17/1994	03/17/1994	GR
135345	369D2	03/17/1994	03/17/1994	GR
135346	10851 (FILTERED)	03/16/1994	03/17/1994	GR

Laboratory ID:	135340	135341	135342	135343	135344	135345	135346
Organic Extraction							
Semivolatile AQ (GC/MS)		03/23/1994	03/23/1994	03/23/1994	03/23/1994	03/23/1994	
Semivolatile SO (GC/MS)							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							
TCLP Non-volatiles extraction							
TCLP Volatiles extraction							
Inorganic Preparation							
Metals(Except Hg & CrVI)		04/13/1994	04/13/1994	04/13/1994	04/13/1994	04/13/1994	04/13/1994
Phenols							
Cyanides							
Organic Analysis							
Semivolatiles AQ		04/23/1994	04/21/1994	04/22/1994	04/21/1994	04/22/1994	
Semivolatiles SO							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Volatile Organics AQ (GC/MS)	03/21/1994	03/22/1994	03/21/1994	03/22/1994	03/21/1994	03/21/1994	
Volatile Organics SO (GC/MS)							
Volatile Organics AQ (GC)							
Volatile Organics SO (GC)							
Acrolein & Acrylonitrile (GC)							
Selected Organics (GC)							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis

Client: ENSR CONSULTING Job No: 94.00938

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135347	109D1 (FILTERED)	03/16/1994	03/17/1994	GR
135348	369D3 (FILTERED)	03/17/1994	03/17/1994	GR
135349	369D1 (FILTERED)	03/17/1994	03/17/1994	GR
135350	369D2 (FILTERED)	03/17/1994	03/17/1994	GR

Laboratory ID:	135347	135348	135349	135350

Organic Extraction

Semivolatile AQ (GC/MS)
Semivolatile SO (GC/MS)
Pesticides/PCBs AQ
Pesticides/PCBs SO
Herbicides AQ
Herbicides SO
Petroleum Hydrocarbons AQ
Petroleum Hydrocarbons SO
TCLP Non-volatiles extraction
TCLP Volatiles extraction

Inorganic Preparation

Metals(Except Hg & CrVI)	04/13/1994	04/13/1994	04/13/1994	04/13/1994
Phenols				
Cyanides				

Organic Analysis

Semivolatiles AQ
Semivolatiles SO
Pesticides/PCBs AQ
Pesticides/PCBs SO
Herbicides AQ
Herbicides SO
Volatile Organics AQ (GC/MS)
Volatile Organics SO (GC/MS)
Volatile Organics AQ (GC)
Volatile Organics SO (GC)
Acrolein & Acrylonitrile (GC)
Selected Organics (GC)
Petroleum Hydrocarbons AQ
Petroleum Hydrocarbons SO

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00938

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135340	TB500	03/11/1994	03/17/1994	BL
135341	10851	03/16/1994	03/17/1994	GR
135342	109D1	03/16/1994	03/17/1994	GR
135343	369D3	03/17/1994	03/17/1994	GR
135344	369D1	03/17/1994	03/17/1994	GR
135345	369D2	03/17/1994	03/17/1994	GR
135346	10851 (FILTERED)	03/16/1994	03/17/1994	GR

Laboratory ID: Parameter	135340	135341	135342	135343	135344	135345	135346
Alkalinity		03/25/1994	03/25/1994	03/25/1994	03/25/1994	03/25/1994	
Alkalinity, Bicarb. at pH 4.		03/25/1994	03/25/1994	03/25/1994	03/25/1994	03/25/1994	
Ammonia		04/04/1994	04/04/1994	04/04/1994	04/04/1994	04/04/1994	
Chloride		04/04/1994	04/04/1994	04/04/1994	04/04/1994	04/04/1994	
Conductivity		03/21/1994	03/21/1994	03/21/1994	03/21/1994	03/21/1994	
Fluoride, Total		04/04/1994	04/04/1994	04/04/1994	04/04/1994	04/04/1994	
Nitrate/nitrite		04/04/1994	04/04/1994	04/04/1994	04/04/1994	04/04/1994	
Solids, dissolved (TDS)		03/21/1994	03/21/1994	03/22/1994	03/22/1994	03/22/1994	
Sulfate		04/05/1994	04/05/1994	04/05/1994	04/05/1994	04/05/1994	
Sulfide		03/24/1994	03/24/1994	03/24/1994	03/24/1994	03/24/1994	
Total Organic Carbon		03/30/1994	03/30/1994	03/30/1994	03/30/1994	03/30/1994	
Arsenic (As)		04/20/1994	04/20/1994	04/20/1994	04/20/1994	04/20/1994	
Cobalt (Co)		04/21/1994	04/21/1994	04/21/1994	04/21/1994	04/21/1994	
Iron (Fe)		04/21/1994	04/21/1994	04/21/1994	04/21/1994	04/21/1994	04/21/1994
d (Pb)		04/20/1994	04/20/1994	04/20/1994	04/20/1994	04/20/1994	
nganese (Mn)		04/21/1994	04/21/1994	04/21/1994	04/21/1994	04/21/1994	04/21/1994

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00938

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135347	109D1 (FILTERED)	03/16/1994	03/17/1994	GR
135348	369D3 (FILTERED)	03/17/1994	03/17/1994	GR
135349	369D1 (FILTERED)	03/17/1994	03/17/1994	GR
135350	369D2 (FILTERED)	03/17/1994	03/17/1994	GR

Laboratory ID:	135347	135348	135349	135350
Parameter				
Alkalinity				
Alkalinity, Bicarb. at pH 4.				
Ammonia				
Chloride				
Conductivity				
Fluoride, Total				
Nitrate/nitrite				
Solids, dissolved (TDS)				
Sulfate				
Sulfide				
Total Organic Carbon				
Arsenic (As)				
Cobalt (Co)				
Iron (Fe)	04/21/1994	04/21/1994	04/21/1994	04/21/1994
Lead (Pb)				
Manganese (Mn)	04/21/1994	04/21/1994	04/21/1994	04/21/1994

Definition of terms, abbreviations and flags that may be used in this report.

Flag/Term/Abbrev.	Definition
U	Compound was analyzed for but not detected. The laboratory has reported the method detection limit for the compound.
J	Compound was detected at a concentration below the practical reporting level, yet above the method detection limit. These values are estimates.
B	Compound was detected in the method/extraction blank as well as the sample. The data user is warned of possible laboratory introduced contamination.
NA	Not Applicable
ND	Not Detected
NC	Not Calculable
NR	Not Requested or Not Reported
MDL	Method detection limit. Can be a limit specified by the method or a number determined by performing an MDL study.
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
umhos	conductivity units; resistance is expressed in ohms.
NTU	Nephlometric Turbidity Units; used for turbidity.
col/9	Colonies per volume of sample analyzed; used for bacteriology.
deg C	degrees celcius
deg F	degrees fahrenheit
ug	microgram; there are 1000 ug in 1 mg.
mg	milligram; there are 1000 mg in 1 g.
g	gram; there are 1000 g in 1 Kg.
Kg	kilogram
ul	microliter; there are 1000 ul in 1 ml.
ml	milliliter; there are 1000 ml in 1 liter.
L	liter
dw	Dry weight; indicates that the reported value has been corrected for percent solids.
ppm	Parts per million = mg/Kg, ug/g, mg/L, ug/ml; 1 ppm = 1000ppb
ppb	Parts per billion = ug/Kg, ug/L

INORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00938
Sample No: 135341
Client Sample ID: 10851

Parameter	Results	Units
Alkalinity	177	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	177	ppmCaCO3
Ammonia	3.8	mg/L N
Chloride	29	mg/L
Conductivity	1893	umhos/cm
Fluoride, Total	0.14	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	1660	mg/L
Sulfate	610	mg/L
Sulfide	<0.02	mg/L
Total Organic Carbon	69	mg/L
Arsenic (As)	0.013	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	36.3	mg/L
Lead (Pb)	0.010	mg/L
Manganese (Mn)	0.67	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00938
Sample No: 135342
Client Sample ID: 109D1

Parameter	Results	Units
Alkalinity	379	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	379	ppmCaCO3
Ammonia	28.8	mg/L N
Chloride	23	mg/L
Conductivity	771	umhos/cm
Fluoride, Total	<0.1	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	402	mg/L
Sulfate	<10	mg/L
Sulfide	<0.02	mg/L
Total Organic Carbon	14	mg/L
Arsenic (As)	0.004	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	70.6	mg/L
Lead (Pb)	0.004	mg/L
Manganese (Mn)	2.11	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00938
Sample No: 135343
Client Sample ID: 369D3

Parameter	Results	Units
Alkalinity	<2	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	<2	ppmCaCO3
Ammonia	<0.1	mg/L N
Chloride	<2	mg/L
Conductivity	1	umhos/cm
Fluoride, Total	<0.1	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	10	mg/L
Sulfate	<10	mg/L
Sulfide	<0.1	mg/L
Total Organic Carbon	<1	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	<0.05	mg/L
Lead (Pb)	0.001	mg/L
Manganese (Mn)	<0.01	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00938
Sample No: 135344
Client Sample ID: 369D1

Parameter	Results	Units
Alkalinity	472	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	472	ppmCaCO3
Ammonia	4.5	mg/L N
Chloride	118	mg/L
Conductivity	1189	umhos/cm
Fluoride, Total	0.13	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	652	mg/L
Sulfate	54	mg/L
Sulfide	5.61	mg/L
Total Organic Carbon	3	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	3.91	mg/L
Lead (Pb)	0.004	mg/L
Manganese (Mn)	4.31	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00938
Sample No: 135345
Client Sample ID: 369D2

Parameter	Results	Units
Alkalinity	279	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	279	ppmCaCO3
Ammonia	4.5	mg/L N
Chloride	112	mg/L
Conductivity	1162	umhos/cm
Fluoride, Total	0.13	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	672	mg/L
Sulfate	36	mg/L
Sulfide	3.64	mg/L
Total Organic Carbon	3	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	3.60	mg/L
Lead (Pb)	0.005	mg/L
Manganese (Mn)	4.28	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00938
Sample No: 135346
Client Sample ID: 10851 (FILTERED)

Parameter	Results	Units
Iron (Fe)	3.11	mg/L
Manganese (Mn)	0.70	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00938
Sample No: 135347
Client Sample ID: 109D1 (FILTERED)

Parameter	Results	Units
Iron (Fe)	53.7	mg/L
Manganese (Mn)	1.88	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00938
Sample No: 135348
Client Sample ID: 369D3 (FILTERED)

Parameter	Results	Units
Iron (Fe)	<0.05	mg/L
Manganese (Mn)	<0.01	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00938
Sample No: 135349
Client Sample ID: 369D1 (FILTERED)

Parameter	Results	Units
Iron (Fe)	<0.05	mg/L
Manganese (Mn)	4.20	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00938
Sample No: 135350
Client Sample ID: 369D2 (FILTERED)

Parameter	Results	Units
Iron (Fe)	<0.05	mg/L
Manganese (Mn)	4.19	mg/L

ORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135340
Client Sample ID: TB500

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135341
Client Sample ID: 10851

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	100	U	ug/L	78.	04/23/1994	jig	11	4
Benzo(b)Fluoranthene	100	U	ug/L	48.	04/23/1994	jig	11	4
Benzo(a)Pyrene	100	U	ug/L	25.	04/23/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	100	U	ug/L	25.	04/23/1994	jig	11	4
Chrysene	100	U	ug/L	25.	04/23/1994	jig	11	4
Dibenz(a,h)Anthracene	100	U	ug/L	25.	04/23/1994	jig	11	4
Indene	100	U	ug/L	100	04/23/1994	jig	11	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135341
Client Sample ID: 10851

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/22/1994	res		202
Toluene	6.0	U	ug/L	6.0	03/22/1994	res		202
Ethylbenzene	6.0	U	ug/L	6.0	03/22/1994	res		202
m+p-Xylenes	5.0	U	ug/L	5.0	03/22/1994	res		202

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135342
Client Sample ID: 109D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	2.4	J	ug/L	2.5	04/21/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/21/1994	jig	11	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135342
Client Sample ID: 10901

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135343
Client Sample ID: 36903

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/22/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/22/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/22/1994	jig	11	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135343
Client Sample ID: 36903

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/22/1994	res		202
Toluene	6.0	U	ug/L	6.0	03/22/1994	res		202
Ethylbenzene	6.0	U	ug/L	6.0	03/22/1994	res		202
m+p-Xylenes	5.0	U	ug/L	5.0	03/22/1994	res		202

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135344
Client Sample ID: 369D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/21/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/21/1994	jig	11	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135344
Client Sample ID: 3690I

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135345
Client Sample ID: 36902

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/22/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/22/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/22/1994	jig	11	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135345
Client Sample ID: 36902

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

ACID EXTRACTABLE/BASE NEUTRALS

Client: Ewan Consulting Report No: 94.00938

Client ID	NET ID	Nitrobenzene-d5 (35-114)	2-Fluorobiphenyl (43-116)	p-terphenyl-d14 (33-141)	Phenol-d6 (10-94)	2-Fluorophenol (21-100)	2,4,6-Tribromophenol (10-123)
10851	135341	40	60	20*	40	0*	0*
10901	135342	64	80	58	49	11*	11*
31690 3	135343	64	68	82	5*	0*	0*
31690 1	135344	80	74	21*	41	8*	15
31690 2	135345	64	68	28*	31	0*	4*
Blank #2	A295A	68	72	80	4*	0*	0*
MS	A295A	88	76	88	12	0*	0*
MSD	A295A	80	70	74	10	0*	0*

COMMENTS: *Outside Control Limits

NET ATLANTIC, INC.
THOROFARE DIVISION

SOIL SURROGATE PERCENT RECOVERY SUMMARY

VOLATILES

Client: EWSA Consulting Report No: 94.00938

Client ID	NET ID	Toluene-d8 (81-117)	BFB (74-121)	1,2-Dichloroethane-d4 (70-121)
TB500	135340	102	108	96
10851	135341	104	102	102
10901	135342	100	104	94
13L903	135343	102	100	102
13L901	135344	96	104	96
13L902	135345	96	104	98
Blank	>E5220	100	102	92
Blank	>F5239	100	101	98
MS	FA0-198	88	96	94
MSD	FA0-198	88	92	90

COMMENTS:

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

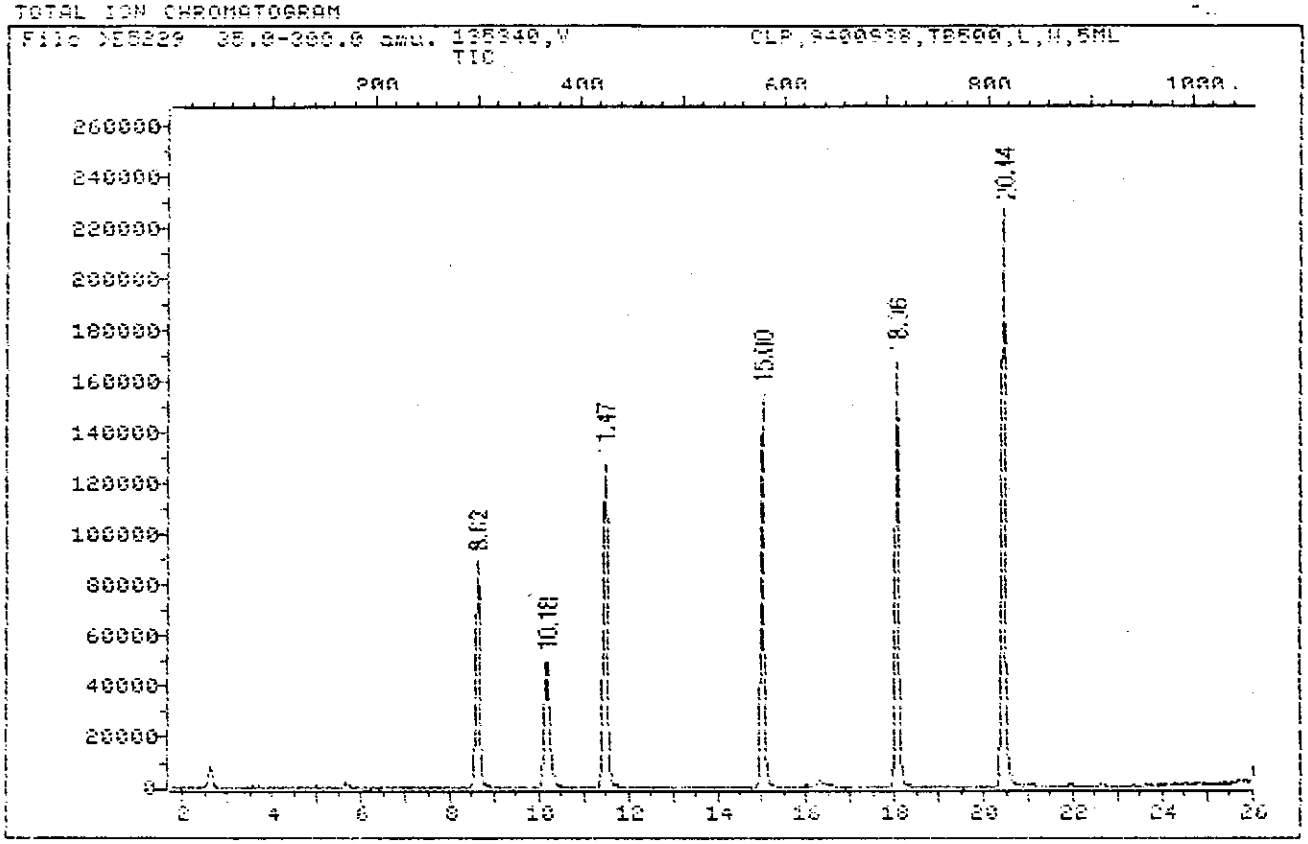
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135340
Client Sample ID: TB500

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198

TOTAL ION CHROMATOGRAM



Data File: >E5229::D6 Quant Output File: ^E5229::D8
Name: 135340,U
Misc: CLP,9400938,T8500,L,W,5ML

Id File: IDCLPE::D4
Title: AD:BDHS CLP ID
Last Calibration: 940321 09:57

Operator ID: RITA
Quant Time: 940321 16:25
Injected at: 940321 15:59

QUANT REPORT

Operator ID: RITA
Output File: ^E5229::D8
Data File: >E5229::D6
Name: 135340,U
Misc: CLP,9400938,TB500,L,W,5ML

Quant Rev: 6 Quant Time: 940321 16:25
Injected at: 940321 19:59
Dilution Factor: 1.00000

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

	Compound	RS	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.62	128.0	90292	50.00	UG/L	87
13)	CS19 D4-1,2-Dichloroethane	SS1	10.18	65.0	172291	47.95	UG/L	85
16)	*CI[illegible] 1,4-Difluorobenzene	IS-2	11.47	114.0	363223	50.00	UG/L	69
29)	*CI[illegible] D5-Chlorobenzene	IS-3	18.06	117.0	263310	50.00	UG/L	[illegible]
35)	CS05 D8-Toluene	SS-2	15.00	98.0	310981	50.60	UG/L	98
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	234353	54.10	UG/L	93

* Compound is ISTD

JCP

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

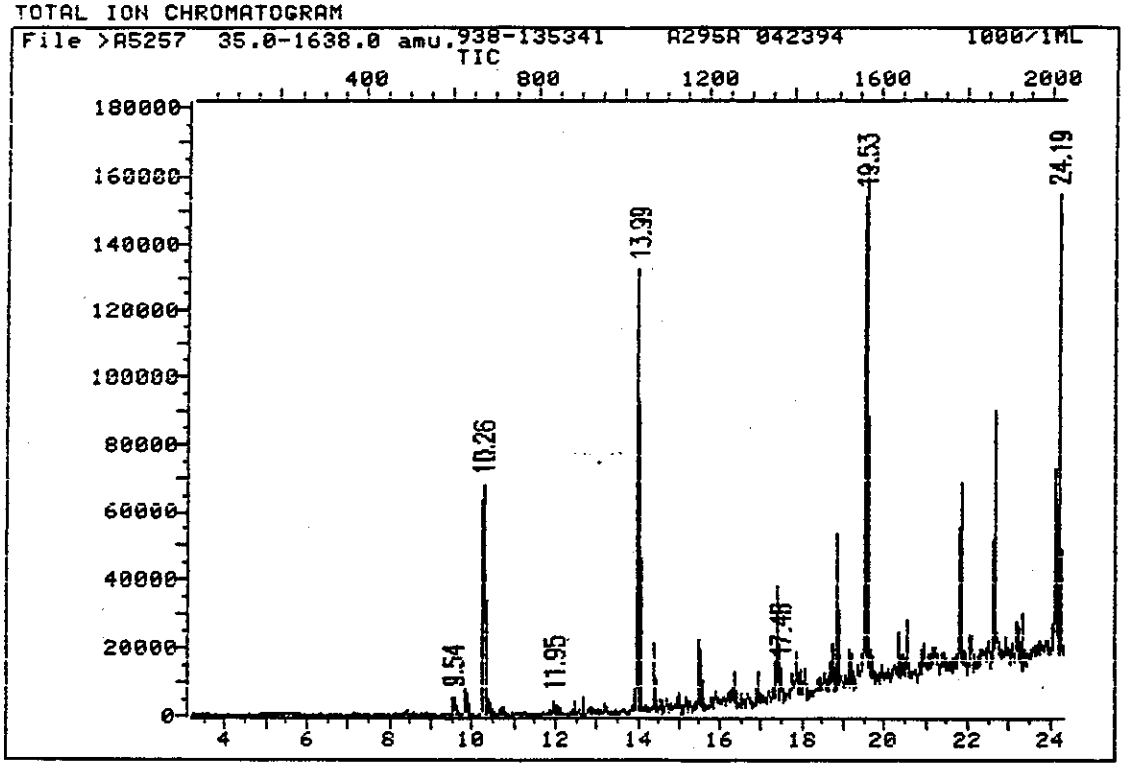
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135341
Client Sample ID: 10851

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	100	U	ug/L	78.	04/23/1994	jig	11	4
Benzo(b)Fluoranthene	100	U	ug/L	48.	04/23/1994	jig	11	4
Benzo(a)Pyrene	100	U	ug/L	25.	04/23/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	100	U	ug/L	25.	04/23/1994	jig	11	4
Chrysene	100	U	ug/L	25.	04/23/1994	jig	11	4
Dibenz(a,h)Anthracene	100	U	ug/L	25.	04/23/1994	jig	11	4
Indene	100	U	ug/L	100	04/23/1994	jig	11	4

TOTAL ION CHROMATOGRAM



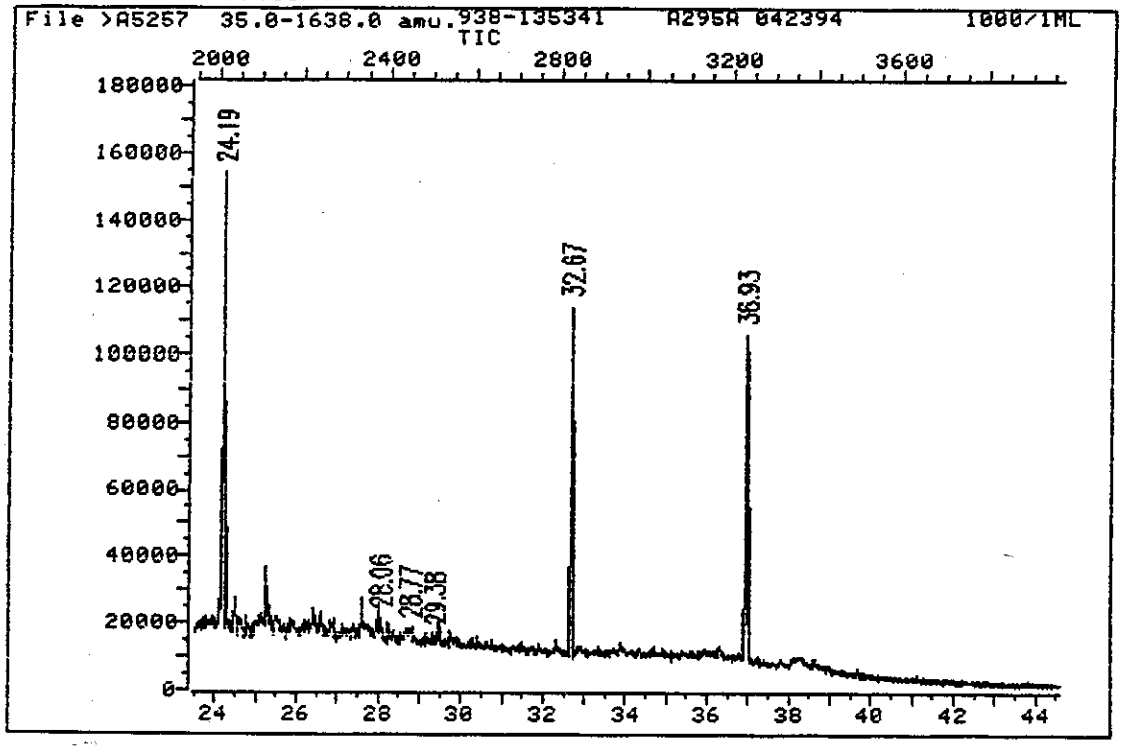
Data File: >A5257::E5 Quant Output File: ^A5257::D3
Name: 938-135341 A295A
Misc: 042394 1000/1ML 10X HP5970 A BTL# 3

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940423 19:20
Injected at: 940423 13:13

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5257::E5 Quant Output File: ^A5257::D3
Name: 938-135341 A295A
Misc: 042394 1000/1ML 10X HP5970 A BTL# 3

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940423 19:20
Injected at: 940423 13:13

TIC page 2 of 2

72400

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940423 19:20
Output File: ^A5257::D3 Injected at: 940423 13:13
Data File: >A5257::E5 Dilution Factor: 1.00000
Name: 938-135341 A295A
Misc: 042394 1000/1ML 10X HP5970 A BTL# 3

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.26	152.0	31731	40.00	ug/L	7
3)	CS45 D5-Phenol	9.54	99.0	5126	4.24	ug/L	95
15)	*CI40 D8-Naphthalene	13.99	136.0	115841	40.00	ug/L	93
16)	CS20 D5-Nitrobenzene	11.95	82.0	2627M	2.39	ug/L	
21)	*CI50 D10-Acenaphthene	19.53	164.0	71220	40.00	ug/L	95
22)	CS25 2-Fluorobiphenyl	17.46	172.0	6673	2.69	ug/L	92
28)	*CI60 D10-Phenanthrene	24.19	188.0	115777	40.00	ug/L	9
32)	C655 Fluoranthene	28.06	202.0	3599	.97	ug/L	91
33)	*CI70 D12-Chrysene	32.67	240.0	98780	40.00	ug/L	97
34)	C715 Pyrene	28.77	202.0	3614	.94	ug/L	5
35)	CS30 D14-Terphenyl	29.38	244.0	2530M	.97	ug/L	
40)	*CI75 D12-Perylene	36.93	264.0	111986	40.00	ug/L	9

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

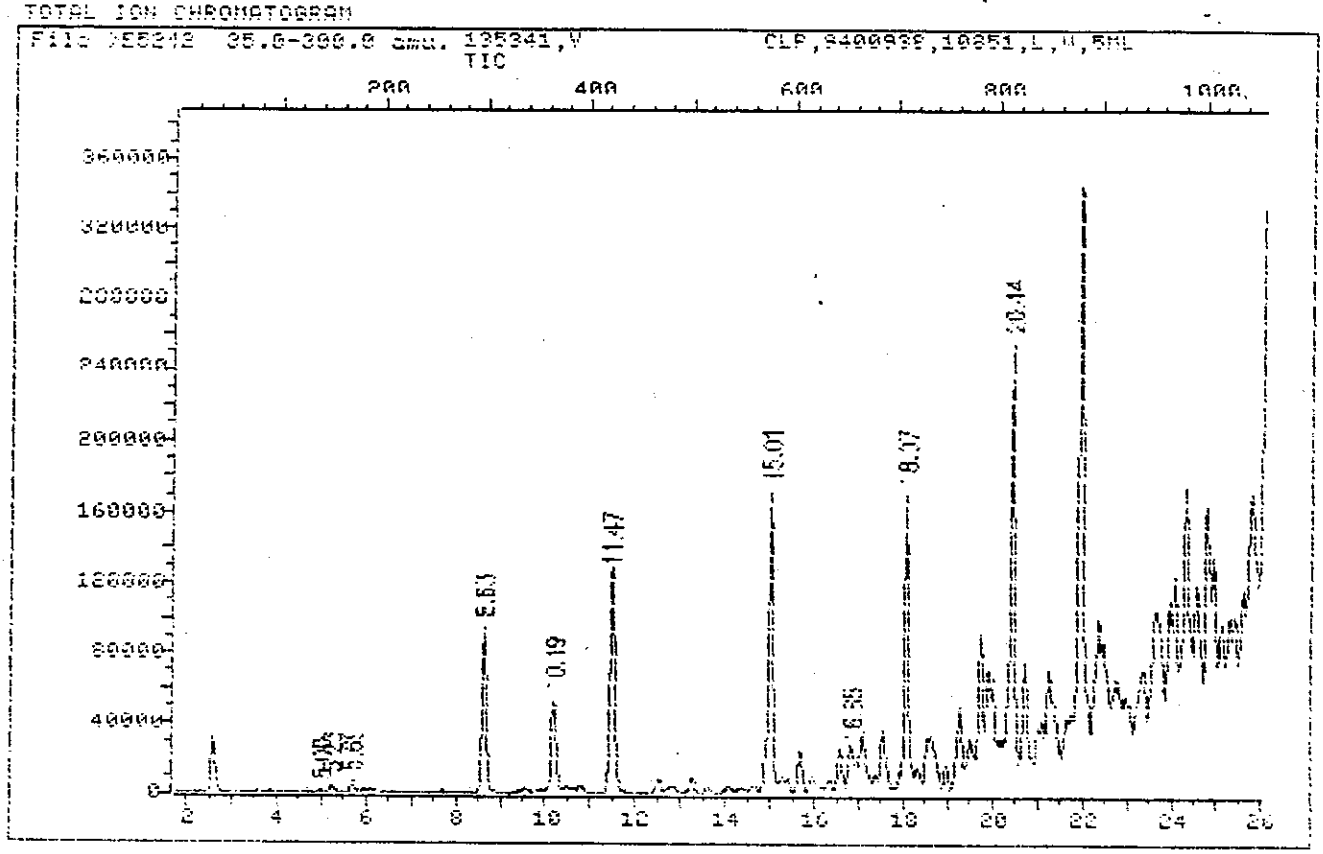
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135341
Client Sample ID: 10851

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/22/1994	res		202
Toluene	6.0	U	ug/L	6.0	03/22/1994	res		202
Ethylbenzene	6.0	U	ug/L	6.0	03/22/1994	res		202
m+p-Xylenes	5.0	U	ug/L	5.0	03/22/1994	res		202

TOTAL ION CHROMATOGRAM



Data File: >E5242::D6 Quant Output File: ^E5242::D8
Name: 135341,V
Misc: CLP.9400938,10851,L,W,5ML

In File: I?CLPE::D4
Title: AQUEOUS CLP 10
Last Calibration: 940322 08:55

Operator ID: RITA
Quant Time: 940322 11:19
Injected at: 940322 10:49

QUANT REPORT

Operator ID: RITA
Output File: ^E5242::D8
Data File: >E5242::D6
Name: 139341,U
Misc: CLP,9400938,10851,L,W,5ML

Quant Rev: 6 Quant Time: 940322 11:19
Injected at: 940322 10:49
Dilution Factor: 1.00000

EAQ-198

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:55 ✓

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.63	128.0	93191	50.00	UG/L	
6)	C030 Methylene Chloride		5.69	84.0	7839	4.22	UG/L	97
7)	C035 Acetone		5.00	43.0	3829	15.71	UG/L	69
8)	C040 Carbon Disulfide		5.23	76.0	19846	4.05	UG/L	
13)	CS15 D4-1,2-Dichloroethane	SS1	10.19	65.0	179507	51.02	UG/L	86
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	378752	50.00	UG/L	69
~~25)~~	~~C160 1,1,2-Trichloroethane~~		16.85	97.0	4894	~~2.70~~	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.07	117.0	274938	50.00	UG/L	96
35)	CS05 D8-Toluene	SS-2	15.01	98.0	337806	53.34	UG/L	96
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	228089	50.78	UG/L	

* Compound is ISTD

JD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

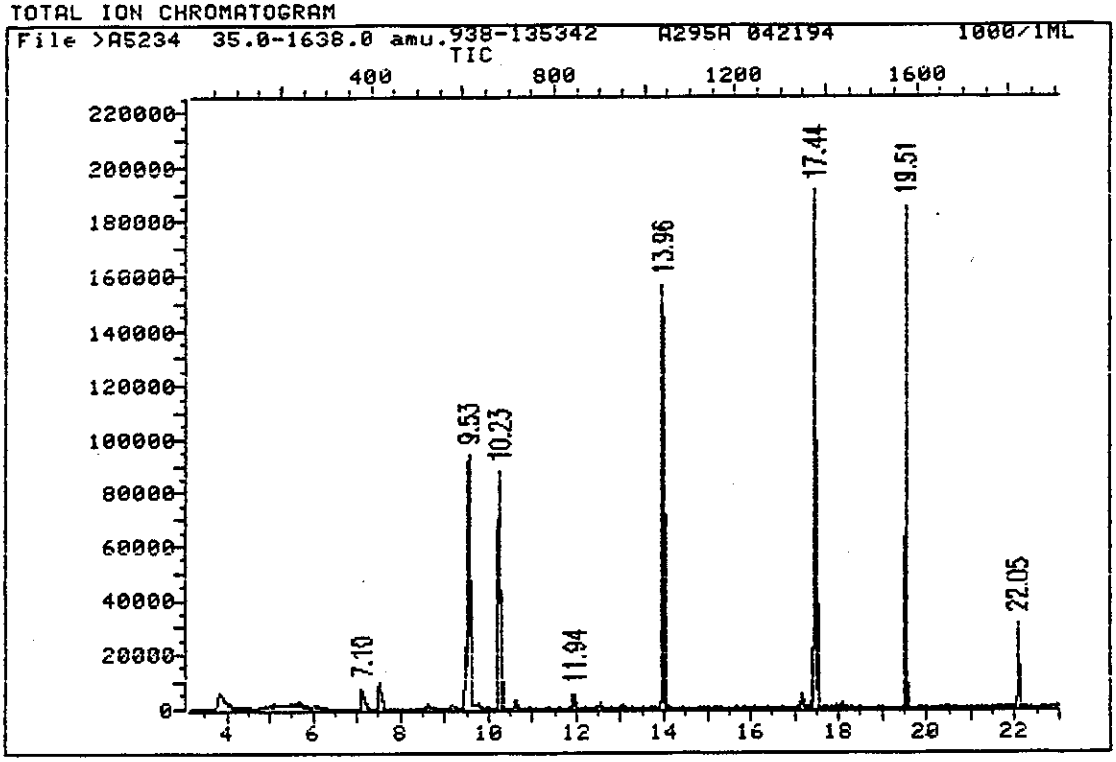
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135342
Client Sample ID: 109D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	2.4	J	ug/L	2.5	04/21/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/21/1994	jig	11	4

TOTAL ION CHROMATOGRAM



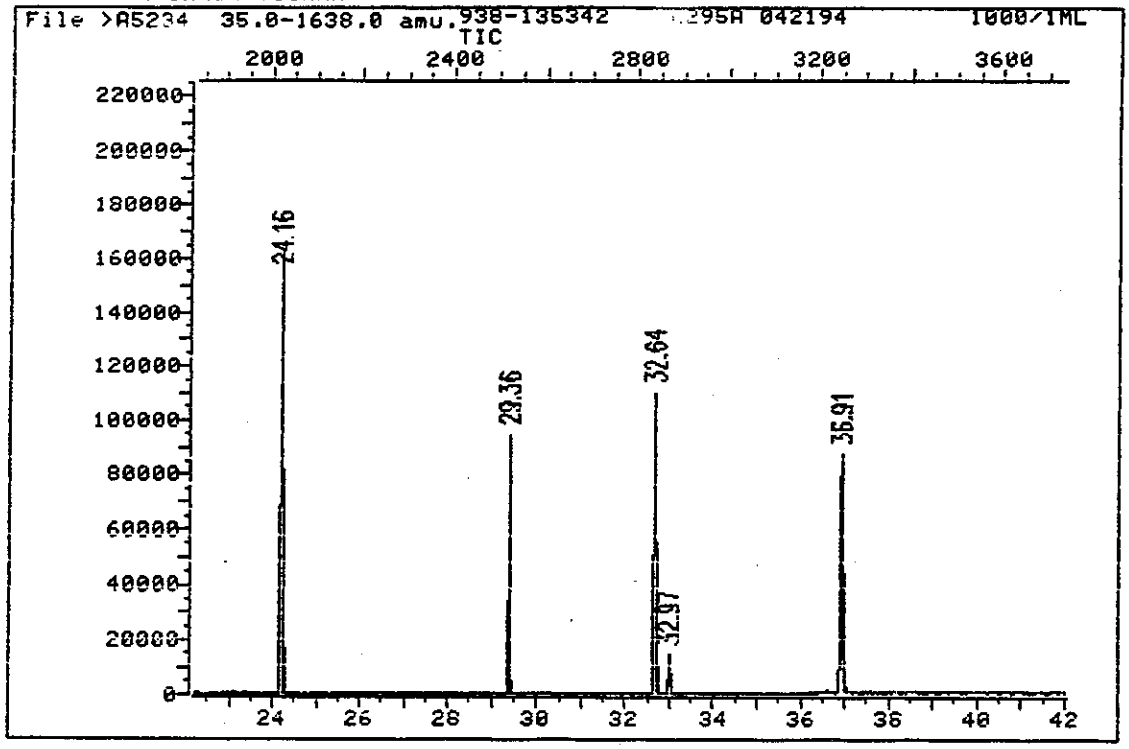
Data File: >A5234::E4 Quant Output File: ^A5234::D3
Name: 938-135342 A295A
Misc: 042194 1000/1ML HP5970 A BTL#10

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 22:50
Injected at: 940421 22:05

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5234::E4 Quant Output File: ^A5234::D3
Name: 938-135342 A295A
Misc: 042194 1000/1ML HP5970 A BTL#10

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 22:50
Injected at: 940421 22:05

TIC page 2 of 2

Rcex sum < 10% ·

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940421 22:50
Output File: ^A5234::D3 Injected at: 940421 22:05
Data File: >A5234::E4 Dilution Factor: 1.00000
Name: 938-135342 A295A
Misc: 042194 1000/1ML HP5970 A BTL#10

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.23	152.0	39619	40.00	ug/L	7
2)	CS50 2-Fluorophenol	7.10	112.0	12428	10.74	ug/L	95
3)	CS45 D5-Phenol	9.53	99.0	73353	48.64	ug/L	98
15)	*CI40 D8-Naphthalene	13.96	136.0	143679	40.00	ug/L	1
16)	CS20 D5-Nitrobenzene	11.94	82.0	3979	2.92	ug/L	91
21)	*CI50 D10-Acenaphthene	19.51	164.0	86976	40.00	ug/L	94
22)	CS25 2-Fluorobiphenyl	17.44	172.0	121153	39.96	ug/L	6
27)	CS55 2,4,6-Tribromophenol	22.05	330.0	9950	16.46	ug/L	99
28)	*CI60 D10-Phenanthrene	24.16	188.0	149655	40.00	ug/L	98
33)	*CI70 D12-Chrysene	32.64	240.0	103320	40.00	ug/L	5
35)	CS30 D14-Terphenyl	29.36	244.0	79978	29.35	ug/L	84
39)	C745 bis(2Ethylhexyl)phthalate	32.97	149.0	8411	2.42	ug/L	83
40)	*CI75 D12-Perylene	36.91	264.0	101762	40.00	ug/L	4

* Compound is ISTD

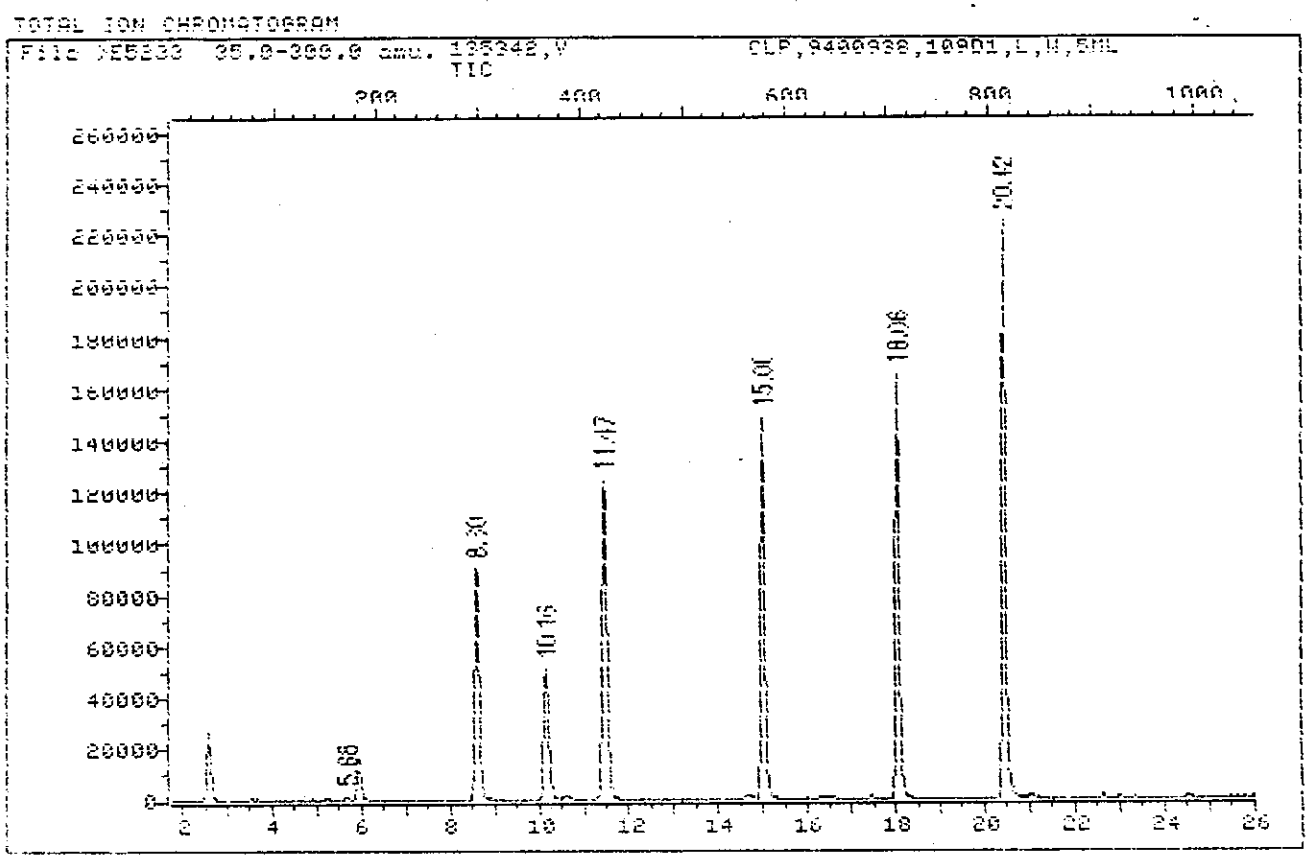
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135342
Client Sample ID: 109D1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198



Data File: >E5233::D6 Quant Output File: ~E5233::D8
Name: 135342,V
Misc: CLP,9400938,1090I,L,W,5ML

Id File: I0CLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: RITA
Quant Time: 940321 18:54
Injected at: 940321 18:23

QUANT REPORT

Operator ID: RITA
Output File: ^E5233::D8
Data File: >E5233::D6
Name: 135342,U
Misc: CLP,9400938,109D1,L,W,5ML

Quant Rev: 6 Quant Time: 940321 18:54
Injected at: 940321 18:23
Dilution Factor: 1.00000

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57 ✓

EAQ-198

	Compound		R.T.	Q ion	Area	Conc	Units	Q
1)	*CI01 Bromochloromethane	IS-1	8.60	128.0	92414	50.00	UG/L	
6)	C030 Methylene Chloride B=4		5.68	84.0	2795	1.23	UG/L	86
13)	CS15 D4-1,2-Dichloroethane	SS1	10.16	65.0	173306	47.12	UG/L	89
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	358969	50.00	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.06	117.0	263752	50.00	UG/L	98
35)	CS05 D8-Toluene	SS-2	15.00	98.0	306343	49.76	UG/L	99
42)	CS10 Bromofluorobenzene	SS-3	20.42	95.0	225050	51.87	UG/L	

* Compound is ISTD

000051

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

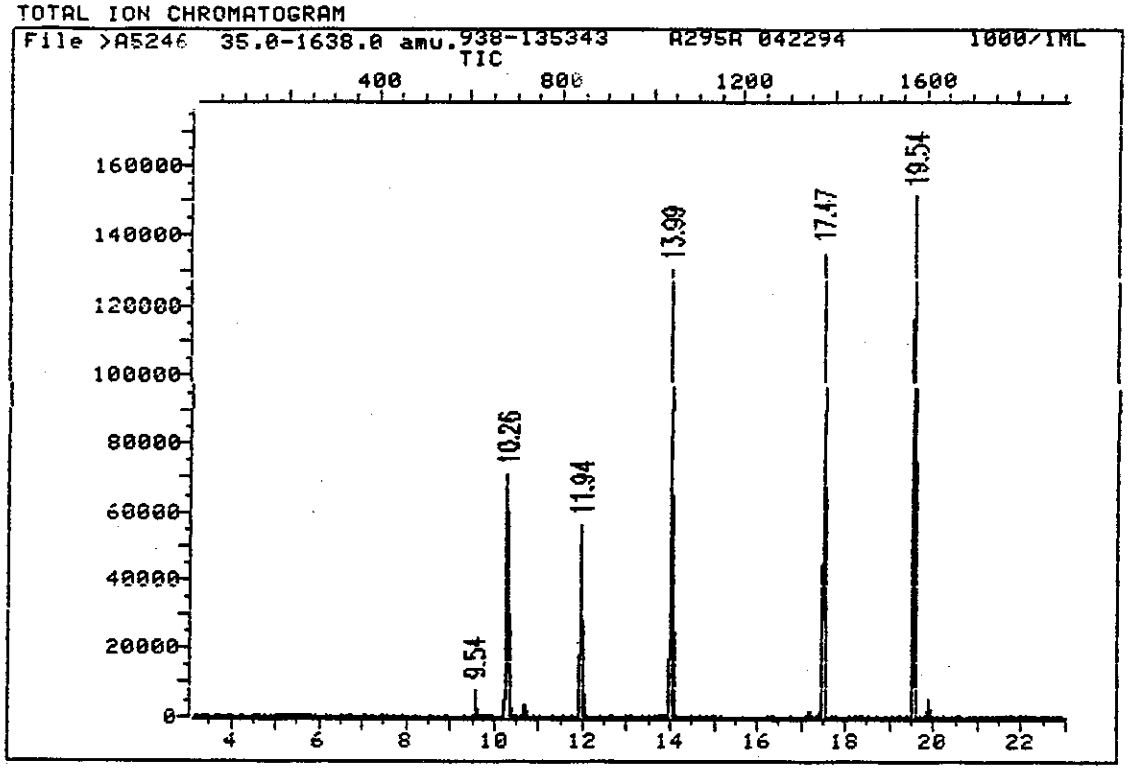
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135343
Client Sample ID: 36903

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/22/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/22/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/22/1994	jig	11	4

TOTAL ION CHROMATOGRAM



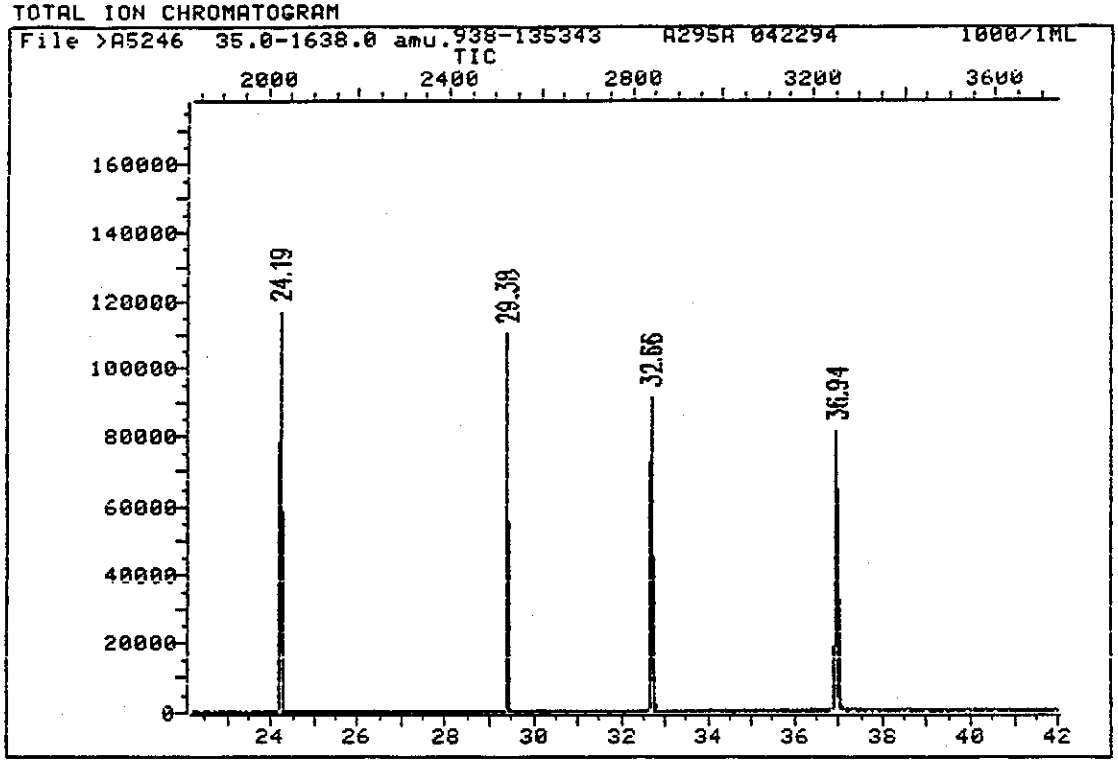
Data File: >A5246::E5 Quant Output File: ^A5246::D3
Name: 938-135343 A295A
Misc: 042294 1000/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 20:47
Injected at: 940422 20:02

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5246::E5 Quant Output File: ^A5246::D3
Name: 938-135343 A295A
Misc: 042294 1000/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 20:47
Injected at: 940422 20:02

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940422 20:47
Output File: ^A5246::D3 Injected at: 940422 20:02
Data File: >A5246::E5 Dilution Factor: 1.00000
Name: 938-135343 A295A
Misc: 042294 1000/1ML HP5970 A BTL# 7

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.26	152.0	32421	40.00	ug/L	5
3)	CS45 D5-Phenol	9.54	99.0	6676	5.41	ug/L	95
15)	*CI40 D8-Naphthalene	13.99	136.0	117106	40.00	ug/L	93
16)	CS20 D5-Nitrobenzene	11.94	82.0	36129	32.49	ug/L	3
21)	*CI50 D10-Acenaphthene	19.54	164.0	69424	40.00	ug/L	96
22)	CS25 2-Fluorobiphenyl	17.47	172.0	82900	34.26	ug/L	93
28)	*CI60 D10-Phenanthrene	24.19	188.0	104795	40.00	ug/L	6
33)	*CI70 D12-Chrysene	32.66	240.0	81580	40.00	ug/L	96
35)	CS30 D14-Terphenyl	29.38	244.0	87750	40.79	ug/L	84
40)	*CI75 D12-Perylene	36.94	264.0	93778	40.00	ug/L	6

* Compound is ISTD

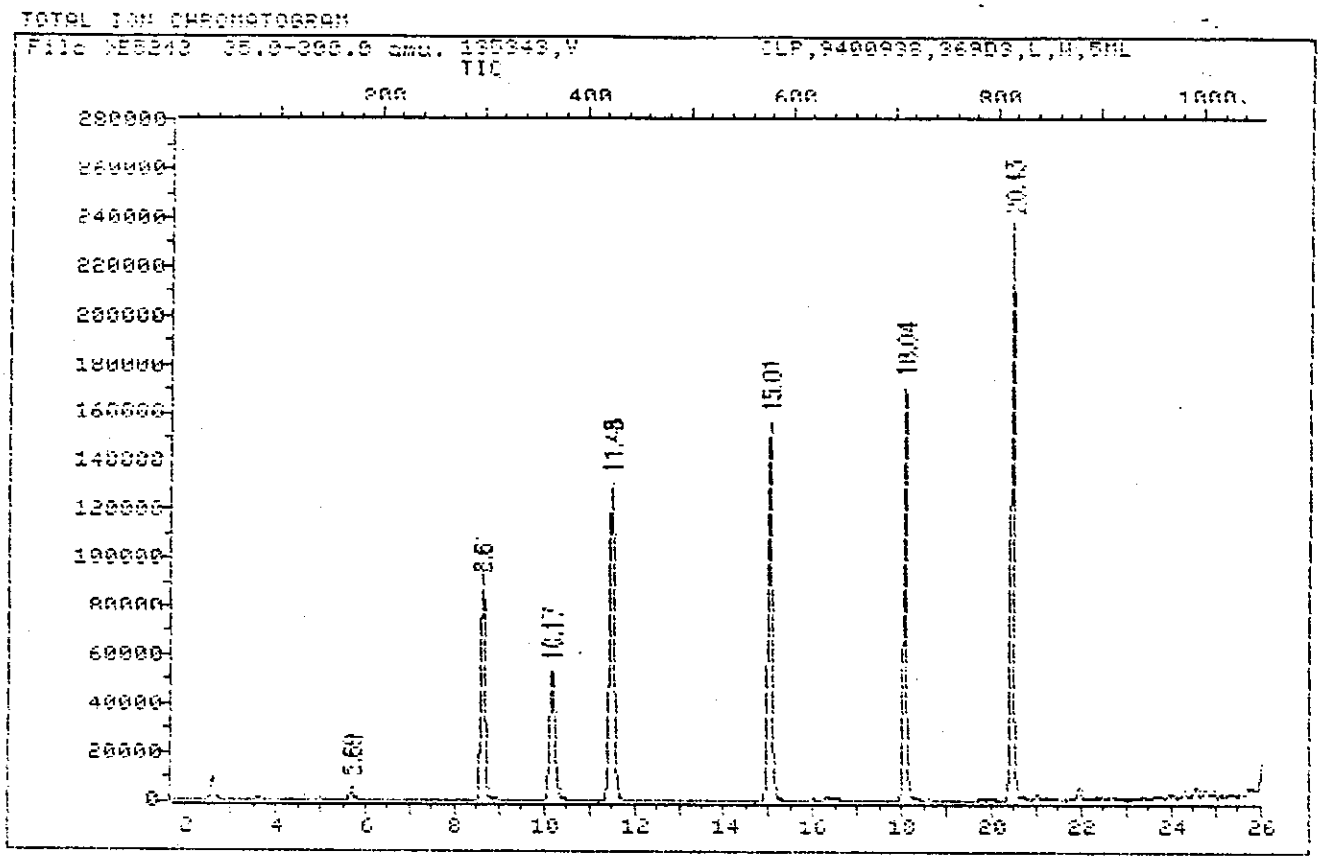
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135343
Client Sample ID: 369D3

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/22/1994	res		202
Toluene	6.0	U	ug/L	6.0	03/22/1994	res		202
Ethylbenzene	6.0	U	ug/L	6.0	03/22/1994	res		202
m+p-Xylenes	5.0	U	ug/L	5.0	03/22/1994	res		202



Data File: >E5243::D6 Quant Output File: ^E5243::D8
Name: 135343,U
Misc: CLP,9400938,36903,L,W,5ML

Id File: ICCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:55

Operator ID: RITA
Quant Time: 940322 11:56
Injected at: 940322 11:25

QUANT REPORT

Operator ID: RITA
Output File: ^E5243::D8
Data File: >E5243::D6
Name: 135343,U
Misc: CLP,9400938,3690J,L,W,5ML

Quant Rev: 6 Quant Time: 940322 11:56
Injected at: 940322 11:25
Dilution Factor: 1.00000

EAQ-198

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:55 ✓

	Compound	RS	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.61	128.0	95744	50.00	UG/L	97
6)	CO30 Methylene Chloride		5.69	84.0	6961	3.65	UG/L	95
13)	CS15 D4-1,2-Dichloroethane	SS1	10.17	65.0	183128	50.66	UG/L	90
16)	*CI10 1,4-Difluorobenzene	IS-2	11.48	114.0	384951	50.00	UG/L	97
29)	*CI20 D5-Chlorobenzene	IS-3	18.04	117.0	281141	50.00	UG/L	96
35)	CS05 D8-Toluene	SS-2	15.01	98.0	329664	50.91	UG/L	99
42)	CS10 Bromofluorobenzene	SS-3	20.43	95.0	228923	49.84	UG/L	97

* Compound is ISTD

V/C

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

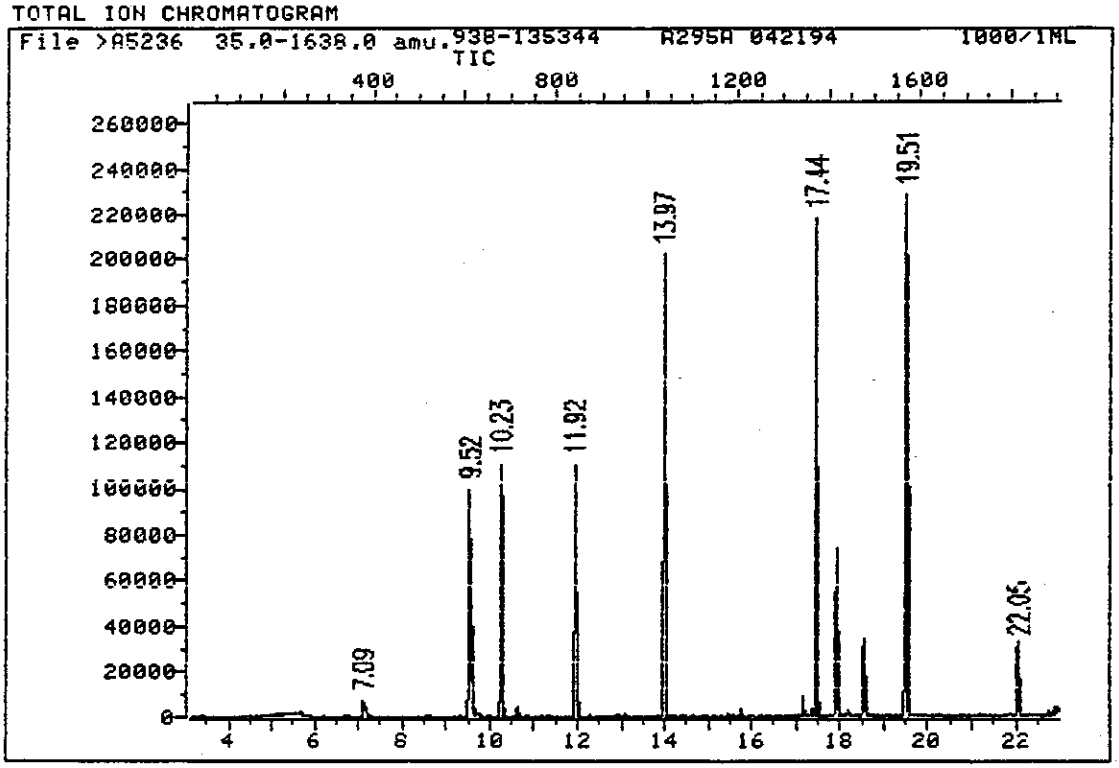
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135344
Client Sample ID: 369D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/21/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/21/1994	jig	11	4

TOTAL ION CHROMATOGRAM



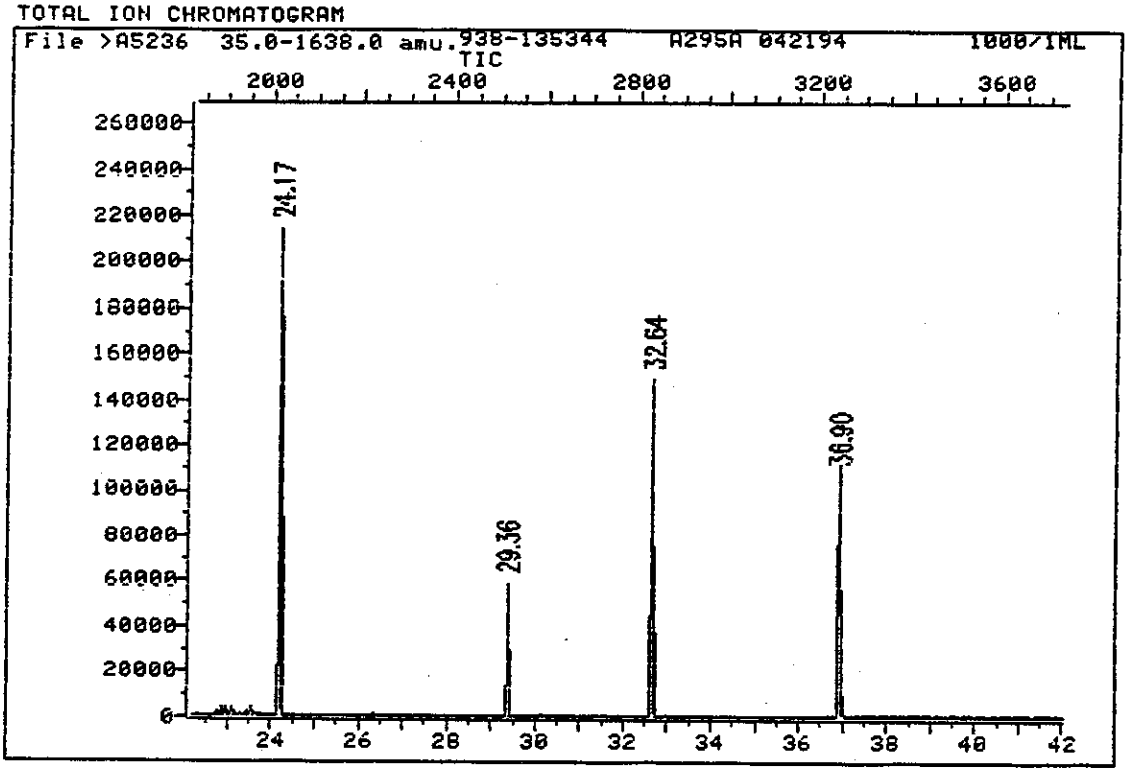
Data File: >A5236::E4 Quant Output File: ^A5236::D3
Name: 938-135344 A295A
Misc: 042194 1000/1ML HP5970 A BTL#12

Id File: 1ASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 00:32
Injected at: 940421 23:47

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5236::E4 Quant Output File: ^A5236::D3
Name: 938-135344 A295A
Misc: 042194 1000/1ML HP5970 A BTL#12

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 00:32
Injected at: 940421 23:47

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940422 00:32
Output File: ^A5236::D3 Injected at: 940421 23:47
Data File: >A5236::E4 Dilution Factor: 1.00000
Name: 938-135344 A295A
Misc: 042194 1000/1ML HP5970 A BTL#12

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.23	152.0	49977	40.00	ug/L	
2)	CS50 2-Fluorophenol	7.09	112.0	12312	8.43	ug/L	98
3)	CS45 D5-Phenol	9.52	99.0	78241	41.13	ug/L	94
15)	*CI40 D8-Naphthalene	13.97	136.0	179686	40.00	ug/L	
16)	CS20 D5-Nitrobenzene	11.92	82.0	68466	40.13	ug/L	92
21)	*CI50 D10-Acenaphthene	19.51	164.0	107727	40.00	ug/L	96
22)	CS25 2-Fluorobiphenyl	17.44	172.0	139091	37.04	ug/L	
27)	CS55 2,4,6-Tribromophenol	22.05	330.0	10871	14.52	ug/L	92
28)	*CI60 D10-Phenanthrene	24.17	188.0	190002	40.00	ug/L	95
33)	*CI70 D12-Chrysene	32.64	240.0	139802	40.00	ug/L	
35)	CS30 D14-Terphenyl	29.36	244.0	49207	13.35	ug/L	85
40)	*CI75 D12-Perylene	36.90	264.0	133735	40.00	ug/L	92

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

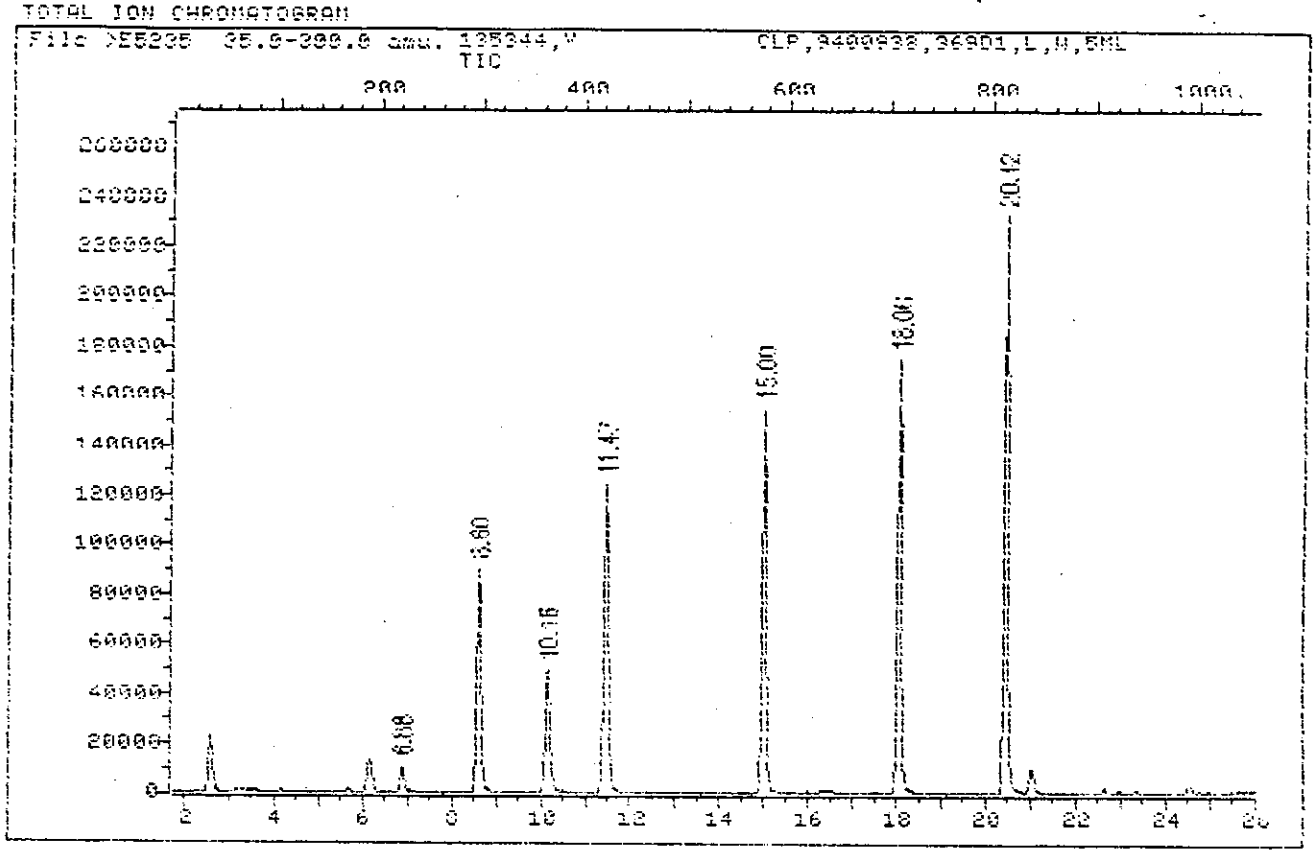
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135344
Client Sample ID: 369D1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198

TOTAL ION CHROMATOGRAM



Data File: >E5235::D6 Quant Output File: ^E5235::D8
Name: 135344,U
Misc: CLP,9400938,3690I,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: RITA
Quant Time: 940321 20:09
Injected at: 940321 19:38

QUANT REPORT

Operator ID: RITA
Output File: ^E5235::D8
Data File: >E5235::D6
Name: 135344,U
Misc: CLP,9400938,3691,L,W,5ML

Quant Rev: 6 Quant Time: 940321 20:09
Injected at: 940321 19:38
Dilution Factor: 1.00000

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57 ✓

EAQ-198

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.60	128.0	89744	50.00	UG/L	
10)	CO50 1,1-Dichloroethane		6.88	63.0	28221	8.22	UG/L	99
13)	CS15 D4-1,2-Dichloroethane	SS1	10.16	65.0	170148	47.64	UG/L	87
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	350090	50.00	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.06	117.0	278737	50.00	UG/L	96
35)	CS05 D8-Toluene	SS-2	15.00	98.0	313732	48.22	UG/L	93
42)	CS10 Bromofluorobenzene	SS-3	20.42	95.0	236223	51.52	UG/L	

* Compound is ISTD

JCD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

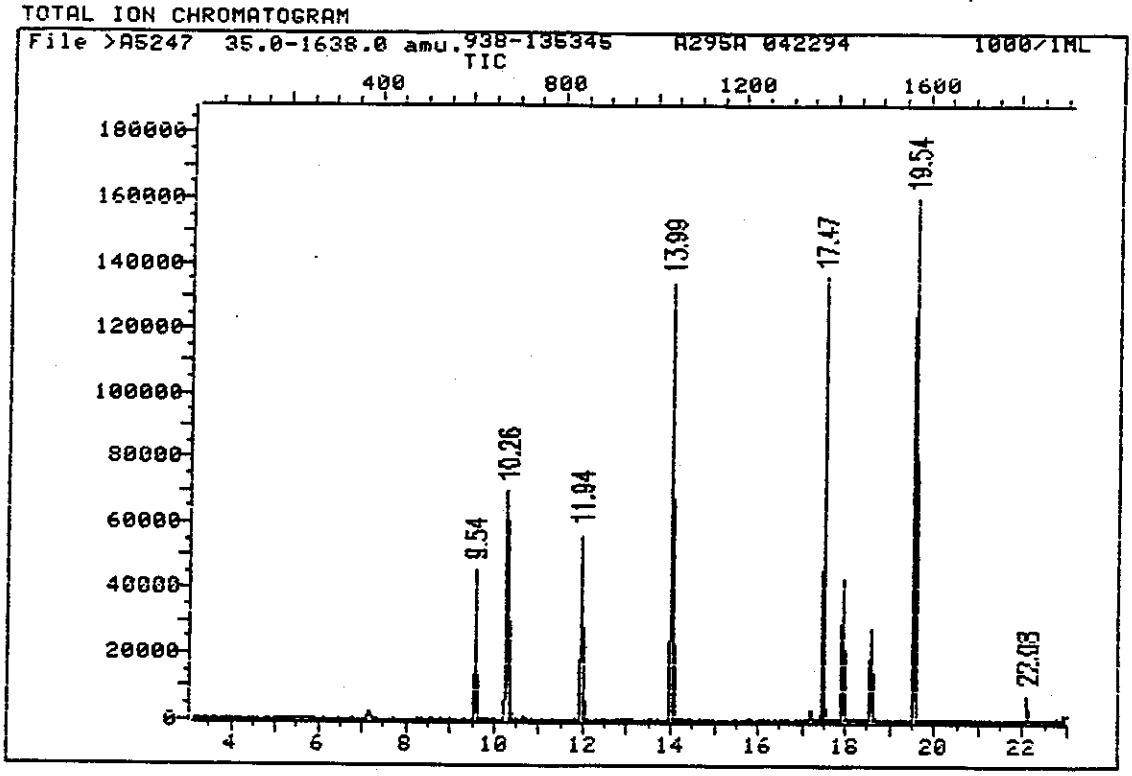
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135345
Client Sample ID: 3690D2

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/22/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/22/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/22/1994	jig	11	4

TOTAL ION CHROMATOGRAM



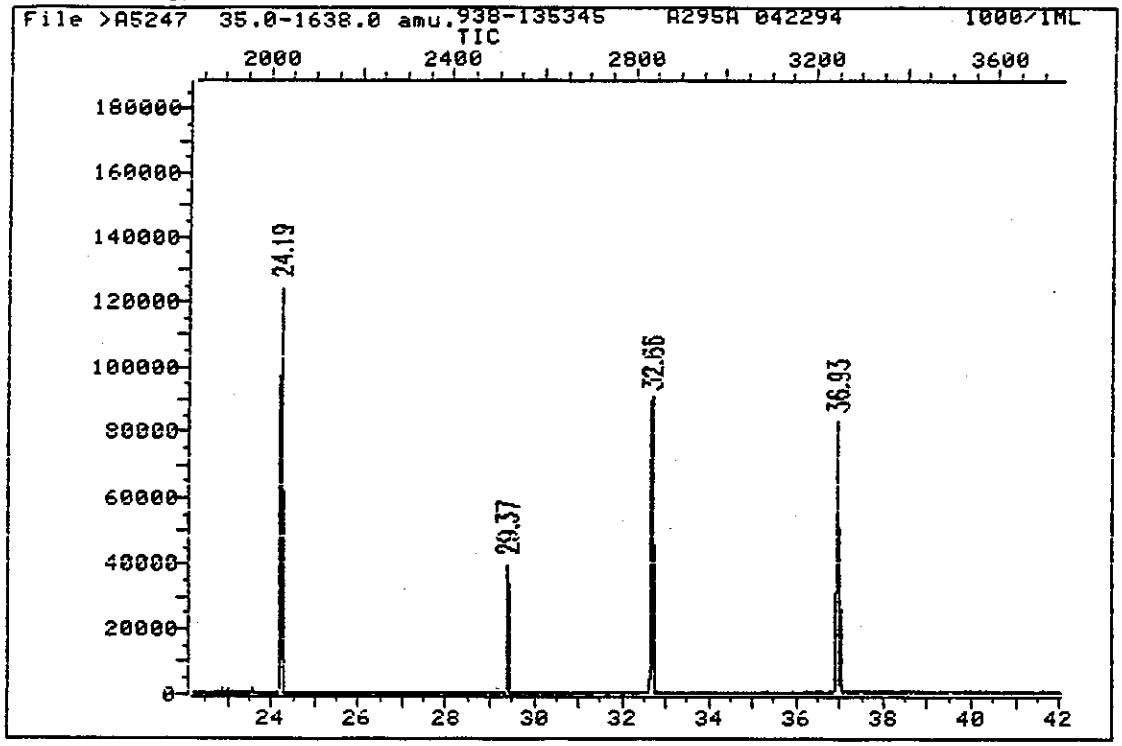
Data File: >A5247::E5 Quant Output File: ^A5247::D3
Name: 938-135345 A295A
Misc: 042294 1000/1ML HP5970 A BTL# 8

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 21:39
Injected at: 940422 20:54

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5247::E5 Quant Output File: ^A5247::D3
Name: 938-135345 A295A
Misc: 042294 1000/1ML HP5970 A BTL# 8

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 21:39
Injected at: 940422 20:54

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940422 21:39
Output File: ^A5247::D3 Injected at: 940422 20:54
Data File: >A5247::E5 Dilution Factor: 1.00000
Name: 938-135345 A295A
Misc: 042294 1000/1ML HP5970 A BTL# 8

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.26	152.0	31951	40.00	ug/L	8
3)	CS45 D5-Phenol	9.54	99.0	37280	30.65	ug/L	96
15)	*CI40 D8-Naphthalene	13.99	136.0	117165	40.00	ug/L	95
16)	CS20 D5-Nitrobenzene	11.94	82.0	35799	32.18	ug/L	1
21)	*CI50 D10-Acenaphthene	19.54	164.0	70054	40.00	ug/L	95
22)	CS25 2-Fluorobiphenyl	17.47	172.0	81903	33.54	ug/L	95
27)	CS55 2,4,6-Tribromophenol	22.08	330.0	3135	6.44	ug/L	8
28)	*CI60 D10-Phenanthrene	24.19	188.0	108251	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.66	240.0	86757	40.00	ug/L	97
35)	CS30 D14-Terphenyl	29.37	244.0	31958	13.97	ug/L	7
40)	*CI75 D12-Perylene	36.93	264.0	97313	40.00	ug/L	94

* Compound is ISTD

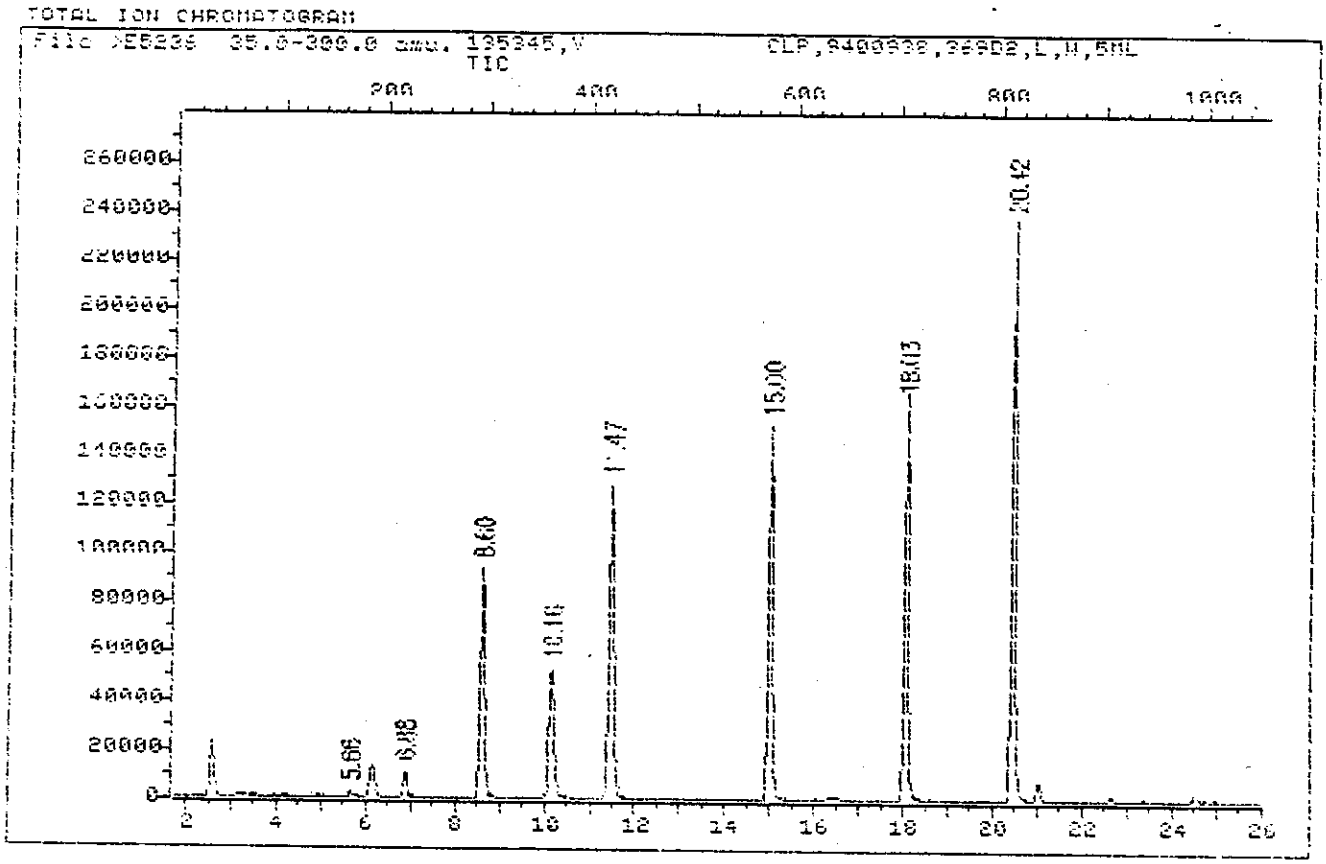
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00938
NET Sample No: 135345
Client Sample ID: 369D2

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/21/1994	res		198
Toluene	6.0	U	ug/L	6.0	03/21/1994	res		198
Ethylbenzene	6.0	U	ug/L	6.0	03/21/1994	res		198
m+p-Xylenes	5.0	U	ug/L	5.0	03/21/1994	res		198



Data File: >E5236::D6 Quant Output File: ^E5236::D8
Name: 135345,U
Misc: CLP,9400938,3690D2,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: RITA
Quant Time: 940321 20:46
Injected at: 940321 20:15

QUANT REPORT

Operator ID: RITA
Output File: ^E5236::D8
Data File: >E5236::D6
Name: 135345.U
Misc: CLP,9400938,369D2,L,W,5ML

Quant Rev: 6 Quant Time: 940321 20:46
Injected at: 940321 20:15
Dilution Factor: 1.00000

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

EAQ-198

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.60	128.0	91693	50.00	UG/L	
6)	C030 Methylene Chloride		5.66	84.0	4217	1.86	UG/L	86
10)	C050 1,1-Dichloroethane		6.88	63.0	27868	7.94	UG/L	99
13)	CS15 D4-1,2-Dichloroethane	SS1	10.16	65.0	180394	49.44	UG/L	
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	366303	50.00	UG/L	68
29)	*CI20 D5-Chlorobenzene	IS-3	18.03	117.0	277529	50.00	UG/L	96
35)	CS05 D8-Toluene	SS-2	15.00	98.0	313893	48.45	UG/L	
42)	CS10 Bromofluorobenzene	SS-3	20.42	95.0	235683	51.62	UG/L	92

* Compound is ISTD

000072

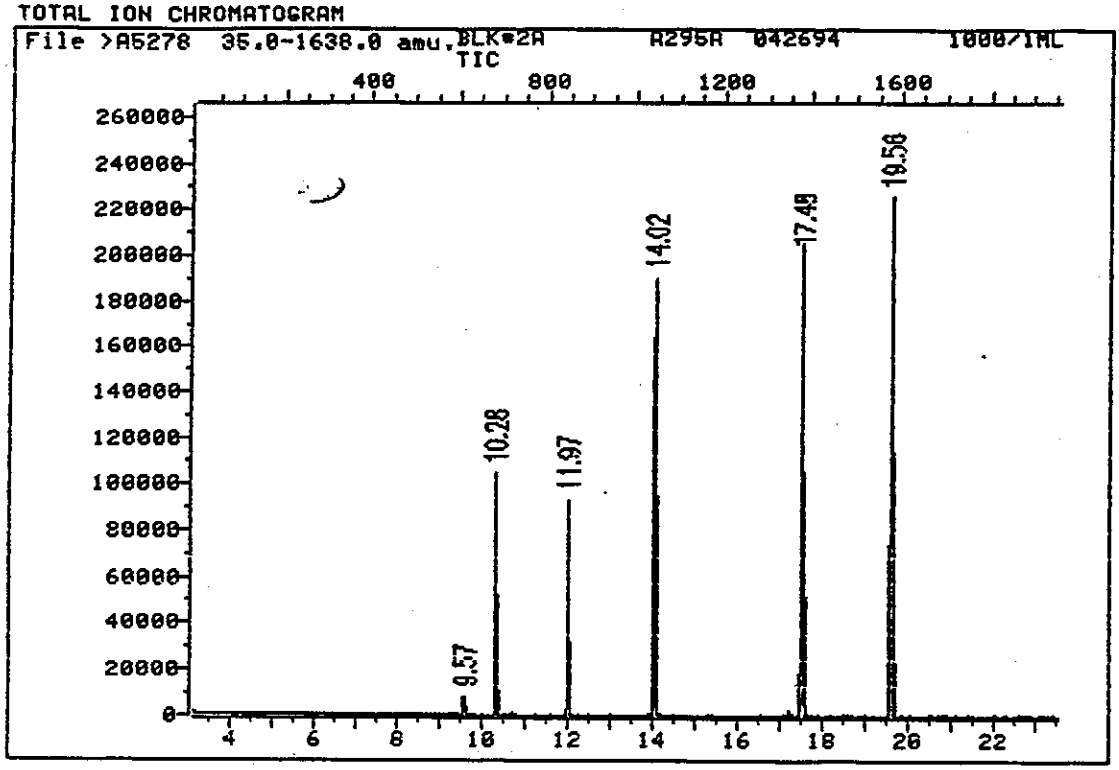
NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

CLIENT ENSR Consulting REPORT # 9. 00938

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>A5278	04/26/94	BN	Aq	---	No Targets Found	NA	ug/L	NA

COMMENTS: _____

TOTAL ION CHROMATOGRAM



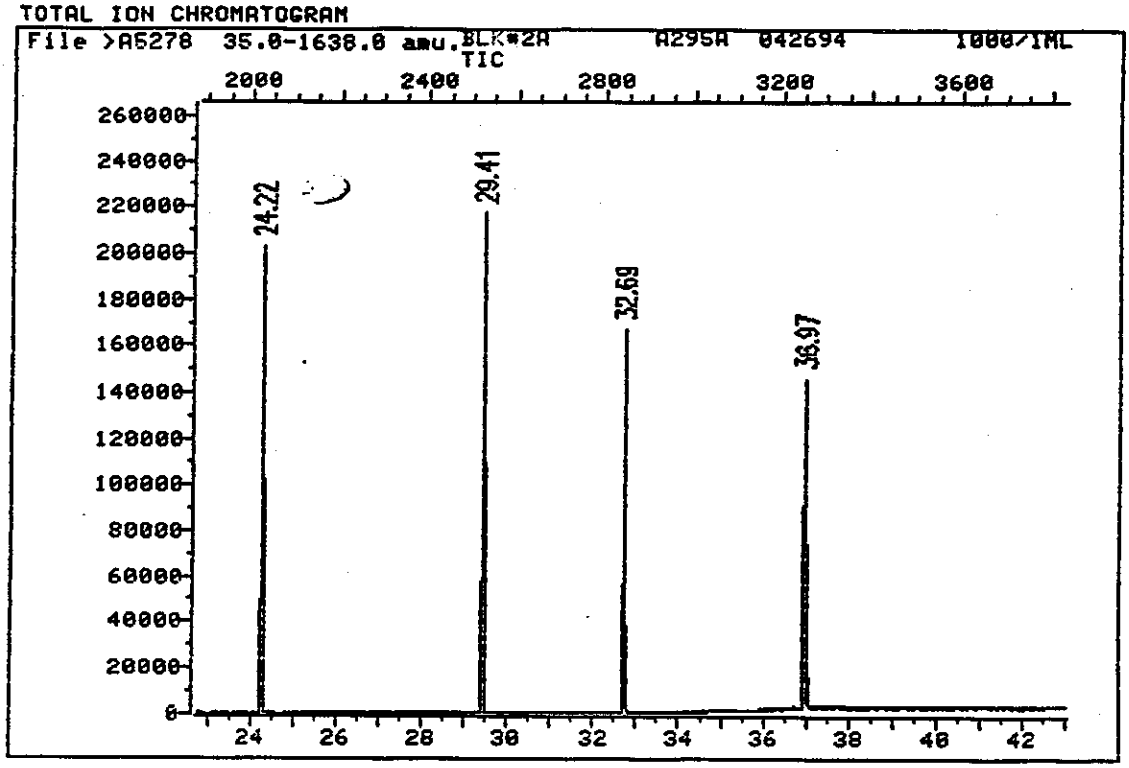
Data File: >A5278::E2 Quant Output File: ^A5278::D5
Name: BLK#2A A295A
Misc: 042694 1000/1ML HP5970 A BTL# 4

Id File: IDABNA::D4
Title: 5P BNA METHOD 8270/SW846
Last Calibration: 940427 08:47

Operator ID: RS4475
Quant Time: 940427 08:49
Injected at: 940426 19:12

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5278::E2 Quant Output File: ^A5278::D5
Name: BLK#2A A295A
Misc: 042694 1000/1ML HP5970 A BTL# 4

Id File: IDABNA::D4
Title: 5P BNA METHOD 8270/SW846
Last Calibration: 940427 08:47

Operator ID: RS4475
Quant Time: 940427 08:49
Injected at: 940426 19:12

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940427 08:49
Output File: ^A5278::D5 Injected at: 940426 19:12
Data File: >A5278::E2 Dilution Factor: 1.00000
Name: BLK#2A A295
Misc: 042694 1000/1ML HP5970 A BTL# 4

ID File: IDABNA::D4
Title: 5P BNA METHOD 8270/SW846
Last Calibration: 940427 08:47

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	10.28	152.0	48178	40.00	ug/L	99
3)	Phenol-d6	9.57	99.0	7139	4.05	ug/L	89
17)	*d8-Naphthalene	14.02	136.0	176732	40.00	ug/L	93
18)	Nitrobenzene-d5	11.97	82.0	60770	34.28	ug/L	92
32)	*d10-Acenaphthene	19.56	164.0	106574	40.00	ug/L	98
37)	2-Fluorobiphenyl	17.48	172.0	137798	36.36	ug/L	95
53)	*d10-Phenanthrene	24.22	188.0	190146	40.00	ug/L	98
63)	*d12-Chrysene	32.69	240.0	156727	40.00	ug/L	94
65)	Terphenyl-d14	29.41	244.0	184535	43.23	ug/L	98
71)	*d12-Perylene	36.97	264.0	171016	40.00	ug/L	93

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

CLIENT ENSR Consulting REPORT # 94.00938

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>E5220	03/21/94	VOA	Aq	---	No Targets Found	NA	ug/L	NA
>E5239	03/22/94	VOA	Aq	---	No Targets Found	NA	ug/L	NA

COMMENTS: _____

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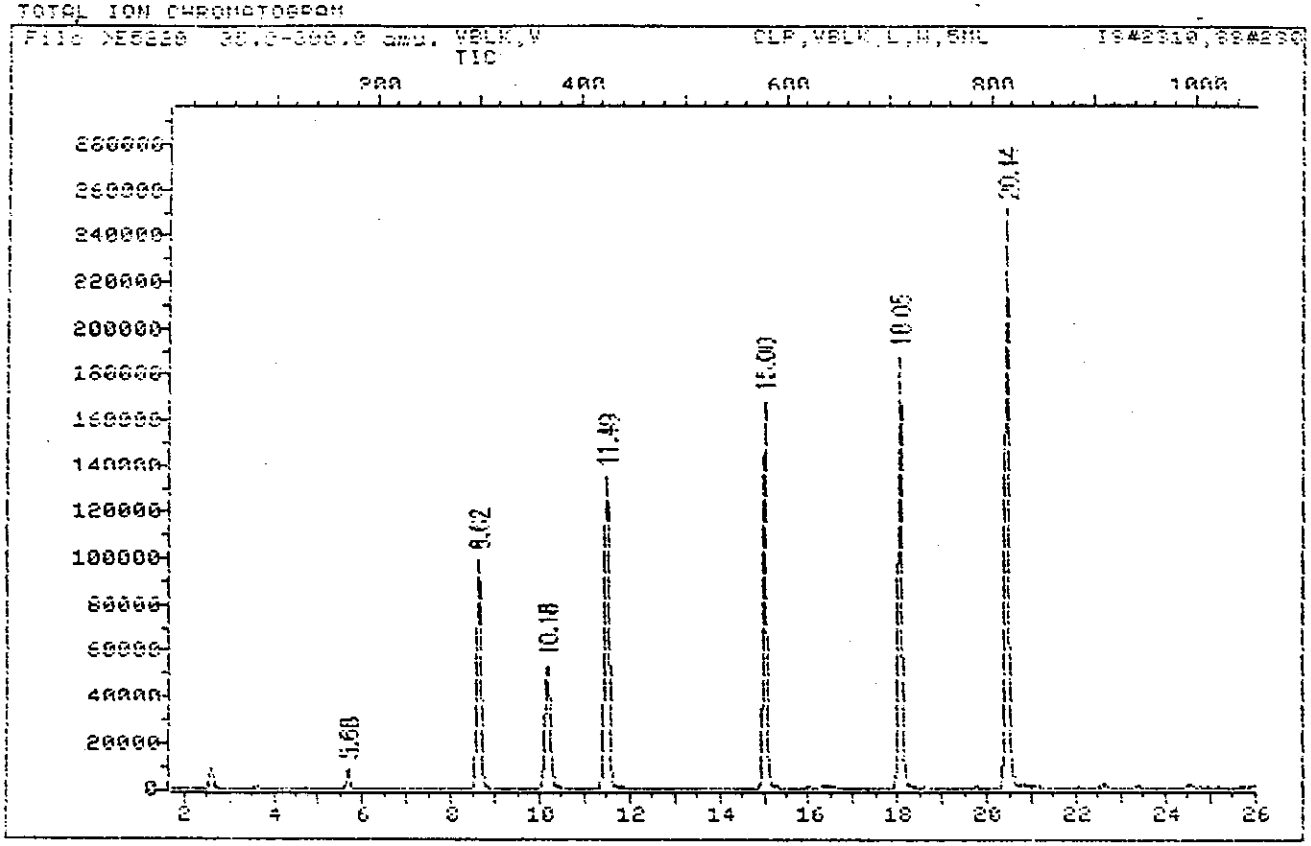
TOTAL ION CHROMATOGRAM



Data File: >E5220::D6 Quant Output File: ^E5220::D8
Name: VBLK,U
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: RITA
Quant Time: 940321 10:38
Injected at: 940321 10:07

QUANT REPORT

Operator ID: RITA
Output File: ^E5220::D8
Data File: >E5220::D6
Name: VBLK,U
Misc: CLP,VBLK,L,W,5ML

Quant Rev: 6
IS#2310,SS#2309

Quant Time: 940321 10:38
Injected at: 940321 10:07
Dilution Factor: 1.00000

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

	Compound	QS	R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	8.62	128.0	97416	50.00	UG/L	94
6)	C030 Methylene Chloride		9.68	84.0	10340	4.30	UG/L	81
13)	CS15 D4-1,2-Dichloroethane	SS1	10.18	65.0	176432	45.51	UG/L	91
16)	*CI10 1,4-Difluorobenzene	IS-2	11.49	114.0	408161	50.00	UG/L	68
29)	*CI20 D5-Chlorobenzene	IS-3	18.05	117.0	296009	50.00	UG/L	
35)	CS05 D8-Toluene	SS-2	15.00	98.0	347672	50.32	UG/L	99
49)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	246931	50.71	UG/L	91

* Compound is ISTD

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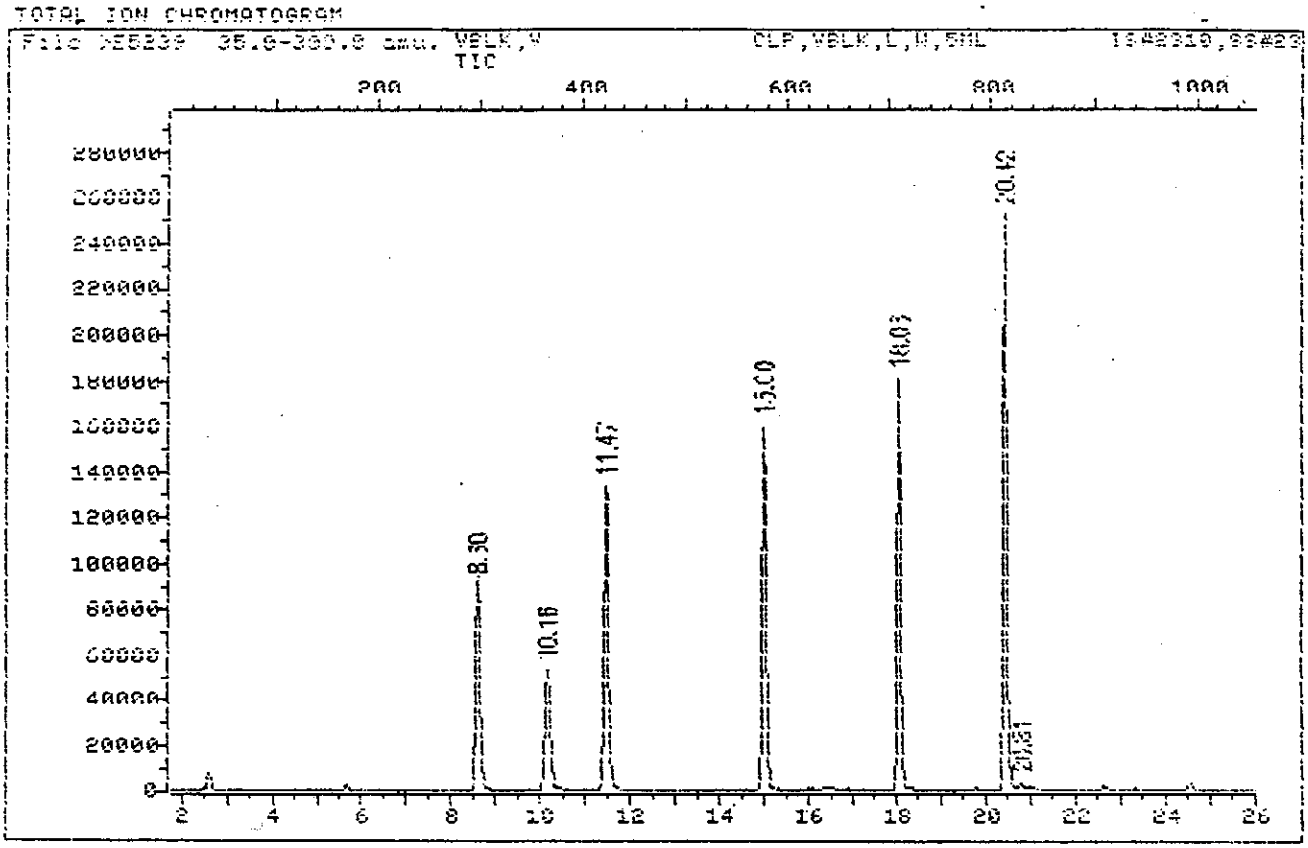

Data File: >E5239::D6 Quant Output File: ^E5239::D8
Name: VBLK,U
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:55

Operator ID: RITA
Quant Time: 940322 09:24
Injected at: 940322 08:53

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940322 09:24
Output File: ^E5239::D8 Injected at: 940322 08:53
Data File: >E5239::D6 Dilution Factor: 1.00000
Name: VBLK,V
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940322 08:55

	Compound		R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	8.60	128.0	97380	50.00	UG/L	91
13)	CS15 D4-1,2-Dichloroethane	SS1	10.16	65.0	181366	49.33	UG/L	87
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	392096	50.00	UG/L	69
29)	*CI20 D5-Chlorobenzene	IS-3	18.06	117.0	287788	50.00	UG/L	96
33)	C225 1,1,2,2-Tetrachloroethane		20.81	83.0	5195	2.22	UG/L	85
35)	CS05 D8-Toluene	SS-2	15.00	98.0	329498	49.71	UG/L	96
42)	CS10 Bromofluorobenzene	SS-3	20.42	95.0	247409	52.62	UG/L	91

* Compound is ISTD

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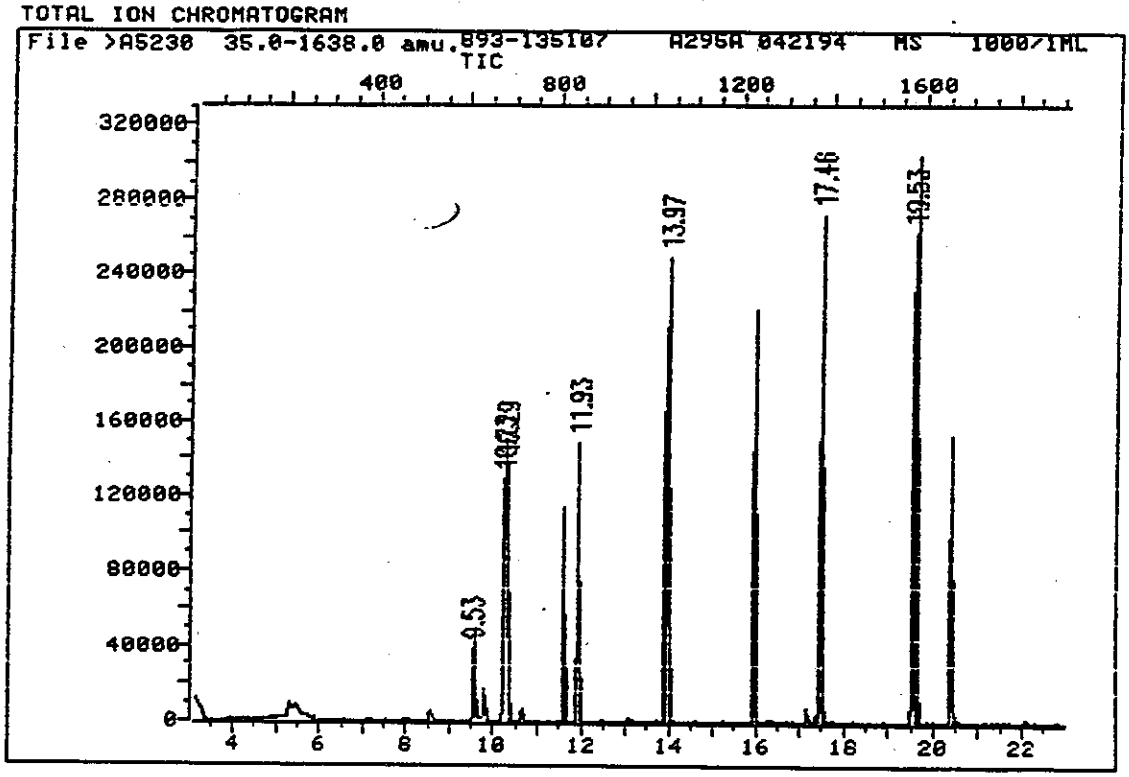
NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: A295A
QC Sample Number: 9400893-135107

Compound Name	Spike Added	Sample Result	MS Conc	Percent Recovery	MSD Conc	Percent Recovery	RPD
1,4-Dichlorobenzene	50	N.D.	32	64.00	31	62.00	3.0
Pyrene	50	N.D.	46	92.00	41	82.00	11

TOTAL ION CHROMATOGRAM



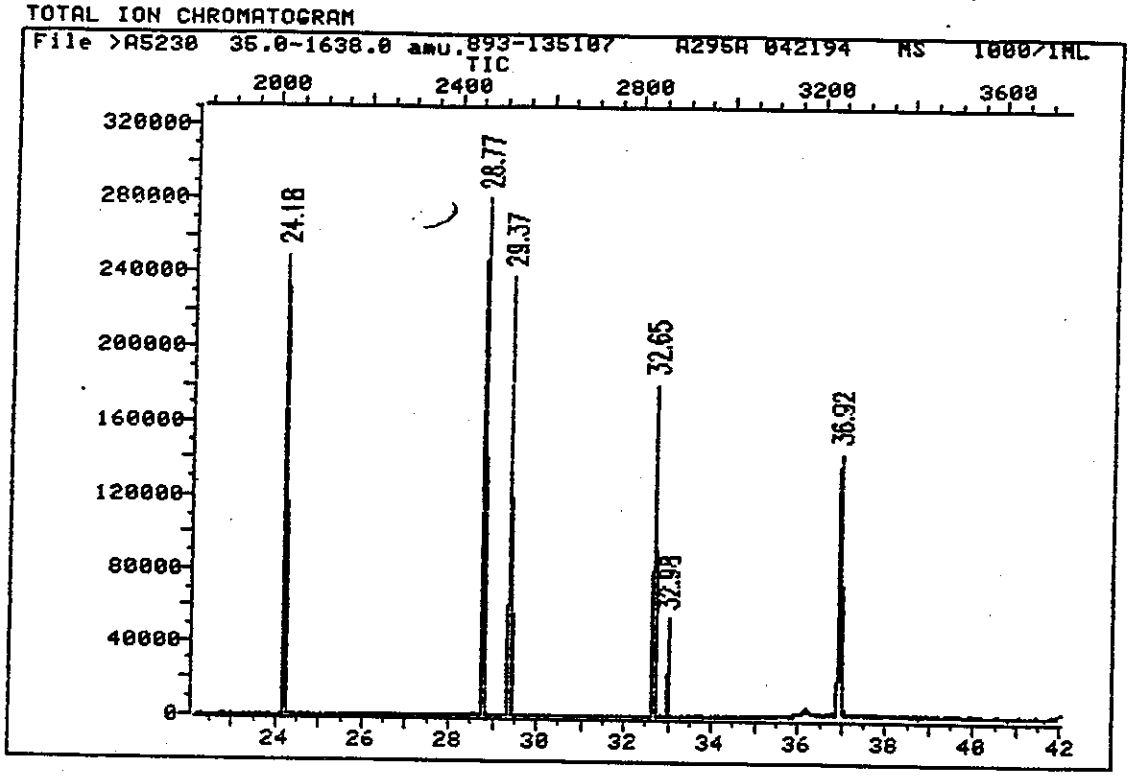
Data File: >A5230::E4 Quant Output File: ^A5230::D3
Name: 893-135107 A295A
Misc: 042194 MS 1000/1ML HP5970 A BTL# 6

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 19:27
Injected at: 940421 18:42

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5230::E4
Name: 893-135107 A295A
Misc: 042194 MS 1000/1ML

Quant Output File: ^A5230::D3

HP5970 A BTL# 6

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 19:27
Injected at: 940421 18:42

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940421 19:27
Output File: ^A5230::D3 Injected at: 940421 18:42
Data File: >A5230::E4 Dilution Factor: 1.00000
Name: 893-135107 A295^
Misc: 042194 MS 1000/1ML HP5970 A BTL# 6

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.23	152.0	58959	40.00	ug/L	(5
3)	CS45 D5-Phenol	9.53	99.0	26216	11.68	ug/L	98
9)	C340 1,4-Dichlorobenzene	10.29	146.0	82792	32.46	ug/L	96
15)	*CI40 D8-Naphthalene	13.97	136.0	218608	40.00	ug/L	(1
16)	CS20 D5-Nitrobenzene	11.93	82.0	90516	43.61	ug/L	90
21)	*CI50 D10-Acenaphthene	19.53	164.0	130820	40.00	ug/L	97
22)	CS25 2-Fluorobiphenyl	17.46	172.0	175442	38.47	ug/L	(5
28)	*CI60 D10-Phenanthrene	24.18	188.0	230079	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.65	240.0	171669	40.00	ug/L	96
34)	C715 Pyrene	28.77	202.0	309043	46.41	ug/L	(3
35)	CS30 D14-Terphenyl	29.37	244.0	200909	44.38	ug/L	85
39)	C745 bis(2Ethylhexyl)phthalate	32.98	149.0	31242	5.41	ug/L	89
40)	*CI75 D12-Perylene	36.92	264.0	168202	40.00	ug/L	(1

* Compound is ISTD

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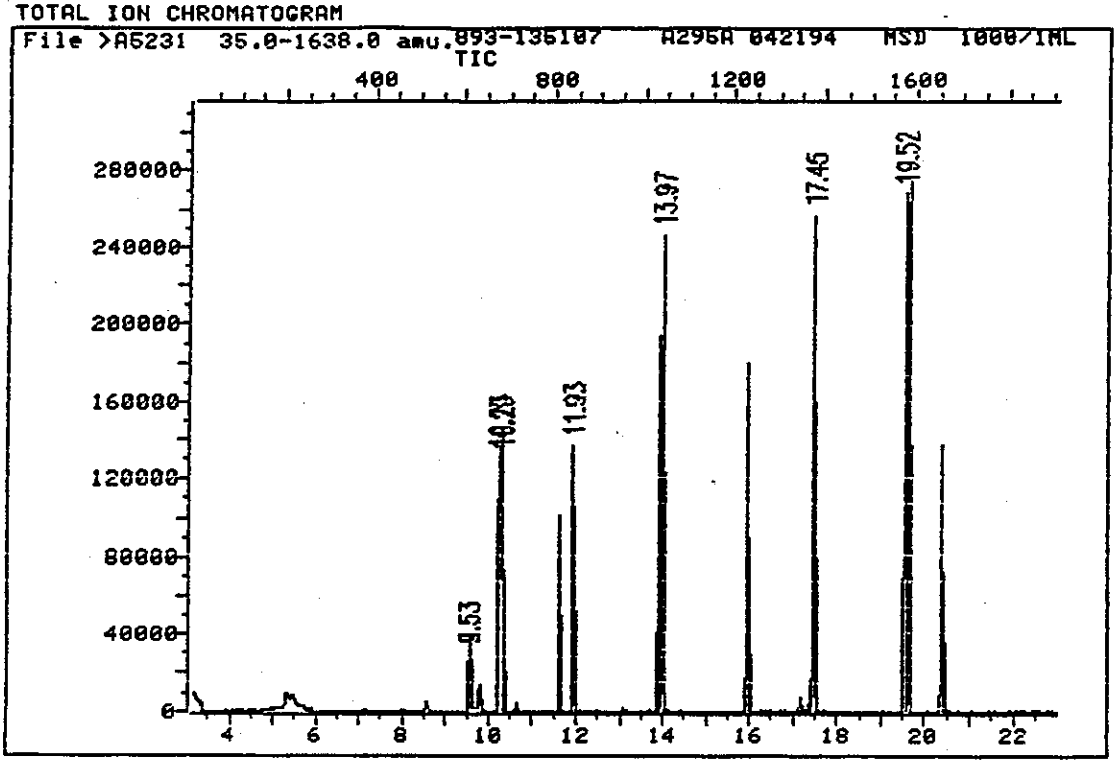
TOTAL ION CHROMATOGRAM



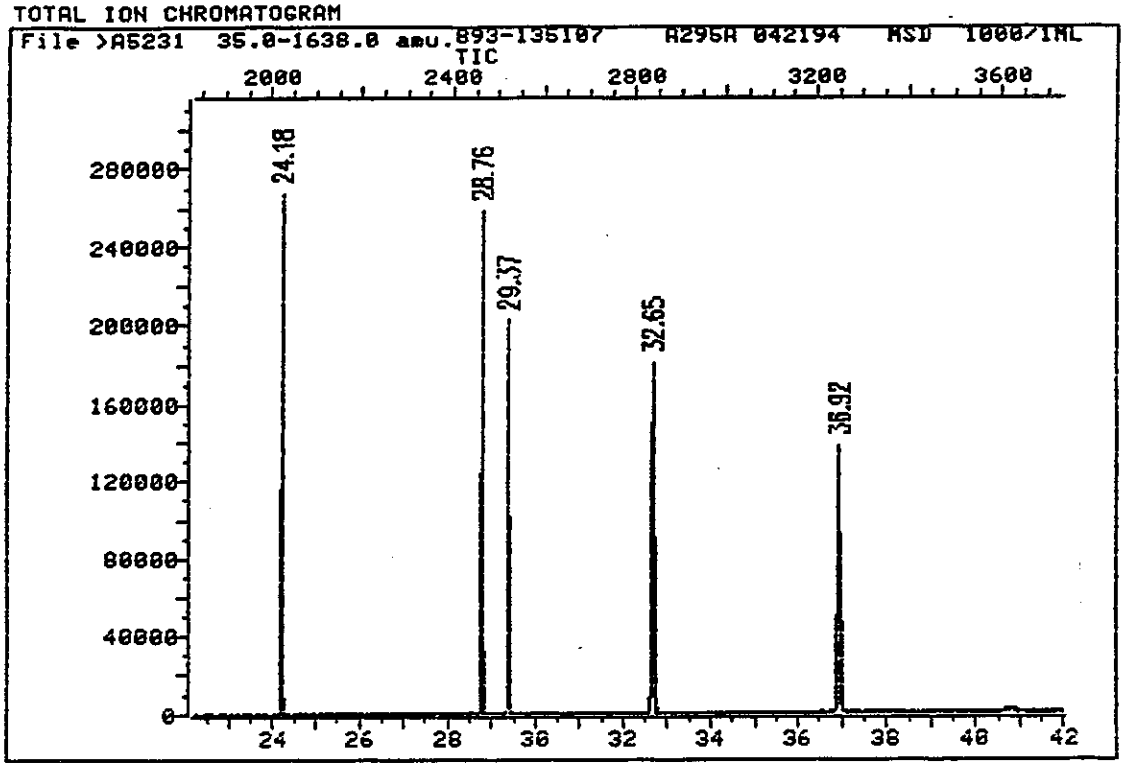
Data File: >A5231::E4 Quant Output File: ^A5231::D3
Name: 893-135107 A295A
Misc: 042194 MSD 1000/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 20:18
Injected at: 940421 19:33

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5231::E4 Quant Output File: ^A5231::D3
Name: 893-135107 A295A
Misc: 042194 MSD 1000/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 20:18
Injected at: 940421 19:33

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940421 20:18
Output File: ^A5231::D3 Injected at: 940421 19:33
Data File: >A5231::E4 Dilution Factor: 1.00000
Name: 893-135107 A295A
Misc: 042194 MSD 1000/1ML HP5970 A BTL# 7

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.23	152.0	58917	40.00	ug/L	5
3)	CS45 D5-Phenol	9.53	99.0	21945	9.79	ug/L	99
9)	C340 1,4-Dichlorobenzene	10.29	146.0	78258	30.70	ug/L	97
15)	*CI40 D8-Naphthalene	13.97	136.0	215030	40.00	ug/L	3
16)	CS20 D5-Nitrobenzene	11.93	82.0	82286	40.30	ug/L	92
21)	*CI50 D10-Acenaphthene	19.52	164.0	133687	40.00	ug/L	96
22)	CS25 2-Fluorobiphenyl	17.45	172.0	162246	34.82	ug/L	3
28)	*CI60 D10-Phenanthrene	24.18	188.0	239001	40.00	ug/L	98
33)	*CI70 D12-Chrysene	32.65	240.0	172131	40.00	ug/L	96
34)	C715 Pyrene	28.76	202.0	273558	40.97	ug/L	3
35)	CS30 D14-Terphenyl	29.37	244.0	167594	36.92	ug/L	84
40)	*CI75 D12-Perylene	36.92	264.0	169956	40.00	ug/L	94

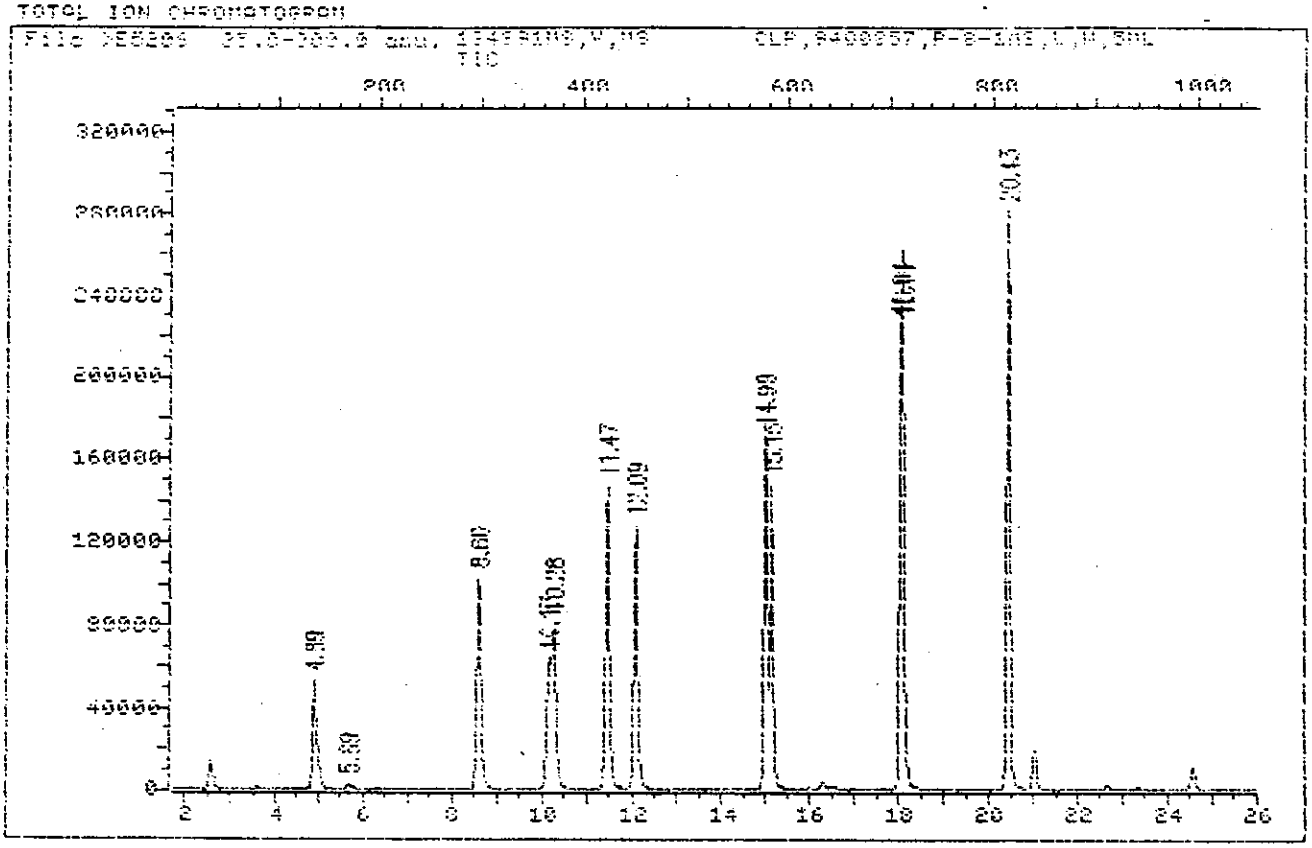
* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: EAQ-198
QC Sample Number: 9400857-134891

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Flag	Units	Spike Result	% recov.	Spike Dup. Result	% recov.	RPD
Volatiles by GC/MS CLP												
Benzene		69	03/19/1994	50.	10.	U	ug/L	43.	86.0	47.	94.0	8.9
Chlorobenzene		69	03/19/1994	50.	10.	U	ug/L	45.	90.0	49.	98.0	8.5
1,1-Dichloroethene		69	03/19/1994	50.	10.	U	ug/L	38.	76.0	42.	84.0	10.0
Toluene		69	03/19/1994	50.	10.	U	ug/L	44.	88.0	46.	92.0	4.4
Trichloroethene		69	03/19/1994	50.	10.	U	ug/L	42.	84.0	46.	92.0	9.1

TOTAL ION CHROMATOGRAM



Data File: >E5206::D7 Quant Output File: ^E5206::D5
Name: 134991MS,U,MS
Misc: CLP,9400857,P-8-1MS,L,W,5ML

Id File: !!CLPE::D4
Title: AQUEOUS CLP !!
Last Calibration: 940319 09:42

Operator ID: RITA
Quant Time: 940319 15:45
Injected at: 940319 15:14

P-8-1-QCMS 3-12-94

QUANT REPORT

Operator ID: PITA
Output File: F5206::D5
Data File: F5206::D7
Name: 134891MS,V,MS
Misc: CLP,9400857,P-8-1MS,L,W,5ML

Quant Rev: 6 Quant Time: 940319 15:49
Injected at: 940319 15:14
Dilution Factor: 1.00000

EAQ-198

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940319 09:42

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.60	128.0	102635	50.00	UG/L	
6)	C030 Methylene Chloride		5.69	84.0	3818	1.86	UG/L	92
9)	C045 1,1-Dichloroethene		4.89	96.0	79995	38.10	UG/L	93
13)	CS15 D4-1,2-Dichloroethane	SS1	10.17	65.0	196651	47.24	UG/L	
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	417224	50.00	UG/L	68
23)	C150 Trichloroethene		12.09	130.0	144625	42.26	UG/L	96
26)	C165 Benzene		10.28	78.0	232831	42.65	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.04	117.0	330459	50.00	UG/L	93
34)	C230 Toluene		15.15	91.0	315339	43.50	UG/L	93
35)	CS25 D8-Toluene	SS-2	14.99	98.0	361093	44.41	UG/L	
36)	C235 Chlorobenzene		18.11	112.0	263029	44.98	UG/L	90
42)	CS10 Bromofluorobenzene	SS-3	20.43	95.0	273601	47.56	UG/L	92

* Compound :+ ISTD

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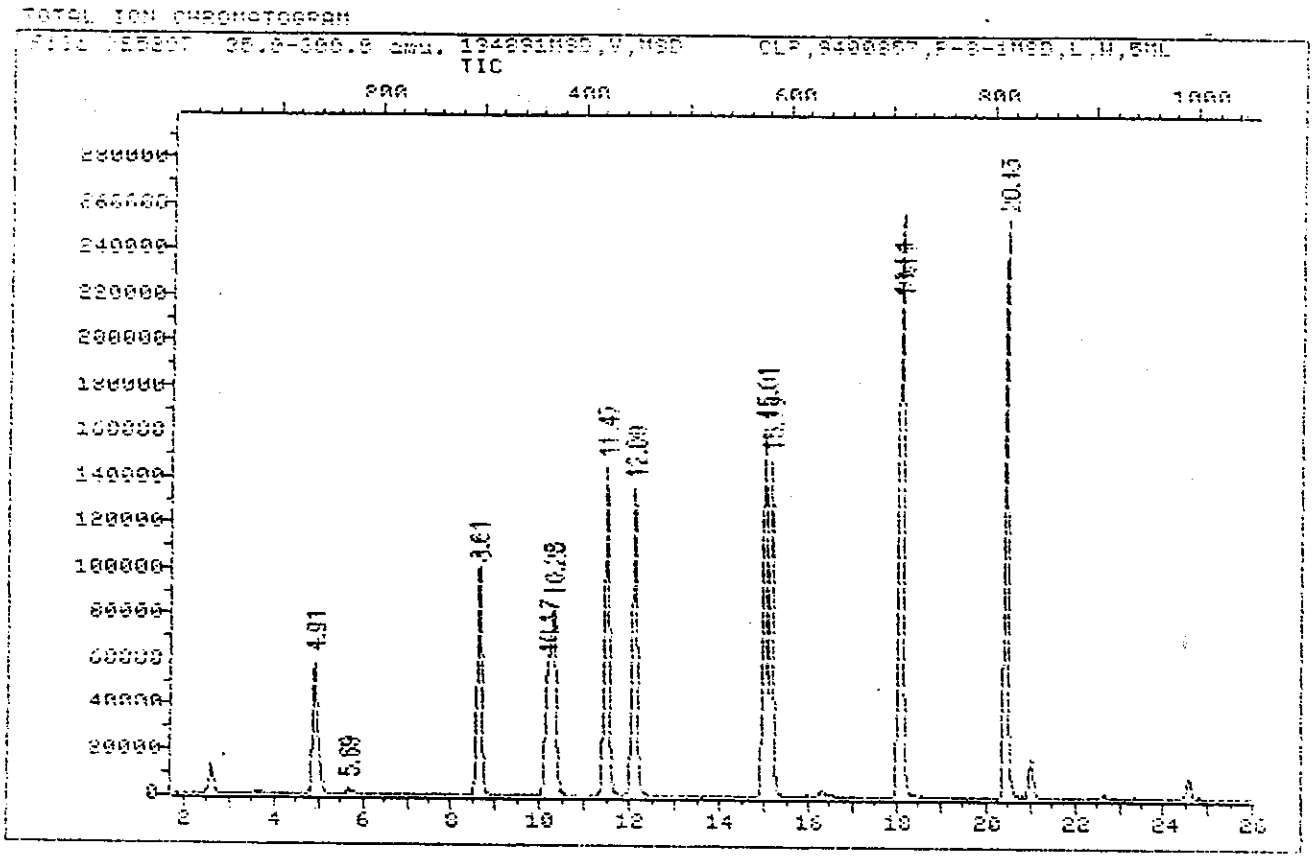

Data File: >E5207::D7 Quant Output File: ^E5207::D9
Name: 134891MSD,V,MSD
Misc: CLP,9400857,P-8-1MSD,L,W,5ML

Id File: DCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940319 09:42

Operator ID: RITA
Quant Time: 940319 16:22
Injected at: 940319 15:51

P-8-1+QCMSD 3-12-94

QUANT REPORT

Operator ID: RITA
Output File: ^E5207::D6
Data File: >E5207::D7
Name: 13489)MSD,U,MSD
Misc: CLP,9400857,P-8-1MSD,L,W,5ML

Quant Rev: 6 Quant Time: 940319 16:22
Injected at: 940319 15:51
Dilution Factor: 1.00000

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940319 09:42

EAQ-198

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.61	128.0	101692	50.00	UG/L	[illegible]
6)	C030 Methylene Chloride	6=7	5.69	84.0	4457	2.21	UG/L	86
9)	C045 1,1-Dichloroethene		4.91	96.0	87569	42.09	UG/L	93
13)	CS15 D4-1,2-Dichloroethane	SS1	10.17	65.0	186994	45.34	UG/L	[illegible]
16)	*CI10 1,4-Difluorobenzene	IS-2	11.47	114.0	403791	50.00	UG/L	98
23)	C150 Trichloroethene		12.09	130.0	153688	46.40	UG/L	96
26)	C165 Benzene		10.28	78.0	246949	46.66	UG/L	[illegible]
29)	*CI20 D5-Chlorobenzene	IS-3	18.04	117.0	309788	50.00	UG/L	94
34)	C230 Toluene		15.15	91.0	315844	46.50	UG/L	95
35)	CS05 D8-Toluene	SS-2	15.01	98.0	337984	44.35	UG/L	[illegible]
36)	C235 Chlorobenzene		18.11	112.0	267634	48.83	UG/L	93
42)	CS10 Bromofluorobenzene	SS-3	20.43	95.0	250348	46.43	UG/L	97

* Compound is ISTD

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NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00938

External Standard Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Ext. Std. True Conc.	Units	Conc. Found	% Recovery
Alkalinity		34	03/25/1994	19.94	ppmCaCO	19.5	97.8
Alkalinity, Bicarb. at pH 4.		17	03/24/1994	19.94	ppmCaCO	20.8	104.3
Alkalinity, Bicarb. at pH 4.		17	03/25/1994	19.94	ppmCaCO	19.5	97.8
Ammonia		280	03/31/1994	0.74	mg/L N	0.73	98.6
Ammonia		280	03/31/1994	0.74	mg/L N	0.69	93.2
Ammonia		280	03/31/1994	0.74	mg/L N	0.72	97.3
Ammonia		280	03/31/1994	0.74	mg/L N	0.72	97.3
Ammonia		280	04/04/1994	0.74	mg/L N	0.75	101.4
Ammonia		280	04/04/1994	0.74	mg/L N	0.73	98.6
Ammonia		280	04/04/1994	0.74	mg/L N	0.76	102.7
Ammonia		280	04/04/1994	0.74	mg/L N	0.75	101.4
Chloride		163	04/04/1994	87.16	mg/L	88.36	101.4
Conductivity		79	03/14/1994	100	umhos/c	100	100.0
Conductivity		79	03/16/1994	100	umhos/c	99	99.0
Conductivity		79	03/17/1994	100	umhos/c	99	99.0
Conductivity		79	03/18/1994	100	umhos/c	98	98.0
Conductivity		79	03/21/1994	100	umhos/c	106	106.0
Fluoride, Total		71	03/25/1994	5.34	mg/L	5.45	102.1
Fluoride, Total		71	04/04/1994	5.34	mg/L	4.66	87.3
Nitrate/nitrite		41	03/30/1994	1.21	mg/L N	1.23	101.7
Nitrate/nitrite		41	03/30/1994	1.21	mg/L N	1.23	101.7
Nitrate/nitrite		41	03/31/1994	1.21	mg/L N	1.22	100.8
Nitrate/nitrite		41	03/31/1994	1.21	mg/L N	1.25	103.3
Nitrate/nitrite		41	03/31/1994	1.21	mg/L N	1.22	100.8
Nitrate/nitrite		41	03/31/1994	1.21	mg/L N	1.24	102.5
Nitrate/nitrite		41	04/04/1994	1.21	mg/L N	1.20	99.2
Nitrate/nitrite		41	04/04/1994	1.21	mg/L N	1.20	99.2
Nitrate/nitrite		42	04/04/1994	1.21	mg/L N	1.20	99.2
Nitrate/nitrite		42	04/04/1994	1.21	mg/L N	1.20	99.2
Nitrate/nitrite		42	04/05/1994	1.21	mg/L N	1.24	102.5
Nitrate/nitrite		42	04/05/1994	1.96	mg/L N	1.22	62.2
Nitrate/nitrite		42	04/05/1994	1.21	mg/L N	1.19	98.3
Nitrate/nitrite		42	04/05/1994	1.21	mg/L N	1.21	100.0
Solids, dissolved (TDS)		509	03/18/1994	1110	mg/L	1064	95.9
Solids, dissolved (TDS)		509	03/21/1994	1110	mg/L	1072	96.6
Solids, dissolved (TDS)		509	03/22/1994	1110	mg/L	1068	96.2
Solids, dissolved (TDS)		510	03/22/1994	1110	mg/L	1068	96.2
Solids, dissolved (TDS)		510	03/24/1994	1110	mg/L	1080	97.3
Sulfate		137	03/30/1994	39.13	mg/L	43.21	110.4
Sulfate		137	04/05/1994	39.13	mg/L	40.37	103.2
Total Organic Carbon		632	03/29/1994	105.6	mg/L	102.6	97.2
Total Organic Carbon		632	03/30/1994	105.6	mg/L	101.2	95.8
Total Organic Carbon		633	03/30/1994	105.6	mg/L	101.2	95.8
Total Organic Carbon		633	03/31/1994	105.6	mg/L	105.1	99.5

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00938

Blank Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Blank Result
Alkalinity		34	03/25/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		17	03/24/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		17	03/25/1994	2.0	ppmCaC	<2
Ammonia		280	03/31/1994	0.1	mg/L N	<0.1
Ammonia		280	03/31/1994	0.1	mg/L N	<0.1
Ammonia		280	04/04/1994	0.1	mg/L N	<0.1
Ammonia		280	04/04/1994	0.1	mg/L N	<0.1
Chloride		163	04/04/1994	2.0	mg/L	<2
Conductivity		79	03/14/1994	1	umhos/	<1
Conductivity		79	03/16/1994	1	umhos/	<1
Conductivity		79	03/17/1994	1	umhos/	<1
Conductivity		79	03/18/1994	1	umhos/	<1
Conductivity		79	03/21/1994	1	umhos/	<1
Fluoride, Total		71	03/25/1994	0.1	mg/L	<0.1
Fluoride, Total		71	04/04/1994	0.1	mg/L	<0.1
Nitrate/nitrite		41	03/30/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		41	03/31/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		41	03/31/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		41	04/04/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		42	04/04/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		42	04/05/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		42	04/05/1994	0.1	mg/L N	<0.1
Solids, dissolved (TDS)		509	03/18/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		509	03/21/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		509	03/22/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		510	03/22/1994	<1.0	mg/L	6
Solids, dissolved (TDS)		510	03/24/1994	<1.0	mg/L	<1
Sulfate		137	03/30/1994	5	mg/L	<10
Sulfate		137	04/05/1994	5	mg/L	<10
Sulfide		34	03/17/1994	0.1	mg/L	<0.1
Sulfide		34	03/24/1994	0.1	mg/L	<0.1
Total Organic Carbon		632	03/29/1994	1.0	mg/L	<1
Total Organic Carbon		632	03/30/1994	1.0	mg/L	<1
Total Organic Carbon		633	03/30/1994	1.0	mg/L	<1
Total Organic Carbon		633	03/31/1994	1.0	mg/L	<1
Arsenic (As)	660	314	04/20/1994	0.01	mg/L	<0.003
Cobalt (Co)	660	448	04/21/1994	0.05	mg/L	<0.01
Iron (Fe)	660	369	04/21/1994	0.1	mg/L	<0.05
Lead (Pb)	660	387	04/20/1994	.003	mg/L	0.001
Manganese (Mn)	660	448	04/21/1994	0.01	mg/L	<0.01

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00938

Duplicate Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Sample Result	Duplicate Result	RPD
Alkalinity		34	03/25/1994	2.0	ppmCaC	689	710	3.0
Alkalinity		34	03/25/1994	2.0	ppmCaC	119	118	0.8
Alkalinity, Bicarb. at pH 4.		17	03/24/1994	2.0	ppmCaC	689	710	3.0
Alkalinity, Bicarb. at pH 4.		17	03/25/1994	2.0	ppmCaC	119	118	0.8
Ammonia		280	03/31/1994	0.1	mg/L N	<0.1	<0.1	
Chloride		163	04/04/1994	2.0	mg/L	10	11	9.5
Conductivity		79	03/14/1994	1	umhos/	3190	3113	2.4
Fluoride, Total		71	03/25/1994	0.1	mg/L	<0.1	<0.1	
Nitrate/nitrite		41	03/30/1994	0.1	mg/L N	2.1	2.1	0.0
Nitrate/nitrite		42	04/05/1994	0.1	mg/L N	<1.0	<1.0	
Solids, dissolved (TDS)		509	03/18/1994	<1.0	mg/L	738	788	6.6
Solids, dissolved (TDS)		510	03/22/1994	<1.0	mg/L	656	640	2.5
Sulfate		137	03/30/1994	5	mg/L	106	129	19.6
Sulfide		34	03/17/1994	0.1	mg/L	1.62	1.62	0.0
Total Organic Carbon		632	03/29/1994		mg/L	13.3	13.3	0.0
Total Organic Carbon		633	03/30/1994	1.0	mg/L	3	2.8	6.9
Total Organic Carbon		633	03/30/1994	1.0	mg/L	4	4.2	4.9
Arsenic (As)	660	314	04/20/1994	0.01	mg/L	0.013	0.012	8.0
Cobalt (Co)	660	448	04/21/1994	0.05	mg/L	<0.01	<0.01	
Iron (Fe)	660	369	04/21/1994	0.1	mg/L	36.3	37.4	3.0
Lead (Pb)	660	387	04/20/1994	.003	mg/L	0.010	0.013	26.1
Manganese (Mn)	660	448	04/21/1994	0.01	mg/L	0.67	0.69	2.9

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00938

Spiked Sample Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Units	Spiked Sample Result	% Recovery
Alkalinity		34	03/25/1994	118.8	689	ppmCaC	820	110.3
Alkalinity		34	03/25/1994	47.50	119	ppmCaC	156	77.9
Alkalinity, Bicarb. at p		17	03/24/1994	118.8	689	ppmCaC	820	110.3
Alkalinity, Bicarb. at p		17	03/25/1994	47.5	119	ppmCaC	156	77.9
Ammonia		280	03/31/1994	1.0	<0.1	mg/L N	0.8	80.0
Chloride		163	04/04/1994	50.0	10	mg/L	44	68.0
Fluoride, Total		71	03/25/1994	5.0	<0.1	mg/L	5.69	113.8
Nitrate/nitrite		41	03/30/1994	10.0	2.1	mg/L N	11.8	97.0
Nitrate/nitrite		42	04/05/1994	10.0	<1.0	mg/L N	9.8	98.0
Sulfate		137	03/30/1994	100	106	mg/L	224	118.0
Total Organic Carbon		632	03/29/1994	5.0	13.3	mg/L	18.3	100.0
Total Organic Carbon		633	03/30/1994	5.0	3	mg/L	7.66	93.2
Total Organic Carbon		633	03/30/1994	5.0	4	mg/L	8.4	88.0
Arsenic (As)	660	314	04/20/1994	0.04	0.013	mg/L	0.042	72.5
Cobalt (Co)	660	448	04/21/1994	0.5	<0.01	mg/L	0.38	76.0
Iron (Fe)	660	369	04/21/1994	0	36.3	mg/L	0	0
Lead (Pb)	660	387	04/20/1994	0.02	0.010	mg/L	0.029	95.0
Manganese (Mn)	660	448	04/21/1994	0.5	0.67	mg/L	1.13	92.0

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

* Client: ENSR CONSULTING
NET Job Number: 94.00938

Laboratory Control Sample (LCS) Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Units	Amount Found	% Recovery
Alkalinity		34	03/25/1994	475.0	ppmCaC	477	100.4
Alkalinity, Bicarb. at p		17	03/24/1994	475	ppmCaC	459	96.6
Alkalinity, Bicarb. at p		17	03/25/1994	475	ppmCaC	477	100.4
Ammonia		280	03/31/1994	3.0	mg/L N	2.89	96.3
Ammonia		280	03/31/1994	3.0	mg/L N	2.89	96.3
Ammonia		280	04/04/1994	3.0	mg/L N	3.01	100.3
Ammonia		280	04/04/1994	3.0	mg/L N	3.00	100.0
Chloride		163	04/04/1994	1000	mg/L	1002	100.2
Conductivity		79	03/14/1994	104.5	umhos/	106.5	101.9
Conductivity		79	03/16/1994	104.5	umhos/	102.2	97.8
Conductivity		79	03/17/1994	104.5	umhos/	103.3	98.9
Conductivity		79	03/18/1994	104.5	umhos/	100	95.7
Conductivity		79	03/21/1994	104.5	umhos/	105.8	101.2
Fluoride, Total		71	04/04/1994	10.0	mg/L	10.22	102.2
Nitrate/nitrite		41	03/30/1994	2.0	mg/L N	1.98	99.0
Nitrate/nitrite		41	03/31/1994	2.0	mg/L N	2.00	100.0
Nitrate/nitrite		41	03/31/1994	2.0	mg/L N	2.00	100.0
Nitrate/nitrite		41	04/04/1994	2.0	mg/L N	2.01	100.5
Nitrate/nitrite		42	04/04/1994	2.0	mg/L N	2.01	100.5
Nitrate/nitrite		42	04/05/1994	2.0	mg/L N	2.04	102.0
Nitrate/nitrite		42	04/05/1994	2.0	mg/L N	2.01	100.5
Sulfate		137	03/30/1994	40.0	mg/L	39.7	99.3
Sulfate		137	04/05/1994	40.0	mg/L	36.2	90.5
Total Organic Carbon		632	03/29/1994	10.0	mg/L	9.77	97.7
Total Organic Carbon		632	03/30/1994	10.0	mg/L	9.96	99.6
Total Organic Carbon		633	03/30/1994	10.0	mg/L	9.96	99.6
Total Organic Carbon		633	03/31/1994	10.0	mg/L	9.91	99.1
Arsenic (As)	660	317	04/21/1994	0.05	mg/L	0.045	90.0
Cobalt (Co)	660	448	04/21/1994	1.0	mg/L	0.96	96.0
Iron (Fe)	660	369	04/21/1994	1.0	mg/L	0.89	89.0
Lead (Pb)	660	387	04/20/1994	0.05	mg/L	0.049	98.0
Manganese (Mn)	660	448	04/21/1994	1.0	mg/L	0.96	96.0

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/18/94 18:14
Data File: >A5189
Scan: 826

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.01	57.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	74.71	74.71	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	43.56	43.56	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.09	6.09	Ok
275	10-30% of mass 198	19.73	19.73	Ok
365	Greater than 1% of mass 198	2.11	2.11	Ok
441	Less than mass 443	9.17	76.29	Ok
442	Greater than 40% of mass 198	64.11	64.11	Ok
443	17-23% of mass 442	12.02	18.74	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID		DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
>A5190	50PPB	#3370	4/19/94	18:54
>A5191	20PPB	#3371		19:47
>A5192	160PPB	#3367		20:41
>A5193	120 PPB	#3368		21:35
>A5194	80PPB	#3369		22:28

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/21/94 13:55
Data File: >A5224
Scan: 838

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	53.96	53.96	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	66.46	66.46	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	41.29	41.29	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.22	6.22	Ok
275	10-30% of mass 198	20.39	20.39	Ok
365	Greater than 1% of mass 198	1.97	1.97	Ok
441	Less than mass 443	8.61	73.66	Ok
442	Greater than 40% of mass 198	59.19	59.19	Ok
443	17-23% of mass 442	11.70	19.76	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS

1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET TRUROPARK | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5224 DFTPP Injection Date: 4/21/94

Instrument ID: /UA/UF DFTPP Injection Time: 13:55

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	54.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	66.5
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.5
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.2
275	10.0 - 30.0% of mass 198	20.4
365	Greater than 1.00% of mass 198	2.0
441	Present, but less than mass 443	8.6
442	Greater than 40.0% of mass 198	59.2
443	17.0 - 23.0% of mass 442	11.7 (19.8)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB	50PPB #33/0	>A5225	04/21/94	14:25
02	WCSPK	LCS A295A	>A5226	04/21/94	15:17
03	BLK#1	BLK#1 A295A	>A5227	04/21/94	16:09
04	134734	00826 A293A	>A5228	04/21/94	17:00
05	134869	00856 A293A	>A5229	04/21/94	17:51
06	135107 MS	00893 A295A	>A5230	04/21/94	18:42
07	135107 MSD	00893 A295A	>A5231	04/21/94	19:33
08	135107	00893 A295A	>A5232	04/21/94	20:23
09	135099	00893 A295A	>A5233	04/21/94	21:14
10	135342	00938 A295A	>A5234	04/21/94	22:05
11	135344	00938 A295A	>A5236	04/21/94	23:47
12	135105	00893 A295A	>A5237	04/22/94	00:37
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/22/94 14:27
Data File: >A5239
Scan: 831

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.48	57.48	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	75.68	75.68	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.95	40.95	Ok
197	Less than 1% of mass 198	.72	.72	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.75	6.75	Ok
275	10-30% of mass 198	20.75	20.75	Ok
365	Greater than 1% of mass 198	2.00	2.00	Ok
441	Less than mass 443	8.68	76.31	Ok
442	Greater than 40% of mass 198	63.35	63.35	Ok
443	17-23% of mass 442	11.37	17.95	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET THOROFARE | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5239 DFTPP Injection Date: 4/22/94

Instrument ID: 70A70F DFTPP Injection Time: 14:27

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	57.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	75.7
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.0
197	Less than 1.0% of mass 198	.7
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.8
275	10.0 - 30.0% of mass 198	20.8
365	Greater than 1.00% of mass 198	2.0
441	Present, but less than mass 443	8.7
442	Greater than 40.0% of mass 198	63.4
443	17.0 - 23.0% of mass 442	11.4 (17.9)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	050 PPB	50PPB #3370	>A5240	04/22/94	14:49
02	BLK#2A	BLK#2A 295A	>A5241	04/22/94	15:41
03	BLK#3A	BLK#3A 295A	>A5242	04/22/94	16:33
04	BLK#4A	BLK#4A 295A	>A5243	04/22/94	17:25
05	135467 MS	00960 MS	>A5244	04/22/94	18:17
06	135467 MSD	00960 MSD	>A5245	04/22/94	19:09
07	135343	00938	>A5246	04/22/94	20:02
08	135345	00938	>A5247	04/22/94	20:54
09	135467	00960	>A5248	04/22/94	21:46
10	135466	00960	>A5249	04/22/94	22:37
11	135678	00995	>A5250	04/22/94	23:29
12	135680	00995	>A5251	04/23/94	00:21
13	135682	00995	>A5252	04/23/94	01:12
14	135684	00995	>A5253	04/23/94	02:04
15					
16					
17					
18					
19					
20					
21					
22					

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/23/94 11:04
Data File: >A5254
Scan: 834

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	55.43	55.43	Ok
68	Less than 2% of mass 69	1.43	1.96	Ok
69	(reference only)	72.98	72.98	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.10	40.10	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.92	6.92	Ok
275	10-30% of mass 198	21.14	21.14	Ok
365	Greater than 1% of mass 198	2.49	2.49	Ok
441	Less than mass 443	7.90	68.58	Ok
442	Greater than 40% of mass 198	62.07	62.07	Ok
443	17-23% of mass 442	11.52	18.56	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA FILE	SAMPLE ID	DATE OF ANALYSIS	TIME OF ANALYSIS

1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET THOROFARE | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5254 DFTPP Injection Date: 4/23/94

Instrument ID: 70A70F DFTPP Injection Time: 11:04

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	55.4
68	Less than 2.0% of mass 69	1.4 (2.0)1
69	Mass 69 relative abundance	73.0
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	40.1
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.9
275	10.0 - 30.0% of mass 198	21.1
365	Greater than 1.00% of mass 198	2.5
441	Present, but less than mass 443	7.9
442	Greater than 40.0% of mass 198	62.1
443	17.0 - 23.0% of mass 442	11.5 (18.6)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	050 PPB	50PPB #3370	>A5255	04/23/94	11:28
02	135103	00893 295A	>A5256	04/23/94	12:21
03	135341	00938 295A	>A5257	04/23/94	13:13
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GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/26/94 14:07
Data File: >A5272
Scan: 840

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	53.78	53.78	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	64.87	64.87	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	41.78	41.78	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.76	6.76	Ok
275	10-30% of mass 198	20.65	20.65	Ok
365	Greater than 1% of mass 198	2.32	2.32	Ok
441	Less than mass 443	9.58	68.32	Ok
442	Greater than 40% of mass 198	75.82	75.82	Ok
443	17-23% of mass 442	14.03	18.50	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS

1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET THOROFARE | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5272 DFTPP Injection Date: 4/26/94

Instrument ID: 70A70F DFTPP Injection Time: 14:07

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	53.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	64.9
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.8
275	10.0 - 30.0% of mass 198	20.6
365	Greater than 1.00% of mass 198	2.3
441	Present, but less than mass 443	9.6
442	Greater than 40.0% of mass 198	75.8
443	17.0 - 23.0% of mass 442	14.0 (18.5)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	050 PPB	50PPB #3303	>A5273	04/26/94	14:31
02	020 PPB	20PPB #3304	>A5274	04/26/94	15:38
03	160 PPB	160PPB#3300	>A5275	04/26/94	16:33
04	120 PPB	120PPB#3301	>A5276	04/26/94	17:26
05	080 PPB	80PPB #3302	>A5277	04/26/94	18:19
06	BLK#2A	BLK#2A A295	>A5278	04/26/94	19:12
07	BLK#1A	BLK#1A A297	>A5279	04/26/94	20:04
08	BLK#2A	BLK#2A A297	>A5280	04/26/94	20:57
09	135448	00956	>A5281	04/26/94	21:49
10	135450	00956	>A5282	04/26/94	22:41
11	135451	00956	>A5283	04/26/94	23:33
12	135452	00956	>A5284	04/27/94	00:24
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5124 BFB Injection Date: 3/16/94

Instrument ID: /0 1 BFB Injection Time: 3/16/94 10:0o

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% OF MASS 95	25.2
75	30.0 - 66.0% OF MASS 95	61.4
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	8.3
173	Less than 2.0% of mass 174	.7 .8)1
174	50.0 - 120.0% of mass 95	90.5(
175	4.0 - 9.0% of mass 174	7.1 7.9)1
176	93.0 - 101% of mass 174	87.0 96.1)1
177	5.0 - 9.0% of mass 176	5.5 6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03		[illegible]			
04		[illegible]			
05					
06		[illegible]			
07		[illegible]			
08					
09		[illegible]			
10		[illegible]			
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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5124 BFB Injection Date: 3/16/94

Instrument ID: HP5970 BFB Injection Time: 10:06

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	25.2
75	30.0 - 66.0% of mass 95	61.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.3
173	Less than 2.0% of mass 174	.7 (.8)1
174	50-120% of mass 95	90.5
175	4.0 - 9.0% of mass 174	7.1 (7.9)1
176	93.0 - 101.0% of mass 174	87.0 (96.1)1
177	5.0 - 9.0% of mass 176	5.5 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB STD	50 STD#2312	>E5126	03/16/94	11:28
02	10 PPB STD	10 STD#2312	>E5127	03/16/94	12:07
03	100 PPB ST	100 STD2312	>E5128	03/16/94	12:49
04	20 PPB STD	20 STD#2312	>E5130	03/16/94	14:03
05	200 PPB ST	200 STD#2312	>E5131	03/16/94	14:52
06	VBLK	VBLK	>E5133	03/16/94	17:03
07	134468	00780	>E5134	03/16/94	17:40
08	134489	00783	>E5135	03/16/94	18:17
09	134490	00783	>E5136	03/16/94	18:53
10	134491	00783	>E5137	03/16/94	19:30
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5218 BFB Injection Date: 3/21/94

Instrument ID: 70 1 BFB Injection Time: 3/21/94 8:28

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	22.8	
75	30.0 - 66.0% OF MASS 95	49.9	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	1.1	1.3)1
174	50.0 - 120.0% of mass 95	87.8	
175	4.0 - 9.0% of mass 174	7.3	8.3)1
176	93.0 - 101% of mass 174	83.8	95.5)1
177	5.0 - 9.0% of mass 176	7.1	8.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04		[illegible]			
05					
06		[illegible]			
07		[illegible]			
08					
09		[illegible]			
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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5218 BFB Injection Date: 3/21/94

Instrument ID: HP5970 BFB Injection Time: 8:28

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	22.8
75	30.0 - 66.0% of mass 95	49.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	1.1 (1.3)1
174	50-120% of mass 95	87.8
175	4.0 - 9.0% of mass 174	7.3 (8.3)
176	93.0 - 101.0% of mass 174	83.8 (95.5)1
177	5.0 - 9.0% of mass 176	7.1 (8.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 ppb	#2312	>E5219	03/21/94	08:50
02	VBLK	VBLK	>E5220	03/21/94	10:07
03	134870	00856	>E5221	03/21/94	10:55
04	134531	00792	>E5222	03/21/94	11:33
05	135093	00888	>E5223	03/21/94	12:10
06	135099	00893	>E5224	03/21/94	12:47
07	135101	00893	>E5225	03/21/94	13:24
08	135103	00893	>E5226	03/21/94	14:01
09	135109	00893	>E5227	03/21/94	14:41
10	135107	00893	>E5228	03/21/94	15:17
11	135340	00938	>E5229	03/21/94	15:55
12	135107MS	00893	>E5230	03/21/94	16:32
13	135107MSD	00893	>E5231	03/21/94	17:09
14	135342	00938	>E5233	03/21/94	18:23
15	135344	00938	>E5235	03/21/94	19:38
16	135345	00938	>E5236	03/21/94	20:15
17					
18					
19					
20					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5237 BFB Injection Date: 3/22/94

Instrument ID: 70 1 BFB Injection Time: 3/22/94 7:52

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	21.1	
75	30.0 - 66.0% OF MASS 95	52.8	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	7.6	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	86.4	
175	4.0 - 9.0% of mass 174	7.2	8.4)1
176	93.0 - 101% of mass 174	81.3	94.2)1
177	5.0 - 9.0% of mass 176	6.1	7.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
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03					
04		Dup			
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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5237 BFB Injection Date: 3/22/94

Instrument ID: HP5970 BFB Injection Time: 7:52

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	21.1
75	30.0 - 66.0% of mass 95	52.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50-120% of mass 95	86.4
175	4.0 - 9.0% of mass 174	7.2 (8.4)1
176	93.0 - 101.0% of mass 174	81.3 (94.2)1
177	5.0 - 9.0% of mass 176	6.1 (7.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 ppb	#2312	>E5238	03/22/94	08:11
02	VBLK	VBLK	>E5239	03/22/94	08:53
03	135551	00974	>E5240	03/22/94	09:35
04	135552	00974	>E5241	03/22/94	10:12
05	135341	00938	>E5242	03/22/94	10:49
06	135343	00938	>E5243	03/22/94	11:25
07	135453	00956	>E5244	03/22/94	12:02
08	135452	00956	>E5245	03/22/94	12:38
09	135465	00960	>E5246	03/22/94	13:24
10	135446	00956	>E5247	03/22/94	14:01
11	135447	00956	>E5248	03/22/94	14:39
12	135448	00956	>E5249	03/22/94	15:16
13	135450	00956	>E5250	03/22/94	15:53
14	135451	00956	>E5251	03/22/94	16:31
15	135445	00956	>E5252	03/22/94	17:08
16	135466	00960	>E5253	03/22/94	17:45
17	135467	00960	>E5255	03/22/94	19:00
18	135456	00958	>E5256	03/22/94	19:37
19	135457	00958	>E5257	03/22/94	20:14
20	135459	00958	>E5259	03/22/94	21:29
21	135460	00958	>E5260	03/22/94	22:06
22	135504	00963	>E5261	03/22/94	22:44

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5225
Injection Time: 940421 14:25

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.19976	2.70	Average	
CS45 D5-Phenol	1.52248	1.56515	2.80	Average	
C309 Pyridine	1.10561	1.11425	.78	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.40772	.82	Average	
C335 1,3-Dichlorobenzene	1.70502	1.69577	.54	Average	
C340 1,4-Dichlorobenzene	1.73050	1.74854	1.04	Average	
C350 1,2-Dichlorobenzene	1.65558	1.64498	.64	Average	
C349 Indene	2.27085	2.24461	1.16	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.04849	4.43	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.39155	3.10	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.09507	.78	Average	
C459 Quinoline	.69188	.71602	3.49	Average	
C471 1-Methylnaphthalene	.70593	.71784	1.69	Average	
CS25 2-Fluorobiphenyl	1.39436	1.53251	9.91	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.78030	6.07	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.99144	11.53	Average	
CS55 2,4,6-Tribromophenol	.27799	.34367	23.62	Average	
C640 Phenanthrene	1.10703	1.17278	5.94	Average	
C645 Anthracene	1.06492	1.18625	11.39	Average	
C650 Di-n-butylphthalate	1.68960	1.90489	12.74	Average	
C655 Fluoranthene	1.28823	1.37797	6.97	Average	
C715 Pyrene	1.55165	1.48907	4.03	Average	
CS30 D14-Terphenyl	1.05487	1.07335	1.75	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.90796	2.63	Average	
C730 Benzo(a)anthracene	1.24875	1.24441	.35	Average	
C740 Chrysene	1.22525	1.22980	.37	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.34225	.34	Average	
C759 6-Methyl chrysene	.91148	.86878	4.68	Average	
C760 Di-n-octylphthalate	2.02659	2.21768	9.43	Average	
C765 Benzo(b)fluoranthene	1.31752	1.25089	5.06	Average	
C770 Benzo(k)fluoranthene	1.17763	1.20783	2.56	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.10295	25.89	Average	
C775 Benzo(a)pyrene	1.10417	1.06629	3.43	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5225
Injection Time: 940421 14:25

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.89307	1.04	Average
C785 Dibenz(a,h)anthracene	.96071	.93431	2.75	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5240
Injection Time: 940422 14:49

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.16841	.01	Average	
CS45 D5-Phenol	1.52248	1.53921	1.10	Average	
C309 Pyridine	1.10561	1.06581	3.60	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.39390	.17	Average	
C335 1,3-Dichlorobenzene	1.70502	1.73758	1.91	Average	
C340 1,4-Dichlorobenzene	1.73050	1.75303	1.30	Average	
C350 1,2-Dichlorobenzene	1.65558	1.69078	2.13	Average	
C349 Indene	2.27085	2.33336	2.75	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.08907	.73	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.37833	.38	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.14497	5.37	Average	
C459 Quinoline	.69188	.69648	.66	Average	
C471 1-Methylnaphthalene	.70593	.72690	2.97	Average	
CS25 2-Fluorobiphenyl	1.39436	1.41553	1.52	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.73584	3.42	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.90334	6.60	Average	
CS55 2,4,6-Tribromophenol	.27799	.23348	16.01	Average	
C640 Phenanthrene	1.10703	1.17021	5.71	Average	
C645 Anthracene	1.06492	1.10800	4.05	Average	
C650 Di-n-butylphthalate	1.68960	2.03914	20.69	Average	
C655 Fluoranthene	1.28823	1.38793	7.74	Average	
C715 Pyrene	1.55165	1.74356	12.37	Average	
CS30 D14-Terphenyl	1.05487	1.07446	1.86	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	1.04227	11.77	Average	
C730 Benzo(a)anthracene	1.24875	1.29458	3.67	Average	
C740 Chrysene	1.22525	1.29672	5.83	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.50605	11.83	Average	
C759 6-Methyl chrysene	.91148	.93155	2.20	Average	
C760 Di-n-octylphthalate	2.02659	2.48262	22.50	Average	
C765 Benzo(b)fluoranthene	1.31752	1.30764	.75	Average	
C770 Benzo(k)fluoranthene	1.17763	1.25334	6.43	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.12435	10.48	Average	
C775 Benzo(a)pyrene	1.10417	1.13644	2.92	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5240
Injection Time: 940422 14:49

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.89465	.86	Average
C785 Dibenz(a,h)anthracene	.96071	.94658	1.47	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: SP Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5255
Injection Time: 940423 11:28

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.20777	3.38	Average	
CS45 D5-Phenol	1.52248	1.52478	.15	Average	
C309 Pyridine	1.10561	1.14946	3.97	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.39371	.18	Average	
C335 1,3-Dichlorobenzene	1.70502	1.68929	.92	Average	
C340 1,4-Dichlorobenzene	1.73050	1.72762	.17	Average	
C350 1,2-Dichlorobenzene	1.65558	1.67349	1.08	Average	
C349 Indene	2.27085	2.25720	.60	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.07347	2.15	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.37469	1.34	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.13677	4.62	Average	
C459 Quinoline	.69188	.70050	1.25	Average	
C471 1-Methylnaphthalene	.70593	.72708	3.00	Average	
CS25 2-Fluorobiphenyl	1.39436	1.46543	5.10	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.79161	6.74	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.95212	9.33	Average	
CS55 2,4,6-Tribromophenol	.27799	.34135	22.79	Average	
C640 Phenanthrene	1.10703	1.20956	9.26	Average	
C645 Anthracene	1.06492	1.14193	7.23	Average	
C650 Di-n-butylphthalate	1.68960	2.00912	18.91	Average	
C655 Fluoranthene	1.28823	1.37559	6.78	Average	
C715 Pyrene	1.55165	1.55349	.12	Average	
CS30 D14-Terphenyl	1.05487	1.04719	.73	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.92370	.94	Average	
C730 Benzo(a)anthracene	1.24875	1.23201	1.34	Average	
C740 Chrysene	1.22525	1.21219	1.07	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.30005	3.47	Average	
C759 6-Methyl chrysene	.91148	.90057	1.20	Average	
C760 Di-n-octylphthalate	2.02659	2.15876	6.52	Average	
C765 Benzo(b)fluoranthene	1.31752	1.25218	4.96	Average	
C770 Benzo(k)fluoranthene	1.17763	1.25556	6.62	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.09127	34.29	Average	
C775 Benzo(a)pyrene	1.10417	1.07984	2.20	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5255
Injection Time: 940423 11:28

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.90012	.26	Average
C785 Dibenz[a,h]anthracene	.96071	.92311	3.91	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Check Standard Data File: >E5219
Injection Time: 940321 08:50

Compound		$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane		.48681	.47921	2.38	Average	
C015 Bromomethane		1.22893	1.22371	.43	Average	
C020 Vinyl Chloride		.67188	.69325	3.18	Average	
C025 Chloroethane		.49539	.51185	3.32	Average	
C030 Methylene Chloride		1.06493	1.23362	15.84	Average	
C035 Acetone		.17724	.18058	1.88	Average	
C040 Carbon Disulfide		2.71252	2.84120	4.74	Average	
C045 1,1-Dichloroethene		1.12849	1.12000	.75	Average	
C050 1,1-Dichloroethane		1.96487	1.91334	2.62	Average	
C053 1,2-Dichloroethene(total)		1.20240	1.19455	.65	Average	(Conc=100.00)
C060 Chloroform		3.16820	2.92315	7.73	Average	
CS15 D4-1,2-Dichloroethane	SS1	2.12865	1.98981	6.52	Average	
C065 1,2-Dichloroethane		2.25702	2.09661	7.11	Average	
C110 2-Butanone		.22720	.22070	2.86	Average	
C115 1,1,1-Trichloroethane		.79437	.76673	3.48	Average	
C120 Carbon Tetrachloride		.81692	.80553	1.39	Average	
C125 Vinyl Acetate		.34705	.39341	13.36	Average	
C130 Bromodichloromethane		.67801	.67216	.86	Average	
C140 1,2-Dichloropropane		.23583	.25405	7.72	Average	
C143 Cis-1,3-Dichloropropene		.42772	.45090	5.42	Average	(Conc=50.00)
C150 Trichloroethene		.41503	.42524	2.46	Average	
C155 Dibromochloromethane		.67860	.68880	1.50	Average	
C160 1,1,2-Trichloroethane		.26307	.26885	2.20	Average	
C165 Benzene		.66286	.69177	4.36	Average	
C172 Trans-1,3-Dichloropropene		.41301	.43688	5.78	Average	(Conc=50.00)
C180 Bromoform		.47930	.47585	.72	Average	
C205 4-Methyl-2-Pentanone		.20266	.19787	2.36	Average	
C210 2-Hexanone		.12706	.12615	.72	Average	
C220 Tetrachloroethene		.53846	.55001	2.15	Average	
C225 1,1,2,2-Tetrachloroethane		.47137	.47766	1.33	Average	
C230 Toluene		1.09081	1.11536	2.25	Average	
CS05 D8-Toluene	SS-2	1.15196	1.16699	1.30	Average	
C235 Chlorobenzene		.88943	.89256	.35	Average	
C240 Ethylbenzene		.40374	.41005	1.56	Average	
C245 Styrene		.83188	.84333	1.38	Average	
C250 Xylene (total)		.48538	.49200	1.37	Average	
meta+para Xylene		.50718	.51021	.60	Average	(Conc=100.00)
ortho Xylene		.48538	.49200	1.37	Average	
CS10 Bromofluorobenzene	SS-3	.85928	.82252	4.28	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Check Standard Data File: >E5238
Injection Time: 940322 08:11

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane	.48681	.41223	15.32	Average	
C015 Bromomethane	1.22893	1.16969	4.82	Average	
C020 Vinyl Chloride	.67188	.64375	4.19	Average	
C025 Chloroethane	.49539	.47447	4.22	Average	
C030 Methylene Chloride	1.06493	.99584	6.49	Average	
C035 Acetone	.17724	.13076	26.23	Average	
C040 Carbon Disulfide	2.71252	2.62889	3.08	Average	
C045 1,1-Dichloroethene	1.12849	1.06903	5.27	Average	
C050 1,1-Dichloroethane	1.96487	1.84175	6.27	Average	
C053 1,2-Dichloroethene(total)	1.20240	1.13468	5.63	Average	(Conc=100.00)
C060 Chloroform	3.16820	2.87571	9.23	Average	
CS15 D4-1,2-Dichloroethane SS1	2.12865	1.88771	11.32	Average	
C065 1,2-Dichloroethane	2.25702	1.99165	11.76	Average	
C110 2-Butanone	.22720	.18547	18.37	Average	
C115 1,1,1-Trichloroethane	.79437	.72525	8.70	Average	
C120 Carbon Tetrachloride	.81692	.74057	9.35	Average	
C125 Vinyl Acetate	.34705	.32999	4.92	Average	
C130 Bromodichloromethane	.67801	.63621	6.17	Average	
C140 1,2-Dichloropropane	.23583	.23099	2.05	Average	
C143 Cis-1,3-Dichloropropene	.42772	.41218	3.63	Average	(Conc=50.00)
C150 Trichloroethene	.41503	.39772	4.17	Average	
C155 Dibromochloromethane	.67860	.63421	6.54	Average	
C160 1,1,2-Trichloroethane	.26307	.23891	9.18	Average	
C165 Benzene	.66286	.65221	1.61	Average	
C172 Trans-1,3-Dichloropropene	.41301	.39532	4.28	Average	(Conc=50.00)
C180 Bromoform	.47930	.41157	14.13	Average	
C205 4-Methyl-2-Pentanone	.20266	.16636	17.91	Average	
C210 2-Hexanone	.12706	.09596	24.48	Average	
C220 Tetrachloroethene	.53846	.52790	1.96	Average	
C225 1,1,2,2-Tetrachloroethane	.47137	.40612	13.84	Average	
C230 Toluene	1.09081	1.06520	2.35	Average	
CS05 D8-Toluene SS-2	1.15196	1.15162	.03	Average	
C235 Chlorobenzene	.88943	.88762	.20	Average	
C240 Ethylbenzene	.40374	.39543	2.06	Average	
C245 Styrene	.83188	.80957	2.68	Average	
C250 Xylene (total)	.48538	.46466	4.27	Average	
meta+para Xylene	.50718	.49576	2.25	Average	(Conc=100.00)
ortho Xylene	.48538	.46466	4.27	Average	
CS10 Bromofluorobenzene SS-3	.85928	.81690	4.93	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
CS50 2-Fluorophenol	1.03827	1.16064	1.17525	1.27220	1.19497	.694	1.16827	7.228	
CS45 D5-Phenol	1.35302	1.59272	1.51650	1.61665	1.53348	.930	1.52248	6.784	
C309 Pyridine	.98492	1.10807	1.11202	1.17507	1.14798	.399	1.10561	6.590	
C314 Benzenethiol	-	-	-	-	-	-	-	-	
C315 Phenol	-	-	-	-	-	-	-	-	
CS70 D4-2-Chlorophenol	1.27943	1.42308	1.41542	1.47761	1.38555	.950	1.39622	5.247	
C335 1,3-Dichlorobenzene	1.74228	1.73781	1.68614	1.73984	1.61903	.989	1.70502	3.135	
C340 1,4-Dichlorobenzene	1.76983	1.75900	1.73272	1.76950	1.62145	1.004	1.73050	3.629	
C350 1,2-Dichlorobenzene	1.72534	1.70458	1.63722	1.66707	1.54371	1.055	1.65558	4.298	
C349 Indene	2.29853	2.37249	2.24515	2.30462	2.13346	1.077	2.27085	3.925	
CS75 1,2-Dichlorobenzene-D4	1.11976	1.12617	1.08691	1.10562	1.04703	1.051	1.09710	2.897	(Conc=10.0,25.0,40.0,60.0,80.(
C355 2-Methylphenol	-	-	-	-	-	-	-	-	
C364 3&4-Methylphenol	-	-	-	-	-	-	-	-	(Conc=40.0,100.0,160.0,240.0,3
CS20 D5-Nitrobenzene	.31913	.38886	.38333	.40069	.40694	.854	.37979	9.261	(Conc=10.0,25.0,40.0,60.0,80.(
C425 2,4-Dimethylphenol	-	-	-	-	-	-	-	-	
C450 Naphthalene	1.19262	1.10325	1.11941	1.03885	.97893	1.005	1.08661	7.486	
C459 Quinoline	.67225	.69664	.70675	.69664	.68714	1.080	.69188	1.876	
C471 1-Methylnaphthalene	.78012	.71147	.71847	.67481	.64480	1.182	.70593	7.222	
CS25 2-Fluorobiphenyl	1.42042	1.42299	1.39953	1.38005	1.34878	.894	1.39436	2.213	(Conc=10.0,25.0,40.0,60.0,80.(
C535 Dimethylphthalate	1.73962	1.70347	1.71171	1.65495	1.58256	.970	1.67846	3.675	
C555 2,4-Dinitrophenol	-	-	-	-	-	-	-	-	
C560 4-Nitrophenol	-	-	-	-	-	-	-	-	
C580 Diethylphthalate	1.82011	1.83848	1.85278	1.72709	1.68923	1.085	1.78554	4.078	
CS55 2,4,6-Tribromophenol	.18311	.24903	.32936	.31676	.31170	1.130	.27799	22.116	
C640 Phenanthrene	1.17574	1.13885	1.10791	1.08607	1.02658	1.003	1.10703	5.079	
C645 Anthracene	1.08061	1.11195	1.10056	1.03391	.99758	1.009	1.06492	4.509	
C650 Di-n-butylphthalate	1.90183	1.97845	1.85027	1.45253	1.26492	1.090	1.68960	18.501	
C655 Fluoranthene	1.30155	1.34302	1.32624	1.26702	1.20330	1.161	1.28823	4.302	
C715 Pyrene	1.71895	1.68738	1.48860	1.45192	1.41141	.881	1.55165	9.114	
CS30 D14-Terphenyl	1.01481	1.09258	1.07287	1.04078	1.05329	.899	1.05487	2.825	(Conc=10.0,25.0,40.0,60.0,80.(
C720 Butylbenzylphthalate	.93384	1.03906	.92013	.87831	.89118	.952	.93250	6.815	
C730 Benzo(a)anthracene	1.25034	1.29521	1.22848	1.23289	1.23684	.999	1.24875	2.180	
C740 Chrysene	1.28595	1.28865	1.16987	1.20193	1.18026	1.003	1.22525	4.705	
C745 bis(2Ethylhexyl)phthalate	1.44790	1.52478	1.32976	1.25544	1.17602	1.010	1.34678	10.481	
C759 6-Methyl chrysene	.89527	.93097	.92132	.90194	.90789	.926	.91148	1.593	
C760 Di-n-octylphthalate	2.20932	2.47809	2.20570	1.71643	1.52341	.942	2.02659	19.407	
C765 Benzo(b)fluoranthene	1.26457	1.32535	1.28964	1.36072	1.34733	.971	1.31752	3.035	
C770 Benzo(k)fluoranthene	1.25798	1.24781	1.25598	1.11106	1.01615	.973	1.17763	9.294	
C771 7,12-Di-ME-benz[a]anthra	.13812	.15343	.11689	.15561	.13051	.973	.13891	11.641	

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

RSD - Percent Relative Standard Deviation

000122

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD
C775 Benzo(a)pyrene	1.06220	1.14064	1.11095	1.08716	1.11989	.996	1.10417	2.745
C779 Dibenz[a,h]acridine	.83611	.88589	.93770	.92014	.93236	1.075	.90244	4.677
C785 Dibenz(a,h)anthracene	.91301	.93989	.99196	.98215	.97656	1.099	.96071	3.451

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: HP5970 A

Contractor: NET 8270/SW846 Calibration Date: 04/27/94

Contract No: CAABNA/IDABNA

Minimum $\overline{RF}$ for SPCC is 0.050 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>A5274	>A5273	>A5277	>A5276	>A5275					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
2-Fluorophenol	1.13399	1.18072	1.17376	1.14466	1.13301	.694	1.15323	1.953		
Phenol-d6	1.49652	1.53731	1.46993	1.44557	1.37500	.932	1.46487	4.142		
N-Nitrosodimethylamine	.61639	.63773	.64289	.64493	.65179	.400	.63875	2.110		
Phenol	1.64031	1.65761	1.54186	1.49295	1.43748	.936	1.55404	6.074	*	
bis(2-Chloroethyl)ether	1.62213	1.57208	1.43675	1.37572	1.31568	.948	1.46447	8.852		
2-Chlorophenol	1.47248	1.42594	1.36606	1.32232	1.25887	.955	1.36913	6.140		
1,3-Dichlorobenzene	1.72540	1.62259	1.58152	1.52156	1.46216	.989	1.58265	6.336		
1,4-Dichlorobenzene	1.74949	1.66555	1.61093	1.50700	1.46901	1.004	1.60040	7.163	*	
Benzyl alcohol	.81482	.82284	.76557	.73652	.69019	1.053	.76599	7.219		
1,2-Dichlorobenzene	1.70208	1.56034	1.46778	1.34843	1.24716	1.055	1.46516	12.130		
2-Methylphenol	1.21087	1.20016	1.08635	1.03746	.99357	1.093	1.10568	8.767		
bis(2-Chloroisopropyl)ether	3.01277	2.99263	2.68418	2.62473	2.53998	1.095	2.77086	7.863		
4-Methylphenol	1.25328	1.25510	1.16906	1.01712	.94029	1.136	1.12697	12.632		
N-Nitroso-di-n-propylamine	.88027	.91385	.84215	.78189	.70906	1.135	.82545	9.868		**
Hexachloroethane	.82738	.78337	.72010	.67162	.60015	1.139	.72053	12.462		
Nitrobenzene-d5	.39037	.41917	.40567	.40248	.38868	.854	.40128	3.099		(Conc=10.0,25.0,40.0
Nitrobenzene	.42670	.43746	.42270	.40956	.38649	.858	.41658	4.696		
Isophorone	.77229	.80927	.73932	.71547	.69576	.907	.74642	6.064		
2-Nitrophenol	.20335	.22210	.21742	.21146	.20434	.926	.21173	3.843	*	
2,4-Dimethylphenol	.39036	.38983	.36637	.35054	.33396	.942	.36621	6.726		
Benzoic acid	-	.08781	.10868	.12429	.13047	.976	.11281	16.862		
bis(2-Chloroethoxy)methane	.54840	.54728	.52071	.49410	.47056	.962	.51621	6.565		
2,4-Dichlorophenol	.34564	.34700	.33889	.31987	.30430	.977	.33114	5.587	*	
1,2,4-Trichlorobenzene	.43505	.42788	.38265	.35995	.34913	.993	.39093	9.980		
Naphthalene	1.16997	1.08350	1.01734	.95702	.88793	1.004	1.02315	10.694		
4-Chloroaniline	.11354	.11245	.09688	.09861	.10164	1.029	.10462	7.489		
Hexachlorobutadiene	.29906	.27169	.26777	.24702	.22926	1.046	.26296	10.047	*	
4-Chloro-3-methylphenol	.38301	.41208	.38030	.36295	.33858	1.141	.37538	7.219	*	
2-Methylnaphthalene	.78666	.73946	.69292	.62679	.60138	1.157	.68944	11.152		
Hexachlorocyclopentadiene	.29731	.40105	.38758	.41335	.40836	.866	.38153	12.599		**

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: HP5970 A

Contractor: NET 8270/SW846 Calibration Date: 04/27/94

Contract No: CAABNA/IDABNA

Minimum $\overline{RF}$ for SPCC is 0.050 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>A5274	>A5273	>A5277	>A5276	>A5275					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
2,4,6-Trichlorophenol	.48904	.49092	.47691	.46046	.43257	.882	.46998	5.146	*	
2,4,5-Trichlorophenol	.49395	.52183	.52232	.47237	.45280	.888	.49266	6.201		
2-Chloronaphthalene	1.31457	1.23302	1.19289	1.12938	1.05729	.907	1.18543	8.282		
2-Fluorobiphenyl	1.52781	1.44040	1.45937	1.36946	1.31551	.894	1.42251	5.779		(Conc=10.0,25.0,40.0,
2-Nitroaniline	.42960	.47734	.49074	.47679	.47215	.934	.46932	4.957		
Dimethylphthalate	1.75594	1.69141	1.63000	1.54111	1.47604	.971	1.61890	6.949		
Acenaphthylene	2.11969	1.96260	1.95482	1.81610	1.65581	.975	1.90180	9.177		
2,6-Dinitrotoluene	.38668	.40436	.39244	.37558	.37333	.981	.38648	3.291		
3-Nitroaniline	.22022	.17249	.16637	.15564	.14521	1.002	.17199	16.809		
Acenaphthene	1.34310	1.24513	1.20190	1.11562	1.03833	1.006	1.18882	9.877	*	
2,4-Dinitrophenol	-	.09203	.12874	.15401	.16596	1.019	.13518	24.180		**
4-Nitrophenol	.09673	.13803	.17977	.17797	.18207	1.036	.15491	24.061		**
Dibenzofuran	1.85180	1.74894	1.74870	1.61336	1.53634	1.031	1.69983	7.330		
2,4-Dinitrotoluene	.49448	.54457	.55200	.53450	.52528	1.044	.53017	4.218		
Diethylphthalate	1.94622	1.88642	1.71316	1.54396	1.41796	1.085	1.68554	12.409		
4-Chlorophenyl-phenylether	.79932	.77479	.75862	.68761	.65515	1.090	.73510	8.302		
Fluorene	1.50692	1.39092	1.32652	1.20647	1.08305	1.087	1.30277	12.587		
4-Nitroaniline	.13348	.15221	.16134	.15629	.13228	1.103	.14712	9.109		
2,4,6-Tribromophenol	.36834	.37891	.43151	.39875	.38223	1.130	.39195	6.293		
4,6-Dinitro-2-methylphenol	-	.11806	.13686	.14609	.14741	.895	.13711	9.874		
N-Nitrosodiphenylamine (1)	.40662	.38438	.39136	.35881	.33660	.898	.37559	7.402	*	
4-Bromophenyl-phenylether	.27655	.26740	.27018	.25079	.23145	.944	.25928	7.032		
Hexachlorobenzene	.42936	.37899	.40147	.37004	.34392	.961	.38475	8.408		
Pentachlorophenol	-	.21363	.22307	.21582	.21423	.986	.21669	2.008	*	
Phenanthrene	1.20010	1.12637	1.07499	.99000	.93977	1.003	1.06625	9.771		
Anthracene	1.07652	1.03504	.98563	.93530	.88950	1.009	.98440	7.614		
Di-n-butylphthalate	1.91392	1.80821	1.57225	1.29086	1.12501	1.090	1.54205	21.680		
Fluoranthene	1.37525	1.30191	1.21308	1.15322	1.07844	1.160	1.22438	9.600	*	
Pyrene	1.59820	1.50061	1.33607	1.32276	1.19619	.881	1.39077	11.401		
Terphenyl-d14	1.09873	1.14111	1.08028	1.08851	1.03865	.899	1.08946	3.379		(Conc=10.0,25.0,40.0

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: HP5970 A

Contractor: NET 8270/SW846 Calibration Date: 04/27/94

Contract No: CAABNA/IDABNA

Minimum $\overline{RF}$ for SPCC is 0.050 Maximum % RSD for CCC is 30.00%

Laboratory ID:	>A5274	>A5273	>A5277	>A5276	>A5275					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
Butylbenzylphthalate	.89844	.86502	.77602	.77857	.73348	.952	.81031	8.471		
3,3'-Dichlorobenzidine	.15700	.12012	.14505	.15538	.12978	1.000	.14147	11.398		
Benzo(a)anthracene	1.29230	1.24787	1.18318	1.14807	1.06694	.998	1.18767	7.381		
Chrysene	1.27159	1.20801	1.13320	1.11888	1.02024	1.003	1.15038	8.274		
bis(2-Ethylhexyl)phthalate	1.27017	1.21742	1.07477	1.05886	.93563	1.010	1.11137	12.026		
Di-n-octylphthalate	1.81620	1.82757	1.50568	1.24377	1.07555	.942	1.49376	22.527	*	
Benzo(b)fluoranthene	1.24648	1.20930	1.19648	1.16416	1.08749	.971	1.18078	5.073		
Benzo(k)fluoranthene	1.21220	1.14795	1.03152	.96093	1.00520	.973	1.07156	9.772		
Benzo(a)pyrene	1.01261	1.00942	.95897	.95159	.93483	.996	.97348	3.634	*	
Indeno(1,2,3-cd)pyrene	1.16042	1.17447	1.13881	1.09620	1.09447	1.097	1.13287	3.227		
Dibenz(a,h)anthracene	.92988	.92712	.88203	.84255	.82999	1.099	.88232	5.252		
Benzo(g,h,i)perylene	1.04492	1.01324	.96593	.95322	.92466	1.126	.98039	4.917		

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Calibration Report

IDCLPE
CBCLPE
3-16-94

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Compound	Files: >E5127 RF 10.00	>E5130 RF 20.00	>E5126 RF 50.00	>E5128 RF 100.00	>E5131 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
C010 Chloromethane	.51172	.47259	.46088	.49691	.49196	.377	.48681	4.139	
C015 Bromomethane	1.27192	1.18328	1.19858	1.24007	1.25082	.432	1.22893	3.005	
C020 Vinyl Chloride	.67622	.65477	.66362	.67251	.69229	.390	.67188	2.101	
C025 Chloroethane	.49785	.49039	.48228	.48813	.51830	.448	.49539	2.819	
C030 Methylene Chloride	1.17573	1.06124	1.00141	1.02446	1.06181	.661	1.06493	6.295	
C035 Acetone	.24375	.19416	.14599	.15504	.14728	.581	.17724	23.731	
C040 Carbon Disulfide	2.65213	2.62270	2.69980	2.78784	2.80014	.606	2.71252	2.928	
C045 1,1-Dichloroethene	1.12512	1.09348	1.11136	1.11813	1.19439	.568	1.12849	3.426	
C050 1,1-Dichloroethane	1.97385	1.87047	1.98801	1.98914	2.00291	.802	1.96487	2.736	
C053 1,2-Dichloroethene(total)	1.22279	1.12950	1.20835	1.20391	1.24743	.714	1.20240	3.671	(Conc=20.0,40.0,100.0,200.0,
C060 Chloroform	3.39301	2.90462	3.19269	3.17660	3.17409	1.029	3.16820	5.483	
CS15 D4-1,2-Dichloroethane SS1	2.20246	2.06731	2.11924	2.17429	2.07993	1.181	2.12865	2.755	
C065 1,2-Dichloroethane	2.35066	2.14415	2.28279	2.28669	2.22080	1.208	2.25702	3.458	
C110 2-Butanone	.23987	.25783	.20816	.21675	.21337	.949	.22720	9.237	
C115 1,1,1-Trichloroethane	.84328	.74092	.81301	.77067	.80398	.807	.79437	4.976	
C120 Carbon Tetrachloride	.84712	.76478	.84096	.79409	.83764	.845	.81692	4.396	
C125 Vinyl Acetate	.33983	.33218	.33835	.34932	.37555	.614	.34709	4.920	
C130 Bromodichloromethane	.69331	.63648	.66576	.70247	.69206	1.166	.67801	3.974	
C140 1,2-Dichloropropane	.23835	.22701	.23217	.23746	.24416	1.103	.23583	2.762	
C143 Cis-1,3-Dichloropropene	.42816	.40777	.41921	.44174	.44173	1.258	.42772	3.435	
C150 Trichloroethene	.43327	.40040	.41111	.41339	.41695	1.054	.41503	2.873	
C155 Dibromochloromethane	.68310	.69094	.64551	.68157	.69190	1.470	.67860	2.809	
C160 1,1,2-Trichloroethane	.27583	.29099	.23819	.25549	.25483	1.401	.26307	7.806	
C165 Benzene	.68929	.64279	.65251	.64717	.68253	.898	.66286	3.237	
C172 Trans-1,3-Dichloropropene	.41162	.38838	.39494	.43073	.43941	1.369	.41301	5.341	
C180 Bromoform	.50761	.50893	.42277	.46158	.49559	1.721	.47930	7.705	
C205 4-Methyl-2-Pentanone	.22807	.23619	.18498	.18328	.18076	.824	.20266	13.372	
C210 2-Hexanone	.14905	.14252	.10947	.11700	.11728	.926	.12706	13.794	
C220 Tetrachloroethene	.57728	.50970	.53290	.53385	.53856	.903	.53846	4.536	
C225 1,1,2,2-Tetrachloroethane	.54185	.55361	.40549	.41685	.43904	1.151	.47137	15.034	
C230 Toluene	1.14645	1.03052	1.09420	1.11681	1.06608	.839	1.09081	4.108	
CS05 D8-Toluene SS-2	1.16943	1.13006	1.15406	1.19836	1.10788	.831	1.15196	3.034	
C235 Chlorobenzene	.92960	.85141	.87000	.90008	.89605	1.003	.88943	3.370	
C240 Ethylbenzene	.42079	.37615	.39371	.40697	.42108	1.017	.40374	4.737	
C245 Styrene	.84642	.78192	.80524	.84761	.87818	1.076	.83188	4.581	
C250 Xylene (total)	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
meta+para Xylene	.53076	.48181	.50197	.51647	.50491	1.031	.50718	3.579	(Conc=20.0,40.0,100.0,200.0,
ortho Xylene	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
CS10 Bromofluorobenzene SS-3	.88811	.84852	.82771	.86112	.87093	1.132	.85928	2.655	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

000127

NATIONAL ENVIRONMENTAL TESTING, INC.

Thorofare Division
100 Grove Road
P.O. Box 248
Thorofare, NJ 08086
Tel: (609) 848-3939
Fax: (609) 848-9195

FOR:

ENSR Consulting

35 Nagog Park
Acton, MA 01720

Attention: Charlie Martin
Project: Philly Sun Oil

Report #: 94.00995
Date: May 03, 1994

NET ATLANTIC, INC.
Thorofare Division

Approved and released by:

John Visicaro
QA Coordinator

Review and approval of technical data by:

Neil Rossiter
Project Manager

REPORT NARRATIVE

This report contains the results of the analysis of samples by NET Atlantic, Inc. for ENSR Consulting. The samples were from the Philly Sun Oil project and were analyzed for the parameters specified on the chain of custody. The following page lists the samples associated with this job, the date the samples were received by the laboratory and correlates the lab sample ID with the client ID. A laboratory chronicle has been provided that shows the date on which each test was performed.

NATIONAL ENVIRONMENTAL TESTING, INC.

The following table identifies all samples submitted to NET for analysis.

Client: ENSR CONSULTING Job No: 94.00995

NET ID	Client ID	Date Sampled	Date Received
135678	338I1	03/21/1994	03/22/1994
135679	338I1 (DISS)	03/21/1994	03/22/1994
135680	338I2	03/21/1994	03/22/1994
135681	338I2 (DISS)	03/21/1994	03/22/1994
135682	338D3	03/21/1994	03/22/1994
135683	338D3 (DISS)	03/21/1994	03/22/1994
135684	338D1	03/21/1994	03/22/1994
135685	338D1 (DISS)	03/21/1994	03/22/1994
135686	TB700	03/17/1994	03/22/1994

Listed below are the current certifications that are held by NET, Inc. - Thorofare Division.

NJ Certification No: 08153
NY Certification No: 10867
PA Certification No: 68-212
SC Certification No: 94008
CT Certification No: PH-0784
MA Certification No: NJ119
DE Certification No: 08153(NJ)
VA Certification No: 00043
FL Certification No: E87427

M901376

ENSR CHAIN OF CUSTODY RECORD

Page 1 of 1

Client/Project Name: ENSR C+E/Sun R+M	Project Location: Philadelphia Refinery
Project Number: 4445-057	Field Logbook No.:
Sampler: (Print Name) /Affiliation: Mark J. Irani (ENSR)	Chain of Custody Tape No.:
Signature: Mark J. Irani	Send Results/Report to: Charlie Norton, ENSR 35 Nagog Park Acton, MA 01720 (508)635-9500

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BTEX	Base Neutrals	Total Metals	* Iron, Manganese	Chloride, Fluoride, Sulfate	Nitrate, Nitrite, TOC, ammonia	TDS, Bromide, total alk, spec cond,	Sulfide	Remarks
TB700	3/17/94	—			2	aqueous			√1								
338I1	3/21/94	1100	✓		10				√2	√2	√1	√1	√1	√1	√1	√1	
338I2	3/21/94	1130	✓		10				√2	√2	√1	√1	√1	√1	√1	√1	
338D3	3/21/94	1200	✓		10				√2	√2	√1	√1	√1	√1	√1	√1	
338D1	3/21/94	1500	✓		10	↓			√2	√2	√1	√1	√1	√1	√1	√1	
																	* field filtered

Relinquished by: (Print Name) Mark J. Irani	Date: 3/22/94	Received by: (Print Name) Sharon Sabatini	Date: 3/22/94	Analytical Laboratory (Destination): NET - Throughfare, NJ
Signature: Mark J. Irani	Time: 0830	Signature: Sharon Sabatini	Time: 1330	cooler temps - 4.2°C 3.9°C
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:	
Signature:	Time:	Signature:	Time:	
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:	
Signature:	Time:	Signature:	Time:	Serial No. 10355

000003 000002

METHODOLOGY SUMMARY

PURGEABLES GC/MS

USEPA Method 624(40 CFR Ch. I (7-1-91 Edition), Method 8240 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are purge and trap methods applicable to the determination of purgeable organic compounds. An inert gas is bubbled thru a sample aliquot contained in a purging chamber where the purgeables are transferred to the vapor phase. The purgeables are collected on a sorbent trap which is rapidly heated and backflushed with helium to desorb the purgeables onto a capillary GC column. The GC is temperature programmed to allow the separation of the purgeables which are then detected with a mass spectrometer. Refer to the method for specific interferences.

As per the applicable methodology the laboratory supplies vials containing Hydrochloric Acid (HCL) for preservation of aqueous samples. 2-Chloroethylvinyl ether is susceptible to acidic degradation which can adversely affect the detectability of this compound.

BASE/NEUTRALS

USEPA Method 625(40 CFR Ch. I (7-1-91 Edition), Method 8270 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are GC/MS methods applicable to the determination of organic compounds that are partitioned into an organic solvent and amenable to gas chromatography. A sample aliquot is extracted with methylene chloride (continuous liquid-liquid for waters, sonication for soils) which is dried, concentrated and analyzed on a Hewlett-Packard GC/MS fitted with a capillary column. Extracts may be subjected to one or more clean-up steps to eliminate matrix interferences. Refer to the method for specific interferences.

METALS

Aqueous samples for metals analysis were run in accordance with the methods prescribed in "Methods for Analysis of Water and Wastes" (EPA-600/4-79-020), Metals-4, as modified for use in the USEPA CLP.

INORGANIC PARAMETERS

The following USEPA Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020 were used by the laboratory.

Ammonia Nitrogen (Ammonia) - Method 350.2
Chloride - Method 325.3
Conductance - Method 120.1
Fluoride - Method 340.2
Nitrate/Nitrite - Method 353.1
Sulfate - Method 375.4
Sulfide - Method 376.1
Total Dissolved Solids (TDS) - Method 160.1
Total Organic Carbon (TOC) - Method AQ 415.1 SO 415.1 MOD

ALKALINITY

An aliquot of the unaltered sample is titrated against standardized sulfuric acid to pH 4.5 using a pH meter. Results are reported as ug of Calcium Carbonate per Liter of sample. USEPA Method 310.1

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis

Client: ENSR CONSULTING Job No: 94.00995

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135678	33811	03/21/1994	03/22/1994	GR
135679	33811 (DISS)	03/21/1994	03/22/1994	GR
135680	33812	03/21/1994	03/22/1994	GR
135681	33812 (DISS)	03/21/1994	03/22/1994	GR
135682	33803	03/21/1994	03/22/1994	GR
135683	33803 (DISS)	03/21/1994	03/22/1994	GR
135684	33801	03/21/1994	03/22/1994	GR

Laboratory ID:	135678	135679	135680	135681	135682	135683	135684
Organic Extraction							
Semivolatile AQ (GC/MS)	03/25/1994		03/25/1994		03/25/1994		03/25/1994
Semivolatile SO (GC/MS)							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							
TCLP Non-volatiles extraction							
TCLP Volatiles extraction							
Inorganic Preparation							
Metals(Except Hg & CrVI)	04/18/1994	04/18/1994	04/18/1994	04/18/1994	04/18/1994	04/18/1994	04/18/1994
Phenols							
Cyanides							
Organic Analysis							
Semivolatiles AQ	04/22/1994		04/23/1994		04/23/1994		04/23/1994
Semivolatiles SO							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Volatile Organics AQ (GC/MS)	03/25/1994		03/25/1994		03/24/1994		03/24/1994
Volatile Organics SO (GC/MS)							
Volatile Organics AQ (GC)							
Volatile Organics SO (GC)							
Acrolein & Acrylonitrile (GC)							
Selected Organics (GC)							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis

Client: ENSR CONSULTING Job No: 94.00995

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135685	338D1 (DISS)	03/21/1994	03/22/1994	GR
135686	TB700	03/17/1994	03/22/1994	BL

Laboratory ID: 135685 135686

Organic Extraction

Semivolatile AQ (GC/MS)
Semivolatile SO (GC/MS)
Pesticides/PCBs AQ
Pesticides/PCBs SO
Herbicides AQ
Herbicides SO
Petroleum Hydrocarbons AQ
Petroleum Hydrocarbons SO
TCLP Non-volatiles extraction
TCLP Volatiles extraction

Inorganic Preparation

Metals(Except Hg & CrVI) 04/18/1994
Phenols
Cyanides

Organic Analysis

Semivolatiles AQ
Semivolatiles SO
Pesticides/PCBs AQ
Pesticides/PCBs SO
Herbicides AQ
Herbicides SO
Volatile Organics AQ (GC/MS) 03/23/1994
Volatile Organics SO (GC/MS)
Volatile Organics AQ (GC)
Volatile Organics SO (GC)
Acrolein & Acrylonitrile (GC)
Selected Organics (GC)
Petroleum Hydrocarbons AQ
Petroleum Hydrocarbons SO

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00995

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135678	33811	03/21/1994	03/22/1994	GR
135679	33811 (DISS)	03/21/1994	03/22/1994	GR
135680	33812	03/21/1994	03/22/1994	GR
135681	33812 (DISS)	03/21/1994	03/22/1994	GR
135682	33803	03/21/1994	03/22/1994	GR
135683	33803 (DISS)	03/21/1994	03/22/1994	GR
135684	33801	03/21/1994	03/22/1994	GR

Laboratory ID:	135678	135679	135680	135681	135682	135683	135684
Parameter							
Alkalinity	04/04/1994		04/04/1994		04/04/1994		04/04/1994
Alkalinity, Bicarb. at pH 4.	04/04/1994		04/04/1994		04/04/1994		04/04/1994
Ammonia	04/06/1994		04/06/1994		04/06/1994		04/06/1994
Chloride	04/13/1994		04/13/1994		04/13/1994		04/13/1994
Conductivity	03/23/1994		03/23/1994		03/23/1994		03/23/1994
Fluoride, Total	04/06/1994		04/06/1994		04/06/1994		04/06/1994
Nitrate/nitrite	04/14/1994		04/11/1994		04/11/1994		04/11/1994
Solids, dissolved (TDS)	03/24/1994		03/24/1994		03/24/1994		03/24/1994
Sulfate	04/05/1994		04/05/1994		04/05/1994		04/05/1994
Sulfide	03/29/1994		03/29/1994		03/29/1994		03/29/1994
Total Organic Carbon	04/04/1994		04/04/1994		04/04/1994		04/04/1994
Arsenic (As)	04/21/1994		04/21/1994		04/21/1994		04/21/1994
Cobalt (Co)	04/22/1994		04/22/1994		04/22/1994		04/22/1994
Iron (Fe)	04/22/1994	04/22/1994	04/22/1994	04/22/1994	04/22/1994	04/22/1994	04/22/1994
Lead (Pb)	04/20/1994		04/20/1994		04/20/1994		04/20/1994
Manganese (Mn)	04/22/1994	04/22/1994	04/22/1994	04/22/1994	04/22/1994	04/22/1994	04/22/1994

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00995

NET ID	Client ID	Sampling Date	Date Received	MATRIX
135685	338D1 (DISS)	03/21/1994	03/22/1994	GR
135686	TB700	03/17/1994	03/22/1994	BL

Laboratory ID:	135685	135686
Parameter		
Iron (Fe)	04/22/1994	
Manganese (Mn)	04/22/1994	

Definition of terms, abbreviations and flags that may be used in this report.

Flag/Term/Abbrev.	Definition
U	Compound was analyzed for but not detected. The laboratory has reported the method detection limit for the compound.
J	Compound was detected at a concentration below the practical reporting level, yet above the method detection limit. These values are estimates.
B	Compound was detected in the method/extraction blank as well as the sample. The data user is warned of possible laboratory introduced contamination.
NA	Not Applicable
ND	Not Detected
NC	Not Calculable
NR	Not Requested or Not Reported
MDL	Method detection limit. Can be a limit specified by the method or a number determined by performing an MDL study.
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
umhos	conductivity units; resistance is expressed in ohms.
NTU	Nephlometric Turbidity Units; used for turbidity.
col/9	Colonies per volume of sample analyzed; used for bacteriology.
deg C	degrees celcius
deg F	degrees fahrenheit
ug	microgram; there are 1000 ug in 1 mg.
mg	milligram; there are 1000 mg in 1 g.
g	gram; there are 1000 g in 1 Kg.
Kg	kilogram
ul	microliter; there are 1000 ul in 1 ml.
ml	milliliter; there are 1000 ml in 1 liter.
L	liter
dw	Dry weight; indicates that the reported value has been corrected for percent solids.
ppm	Parts per million = mg/Kg, ug/g, mg/L, ug/ml; 1 ppm = 1000ppb
ppb	Parts per billion = ug/Kg, ug/L

INORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00995
Sample No: 135678
Client Sample ID: 338I1

Parameter	Results	Units
Alkalinity	220	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	220	ppmCaCO3
Ammonia	0.4	mg/L N
Chloride	60	mg/L
Conductivity	652	umhos/cm
Fluoride, Total	0.54	mg/L
Nitrate/nitrite	0.5	mg/L N
Solids, dissolved (TDS)	390	mg/L
Sulfate	34	mg/L
Sulfide	<0.1	mg/L
Total Organic Carbon	7	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	7.08	mg/L
Lead (Pb)	0.007	mg/L
Manganese (Mn)	3.03	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00995
Sample No: 135679
Client Sample ID: 338I1 (DISS)

Parameter	Results	Units
Iron (Fe)	3.98	mg/L
Manganese (Mn)	3.19	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00995
Sample No: 135680
Client Sample ID: 338I2

Parameter	Results	Units
Alkalinity	210	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	210	ppmCaCO3
Ammonia	0.3	mg/L N
Chloride	70	mg/L
Conductivity	642	umhos/cm
Fluoride, Total	0..53	mg/L
Nitrate/nitrite	0.4	mg/L N
Solids, dissolved (TDS)	382	mg/L
Sulfate	21	mg/L
Sulfide	<0.1	mg/L
Total Organic Carbon	8	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	6.26	mg/L
Lead (Pb)	0.006	mg/L
Manganese (Mn)	2.63	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00995
Sample No: 135681
Client Sample ID: 338I2 (DISS)

Parameter	Results	Units
Iron (Fe)	4.70	mg/L
Manganese (Mn)	3.38	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00995
Sample No: 135682
Client Sample ID: 338D3

Parameter	Results	Units
Alkalinity	<2	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	<2	ppmCaCO3
Ammonia	<0.1	mg/L N
Chloride	2	mg/L
Conductivity	<1	umhos/cm
Fluoride, Total	<0.1	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	<2	mg/L
Sulfate	<10	mg/L
Sulfide	<0.1	mg/L
Total Organic Carbon	<1	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	0.083	mg/L
Lead (Pb)	0.001	mg/L
Manganese (Mn)	<0.01	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00995
Sample No: 135683
Client Sample ID: 338D3 (DISS)

Parameter	Results	Units
Iron (Fe)	0.056	mg/L
Manganese (Mn)	<0.01	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00995
Sample No: 135684
Client Sample ID: 338D1

Parameter	Results	Units
Alkalinity	159	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	159	ppmCaCO3
Ammonia	0.3	mg/L N
Chloride	29	mg/L
Conductivity	388	umhos/cm
Fluoride, Total	0.36	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	176	mg/L
Sulfate	16	mg/L
Sulfide	<0.1	mg/L
Total Organic Carbon	7	mg/L
Arsenic (As)	<0.003	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	3.04	mg/L
Lead (Pb)	0.008	mg/L
Manganese (Mn)	0.34	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00995
Sample No: 135685
Client Sample ID: 338D1 (DISS)

Parameter	Results	Units
Iron (Fe)	0.15	mg/L
Manganese (Mn)	0.24	mg/L

ORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135678
Client Sample ID: 33811

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/22/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/22/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	6.2	J	ug/L	2.5	04/22/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Indene	9.4	J	ug/L	10.	04/22/1994	jig	11	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135678
Client Sample ID: 33811

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	270		ug/L	20.	03/25/1994	res	208
Toluene	520		ug/L	30.	03/25/1994	res	208
Ethylbenzene	430		ug/L	30.	03/25/1994	res	208
m+p-Xylenes	610		ug/L	50.	03/25/1994	res	208
o-Xylene	150		ug/L	50.	03/25/1994	res	208

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135680
Client Sample ID: 33812

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/23/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/23/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	3.7	J	ug/L	2.5	04/23/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Indene	11.		ug/L	10.	04/23/1994	jig	11	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135680
Client Sample ID: 3381Z

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	260		ug/L	20.	03/25/1994	res	208
Toluene	500		ug/L	30.	03/25/1994	res	208
Ethylbenzene	420		ug/L	30.	03/25/1994	res	208
m+p-Xylenes	580		ug/L	50.	03/25/1994	res	208
o-Xylene	140		ug/L	50.	03/25/1994	res	208

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135682
Client Sample ID: 33803

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/23/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/23/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/23/1994	jig	11	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135682
Client Sample ID: 33803

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/24/1994	res	209
Toluene	6.0	U	ug/L	6.0	03/24/1994	res	209
Ethylbenzene	6.0	U	ug/L	6.0	03/24/1994	res	209
m+p-Xylenes	5.0	U	ug/L	5.0	03/24/1994	res	209
o-Xylene	5.0	U	ug/L	5.0	03/24/1994	res	209

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135684
Client Sample ID: 338D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/23/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/23/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	8.1	J	ug/L	2.5	04/23/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Indene	1.9		ug/L	10.	04/23/1994	jig	11	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135684
Client Sample ID: 33801

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	7.5		ug/L	4.0	03/24/1994	res	209
Toluene	67.		ug/L	6.0	03/24/1994	res	209
Ethylbenzene	86.		ug/L	6.0	03/24/1994	res	209
m+p-Xylenes	130		ug/L	5.0	03/24/1994	res	209
o-Xylene	33.		ug/L	5.0	03/24/1994	res	209

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135686
Client Sample ID: TB700

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/23/1994	res	205
Toluene	6.0	U	ug/L	6.0	03/23/1994	res	205
Ethylbenzene	6.0	U	ug/L	6.0	03/23/1994	res	205
m+p-Xylenes	5.0	U	ug/L	5.0	03/23/1994	res	205
o-Xylene	5.0	U	ug/L	5.0	03/23/1994	res	205

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

ACID EXTRACTABLE/BASE NEUTRALS

Client: EWA Consulting Report No: 94 00995

Client ID	NET ID	Nitrobenzene-d5 (35-114)	2-Fluorobiphenyl (43-116)	p-terphenyl-d14 (33-141)	Phenol-d6 (10-94)	2-Fluorophenol (21-100)	2,4,6-Tribromophenol (10-123)
338I1	135178	68	106	46	11	0*	0*
338I2	135180	68	106	34	10	0*	0*
338D3	135182	58	102	106	0*	0*	0*
338D1	135184	70	106	44	0*	0*	0*
Blank #4	A295A	64	102	76	4*	0*	0*
MW	A295A	88	76	88	12	0*	0*
MSD	A295A	80	70	74	10	0*	0*
					NA	NA	NA

COMMENTS: * Outside Control Limits

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

VOLATILES

Client: Ellis Consulting Report No: 94 00095

Client ID	NET ID	Toluene-d8 (88-110)	BFB (86-115)	1,2-Dichloroethane-d4 (76-114)
33BT1	135678	108	110	110
33BT2	135680	106	104	106
33B03	135682	106	108	106
33B01	135684	110	110	104
TB700	135686	98	98	94
Blank	>F52605	100	100	96
Blank	>DC0681	100	100	98
Blank	>DD704	106	106	108
MS	DA0176	98	102	100
MSD	DA0176	98	100	104
MS	DA0178	94	98	96
MSD	DA0178	102	106	98

COMMENTS:

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

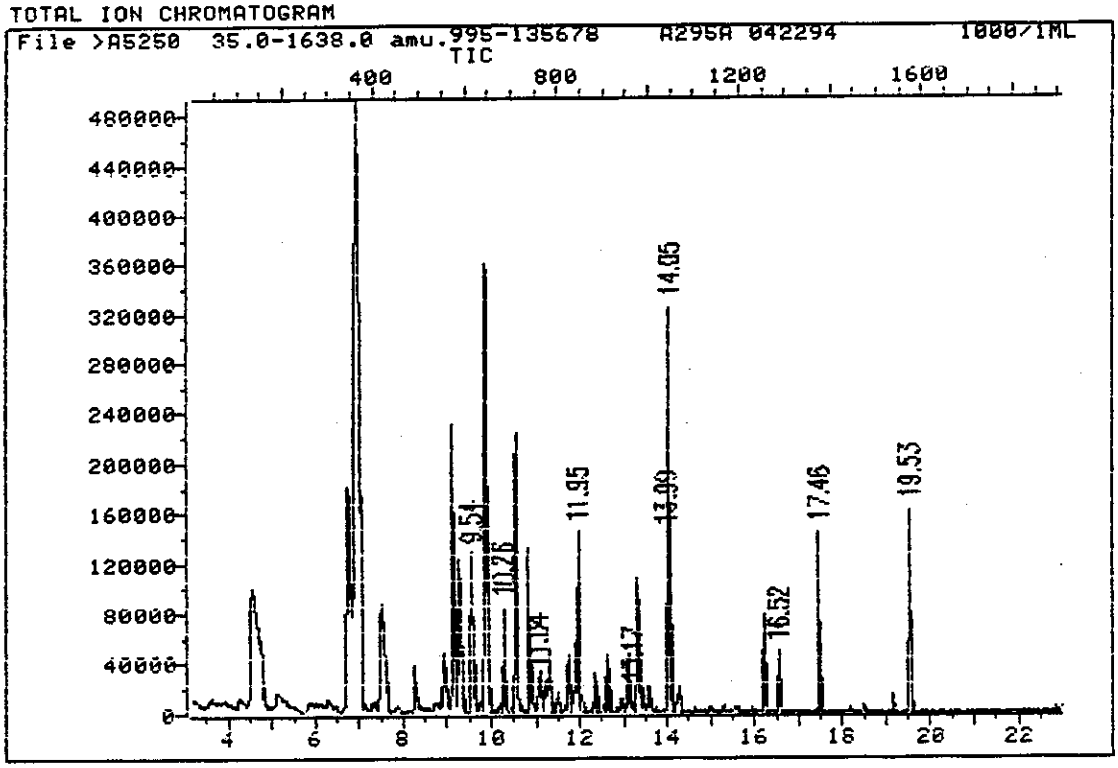
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135678
Client Sample ID: 33811

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/22/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/22/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	6.2	J	ug/L	2.5	04/22/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/22/1994	jig	11	4
Indene	9.4	J	ug/L	10.	04/22/1994	jig	11	4

TOTAL ION CHROMATOGRAM



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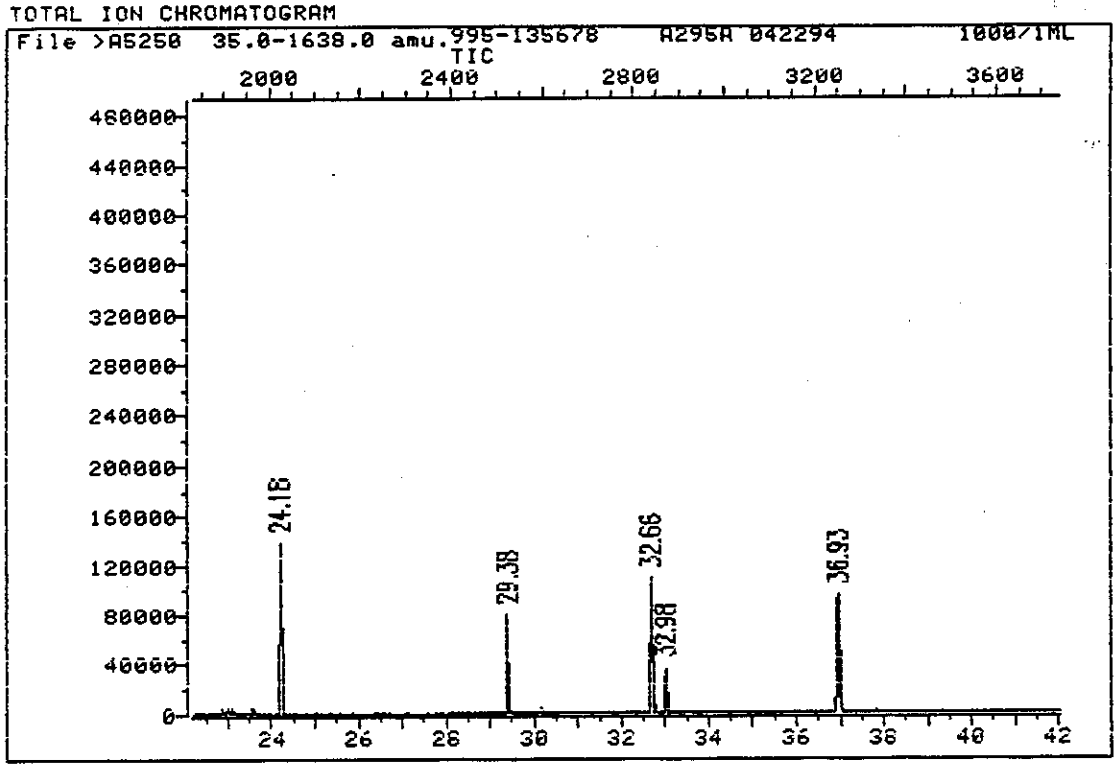
Name: 995-135678 A295A
Misc: 042294 1000/1ML HP5970 A BTL#11

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940423 00:14
Injected at: 940422 23:29

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



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Name: 995-135678 A295A
Misc: 042294 1000/1ML HP5970 A BTL#11

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940423 00:14
Injected at: 940422 23:29

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940423 00:14
Output File: ^A5250::D3 Injected at: 940422 23:29
Data File: >A5250::E5 Dilution Factor: 1.00000
Name: 995-135678 A295A
Misc: 042294 1000/1ML HP5970 A BTL#11

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270 ✓ JM
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.26	152.0	35463	40.00	ug/L	(
3)	CS45 D5-Phenol	9.54	99.0	15226	11.28	ug/L	9
11)	C349 Indene	11.04	116.0	18987	9.43	ug/L	8
15)	*CI40 D8-Naphthalene	13.99	136.0	130365	40.00	ug/L	(
16)	CS20 D5-Nitrobenzene	11.95	82.0	42096	34.01	ug/L	8
17)	~~C425 2,4-Dimethylphenol~~ AE	13.17	107.0	6753	11.18	ug/L	9
18)	C450 Naphthalene	14.05	128.0	287934	81.31	ug/L	(
20)	C471 1-Methylnaphthalene	16.52	142.0	24227	10.53	ug/L	8
21)	*CI50 D10-Acenaphthene	19.53	164.0	77089	40.00	ug/L	9
22)	CS25 2-Fluorobiphenyl	17.46	172.0	89322	33.24	ug/L	(
28)	*CI60 D10-Phenanthrene	24.18	188.0	124263	40.00	ug/L	9
33)	*CI70 D12-Chrysene	32.66	240.0	101360	40.00	ug/L	9
35)	CS30 D14-Terphenyl	29.38	244.0	61615	23.05	ug/L	(
39)	C745 bis(2Ethylhexyl)phthalate	32.98	149.0	21042	6.17	ug/L	8
40)	*CI75 D12-Perylene	36.93	264.0	114764	40.00	ug/L	9

* Compound is ISTD

JCP

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

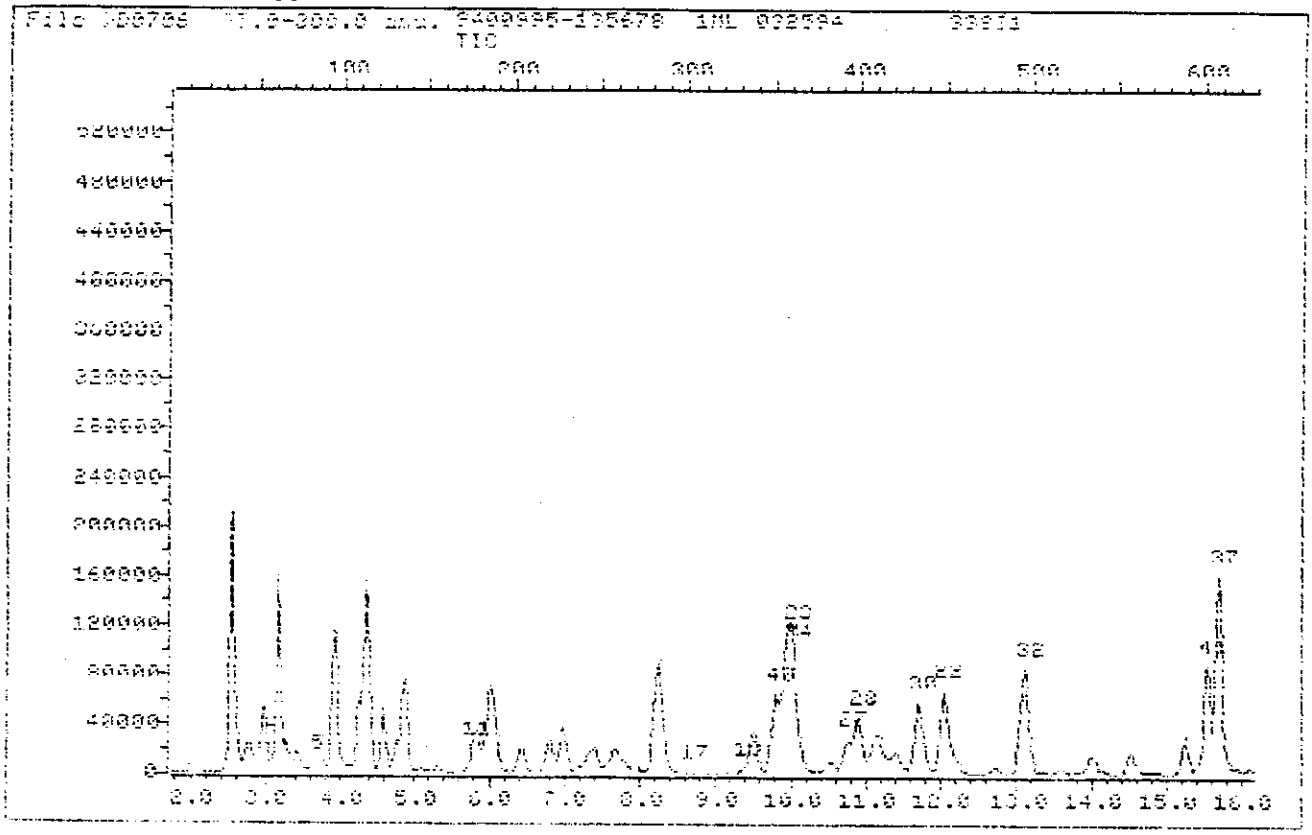
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135678
Client Sample ID: 33811

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	270		ug/L	20.	03/25/1994	res	208
Toluene	520		ug/L	30.	03/25/1994	res	208
Ethylbenzene	430		ug/L	30.	03/25/1994	res	208
m+p-Xylenes	610		ug/L	50.	03/25/1994	res	208
o-Xylene	150		ug/L	50.	03/25/1994	res	208

TOTAL ION CHROMATOGRAM



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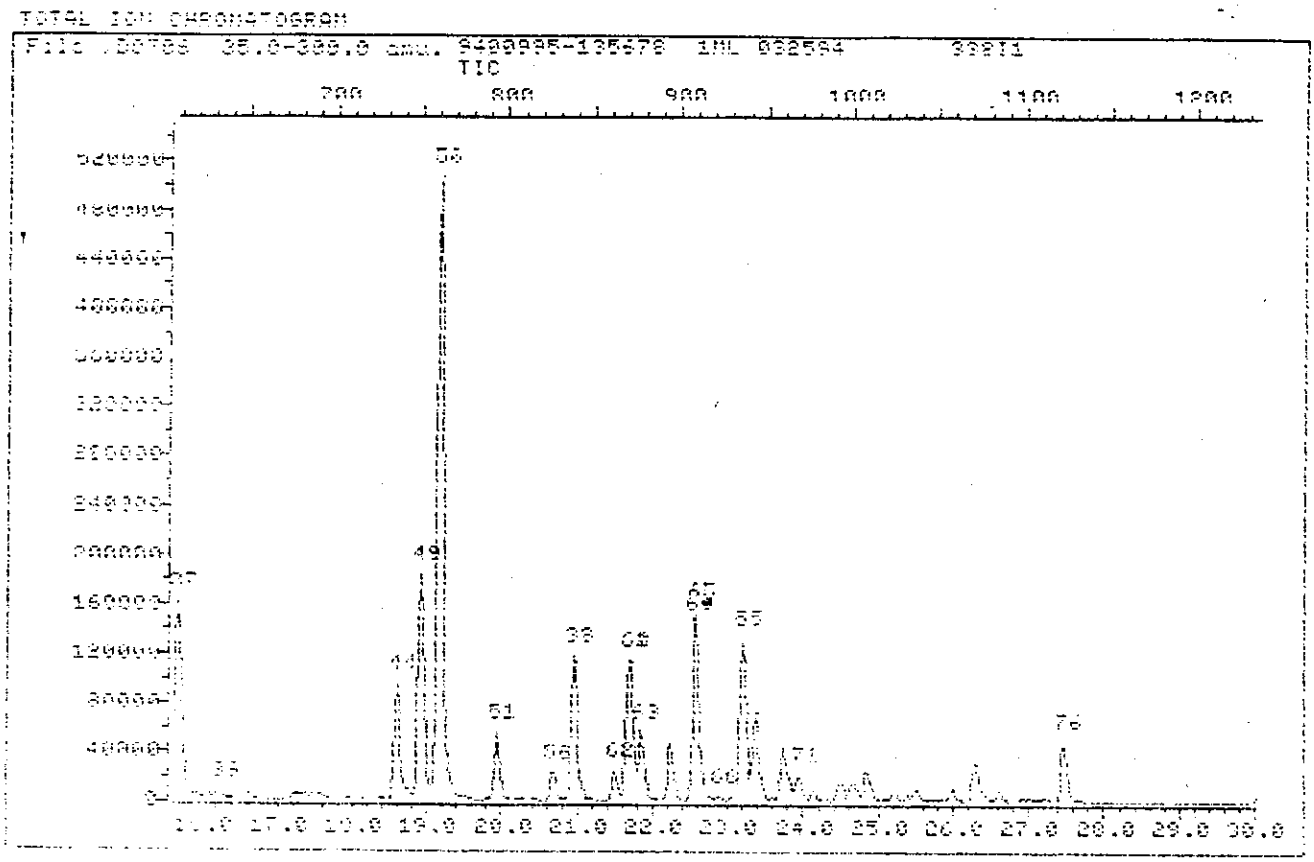
Misc: 002594 33911

LL File: ^00706::D1
Title: Method 624+ 99700 (INSTRUMENT-AQUEOUS VOLATILES (INSTR.-D
Last Calibration: 940702 16:47

Operator ID: BURT
Quant Time: 940705 12:57
Injected at: 940705 12:18

TIC page 1 of 2



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Operator: [illegible]

Instrument: [illegible]

Quant Time: 940905 16:47

Quant Method: RUPT

Quant Time: 940905 12:57

Injection Time: 940904 12:18

[illegible]

QUANT REPORT

Operator ID: BURT
Output File: ^D0706::D3
Data File: >D0706::D1
Name: 9400995-135678 1ML
Misc: 032594 33811

Quant Rev: 6 Quant Time: 940329 10:59
Injected at: 940329 12:18
Dilution Factor: 1.00000

DAQ-177

ID File: ^D8260::D7
Title: Method 8260 59700 INSTRUMENT-AQUEOUS VOLATILES INSTR.-0
Last Calibration: 940322 16:47 ✓

V/C

	Compound	R.T.	Q ion	Area	Conc	Units	%(
1)	*C105 Pentafluorobenzene IS-1	10.03	168.0	206959	50.00	UG/L	8(
3)	C010 Chloromethane B=12	3.02	50.0	6981	11.65	UG/L	10(
5)	C015 Bromomethane B=14	3.64	94.0	5640	13.07	UG/L	100
11)	C030 ~~Methylene Chloride~~ FP	5.77	84.0	5313	7.37	UG/L	100
17)	C110 ~~2-Butanone~~ FP	8.69	43.0	2366	7.90	UG/L	9(
19)	C040 ~~Chloroform~~ FP	9.76	83.0	5722	1.90	UG/L	100
22)	*C118 1,4-Difluorobenzene IS-2	12.04	114.0	190108	50.00	UG/L	100
23)	C150 ~~Carbon Tetrachloride~~ FP	10.00	117.0	18292	7.43	UG/L	10(
24)	C200 ~~1,1-Dichloropropene~~ FP	10.03	75.0	15062	9.09	UG/L	10(
27)	C215 1,2-Dichloroethane-D4 SS1	10.76	65.0	78400	55.02	UG/L	95
28)	C165 Benzene	10.90	78.0	141229	53.62	UG/L	10(
29)	C180 ~~1,2-Dichloroethene~~ FP	10.90	62.0	1838	1.08	UG/L	100
30)	C508 Fluorobenzene SS2	11.70	96.0	179037	51.94	UG/L	98
31)	C140 ~~1,2-Dichloropropane~~ FP	13.10	63.0	1175	1.00	UG/L	10(
32)	C230 Toluene	15.68	92.0	211867	103.86	UG/L	98
38)	C510 Bromofluorobenzene SS3	20.95	95.0	131091	54.59	UG/L	86
39)	C160 ~~1,1,2-Trichloroethane~~ FP	16.23	83.0	2012	1.81	UG/L	10(
40)	C503 Dibromofluoromethane SS4	9.80	113.0	140578	51.78	UG/L	100
41)	C505 Toluene-d8 SS5	15.59	98.0	194028	53.99	UG/L	100
44)	*C120 Chlorobenzene-d5 IS-3	18.09	117.0	177682	50.00	UG/L	9(
49)	C240 Ethylbenzene	18.91	91.0	424622	86.28	UG/L	94
50)	C248 Xylene (Meta+Para)	19.16	106.0	429511	122.38	UG/L	94
51)	C249 Xylene (Ortho)	19.94	106.0	48631	29.09	UG/L	8(
55)	*C130 1,4-Dichlorobenzene-d4 IS-4	23.19	152.0	113067	50.00	UG/L	91
58)	C254 Isopropylbenzene	20.67	105.0	55546	9.67	UG/L	100
60)	C260 ~~2-Chlorotoluene~~ FP	21.68	91.0	37977	8.84	UG/L	10(
61)	C~~265~~ ~~4-Chlorotoluene~~ FP	21.68	91.0	37628	6.3(	UG/L	100
63)	C264 N-Propylbenzene	21.50	91.0	63680	9.76	UG/L	100
64)	C266 1,3,5-Trimethylbenzene	21.84	105.0	109657	23.91	UG/L	10(
66)	C268 ~~1,3-Dichlorobenzene~~ FP	22.95	119.0	34844	7.19	UG/L	100
68)	C270 1,2,4-Trimethylbenzene	23.58	105.0	307518	68.76	UG/L	100
69)	C272 Sec-Butylbenzene	22.90	105.0	8338	1.72	UG/L	10(
70)	C275 ~~1,4-Dichlorobenzene~~ FP	22.55	119.0	34840	7.39	UG/L	100
71)	C285 ~~4-Isopropyltoluene~~ FP	23.96	91.0	10590	2.02	UG/L	100
74)	C290 N-Butylbenzene	27.45	105.0	141583	34.67	UG/L	10(

* Compound is ISTD

JCP

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

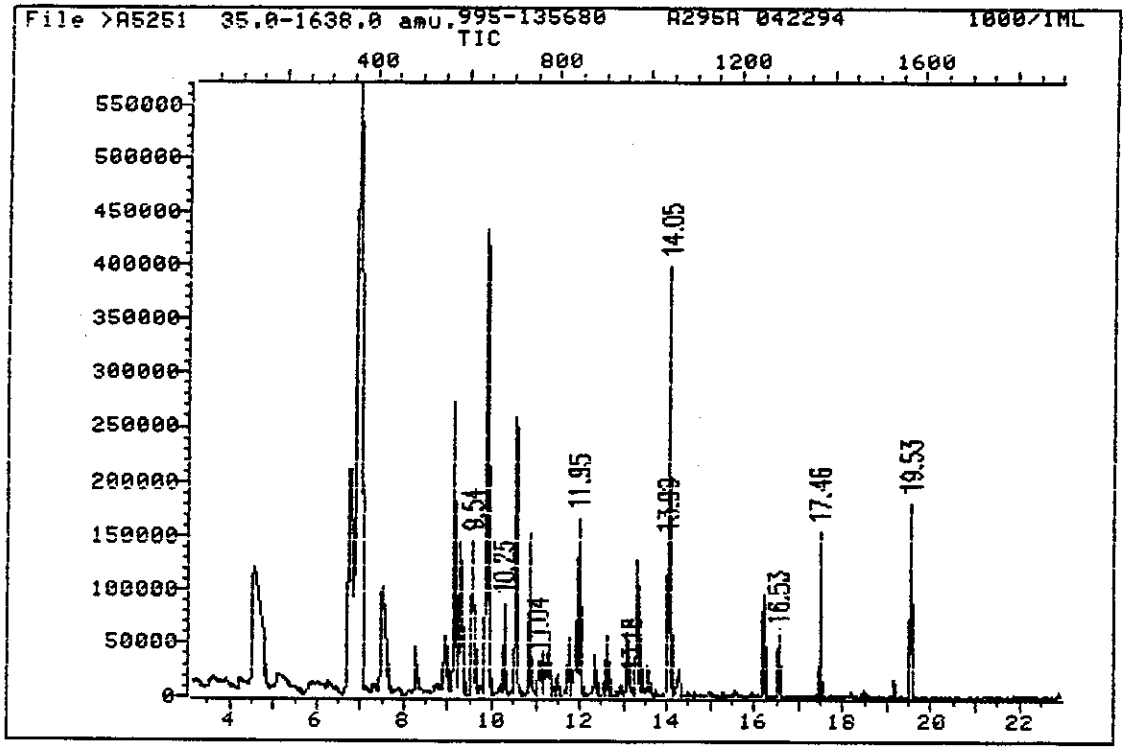
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135680
Client Sample ID: 33812

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/23/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/23/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	3.7	J	ug/L	2.5	04/23/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Indene	11.		ug/L	10.	04/23/1994	jig	11	4

TOTAL ION CHROMATOGRAM



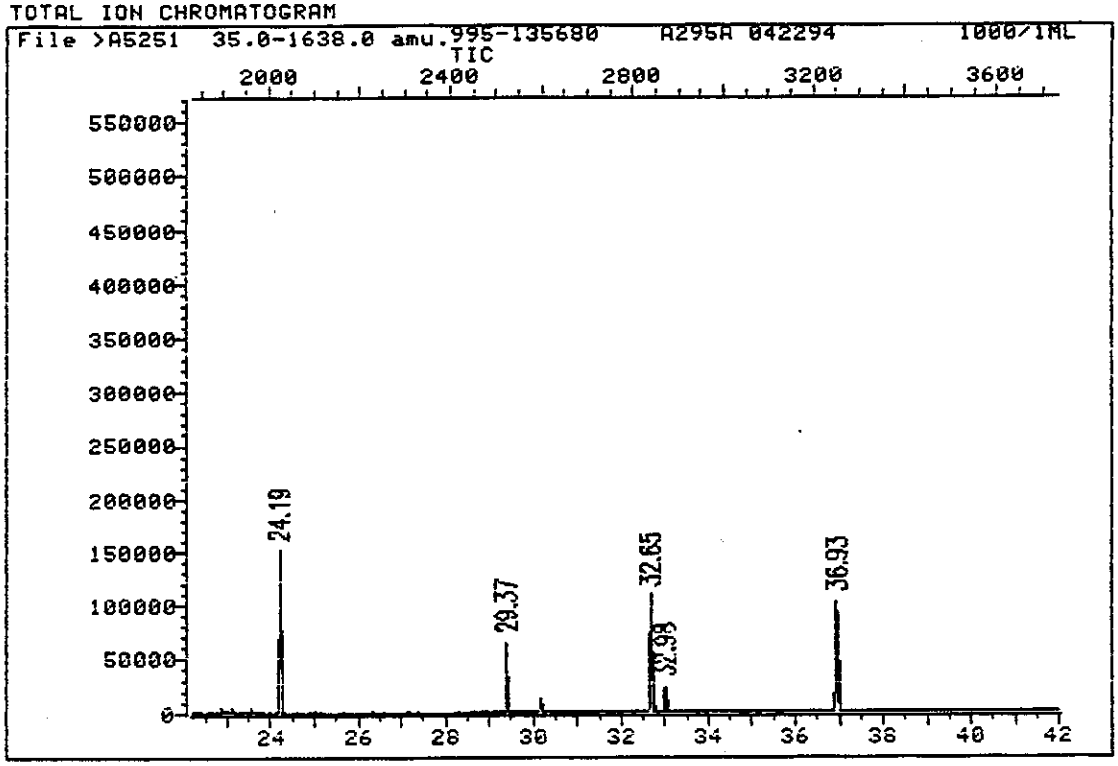
Data File: >A5251::E5 Quant Output File: ^A5251::D3
Name: 995-135680 A295A
Misc: 042294 1000/1ML HP5970 A BTL#12

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940423 01:06
Injected at: 940423 00:21

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5251::E5 Quant Output File: ^A5251::D3
Name: 995-135680 A295A
Misc: 042294 1000/1ML HP5970 A BTL#12

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940423 01:06
Injected at: 940423 00:21

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940423 01:06
Output File: ^A5251::D3 Injected at: 940423 00:21
Data File: >A5251::E5 Dilution Factor: 1.00000
Name: 995-135680 A295A
Misc: 042294 1000/1ML HP5970 A BTL#12

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.25	152.0	36246	40.00	ug/L	(
3)	CS45 D5-Phenol	9.54	99.0	13229	9.59	ug/L	9
11)	C349 Indene	11.04	116.0	21928	10.66	ug/L	7
15)	*CI40 D8-Naphthalene	13.99	136.0	133196	40.00	ug/L	(
16)	CS20 D5-Nitrobenzene	11.95	82.0	42679	33.75	ug/L	8
17)	~~C425 2,4-Dimethylphenol~~ NE	13.18	107.0	6931	11.23	ug/L	9
18)	C450 Naphthalene	14.05	128.0	336296	92.94	ug/L	(
20)	C471 1-Methylnaphthalene	16.53	142.0	29770	12.66	ug/L	8
21)	*CI50 D10-Acenaphthene	19.53	164.0	80394	40.00	ug/L	9
22)	CS25 2-Fluorobiphenyl	17.46	172.0	93302	33.29	ug/L	(
28)	*CI60 D10-Phenanthrene	24.19	188.0	131118	40.00	ug/L	9
33)	*CI70 D12-Chrysene	32.65	240.0	108444	40.00	ug/L	9
35)	CS30 D14-Terphenyl	29.37	244.0	49415	17.28	ug/L	(
39)	C745 bis(2Ethylhexyl)phthalate	32.98	149.0	13653	3.74	ug/L	8
40)	*CI75 D12-Perylene	36.93	264.0	122523	40.00	ug/L	9

* Compound is ISTD

000042

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

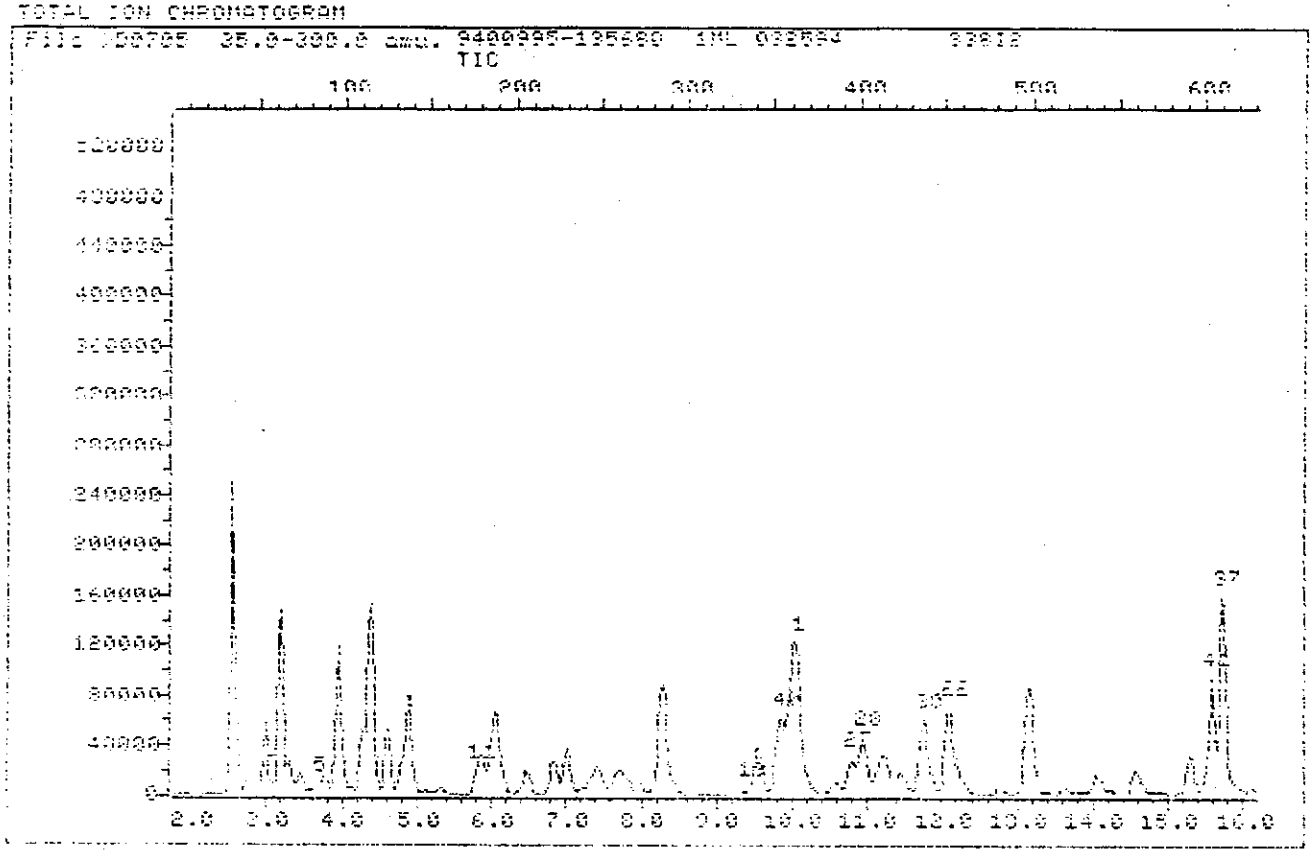
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135680
Client Sample ID: 33812

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	260		ug/L	20.	03/25/1994	res	208
Toluene	500		ug/L	30.	03/25/1994	res	208
Ethylbenzene	420		ug/L	30.	03/25/1994	res	208
m+p-Xylenes	580		ug/L	50.	03/25/1994	res	208
o-Xylene	140		ug/L	50.	03/25/1994	res	208

TOTAL ION CHROMATOGRAM



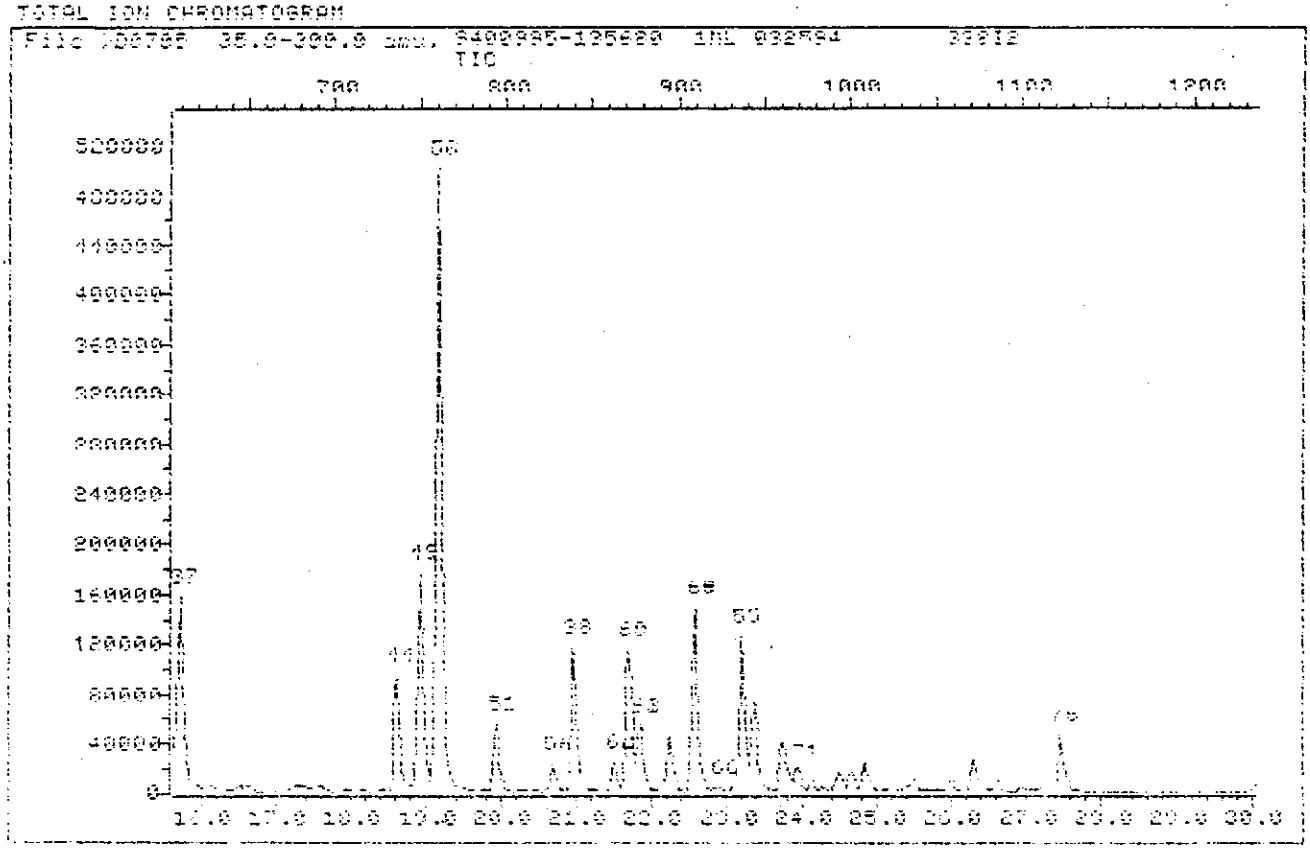
Data File: >D0705::D1 Quant Output File: ^D0705::D3
Name: 9400995_135680 1ML
Misc: 033594 33812

[illegible]

Operator ID: RUPT
Quant Time: 940729 12:12
Injected at: 940705 11:37

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >00705::01 Quant Output File: ^00705::03

Name: 940[illegible]-135600 INL

Mass: 07[illegible] 22812

Id File: [illegible]

Title: [illegible] 8240 GC/MS INSTRUMENT-HAZARDOUS VOLATILES DATA.LS

Last Cal Revision: 940722 16:42

Operator ID: SUBT

Quant Time: 940725 12:12

Injected At: 940725 11:37

TIC range 2 of 2

5900

QUANT REPORT

Operator ID: RUPT
Output File: >00705::03
Data File: >00705::01
Name: 9400995-135680 1ML
Misc: 032594 33812

Quant Rev: 6 Quant Time: 940325 12:12
Injected at: 940325 11:37
Dilution Factor: 1.0000

DA0-177

ID File: U08260::07
Title: Method 8260 5970D INSTRUMENT-AQUEOUS VOLATILES INSTR.-D
Last Calibration: 940322 16:47

	Compound	R.T.	Q ion	Area	Conc	Units	%
1)	*C105 Pentafluorobenzene IS-1	10.04	168.0	207434	50.00	UG/L	6-
3)	C010 Chloromethane B=12	3.03	50.0	7394	12.31	UG/L	10
5)	C015 Bromomethane B=14	3.67	94.0	5754	13.26	UG/L	10
11)	~~C070 Methylene Chloride~~ FP	5.80	84.0	5041	6.98	UG/L	10
19)	C060 Chloroform	9.42	83.0	7519	2.68	UG/L	10
22)	*C110 1,4-Difluorobenzene IS-2	12.10	114.0	198233	50.00	UG/L	100
27)	C515 1,2-Dichloroethane-D4 SS1	10.79	65.0	78563	52.67	UG/L	--
28)	C165 Benzene	10.93	78.0	145150	52.85	UG/L	10
30)	C508 Fluorobenzene SS2	11.36	96.0	183982	51.20	UG/L	9
37)	C230 Toluene	15.71	92.0	213487	108.33	UG/L	--
38)	C510 Bromofluorobenzene SS3	20.96	95.0	131138	54.34	UG/L	6
40)	C520 Dibromofluoromethane SS4	9.86	113.0	144015	52.82	UG/L	10
41)	C525 Toluene-d8 SS5	15.67	98.0	196435	52.54	UG/L	10
44)	*C115 Chlorobenzene-d5 IS-3	18.46	117.0	177788	50.00	UG/L	-
49)	C240 Ethylbenzene	18.92	91.0	419703	83.24	UG/L	9
50)	C245 Xylene (Meta+Para)	19.17	106.0	417803	114.67	UG/L	--
51)	C248 Xylene (Ortho)	19.91	106.0	44243	27.02	UG/L	5
55)	*C130 1,4-Dichlorobenzene-d4 IS	23.99	152.0	113856	50.00	UG/L	--
56)	C254 Isopropylbenzene	20.28	105.0	50963	9.49	UG/L	1
58)	~~C260 Bromoform~~ FP	21.69	91.0	37602	7.98	UG/L	1
61)	~~C262 n-Propylbenzene~~ FP	21.80	91.0	13521	2.61	UG/L	1
62)	C264 N-Propylbenzene	21.51	91.0	61539	9.36	UG/L	1
63)	C266 1,3,5-Trimethylbenzene	21.85	105.0	185639	22.87	UG/L	10
64)	~~C268 1,1,2,2-Tetrachloroethane~~ FP	22.58	119.0	34440	7.29	UG/L	1
65)	C270 1,2,4-Trimethylbenzene	22.56	105.0	299461	66.58	UG/L	1
66)	C272 Sec-Butylbenzene	22.90	105.0	7414	1.17	UG/L	1
69)	~~C278 1,3-Dichlorobenzene~~ FP	22.58	119.0	34440	7.29	UG/L	1
70)	~~C280 1,4-Dichlorobenzene~~ FP	23.98	91.0	11594	2.20	UG/L	1
74)	C292 N-Butylbenzene	27.46	128.0	137283	33.34	UG/L	1

* Compound is ISTD

JP

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

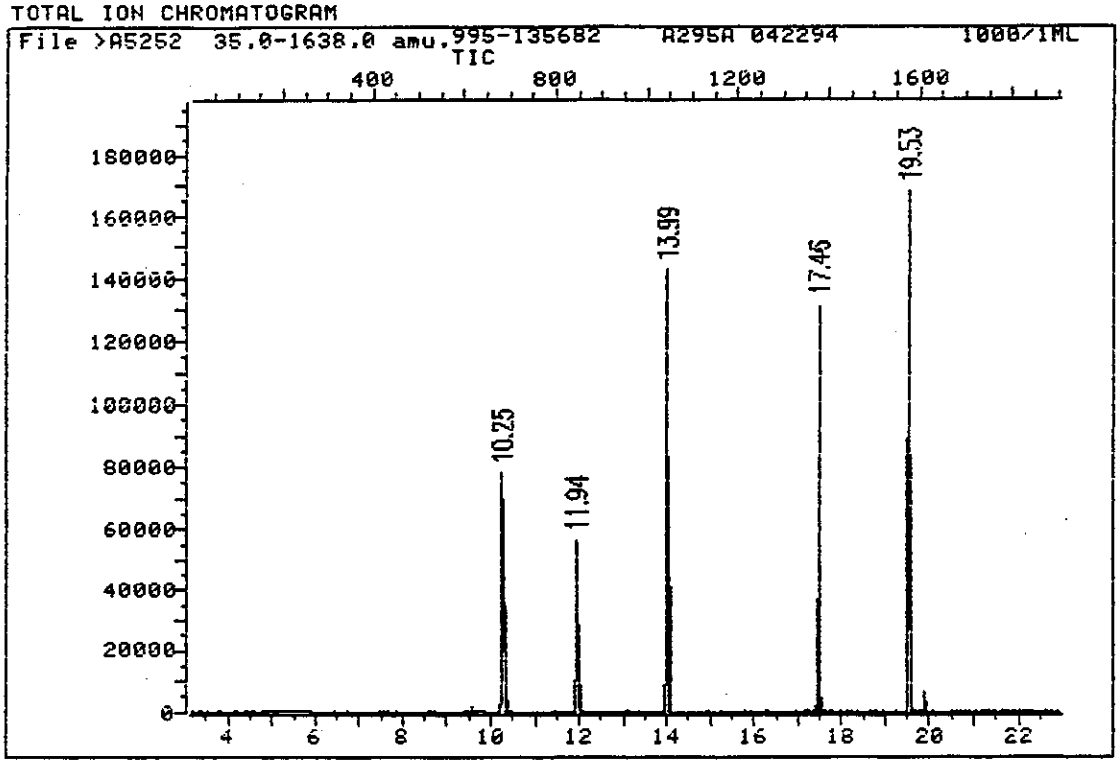
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135682
Client Sample ID: 33803

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/23/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/23/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Indene	10.	U	ug/L	10.	04/23/1994	jig	11	4

TOTAL ION CHROMATOGRAM



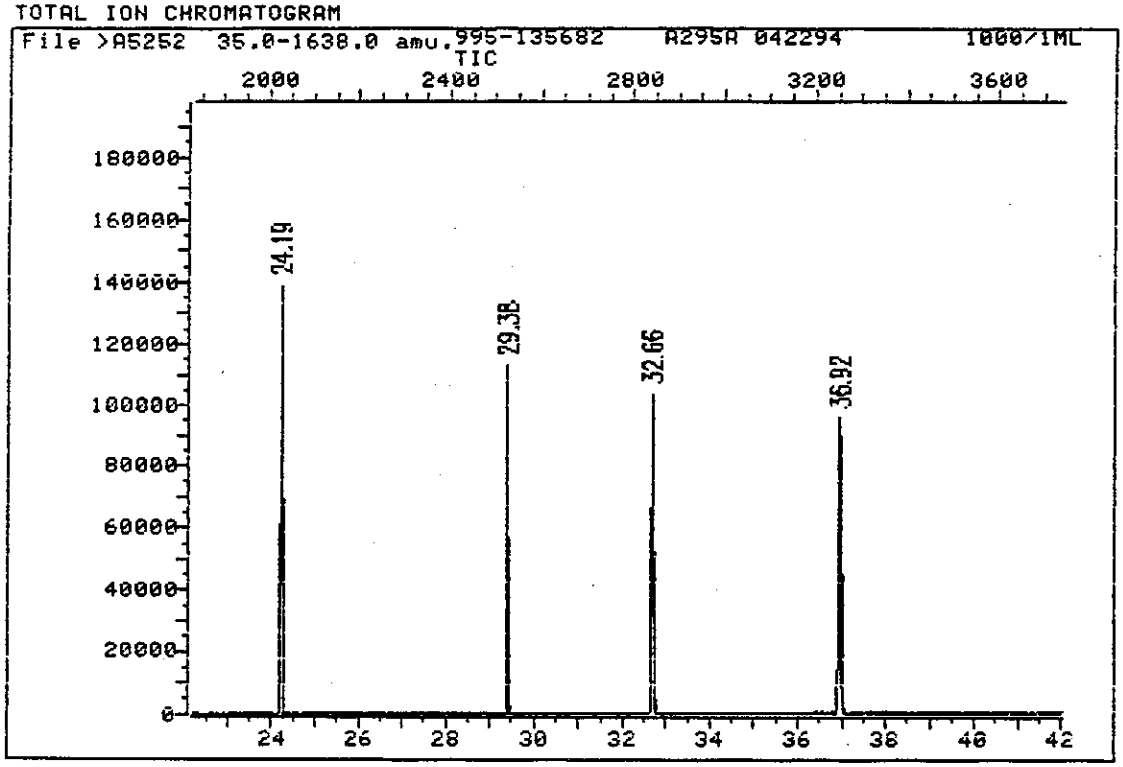
Data File: >A5252::E5 Quant Output File: ^A5252::D3
Name: 995-135682 A295A
Misc: 042294 1000/1ML HP5970 A BTL#13

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940423 01:57
Injected at: 940423 01:12

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5252::E5 Quant Output File: ^A5252::D3
Name: 995-135682 A295A
Misc: 042294 1000/1ML HP5970 A BTL#13

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940423 01:57
Injected at: 940423 01:12

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940423 01:57
Output File: ^A5252::D3 Injected at: 940423 01:12
Data File: >A5252::E5 Dilution Factor: 1.00000
Name: 995-135682 A295A
Misc: 042294 1000/1ML HP5970 A BTL#13

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.25	152.0	35457	40.00	ug/L	7
15)	*CI40 D8-Naphthalene	13.99	136.0	129835	40.00	ug/L	94
16)	CS20 D5-Nitrobenzene	11.94	82.0	35548	28.84	ug/L	89
21)	*CI50 D10-Acenaphthene	19.53	164.0	77288	40.00	ug/L	5
22)	CS25 2-Fluorobiphenyl	17.46	172.0	82760	30.72	ug/L	95
28)	*CI60 D10-Phenanthrene	24.19	188.0	119570	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.66	240.0	98808	40.00	ug/L	3
35)	CS30 D14-Terphenyl	29.38	244.0	87018	33.39	ug/L	84
40)	*CI75 D12-Perylene	36.92	264.0	114451	40.00	ug/L	95

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

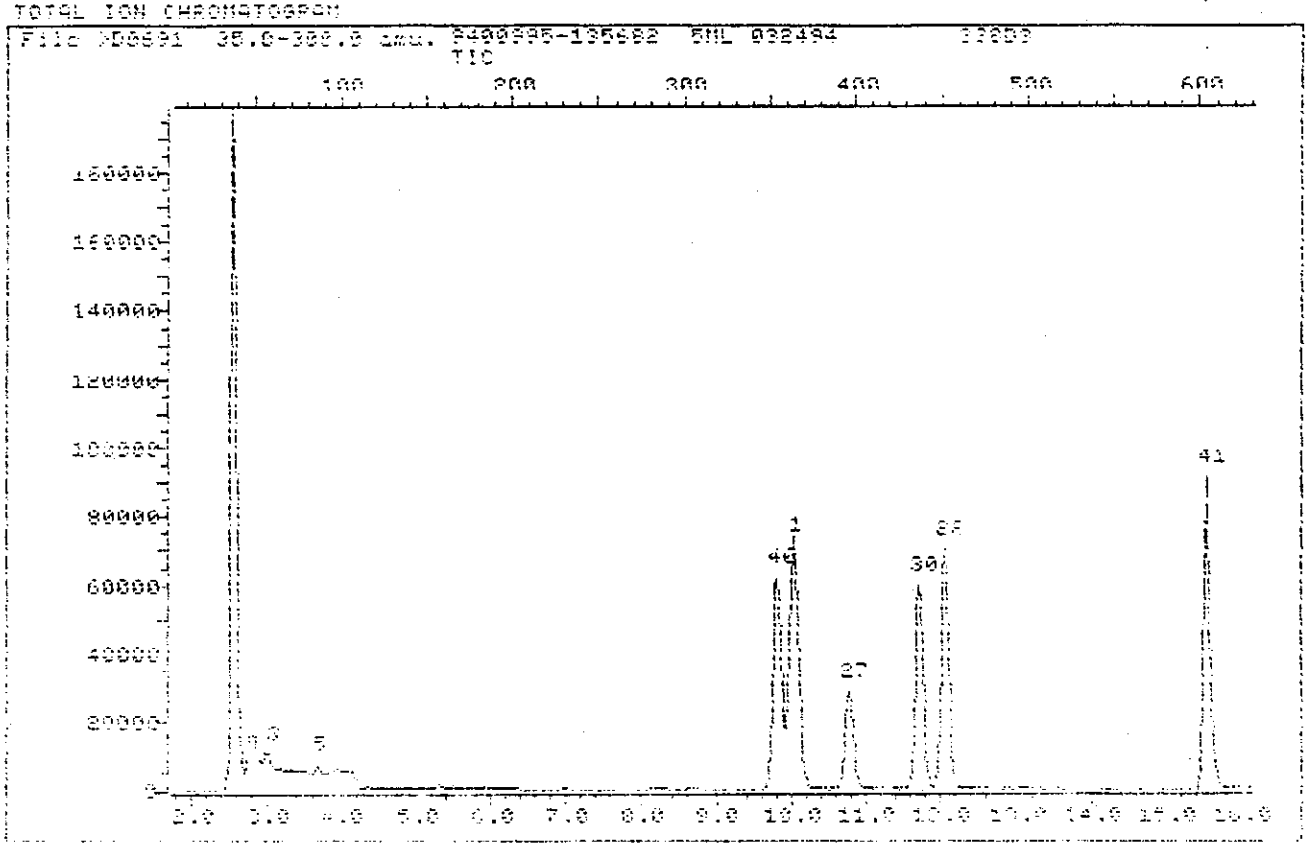
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135682
Client Sample ID: 33803

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/24/1994	res	209
Toluene	6.0	U	ug/L	6.0	03/24/1994	res	209
Ethylbenzene	6.0	U	ug/L	6.0	03/24/1994	res	209
m+p-Xylenes	5.0	U	ug/L	5.0	03/24/1994	res	209
o-Xylene	5.0	U	ug/L	5.0	03/24/1994	res	209

TOTAL ION CHROMATOGRAM



Data File: >D0691::D1 Quant Output File: >D0691::D3

Name: 940995-135682 Fm

Method: 940722 TTBNT

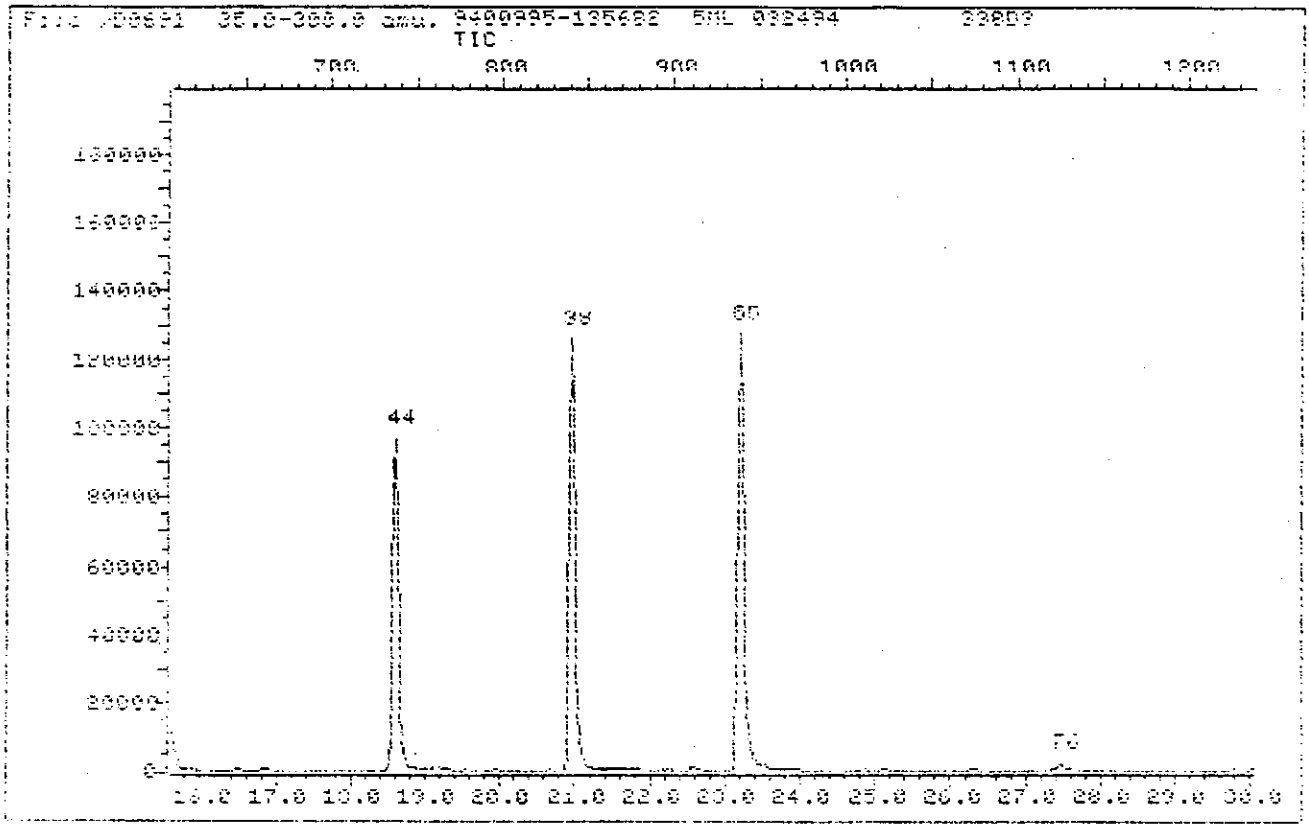
Operator ID: BART

Quant Time: 940724 22:08

Injected at: 940721 21:33

TIC page 1 of 3

TOTAL ION CHROMATOGRAM



Data File: >D0691::D1 Quant Output File: ^D0691::D3
Name: 9400995-135A82 5ML
Misc: 032494 33803

Is File: WOS2AU::D7
Title: Method 8240 97700 INSTRUMENT-AQUEOUS VOLATILES INSTR.F
Last Calibration: 940722 16:47

Operator ID: BURT
Quant Time: 940724 22:08
Injected at: 940724 21:33

TIC page 2 of 2

5900

QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940324 22:08
Output File: ^D0691::D3 Injected at: 940324 21:33
Data File: >D0691::D1 Dilution Factor: 1.00000
Name: 940095-135682 5ML
Misc: 072494 338D3

DAQ-176

ID File: UD8260::D7
Title: Method 8260 59700 INSTRUMENT-AQUEOUS VOLATILES INSTR.-D
Last Calibration: 940322 16:47

		Compound	R.T.	Q ion	Area	Conc	Units	
1)	*C105	Pentafluorobenzene IS-1	10.02	168.0	233444	50.00	UG/L	79
3)	C010	Chloromethane B=11	3.02	50.0	3568	9.28	UG/L	1[illegible]
5)	C015	Bromomethane B=14	3.66	94.0	4935	10.10	UG/L	100
22)	*C110	1,4-Difluorobenzene IS-2	12.06	114.0	204128	50.00	UG/L	100
27)	C815	1,2-Dichloroethane-D4 SS1	10.77	65.0	80700	52.74	UG/L	[illegible]
30)	C808	Fluorobenzene SS2	11.71	96.0	192241	51.95	UG/L	91
38)	C810	Bromofluorobenzene SS3	20.96	95.0	139597	54.14	UG/L	95
40)	C807	Dibromofluoromethane SS4	9.81	113.0	149158	53.12	UG/L	1[illegible]
41)	C805	Toluene-d8 SS5	15.53	98.0	203515	50.71	UG/L	100
44)	*C120	Chlorobenzene-d5 IS-3	18.40	117.0	178583	50.00	UG/L	95
58)	*C130	1,4-Dichlorobenzene-d4 (4	23.20	152.0	115291	50.00	UG/L	[illegible]
~~54)~~	~~C292~~	~~Naphthalene~~ OK JCB.	27.48	128.0	8703	~~52.0~~	~~UG/L~~	100

* Compound is ISTD

JCB

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

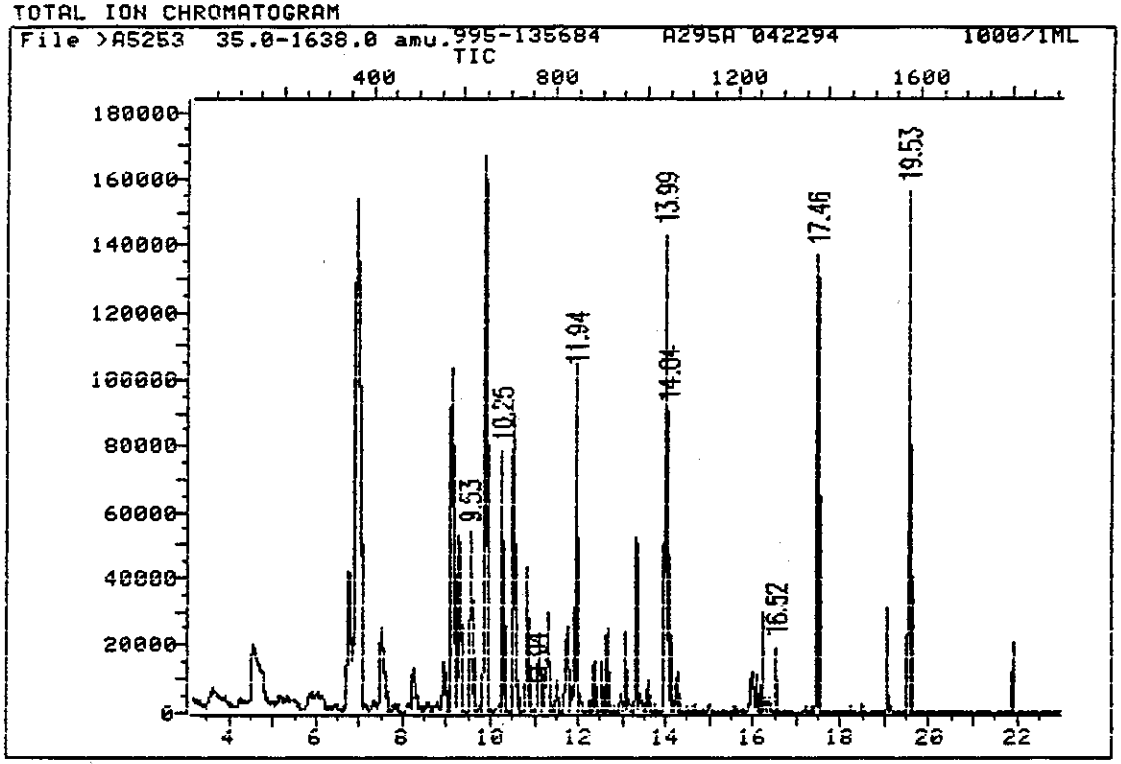
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135684
Client Sample ID: 33801

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/23/1994	jig	11	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/23/1994	jig	11	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
bis(2-Ethylhexyl)Phthalate	8.1	J	ug/L	2.5	04/23/1994	jig	11	4
Chrysene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/23/1994	jig	11	4
Indene	1.9		ug/L	10.	04/23/1994	jig	11	4

TOTAL ION CHROMATOGRAM



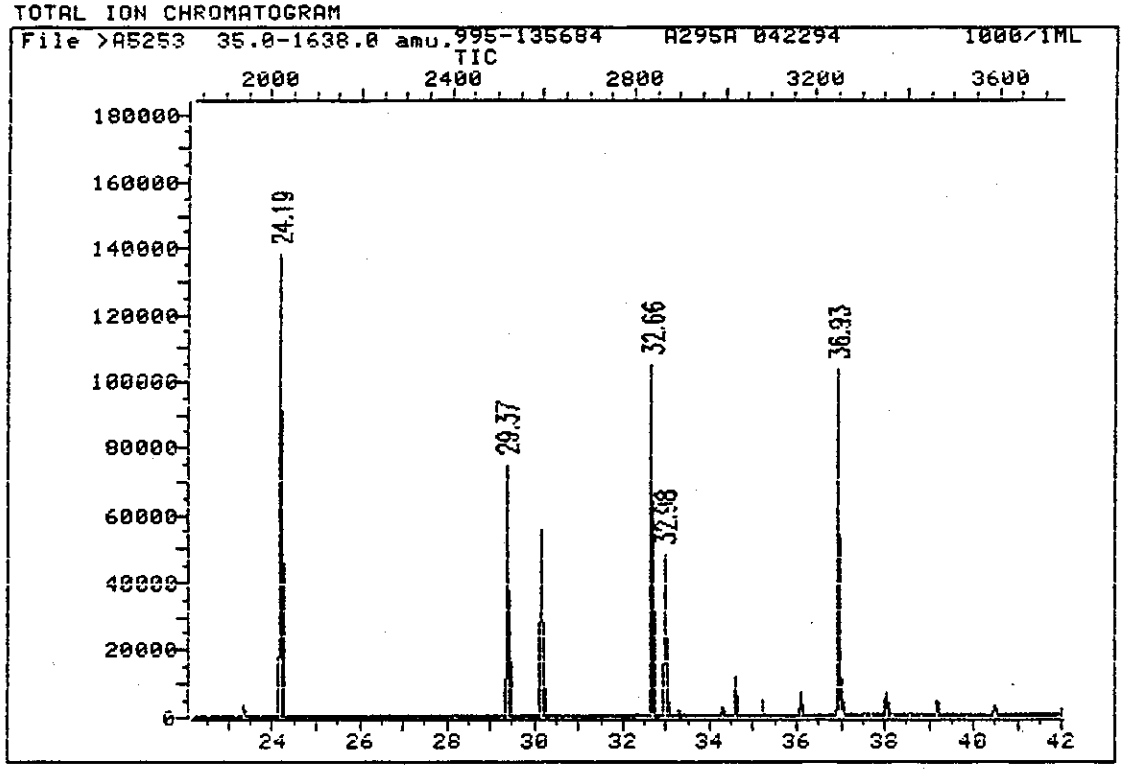
Data File: >A5253::E5 Quant Output File: ^A5253::D3
Name: 995-135684 A295A
Misc: 042294 1000/1ML HP5970 A BTL#14

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940423 02:49
Injected at: 940423 02:04

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5253::E5 Quant Output File: ^A5253::D3
Name: 995-135684 A295A
Misc: 042294 1000/1ML HP5970 A BTL#14

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940423 02:49
Injected at: 940423 02:04

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940423 02:49
Output File: ^A5253::D3 Injected at: 940423 02:04
Data File: >A5253::E5 Dilution Factor: 1.00000
Name: 995-135684 A295A
Misc: 042294 1000/1ML HP5970 A BTL#14

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.25	152.0	34928	40.00	ug/L	(7
3)	CS45 D5-Phenol	9.53	99.0	7586	5.71	ug/L	9?
11)	C349 Indene	11.04	116.0	3679	1.86	ug/L	9(
15)	*CI40 D8-Naphthalene	13.99	136.0	128426	40.00	ug/L	(3
16)	CS20 D5-Nitrobenzene	11.94	82.0	42687	35.01	ug/L	8?
18)	C450 Naphthalene	14.04	128.0	72989	20.92	ug/L	9?
20)	C471 1-Methylnaphthalene	16.52	142.0	11356	5.01	ug/L	(4
21)	*CI50 D10-Acenaphthene	19.53	164.0	75922	40.00	ug/L	9(
22)	CS25 2-Fluorobiphenyl	17.46	172.0	88133	33.30	ug/L	9(
28)	*CI60 D10-Phenanthrene	24.19	188.0	121914	40.00	ug/L	(5
33)	*CI70 D12-Chrysene	32.66	240.0	102358	40.00	ug/L	9(
35)	CS30 D14-Terphenyl	29.37	244.0	58639	21.72	ug/L	8?
39)	C745 bis(2Ethylhexyl)phthalate	32.98	149.0	28061	8.14	ug/L	(3
40)	*CI75 D12-Perylene	36.93	264.0	119846	40.00	ug/L	9(

* Compound is ISTD

000058

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

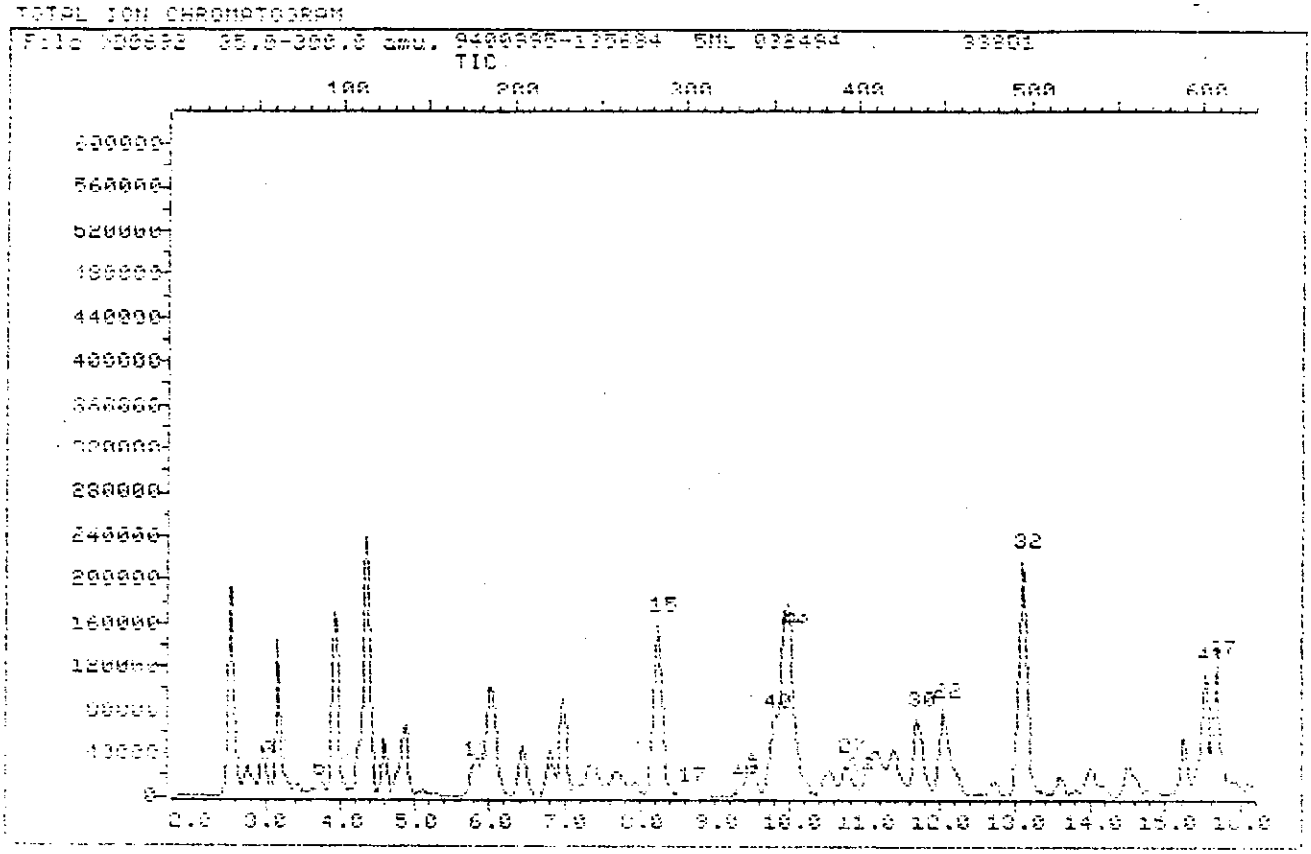
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135684
Client Sample ID: 338D1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	7.5		ug/L	4.0	03/24/1994	res	209
Toluene	67.		ug/L	6.0	03/24/1994	res	209
Ethylbenzene	86.		ug/L	6.0	03/24/1994	res	209
m+p-Xylenes	130		ug/L	5.0	03/24/1994	res	209
o-Xylene	33.		ug/L	5.0	03/24/1994	res	209

TOTAL ION CHROMATOGRAM



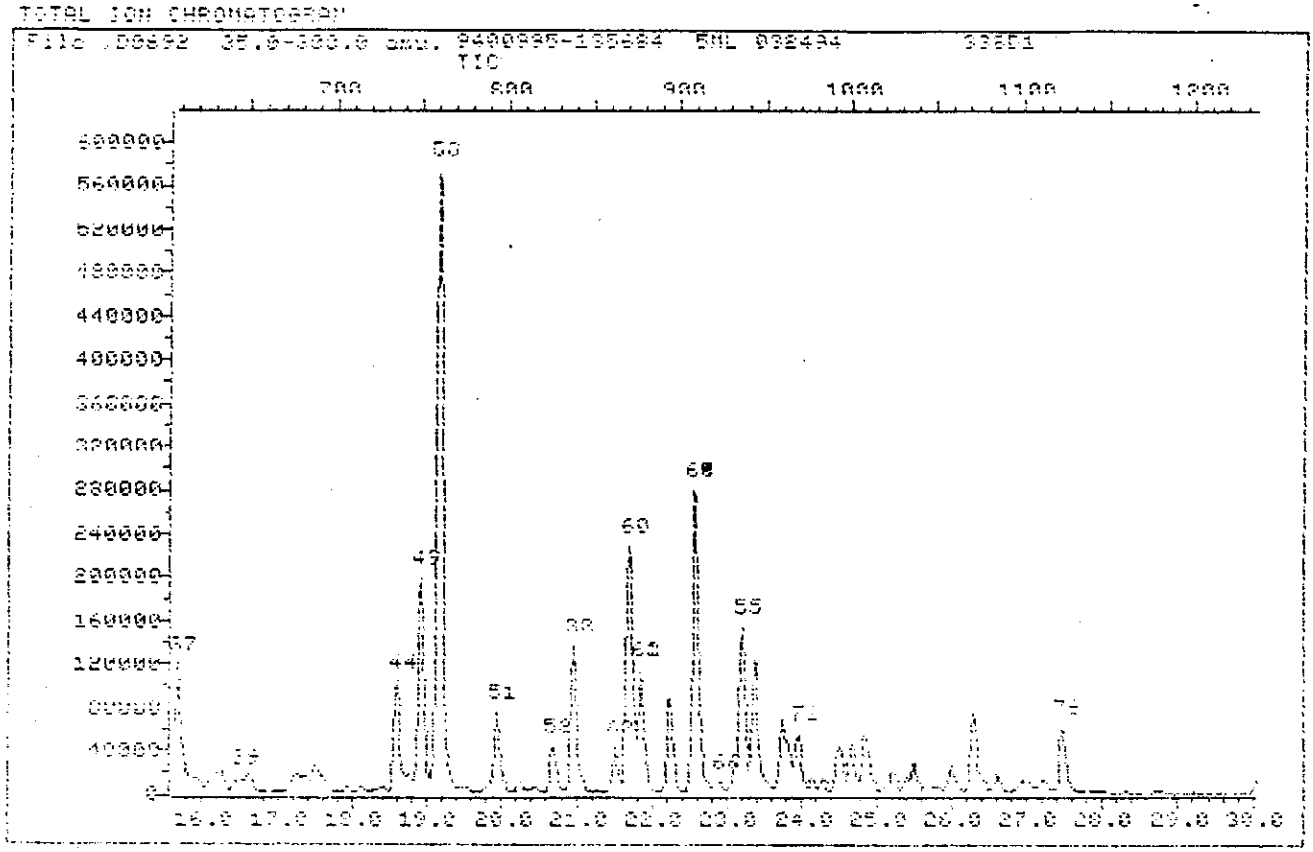
Data File: >D0692::D1 Quant Output File: ^D0692::D7
Name: 9400995-135684 5ML
Misc: 07-JUL-94 33801

Acq File: >D0692::D7
Title: Method 8260 59700 INSTRUMENT-PROTEUS VOLATILES INSTR_ID
Last Calibration: 940322 16:47

Operator ID: BURT
Quant Time: 940324 22:49
Injection at: 940324 22:14

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >D0692::D1 Quant Output File: ^D0692::D3
Name: 9400995-135684 5ML
Misc: 070_94 ^3SD1

Id File: ^D^^^::D2
Title: Harbor 8040 59790 INSTRUMENT-ADVANCE VOLATILES INSTR.-F
Last Calibration: 940322 16:47

Operator ID: RUPT
Quant Time: 940324 22:49
Injection at: 940324 22:14

TIC page 1 of 2

QUANT REPORT

Operator ID: BURT
Output File: ^D0692::03
Data File: >D0692::01
Name: 9400995-135684 5ML
Misc: 032494 338D1

Quant Rev: 6 Quant Time: 940324 22:49
Injected at: 940324 22:14
Dilution Factor: 1.00000

DAP-176

ID File: U08260::07
Title: Method 8260 59700 INSTRUMENT-AQUEOUS VOLATILES INSTR.-D
Last Calibration: 940322 16:47

		Compound	R.T.	Q ion	Area	Conc	Units	Q
1)	*C105	Pentafluorobenzene IS-1	10.00	168.0	226694	50.00	UG/L	
3)	C010	Chloromethane B=11	3.00	50.0	4480	6.82	UG/L	100
5)	C015	Bromomethane B=18	3.66	94.0	4974	10.49	UG/L	100
11)	C030	Methylene Chloride B=5	5.77	84.0	7651	9.69	UG/L	100
~~15)~~	~~C070~~	~~2,2-Dichloropropane~~ FP	8.24	77.0	2597	~~1.16~~	~~UG/L~~	100
17)	C110	2-Butanone	8.63	43.0	3694	11.26	UG/L	92
19)	C060	Chloroform	9.34	83.0	20834	6.80	UG/L	100
22)	*C114	1,4-Difluorobenzene IS-2	12.04	114.0	311810	50.00	UG/L	100
~~23)~~	~~C100~~	~~Carbon Tetrachloride~~ FP	10.00	117.0	20329	~~2.47~~	~~UG/L~~	100
27)	C515	1,2-Dichloroethene-D4 SS1	10.76	65.0	82806	52.40	UG/L	
28)	C145	Benzene	10.88	78.0	21842	7.48	UG/L	100
29)	C508	Fluorobenzene SS2	11.70	96.0	208196	54.47	UG/L	84
~~30)~~	~~C150~~	~~1,2-Dichloropropane~~ FP	13.10	63.0	3357	~~2.95~~	~~UG/L~~	
37)	C230	Toluene	15.68	92.0	151880	67.14	UG/L	94
38)	C510	Bromofluorobenzene SS3	20.95	95.0	147522	55.48	UG/L	97
~~39)~~	~~C160~~	~~1,1,2-Trichloroethane~~ FP	16.51	83.0	1781	~~1.45~~	~~UG/L~~	
40)	C085	Dibromofluoromethane SS4	9.78	113.0	191634	52.29	UG/L	100
41)	C205	Toluene-d8 SS5	15.52	98.0	217842	54.69	UG/L	
43)	C214	Chlorobenzene-d5 IS-3	18.09	117.0	189498	50.00	UG/L	
49)	C240	Ethylbenzene	18.91	91.0	448141	85.64	UG/L	
50)	C248	Xylene (Meta+Para)	19.14	106.0	510637	133.82	UG/L	
51)	C249	Xylene (Ortho)	19.92	106.0	60386	33.11	UG/L	
55)	*C170	1,4-Dichlorobenzene-d4 IS	23.90	152.0	174278	50.00	UG/L	
56)	C254	Isopropylbenzene	20.68	105.0	94325	15.49	UG/L	100
~~57)~~	~~C260~~	~~2-Chlorotoluene~~ FP	21.69	91.0	74429	~~14.77~~	~~UG/L~~	
~~58)~~	~~C262~~	~~4-Chlorotoluene~~ FP	21.85	91.0	21913	~~3.88~~	~~UG/L~~	
62)	C264	N-Propylbenzene	21.98	91.0	108794	14.75	UG/L	
63)	C266	1,3,5-Trimethylbenzene	21.85	105.0	365999	48.78	UG/L	
~~64)~~	~~C268~~	~~Tert-Butylbenzene~~ FP	22.56	119.0	63934	~~19.54~~	~~UG/L~~	
65)	C270	1,2,4-Trimethylbenzene	22.56	105.0	864789	114.90	UG/L	
66)	C272	Sec-Butylbenzene	22.90	105.0	19142	2.76	UG/L	
~~67)~~	~~C278~~	~~4-Isopropyltoluene~~ FP	22.56	119.0	63934	~~12.34~~	~~UG/L~~	
~~71)~~	~~C280~~	~~N-Butylbenzene~~ FP	27.96	91.0	25818	~~4.49~~	~~UG/L~~	
~~76)~~	~~C290~~	~~Naphthalene~~ OK JCB	27.46	128.0	173496	~~38.64~~	~~UG/L~~	

* Compound is ISTD

Do not report C_3C_5

JCB

000062

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

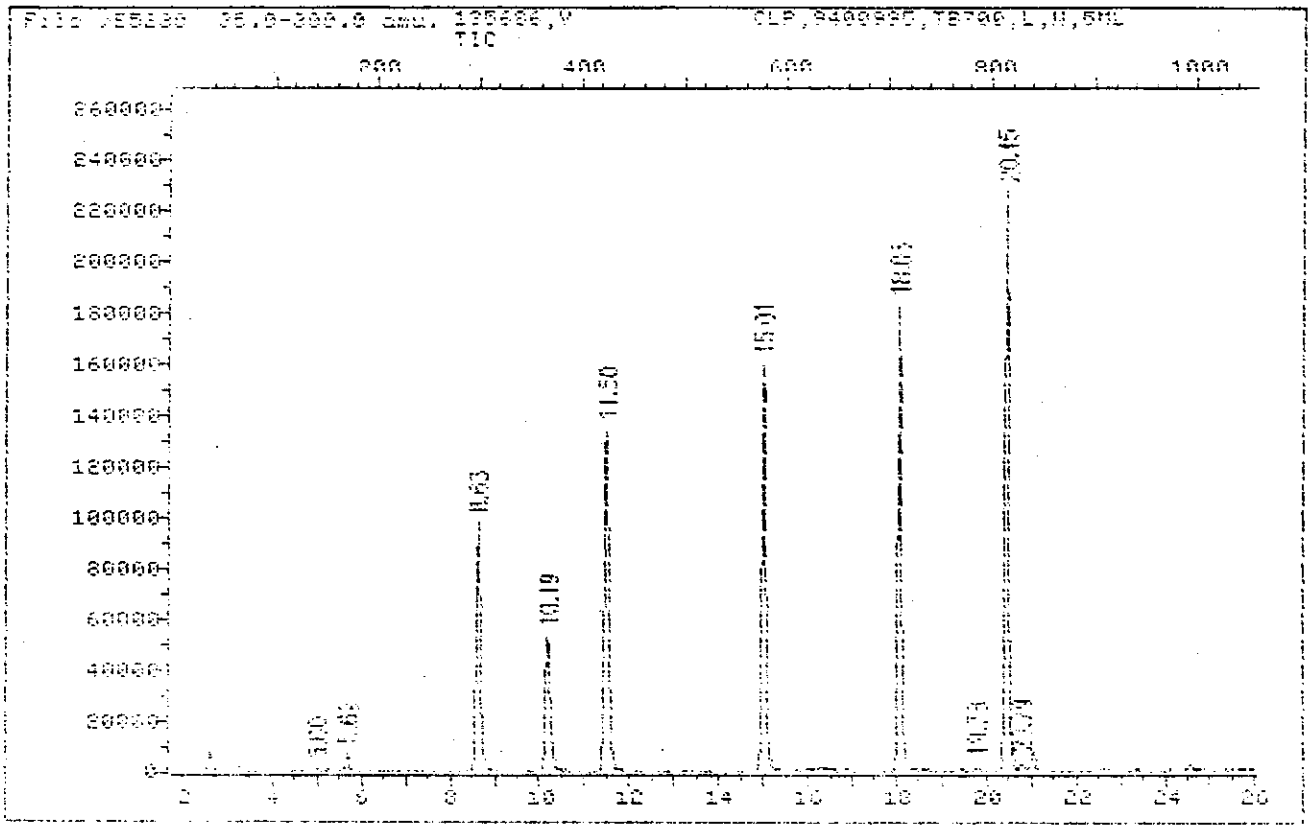
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00995
NET Sample No: 135686
Client Sample ID: TB700

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/23/1994	res	205
Toluene	6.0	U	ug/L	6.0	03/23/1994	res	205
Ethylbenzene	6.0	U	ug/L	6.0	03/23/1994	res	205
m+p-Xylenes	5.0	U	ug/L	5.0	03/23/1994	res	205
o-Xylene	5.0	U	ug/L	5.0	03/23/1994	res	205

TOTAL ION CHROMATOGRAM



Data File: ^E5280::D6 Quant Output File: ^E5280::D8
Name: [illegible]
Misc: [illegible]

Id File: ^CLPE::D4
Tuning: [illegible]
Last Calibration: 940322 10:11

Operator ID: RITA
Quant Time: 940323 00:19
Injection at: 940323 19:48

QUANT REPORT

Operator ID: RITA
Outout File: ^E5280::D6
Data File: >E5280::D6
Quant Rev: 6
Quant Time: 940323 20:19
Injected at: 940323 19:48
Dilution Factor: 1.00000
Name: 135686,U
Misc: CLP,9400995,TB700,L,W,5ML

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940323 10:11

	Compound	V/C	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.63	128.0	98372	50.00	UG/L	87
6)	C030 Methylene Chloride		5.69	84.0	8180	3.94	UG/L	93
7)	C035 Acetone		5.00	43.0	1407	4.77	UG/L	82
13)	CS15 D4-1,2-Dichloroethane	SS1	10.19	65.0	179487	46.63	UG/L	87
16)	*CI10 1,4-Difluorobenzene	IS-2	11.50	114.0	392740	50.00	UG/L	88
28)	C180 Bromoform		19.78	173.0	3446	1.01	UG/L	93
29)	*CI20 D5-Chlorobenzene	IS-3	18.06	117.0	286176	50.00	UG/L	87
33)	C225 1,1,2,2-Tetrachloroethane		20.79	83.0	6133	2.52	UG/L	88
35)	CS05 D8-Toluene	SS-2	15.01	98.0	327823	48.93	UG/L	95
47)	CS10 Bromofluorobenzene	SS-3	20.45	95.0	235060	49.45	UG/L	87

* Compound is ISTD

000065

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

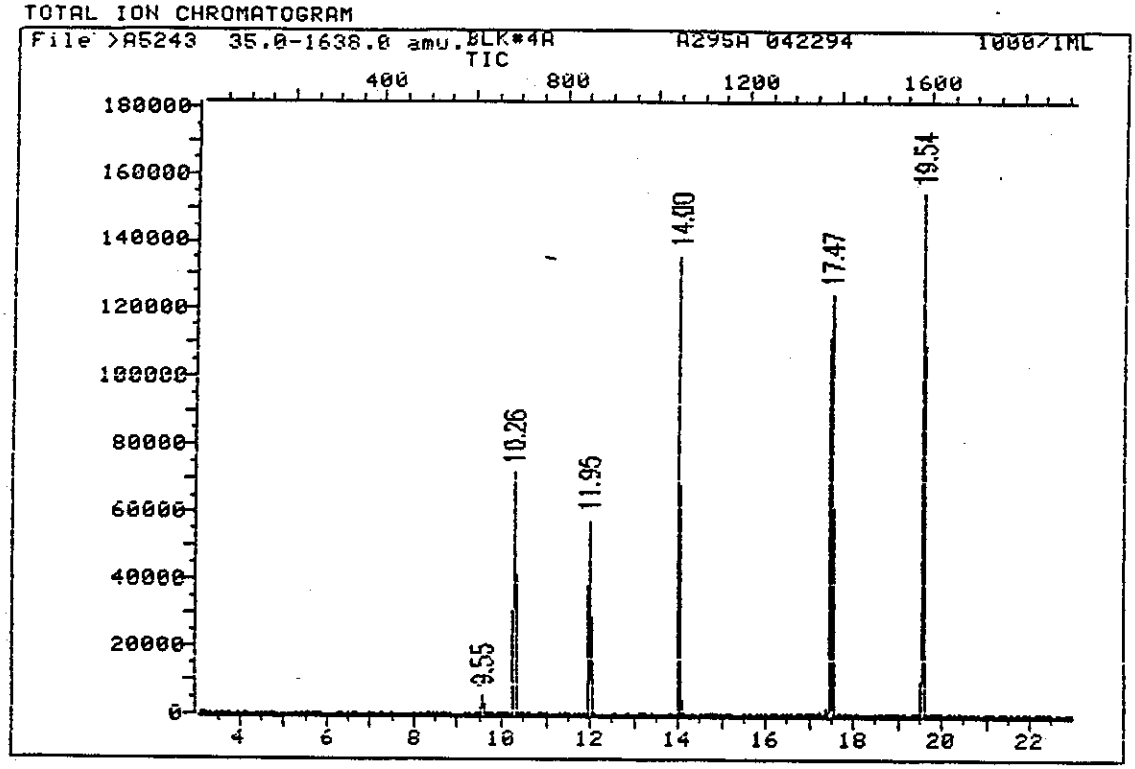
CLIENT ENSR Consulting

REPORT # 94.00995

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>A5243	04/22/94	BN	Aq	---	No Targets Found	NA	ug/L	NA

COMMENTS:

TOTAL ION CHROMATOGRAM



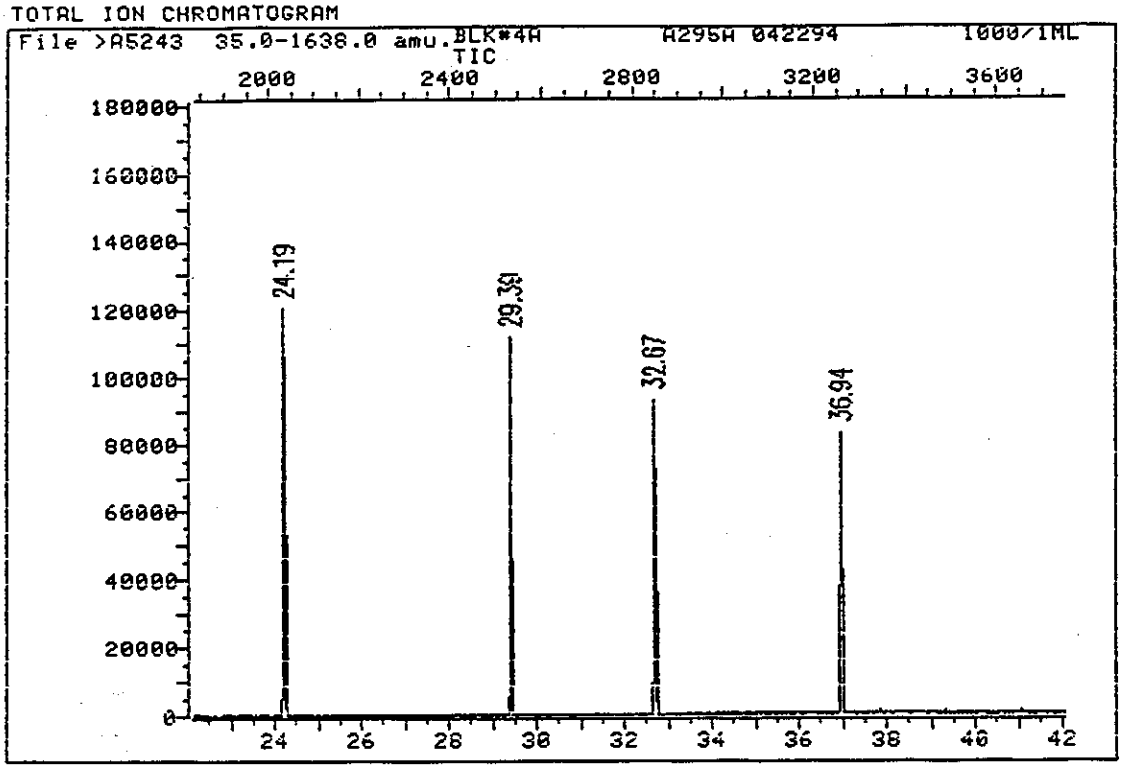
Data File: >A5243::E5 Quant Output File: ^A5243::D3
Name: BLK#4A A295A
Misc: 042294 1000/1ML HP5970 A BTL# 4

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 18:10
Injected at: 940422 17:25

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5243::E5 Quant Output File: ^A5243::D3
Name: BLK#4A A295A
Misc: 042294 1000/1ML HP5970 A BTL# 4

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940422 18:10
Injected at: 940422 17:25

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940422 18:10
Output File: ^A5243::D3 Injected at: 940422 17:25
Data File: >A5243::E5 Dilution Factor: 1.00000
Name: BLK#4A A295A
Misc: 042294 1000/1ML HP5970 A BTL# 4

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.26	152.0	34442	40.00	ug/L	
3)	CS45 D5-Phenol	9.55	99.0	5354	4.08	ug/L	8
15)	*CI40 D8-Naphthalene	14.00	136.0	120633	40.00	ug/L	9
16)	CS20 D5-Nitrobenzene	11.95	82.0	36422	31.80	ug/L	
21)	*CI50 D10-Acenaphthene	19.54	164.0	72587	40.00	ug/L	9
22)	CS25 2-Fluorobiphenyl	17.47	172.0	79525	31.43	ug/L	9
28)	*CI60 D10-Phenanthrene	24.19	188.0	108085	40.00	ug/L	
33)	*CI70 D12-Chrysene	32.67	240.0	82663	40.00	ug/L	9
35)	CS30 D14-Terphenyl	29.39	244.0	83715	38.40	ug/L	8
40)	*CI75 D12-Perylene	36.94	264.0	92710	40.00	ug/L	

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

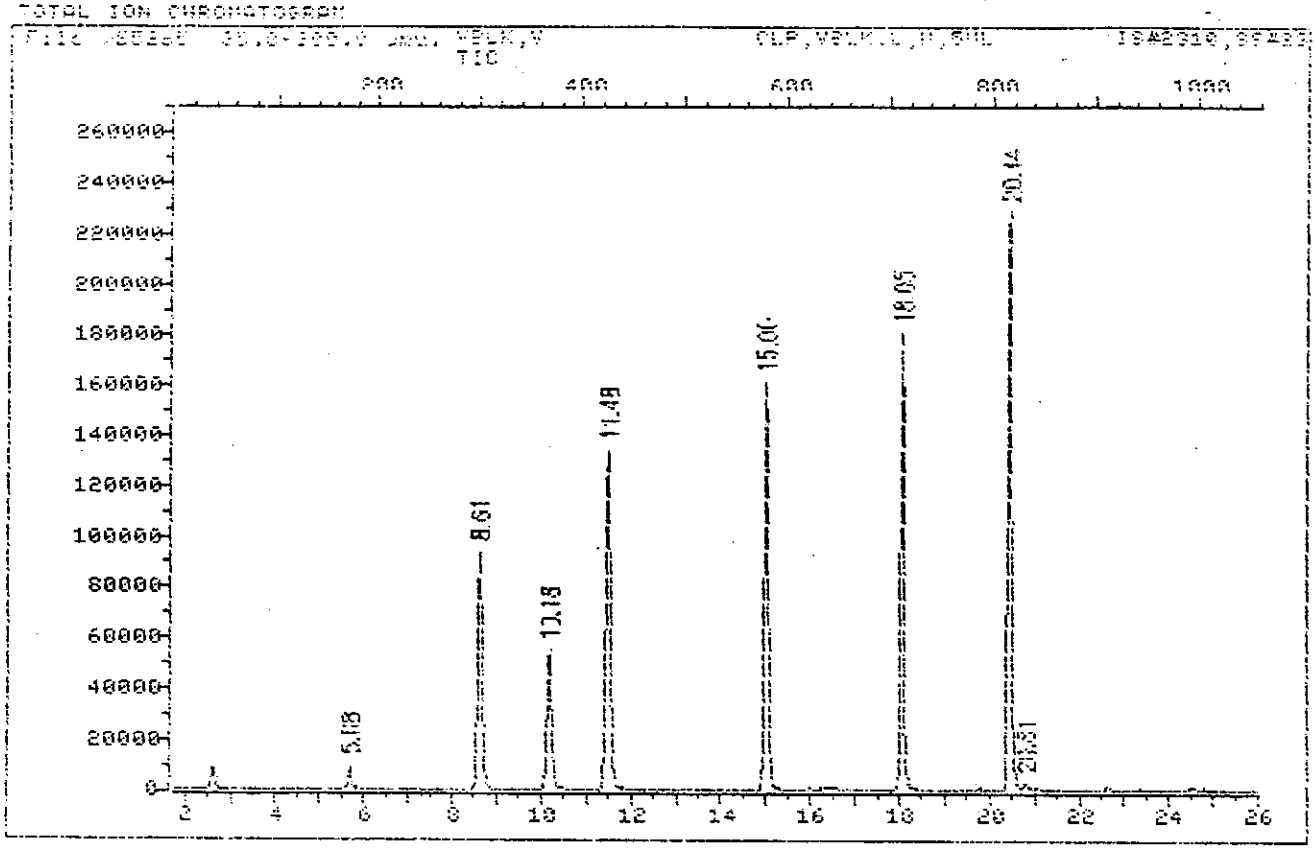
CLIENT ENSR Consulting

REPORT # 94.00995

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>A5243	04/22/94	BN	Aq	---	No Targets Found	NA	ug/L	NA

COMMENTS:

TOTAL ION CHROMATOGRAM



Data File: >E5265::D6 Quant Output File: ^E5265::D8
Name: VBLK,U
Misc: CLP,VBLK,I,,W,5W IS#2310,BS#2309

IN File: [illegible]
Title: [illegible]
Last Cal [illegible]: 940727 10:11

Operator ID: RITA
Quant Time: 940727 10:45
Injected at: 940727 10:14

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940323 10:49
Output File: >F5265::D8 Injected at: 940323 10:14
Data File: >F5265::D6 Dilution Factor: 1.00000
Name: VBLK,U
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

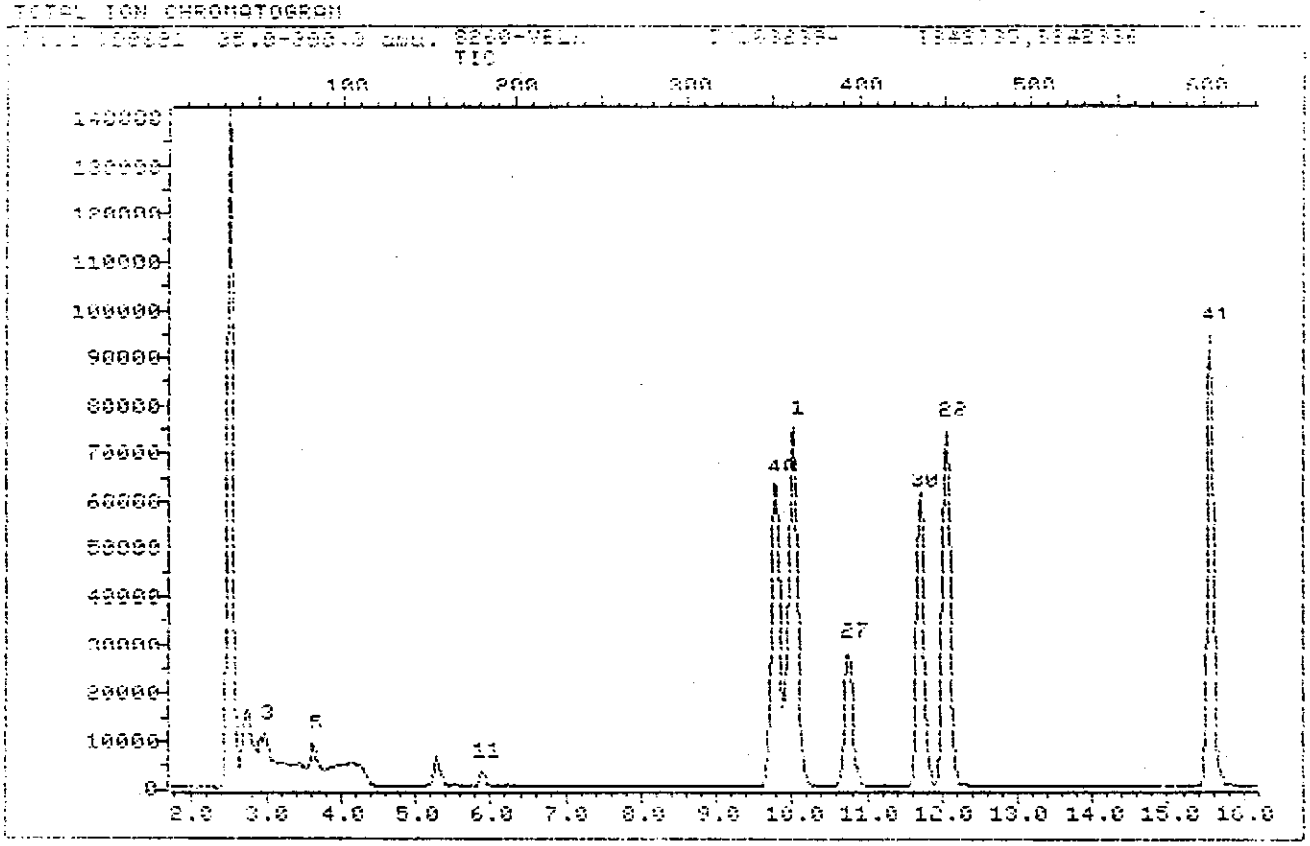
ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940323 10:11

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.61	128.0	96867	50.00	UG/L	
6)	C030 Methylene Chloride		5.68	84.0	12502	6.11	UG/L	82
13)	CS15 D4-1,2-Dichloroethane	SS1	10.18	65.0	183561	48.43	UG/L	92
16)	*CI10 1,4-Difluorobenzene	IS-2	11.48	114.0	384110	50.00	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.09	117.0	282093	50.00	UG/L	97
33)	C225 1,1,2,2-Tetrachloroethane		20.81	83.0	4791	1.99	UG/L	78
35)	CS05 D8-Toluene	SS-2	15.00	98.0	327852	49.64	UG/L	
49)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	234977	50.15	UG/L	96

* Compound is ISTD

000072

TOTAL ION CHROMATOGRAM

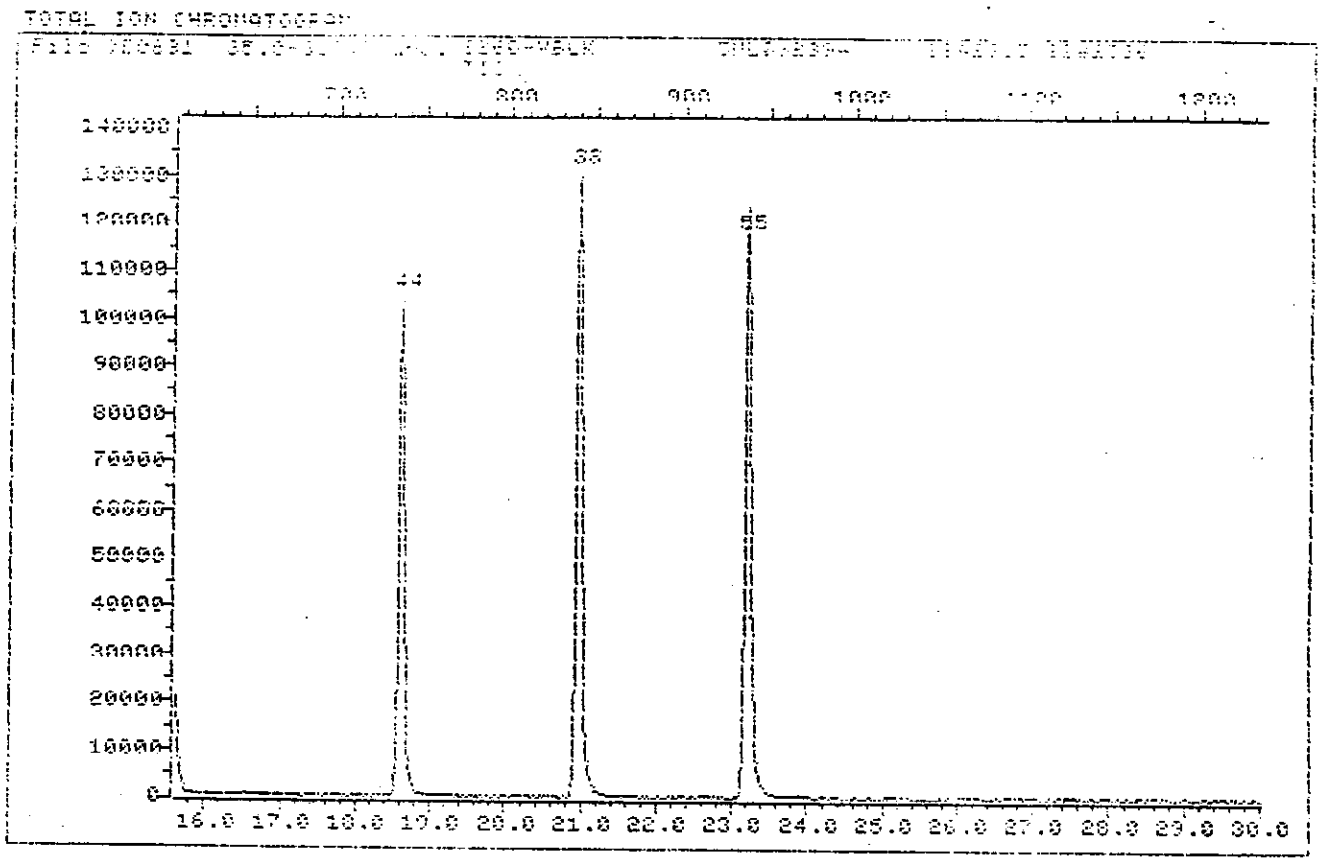


Data File: >D0681::D2 Quant Output File: ^D0681::D3
Name: 8260-VBLK 5ML
Misc: [illegible] IS#2335,SS#2336

Ini File: ^D8260::D7
Title: [illegible] 8260 SW846 [INSTRUMENT-GROUP VOLATILES INSTR.-G
Last Calibration: 940322 16:47

Operator ID: BURT
Quant Time: 940324 13:56
Injection: 940324 13:21

TIC page 1 of 2



Data File: >D0681::D2 Quant Output File: ^D0681::D3
Name: 8240-VBLK 5ML
Misc: 032994 IS#2335,SS#2336

Id File: 78240::D7
Title: Method 8240 59700 INSTRUMENT-AQUEOUS VOLATILES INSTR.-D
Last Calibration: 940322 16:47

Operator ID: BUFT
Quant Time: 940324 13:56
Injected at: 940324 13:21

TIC page 2 of 2

QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940324 13:56
Output File: ^00681::D3 Injected at: 940324 13:21
Data File: >00681::D2 Dilution Factor: 1.00000
Name: 8260-UBLK 5ML
Misc: 032394 IS#2335,SS#2336

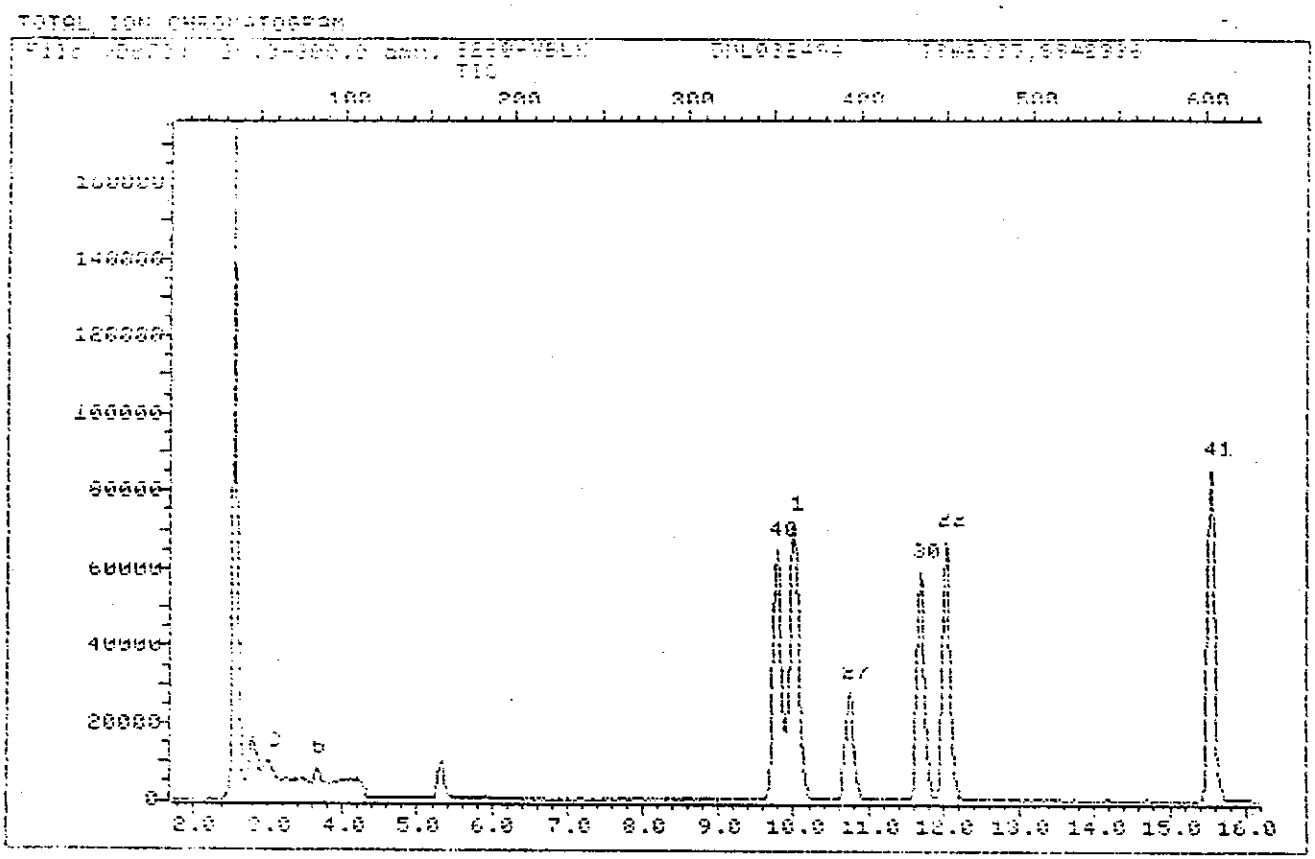
ID File: U00048::D7
Title: Method 8260 5970D INSTRUMENT-AQUEOUS VOLATILES INSTR.-D
Last Calibration: 940322 16:47

	Compound	R.T.	Q ion	Area	Conc	Units	Q
1)	*C105 Pentafluorobenzene IS-1	10.02	168.0	233916	50.00	UG/L	[illegible]
3)	C010 Chloromethane	2.98	50.0	7763	11.46	UG/L	100
5)	C015 Bromomethane	3.62	94.0	8837	18.05	UG/L	100
11)	C030 Methylene Chloride	5.88	84.0	3928	4.82	UG/L	[illegible]
22)	*C110 1,4-Difluorobenzene IS-2	12.06	114.0	223830	50.00	UG/L	100
27)	CS15 1,2-Dichloroethane-D4 SS1	10.76	65.0	82635	49.25	UG/L	98
30)	CS08 Fluorobenzene SS2	11.69	96.0	206379	50.86	UG/L	[illegible]
38)	CS10 Bromofluorobenzene SS3	20.96	95.0	141913	50.19	UG/L	95
40)	CS07 Dibromofluoromethane SS4	9.79	113.0	156580	50.86	UG/L	100
41)	CS09 Toluene-d8 SS5	15.56	98.0	212880	50.30	UG/L	[illegible]
44)	*C120 Chlorobenzene-d5 IS-3	18.60	117.0	187856	50.00	UG/L	95
55)	*C130 1,4-Dichlorobenzene-d4 I4	23.18	152.0	119399	50.00	UG/L	97

* Compound :- ISTD

Do not report C_3 C_5

000075

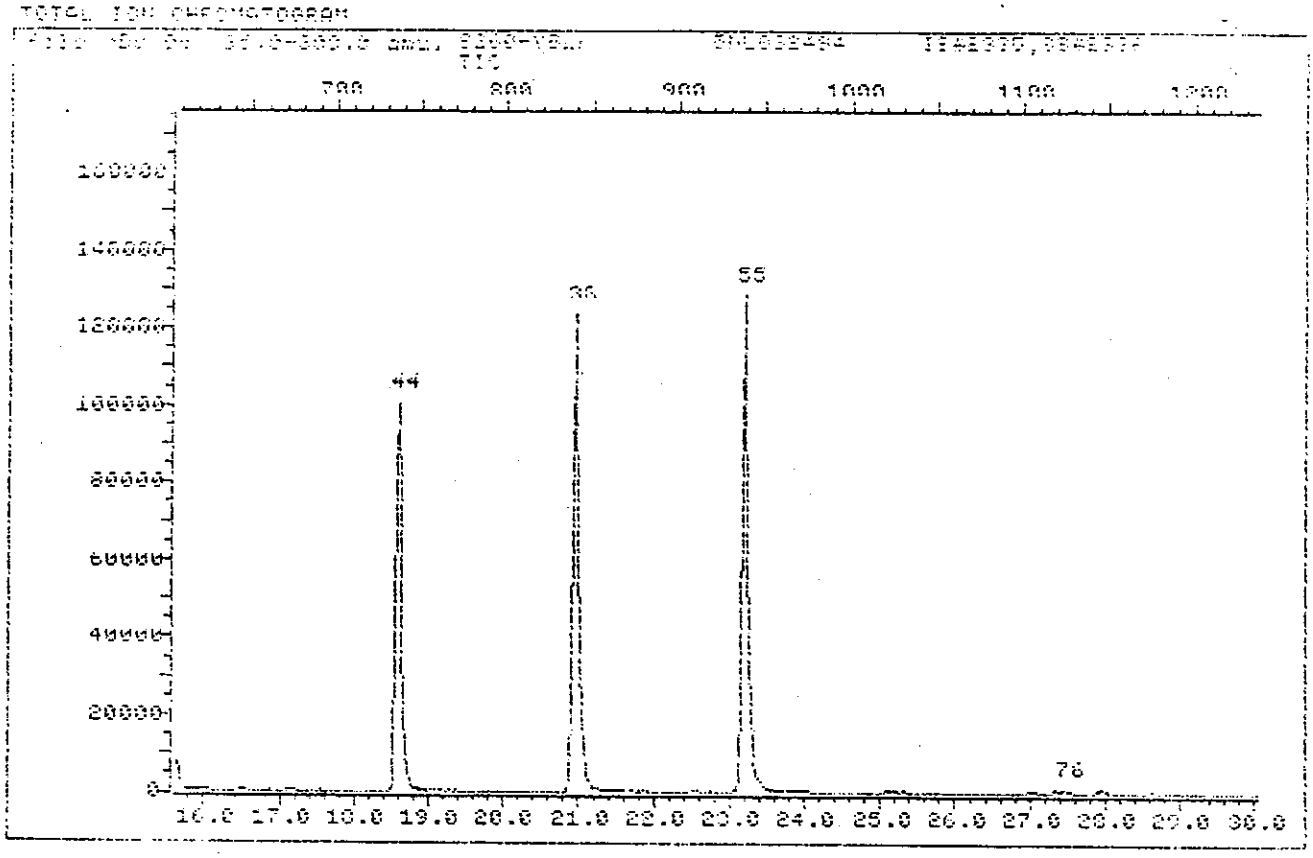


Data File: >D0704::D2 Quant Output File: ^D0704::D3
Name: 8260-UBLK 5ML
Misc: 032494 IS#2335,IS#2336

Lib File: [illegible]
Title: [illegible] 8260 59760 INSTRUMENT-AQUEOUS VOLATILES (INSTR.-D
Last Cal Revision: 940322 16:47

Operator ID: SURT
Quant Time: 940325 11:20
Injected at: 940325 10:45

TIC page 1 of 2



Data File: >D0704::D2 Quant Output File: ^D0704::D3
Name: 8240-WBLK 5ML
Misc: 07[illegible]34 IS#2335,S340334

In File: [illegible]::D7
Title: [illegible] 8240 59700 INSTRUMENT-AQUARIUS VOLATILES INSTR.-[illegible]
Last Cal Return: 940322 16:47

Operator ID: BURT
Quant Time: 940329 11:90
Injection Time: 940329 10:45

TIC Page 2 of 2

QUANT REPORT

Operator ID: BUPT Quant Rev: 6 Quant Time: 940329 11:20
Output File: ^D0704::D3 Injected at: 940329 10:45
Data File: >D0704::D2 Dilution Factor: 1.00000
Name: 8260-VBLK 5ML
Misc: 030494 IS#2335,SS#2336

ID File: V08260::D7
Title: Method 8260 5970D INSTRUMENT-AQUEOUS VOLATILES INSTR.-0
Last Calibration: 940322 16:47 ✓

		Compound	RS	R.T.	Q ion	Area	Conc	Units	q
1)	*CI05	Pentafluorobenzene	IS-1	10.01	168.0	219935	50.00	UG/L	8
3)	C010	Chloromethane		3.03	50.0	7543	11.84	UG/L	100
5)	C015	Bromomethane		3.69	94.0	6578	14.29	UG/L	100
22)	*CI10	1,4-Difluorobenzene	IS-2	12.03	114.0	202591	50.00	UG/L	100
27)	CS15	1,2-Dichloroethane-D4	SS1	10.75	65.0	81503	53.67	UG/L	99
30)	CS08	Fluorobenzene	SS2	11.68	96.0	190955	52.00	UG/L	90
38)	CS10	Bromofluorobenzene	SS3	20.95	95.0	135135	52.81	UG/L	9
40)	CS03	Dibromofluoromethane	SS4	9.78	113.0	155634	55.85	UG/L	100
41)	CS05	Toluene-d8	SS5	15.55	98.0	201891	52.71	UG/L	100
44)	*CI20	Chlorobenzene-d5	IS-3	18.59	117.0	184057	50.00	UG/L	9
55)	*CI30	1,4-Dichlorobenzene-d4	I4	23.19	152.0	118052	50.00	UG/L	91
~~54)~~	~~C220~~	~~Naphthalene~~	OKJES	27.47	128.0	5035	~~1.28~~	~~UG/L~~	100

* Compound is ISTD

JCB

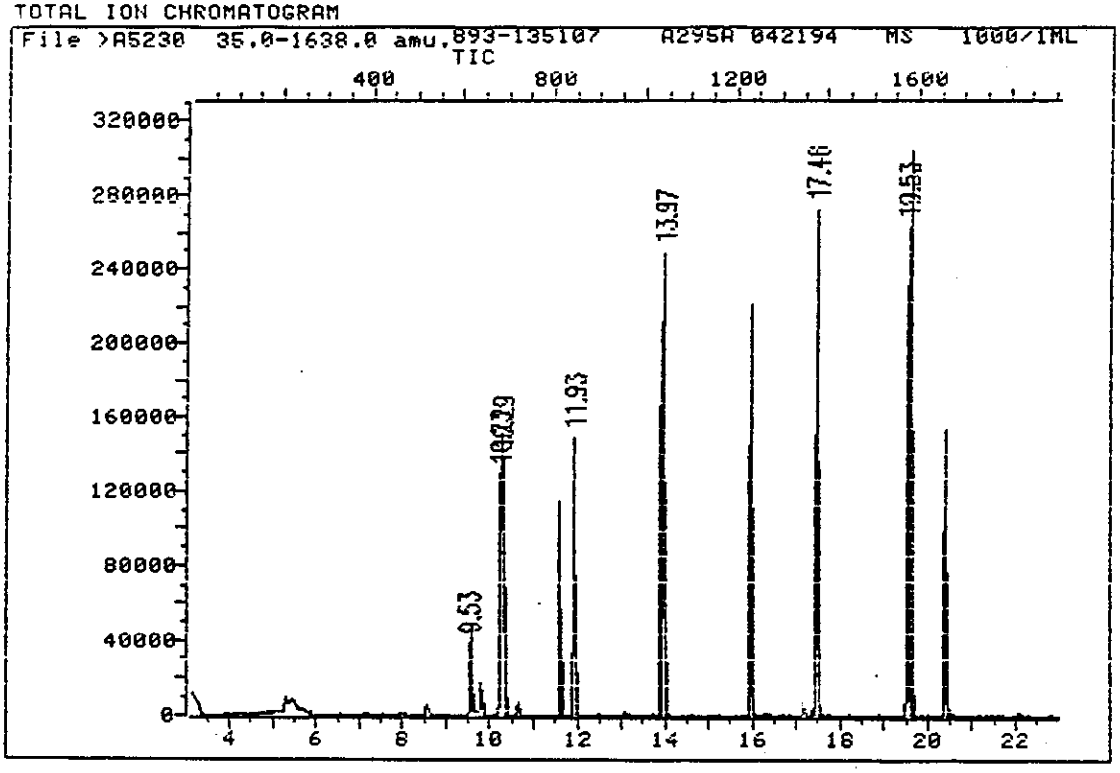
000078

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: A295A
QC Sample Number: 9400893-135107

Compound Name	Spike Added	Sample Result	MS Conc	Percent Recovery	MSD Conc	Percent Recovery	RPD
1,4-Dichlorobenzene	50	N.D.	32	64.00	31	62.00	3.0
Pyrene	50	N.D.	46	92.00	41	82.00	11

TOTAL ION CHROMATOGRAM



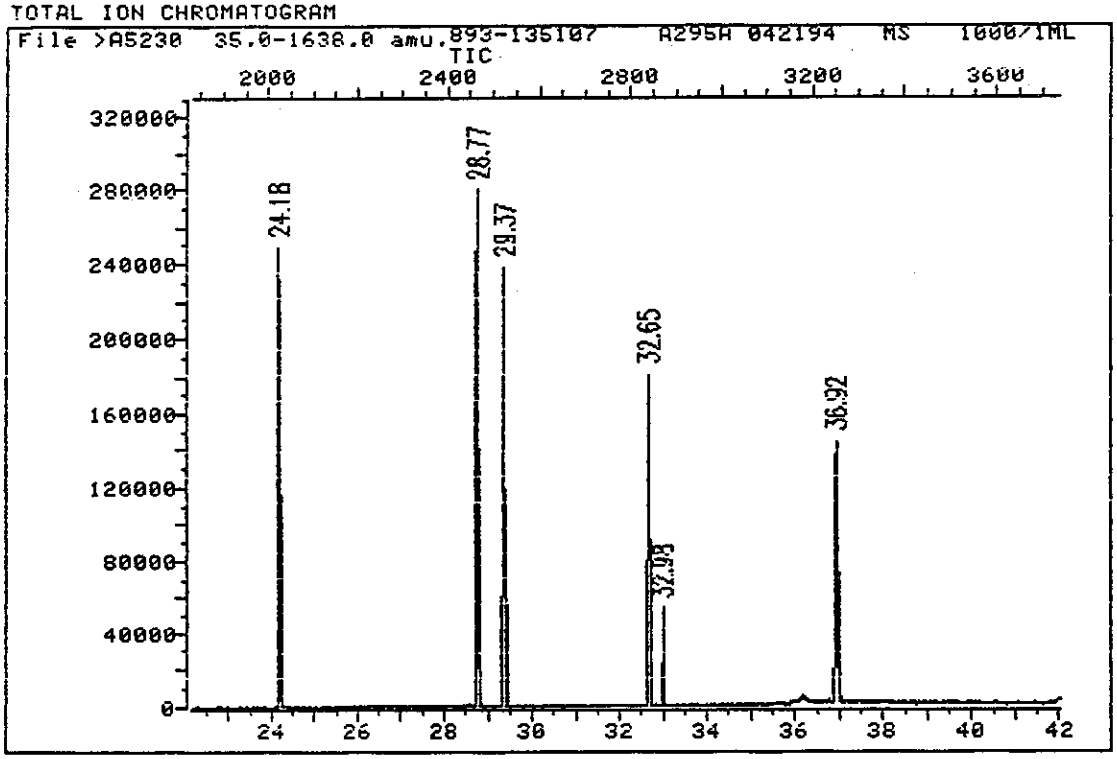
Data File: >A5230::E4 Quant Output File: ^A5230::D3
Name: 893-135107 A295A
Misc: 042194 MS 1000/1ML HP5970 A BTL# 6

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 19:27
Injected at: 940421 18:42

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5230::E4 Quant Output File: ^A5230::D3
Name: 893-135107 A295A
Misc: 042194 MS 1000/1ML HP5970 A BTL# 6

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 19:27
Injected at: 940421 18:42

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940421 19:27
Output File: ^A5230::D3 Injected at: 940421 18:42
Data File: >A5230::E4 Dilution Factor: 1.00000
Name: 893-135107 A295A
Misc: 042194 MS 1000/1ML HP5970 A BTL# 6

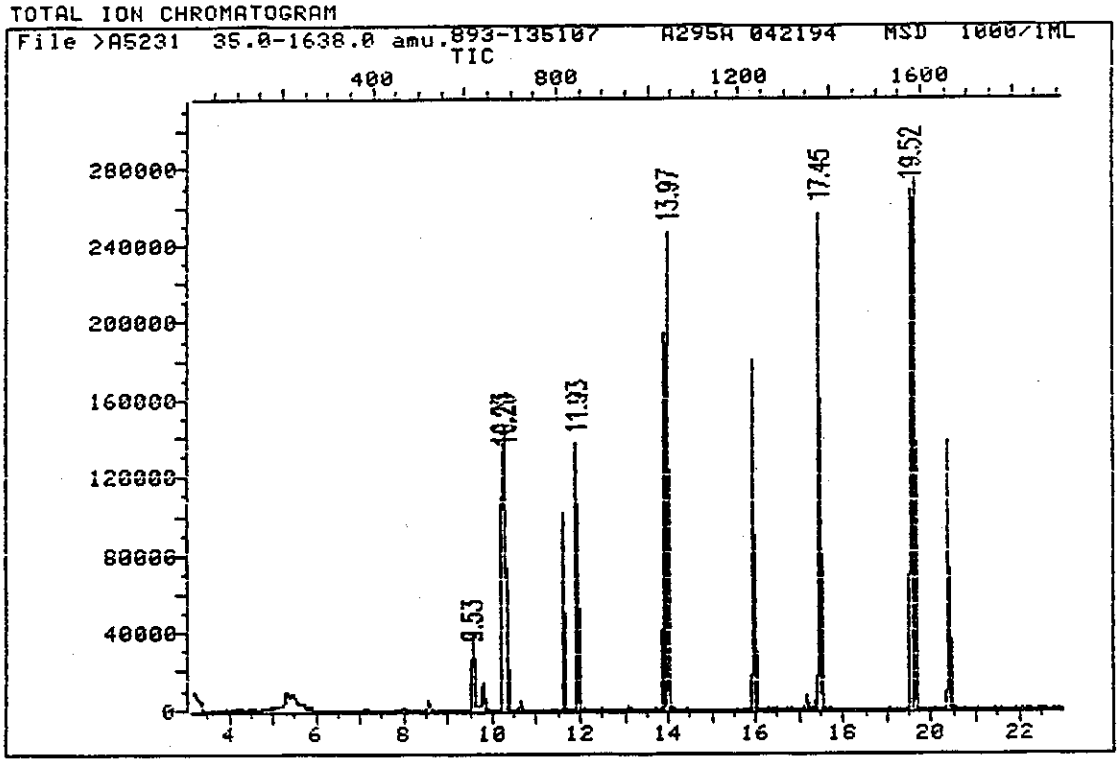
ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.23	152.0	58959	40.00	ug/L	
3)	CS45 D5-Phenol	9.53	99.0	26216	11.68	ug/L	98
9)	C340 1,4-Dichlorobenzene	10.29	146.0	82792	32.46	ug/L	96
15)	*CI40 D8-Naphthalene	13.97	136.0	218608	40.00	ug/L	
16)	CS20 D5-Nitrobenzene	11.93	82.0	90516	43.61	ug/L	90
21)	*CI50 D10-Acenaphthene	19.53	164.0	130820	40.00	ug/L	97
22)	CS25 2-Fluorobiphenyl	17.46	172.0	175442	38.47	ug/L	
28)	*CI60 D10-Phenanthrene	24.18	188.0	230079	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.65	240.0	171669	40.00	ug/L	96
34)	C715 Pyrene	28.77	202.0	309043	46.41	ug/L	
35)	CS30 D14-Terphenyl	29.37	244.0	200909	44.38	ug/L	89
39)	C745 bis(2Ethylhexyl)phthalate	32.98	149.0	31242	5.41	ug/L	89
40)	*CI75 D12-Perylene	36.92	264.0	168202	40.00	ug/L	

* Compound is ISTD

000082

TOTAL ION CHROMATOGRAM



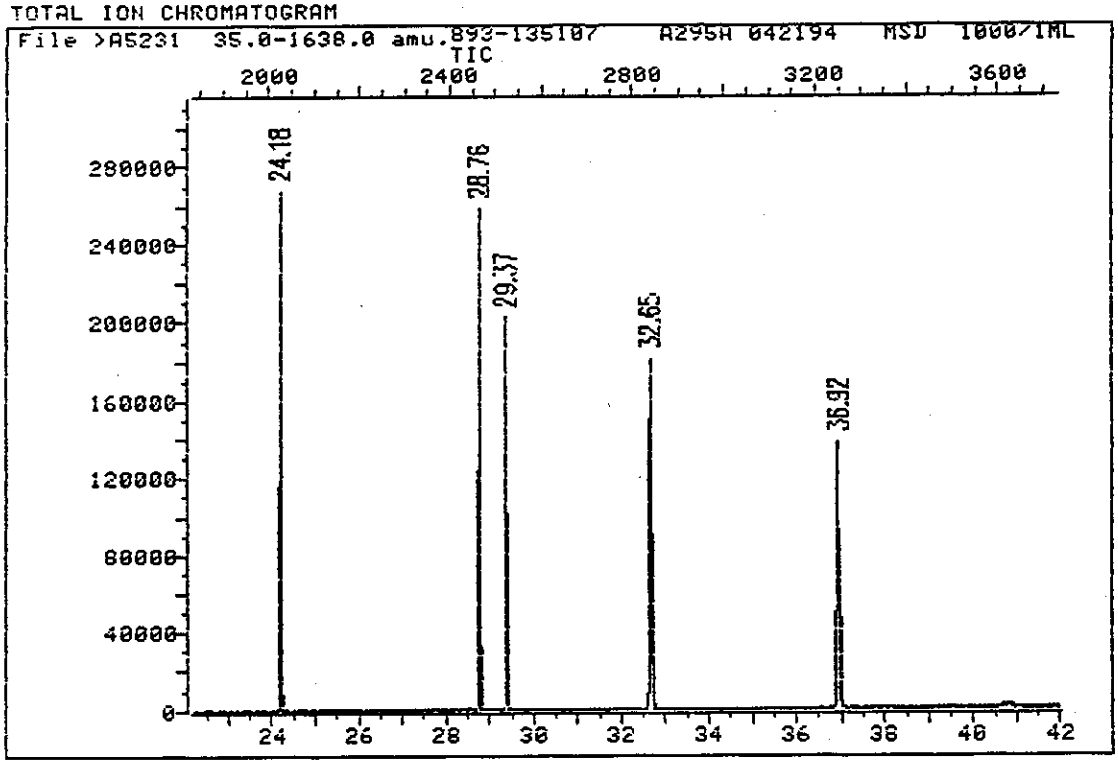
Data File: >A5231::E4 Quant Output File: ^A5231::D3
Name: 893-135107 A295A
Misc: 042194 MSD 1000/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 20:18
Injected at: 940421 19:33

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5231::E4 Quant Output File: ^A5231::D3
Name: 893-135107 A295A
Misc: 042194 MSD 1000/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 20:18
Injected at: 940421 19:33

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940421 20:18
Output File: ^A5231::D3 Injected at: 940421 19:33
Data File: >A5231::E4 Dilution Factor: 1.00000
Name: 893-135107 A295A
Misc: 042194 MSD 1000/1ML HP5970 A BTL# 7

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.23	152.0	58917	40.00	ug/L	5
3)	CS45 D5-Phenol	9.53	99.0	21945	9.79	ug/L	99
9)	C340 1,4-Dichlorobenzene	10.29	146.0	78258	30.70	ug/L	97
15)	*CI40 D8-Naphthalene	13.97	136.0	215030	40.00	ug/L	3
16)	CS20 D5-Nitrobenzene	11.93	82.0	82286	40.30	ug/L	92
21)	*CI50 D10-Acenaphthene	19.52	164.0	133687	40.00	ug/L	96
22)	CS25 2-Fluorobiphenyl	17.45	172.0	162246	34.82	ug/L	3
28)	*CI60 D10-Phenanthrene	24.18	188.0	239001	40.00	ug/L	98
33)	*CI70 D12-Chrysene	32.65	240.0	172131	40.00	ug/L	96
34)	C715 Pyrene	28.76	202.0	273558	40.97	ug/L	3
35)	CS30 D14-Terphenyl	29.37	244.0	167594	36.92	ug/L	84
40)	*CI75 D12-Perylene	36.92	264.0	169956	40.00	ug/L	9

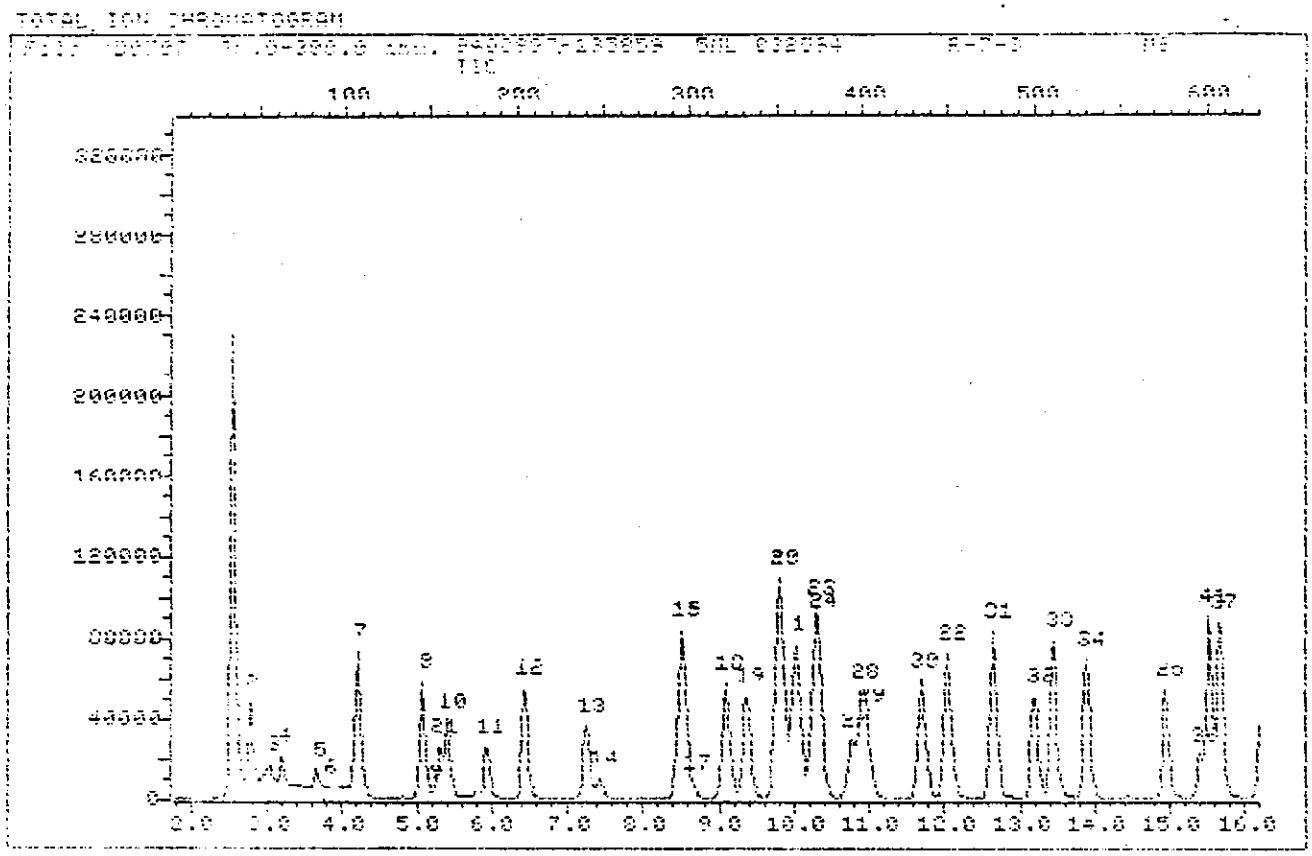
* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: DAQ-176
QC Sample Number: 9400997-135859

Matrix Spike/Matrix Spike Duplicate Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Flag	Units	Spike Result	% recov.	Spike Dup. Result	% recov.	RPD
Volatiles by GC/MS 8260												
Benzene		7	03/25/1994	50.0	5.0	U	ug/L	50.	100.0	51.	102.0	2.0
Bromodichloromethane		7	03/25/1994	50.0	5.0	U	ug/L	49.	98.0	50.	100.0	1.9
Bromoform		7	03/25/1994	50.0	5.0	U	ug/L	49.	98.0	56.	112.0	13.2
Bromomethane		7	03/25/1994	50.0	5.0	U	ug/L	37.	74.0	43.	86.0	15.0
Carbon Tetrachloride		7	03/25/1994	50.0	5.0	U	ug/L	50.	100.0	49.	98.0	1.9
Chlorobenzene		7	03/25/1994	50.0	5.0	U	ug/L	50.	100.0	52.	104.0	3.9
Chloroethane		7	03/25/1994	50.0	5.0	U	ug/L	17.	34.0	21.	42.0	21.1
Chloroform		7	03/25/1994	50.0	5.0	U	ug/L	48.	96.0	51.	102.0	6.0
Chloromethane		7	03/25/1994	50.0	5.0	U	ug/L	46.	92.0	55.	110.0	17.7
Dibromochloromethane		7	03/25/1994	50.0	5.0	U	ug/L	51.	102.0	54.	108.0	5.7
1,1-Dichloroethane		7	03/25/1994	50.0	5.0	U	ug/L	48.	96.0	50.	100.0	4.0
1,2-Dichloroethane		7	03/25/1994	50.0	5.0	U	ug/L	49.	98.0	50.	100.0	1.9
1,1-Dichloroethene		7	03/25/1994	50.0	5.0	U	ug/L	49.	98.0	48.	96.0	2.1
trans-1,2-Dichloroethene		7	03/25/1994	50.0	5.0	U	ug/L	49.	98.0	50.	100.0	1.9
1,2-Dichloropropane		7	03/25/1994	50.0	5.0	U	ug/L	48.	96.0	48.	96.0	0.0
cis-1,3-Dichloropropene		7	03/25/1994	50.0	5.0	U	ug/L	47.	94.0	51.	102.0	8.1
trans-1,3-Dichloropropen		7	03/25/1994	50.0	5.0	U	ug/L	49.	98.0	50.	100.0	1.9
Ethylbenzene		7	03/25/1994	50.0	5.0	U	ug/L	49.	98.0	52.	104.0	5.8
Methylene Chloride		7	03/25/1994	50.0	5.0	U	ug/L	38.	76.0	46.	92.0	19.0
1,1,2,2-Tetrachloroethan		7	03/25/1994	50.0	5.0	U	ug/L	54.	108.0	54.	108.0	0.0
Tetrachloroethene		7	03/25/1994	50.0	5.0	U	ug/L	52.	104.0	53.	106.0	1.9
1,1,1-Trichloroethane		7	03/25/1994	50.0	5.0	U	ug/L	50.	100.0	50.	100.0	0.0
1,1,2-Trichloroethane		7	03/25/1994	50.0	5.0	U	ug/L	54.	108.0	55.	110.0	1.8
Trichloroethene		7	03/25/1994	50.0	5.0	U	ug/L	48.	96.0	50.	100.0	4.0
Trichlorofluoromethane		7	03/25/1994	50.0	5.0	U	ug/L	49.	98.0	49.	98.0	0.0
Toluene		7	03/25/1994	50.0	5.0	U	ug/L	50.	100.0	51.	102.0	2.0
Vinyl Chloride		7	03/25/1994	50.0	5.0	U	ug/L	44.	88.0	46.	92.0	4.4
1,2-Dichlorobenzene		7	03/25/1994	50.0	5.0	U	ug/L	48.	96.0	50.	100.0	4.0
1,3-Dichlorobenzene		7	03/25/1994	50.0	5.0	U	ug/L	50.	100.0	48.	96.0	4.0
1,4-Dichlorobenzene		7	03/25/1994	50.0	5.0	U	ug/L	49.	98.0	52.	104.0	5.8



Data File: ^D0707::D1 Quant Output File: ^D0707::D3

Name: 940707-135859 5ML

Type: SAMPLE B-7-3 MS

Method File: ^SOA0::D7

Title: 60A 5970B INSTRUMENT-ANALYSIS VOLATILES INSTR.-D

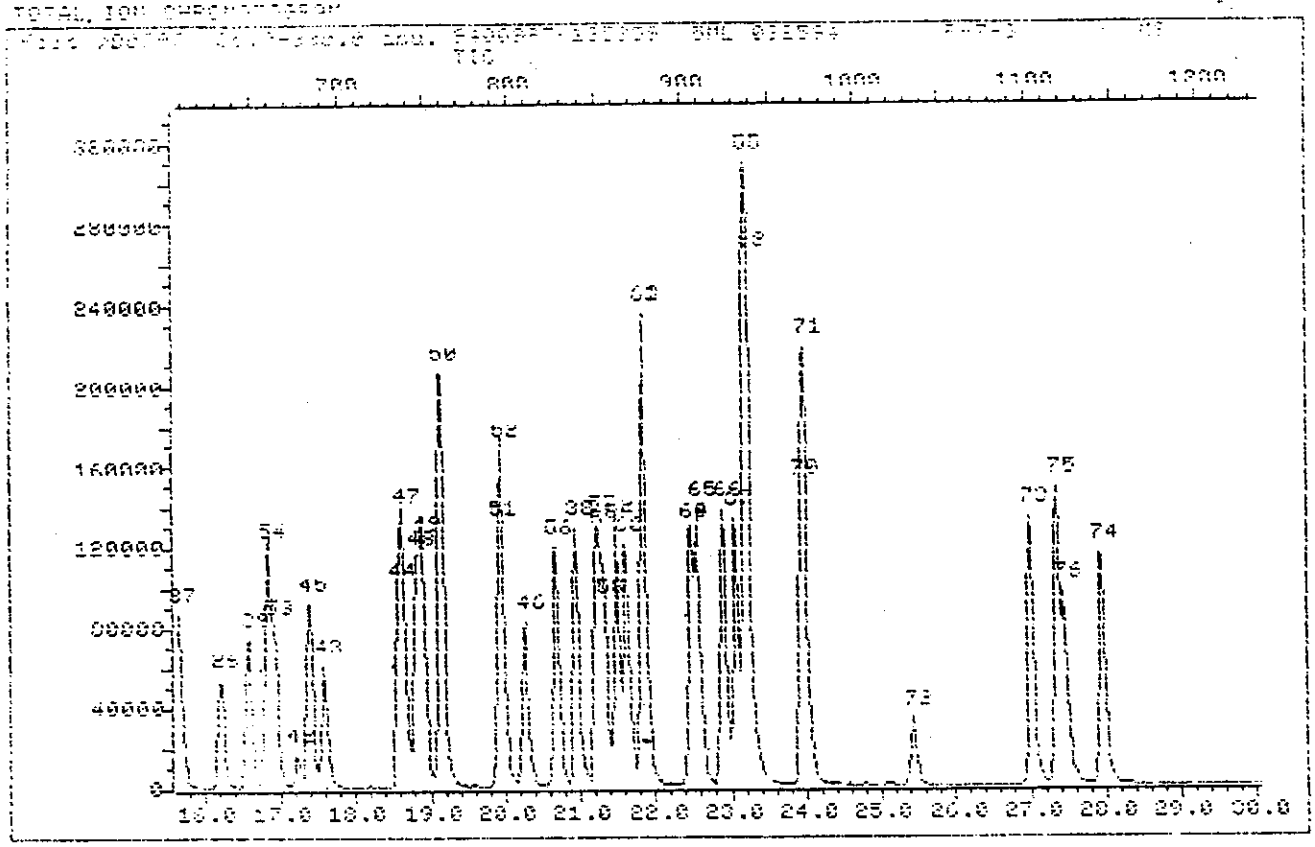
Last Calibration: 940709 14:47

Operator ID: BURT

Quant Time: 940729 13:33

Injection #: 940729 12:58

TIC page 1 of 2



Data File: >D0707::D1 Quant Output File: ^D0707::03
Name: 940707-135859 5ML
Misc: 072794 R-7-3 MS

Id File: \D0360::07
Title: Tuned 8260 5970D INSTRUMENT-AQUEOUS VOLATILES INSTR.-0
Last Calibration: 940329 14:47

Operator ID: BURT
Quant Time: 940325 13:33
Injected at: 940325 12:58

TIC page 2 of 2

QUANT REPORT

Operator ID: RMT
Output File: :00707::D3
Data File: :00707::D1
Name: 940097-135859 5ML
Misc: 099594 R-7-3 MS

Quant Rev: e Quant Time: 940329 1::
Injected at: 940325 12:58
Dilution Factor: 1.00000

DAQ-176

ID File: U08260::D7
Title: Method 8260 59700 INSTRUMENT-AQUEOUS VOLATILES INSTR.-D
Last Calibration: 940322 16:47

		Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*C105	Pentafluorobenzene IS-1	10.02	168.0	239591	50.00	UG/L	83
2)	C006	Dichlorodifluoromethane	2.77	85.0	59538	41.29	UG/L	10(
3)	C010	Chloromethane	3.04	50.0	31606	46.32	UG/L	100
4)	C020	Vinyl Chloride	3.18	62.0	34628	43.69	UG/L	100
5)	C015	Bromomethane	3.66	94.0	18333	37.19	UG/L	10(
6)	C025	Chloroethane	3.82	64.0	2085	17.40	UG/L	100
7)	C033	Trichlorofluoromethane	4.21	101.0	164339	48.91	UG/L	100
8)	C045	1,1-Dichloroethene	5.08	96.0	62695	49.45	UG/L	10(
9)	C035	Acetone	5.22	43.0	10682	55.02	UG/L	82
10)	C040	Carbon Disulfide	5.42	76.0	133863	45.52	UG/L	100
11)	C030	Methylene Chloride	5.93	84.0	31584	38.50	UG/L	10(
12)	C055	Trans-1,2-Dichloroethene	6.43	96.0	63442	49.32	UG/L	100
13)	C050	1,1-Dichloroethane	7.25	63.0	106006	48.37	UG/L	100
14)	C195	Vinyl Acetate	7.44	43.0	46184	44.74	UG/L	7(
15)	C070	2,2-Dichloropropane	8.51	77.0	106514	46.62	UG/L	100
16)	C075	Cis-1,2-Dichloroethene	8.51	96.0	69950	51.08	UG/L	100
17)	C110	2-Butanone	8.69	43.0	19062	55.89	UG/L	9(
18)	C080	Bromochloromethane	9.08	128.0	61308	50.46	UG/L	100
19)	C060	Chloroform	9.36	83.0	154110	48.39	UG/L	1[illegible]
20)	C115	1,1,1-Trichloroethane	9.62	97.0	144217	49.61	UG/L	1[illegible](
21)	C085	[illegible]ethane	9.3[illegible]	142.0	87718M	36.47	UG/L	
22)	*C118	[illegible]fluorobenzene IS-2	12.04	114.0	213827	50.00	UG/L	10[illegible]
23)	C120	Carbon Tetrachloride	10.30	117.0	139691	50.44	UG/L	10(
24)	C090	1,1-Dichloropropene	10.32	75.0	93380	49.69	UG/L	100
25)	C143	Cis-1,3-Dichloropropene	14.94	75.0	96474	46.62	UG/L	[illegible]
26)	C177	Trans-1,3-Dichloropropene	16.20	75.0	94177	49.07	UG/L	[illegible]
27)	C915	1,2-Dichloroethane-D4 SS1	10.76	65.0	80274	50.08	UG/L	9[illegible]
28)	C165	Benzene	10.89	78.0	147450	49.78	UG/L	100
29)	C065	1,2-Dichloroethane	10.98	62.0	95659	49.3[illegible]	UG/L	1[illegible]
30)	C808	Fluorobenzene SS2	11.69	96.0	193054	49.81	UG/L	[illegible]0
31)	C150	Trichloroethene	12.66	95.0	92625	48.54	UG/L	100
32)	C140	1,2-Dichloropropane	13.21	63.0	67752	48.21	UG/L	[illegible]0
33)	C169	Dibromomethane	13.46	93.0	91695	53.16	UG/L	[illegible]
34)	C130	Bromodichloromethane	13.89	83.0	143525	49.09	UG/L	100
35)	C205	4-Methyl-2-Pentanone	15.40	43.0	95092	54.61	UG/L	9
36)	C230	Toluene	15.65	92.0	115561	50.37	UG/L	9[illegible]
37)	C810	Bromofluorobenzene SS3	20.94	95.0	137816	51.02	UG/L	[illegible]
38)	C160	1,1,2-Trichloroethane	16.59	83.0	67398	53.91	UG/L	10[illegible]
39)	C803	Dibromofluoromethane SS4	9.82	113.0	160798	51.27	UG/L	[illegible]
40)	C805	Toluene-D8 SS5	15.52	98.0	196708	48.65	UG/L	[illegible]
41)	C210	2-Hexanone	17.21	43.0	37960	52.48	UG/L	[illegible]
42)	C190	1,3-Dibromoethane	17.58	107.0	129234	53.13	UG/L	100
43)	*C120	Chlorobenzene-d5 IS-3	18.56	117.0	183846	50.00	UG/L	9[illegible]

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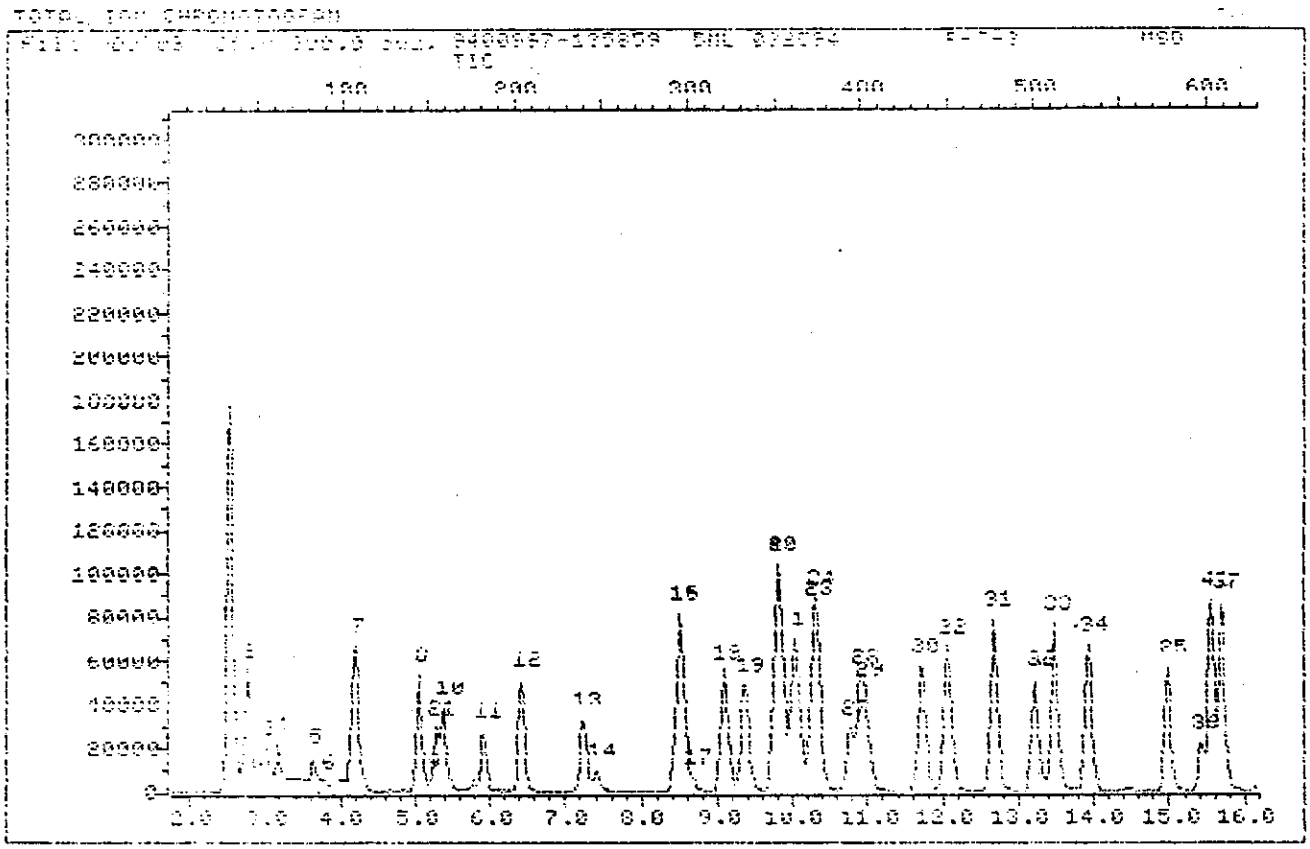
	Compound	R.T.	Q ion	Area	Conc	Units	%
45)	C159 Dibromochloromethane	17.37	129.0	166957	50.64	UG/L	100
46)	C180 Bromoform	20.28	173.0	123020	49.20	UG/L	99
47)	C235 Chlorobenzene	18.63	112.0	175258	49.57	UG/L	96
48)	C227 1,1,1,2-Tetrachloroethane	18.81	131.0	103518	49.87	UG/L	100
49)	C240 Ethylbenzene	18.91	91.0	255787	49.06	UG/L	98
50)	C248 Xylene (Meta+Para)	19.14	106.0	187728	50.70	UG/L	96
51)	C249 Xylene (Ortho)	19.91	106.0	91356	51.62	UG/L	98
52)	C245 Styrene	19.96	104.0	151867	49.36	UG/L	92
53)	C252 1,3-Dichloropropane	16.91	76.0	110273	51.93	UG/L	100
54)	C220 Tetrachloroethene	16.82	166.0	134123	52.39	UG/L	97
55)	*C130 1,4-Dichlorobenzene-d4 14	23.19	152.0	121950	50.00	UG/L	88
56)	C254 Isopropylbenzene	20.67	105.0	281680	47.14	UG/L	100
57)	C256 Bromobenzene	21.22	156.0	120826	48.82	UG/L	100
58)	C258 1,2,3-Trichloropropane	21.33	75.0	83885	52.24	UG/L	100
59)	C225 1,1,2,2-Tetrachloroethane	21.26	83.0	122633	52.57	UG/L	100
60)	C260 2-Chlorotoluene	21.61	91.0	227320	44.61	UG/L	100
61)	C262 4-Chlorotoluene	21.84	91.0	257961	46.55	UG/L	100
62)	C264 N-Propylbenzene	21.49	91.0	322873	45.87	UG/L	100
63)	C266 1,3,5-Trimethylbenzene	21.84	105.0	240061	48.52	UG/L	100
64)	C268 Tert-Butylbenzene	22.46	119.0	240795	47.39	UG/L	100
65)	C270 1,2,4-Trimethylbenzene	22.55	105.0	235154	48.75	UG/L	100
66)	C272 Sec-Butylbenzene	22.89	105.0	335845	49.39	UG/L	100
67)	C274 1,3-Dichlorobenzene	23.05	146.0	184055	50.16	UG/L	100
68)	C276 1,4-Dichlorobenzene	23.24	146.0	191169	48.86	UG/L	100
69)	C278 4-Isopropyltoluene	22.46	119.0	240795	47.39	UG/L	100
70)	C280 1,2-Dichlorobenzene	23.92	146.0	169911	48.44	UG/L	100
71)	C282 N-Butylbenzene	23.97	91.0	266407	47.17	UG/L	100
72)	C284 1,2-Dibromo3Chloropropane	25.43	75.0	29365	50.91	UG/L	100
73)	C286 1,2,4-Trichlorobenzene	26.99	180.0	155004	47.86	UG/L	100
74)	C288 1,2,3-Trichlorobenzene	27.93	180.0	143539	47.64	UG/L	100
75)	C290 Hexachlorobutadiene	27.76	225.0	102709	52.99	UG/L	100
76)	C292 Naphthalene	27.49	128.0	229752	51.18	UG/L	100

* Compound is ISTD

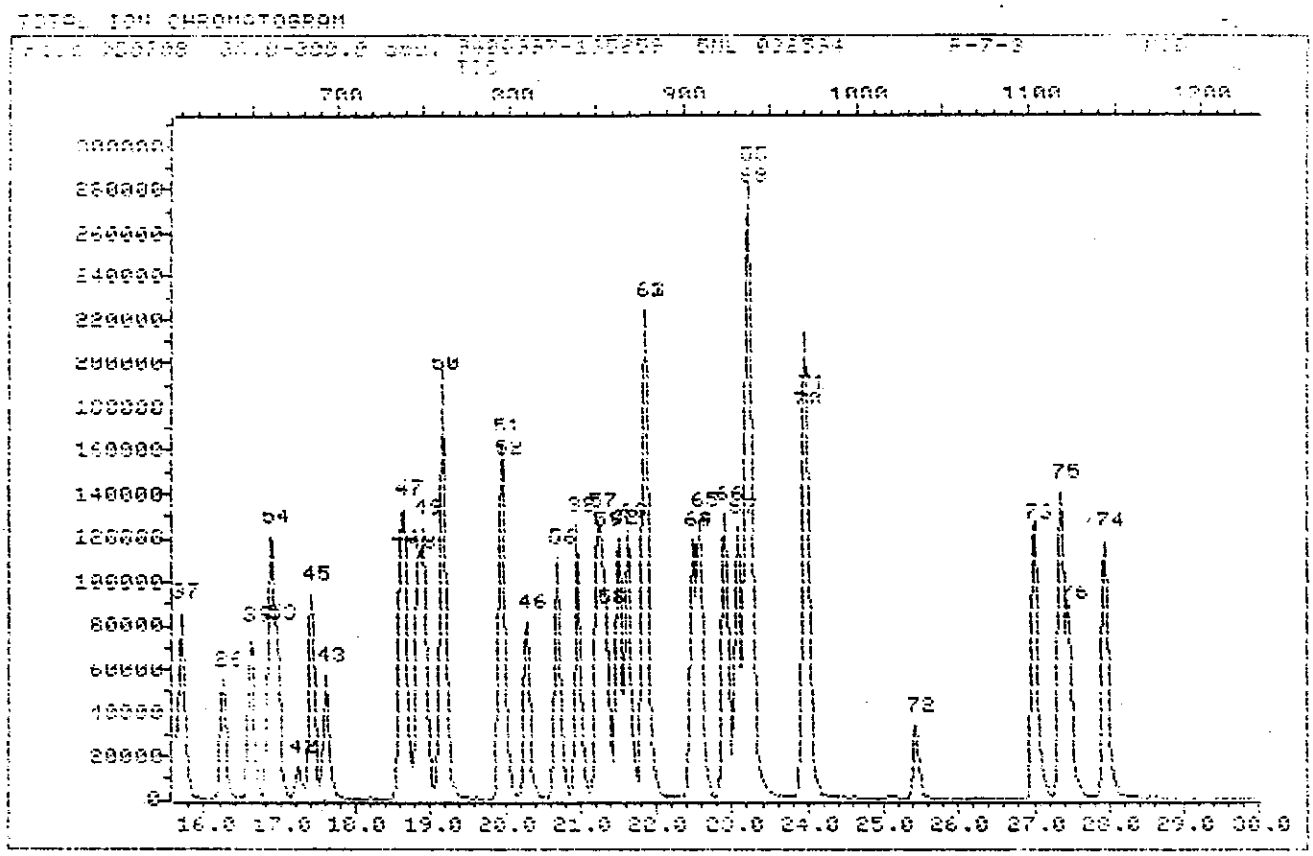


Data File: >D0708::01 Quant Output File: ^D0708::D3
Name: 940322-135859 5ML
Misc: 012794 P-7-3 MSD

1st File: 7?150::D2
Title: [illegible] 8260 59700 INSTRUMENT-AQUEOUS VOLATILES INSTR.-D
Last Calibration: 940322 16:47

Operator ID: BURT
Quant Time: 940329 14:13
Injection: 940329 13:38

TIC range 1 to 2



Data File: >D0708::01 Quant Output File: ^D0708::03
Name: 9400997-135859 5ML
Misc: 070894 R-7-3 MSD

Ic File: ^MS060::07
Title: Method 8260 59700 INSTRUMENT-AQUEOUS VOLATILES INSTR.-D
Last Calibration: 940322 16:47

Operator ID: BURT
Quant Time: 940329 14:13
Injected at: 940329 13:38

TIC page 1 of 2

QUANT REPORT

Operator ID: BURT
Output File: ^D0708::D3
Data File: :D0708::D1
Name: 940325L-135859 5ML
Misc: 032594 R-7-3

Quant Rev: 6 Quant Time: 940325 14:13
Injected at: 940325 13:38
Dilution Factor: 1.00000

MSD

DAQ-176

ID File: VD826A::D7
Title: Method 8260 5970D INSTRUMENT-AQUEOUS VOLATILES INSTR.-D
Last Calibration: 940322 16:47

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*C105 Pentafluorobenzene IS-1	10.04	168.0	214472	50.00	UG/L	7(
2)	C006 Dichlorodifluoromethane	2.76	85.0	70547	53.74	UG/L	100
3)	C010 Chloromethane	3.01	50.0	34147	54.97	UG/L	100
4)	C020 Vinyl Chloride	3.17	62.0	32912	45.61	UG/L	10(
5)	C015 Bromomethane	3.63	94.0	19403	43.24	UG/L	100
6)	C025 Chloroethane	3.79	64.0	2340	21.45	UG/L	100
7)	C033 Trichlorofluoromethane	4.20	101.0	150744	49.28	UG/L	10(
8)	C045 1,1-Dichloroethene	5.05	96.0	55796	48.39	UG/L	100
9)	C035 Acetone	5.21	43.0	10797	61.09	UG/L	87
10)	C040 Carbon Disulfide	5.39	76.0	120123	44.87	UG/L	10(
11)	C030 Methylene Chloride	5.92	84.0	34702	46.47	UG/L	100
12)	C055 Trans-1,2-Dichloroethene	6.42	96.0	59125	50.49	UG/L	100
13)	C050 1,1-Dichloroethane	7.22	63.0	108691	50.47	UG/L	10(
14)	C125 Vinyl Acetate	7.40	43.0	45122	48.01	UG/L	77
15)	C070 2,2-Dichloropropane	8.50	77.0	99379	47.78	UG/L	100
16)	C075 Cis-1,2-Dichloroethene	8.50	96.0	66166	53.07	UG/L	10(
17)	C110 2-Butanone	8.66	43.0	18859	60.72	UG/L	99
18)	C080 Bromochloromethane	9.07	128.0	61312	55.44	UG/L	100
19)	C060 Chloroform	9.27	83.0	148400	51.25	UG/L	10(
20)	C115 1,1,1-Trichloroethane	9.81	97.0	132782	50.17	UG/L	100
21)	C085 Carbon Tetrachloride	9.90	142.0	110029m	50.26	UG/L	
22)	*C110 1,4-Difluorobenzene IS-2	12.07	114.0	204991	50.00	UG/L	10(
23)	C120 Carbon Tetrachloride	10.29	117.0	129717	48.96	UG/L	100
24)	C090 1,1-Dichloropropene	10.31	75.0	86837	48.32	UG/L	100
25)	C143 Cis-1,3-Dichloropropene	14.98	75.0	100497	50.76	UG/L	6(
26)	C172 Trans-1,3-Dichloropropene	16.24	75.0	92480	50.76	UG/L	77
27)	C515 1,2-Dichloroethane-D4 SS1	10.77	65.0	79178	51.63	UG/L	97
28)	C145 Benzene	10.91	78.0	144247	50.89	UG/L	10(
29)	C065 1,2-Dichloroethane	10.98	62.0	93401	50.34	UG/L	100
30)	C808 Fluorobenzene SS2	11.71	96.0	185705	50.07	UG/L	99
31)	C150 Trichloroethene	12.67	95.0	90631	49.64	UG/L	10(
32)	C140 1,2-Dichloropropane	13.22	63.0	62779	49.62	UG/L	100
33)	C160 Dibromomethane	13.47	93.0	88406	53.57	UG/L	100
34)	C130 Bromodichloromethane	13.93	83.0	139345	49.82	UG/L	10(
35)	C205 4-Methyl-2-Pentanone	15.47	43.0	55979	58.03	UG/L	9(
36)	C230 Toluene	15.69	92.0	111106	50.61	UG/L	93
37)	C810 Bromofluorobenzene SS3	20.96	95.0	129167	49.98	UG/L	8(
38)	C160 1,1,2-Trichloroethane	16.61	83.0	65429	54.73	UG/L	100
39)	C687 Dibromofluoromethane SS4	9.81	113.0	146377	52.07	UG/L	100
40)	C685 Toluene-d8 SS5	15.55	98.0	191308	49.45	UG/L	10(
41)	C210 2-Hexanone	17.25	43.0	36483	57.65	UG/L	89
42)	C190 1,2-Dibromoethane	17.61	107.0	123972	53.25	UG/L	100
43)	*C120 Chlorobenzene-d5 IS-3	18.60	117.0	165413	50.00	UG/L	9(

	Compound	RT	Resp	Area	Conc	Units	
45)	C155 Dibromochloromethane	17.41	129.0	161828	54.59	UG/L	100
46)	C180 Bromoform	20.29	173.0	129587	55.96	UG/L	92
47)	C235 Chlorobenzene	18.64	112.0	166867	52.45	UG/L	92
48)	C237 1,1,1,2-Tetrachloroethane	18.87	131.0	101804	54.46	UG/L	100
49)	C240 Ethylbenzene	18.99	91.0	244323	52.08	UG/L	97
50)	C248 Xylene (Meta+Para)	19.15	106.0	178152	53.47	UG/L	88
51)	C249 Xylene (Ortho)	19.95	106.0	87103	54.70	UG/L	97
52)	C245 Styrene	19.97	104.0	130808	47.26	UG/L	88
53)	C252 1,3-Dichloropropane	16.95	76.0	104472	54.68	UG/L	100
54)	C220 Tetrachloroethene	16.86	166.0	123173	53.48	UG/L	97
55)	*C130 1,4-Dichlorobenzene-d4 I4	23.20	152.0	111573	50.00	UG/L	88
56)	C254 Isopropylbenzene	20.71	105.0	263440	48.19	UG/L	100
57)	C256 Bromobenzene	21.23	156.0	112679	49.76	UG/L	100
58)	C258 1,2,3-Trichloropropane	21.39	75.0	81713	55.62	UG/L	100
59)	C225 1,1,2,2-Tetrachloroethane	21.28	83.0	115332	54.03	UG/L	100
60)	C260 2-Chlorotoluene	21.62	91.0	212564	45.60	UG/L	100
61)	C262 4-Chlorotoluene	21.85	91.0	246154	48.55	UG/L	100
62)	C264 N-Propylbenzene	21.51	91.0	305327	47.41	UG/L	100
63)	C266 1,3,5-Trimethylbenzene	21.85	105.0	222349	49.12	UG/L	100
64)	C268 Tert-Butylbenzene	22.47	119.0	218828	47.04	UG/L	100
65)	C270 1,2,4-Trimethylbenzene	22.56	105.0	218299	49.47	UG/L	100
66)	C272 Sec-Butylbenzene	22.91	105.0	315866	50.78	UG/L	100
67)	C274 1,3-Dichlorobenzene	23.07	146.0	162606	48.43	UG/L	100
68)	C276 1,4-Dichlorobenzene	23.23	146.0	185479	51.82	UG/L	100
69)	C278 4-Isopropyltoluene	22.47	119.0	218898	47.04	UG/L	100
70)	C280 1,2-Dichlorobenzene	23.94	146.0	160432	49.99	UG/L	100
71)	C282 N-Butylbenzene	23.98	91.0	242265	46.88	UG/L	100
72)	C284 1,2-Dibromo3Chloropropane	25.47	75.0	28759	54.58	UG/L	100
73)	C286 1,2,4-Trichlorobenzene	26.99	180.0	151539	51.14	UG/L	100
74)	C288 1,2,3-Trichlorobenzene	27.99	180.0	136307	49.49	UG/L	100
75)	C290 Hexachlorobutadiene	27.75	225.0	93090	52.49	UG/L	100
76)	C292 Naphthalene	27.47	128.0	291554	54.91	UG/L	100

* Compound is C130

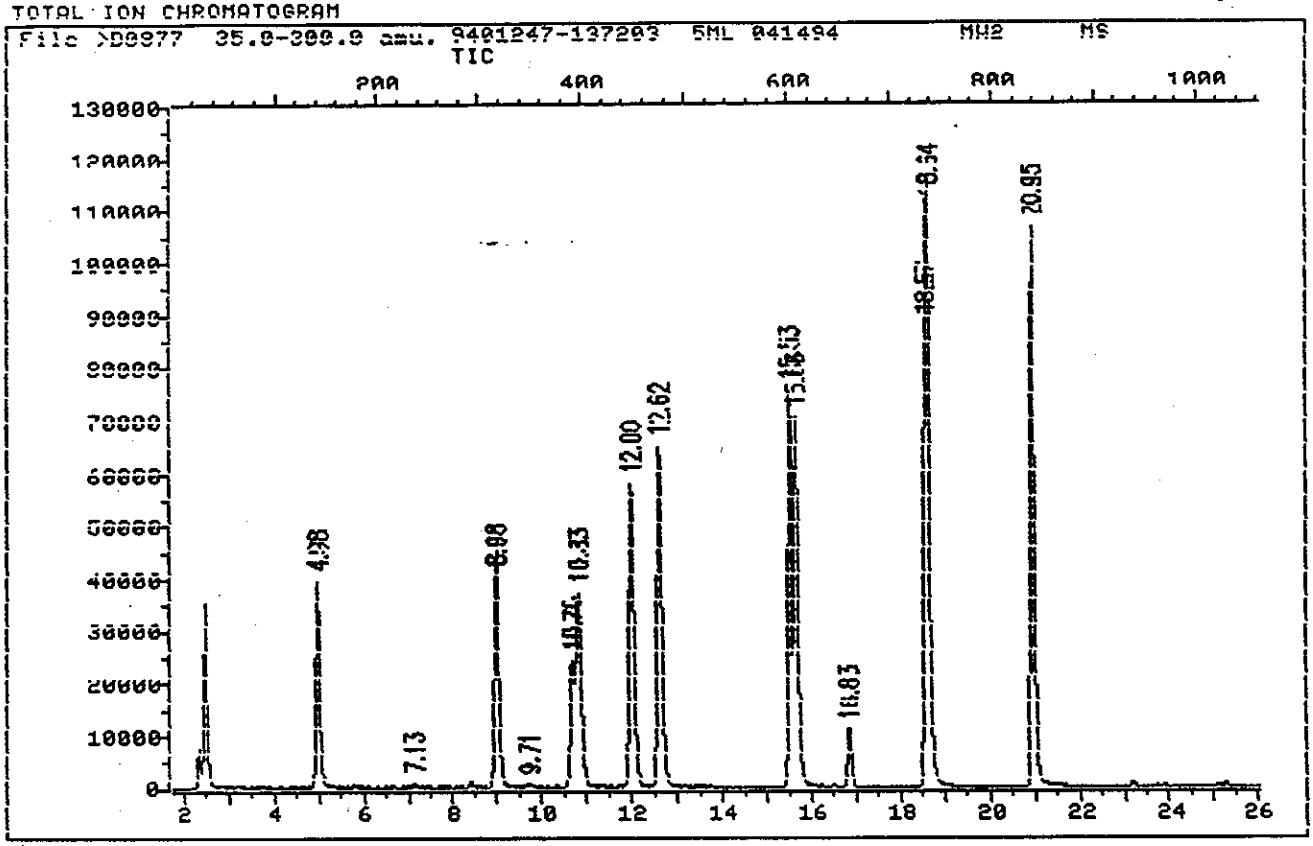
NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: DAQ-178
QC Sample Number: 9401247-137203

Matrix Spike/Matrix Spike Duplicate Analysis Spike

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Flag	Units	Spike Result	% recov.	Dup. Result	% recov.	RPD
Volatiles by GC/MS CLP												
Benzene		75	04/14/1994	50.	10.	U	ug/L	51.	102.0	53.	106.0	3.8
Chlorobenzene		75	04/14/1994	50.	10.	U	ug/L	48.	96.0	53.	106.0	9.8
1,1-Dichloroethene		75	04/14/1994	50.	10.	U	ug/L	46.	92.0	45.	90.0	2.2
Toluene		75	04/14/1994	50.	10.	U	ug/L	48.	96.0	51.	102.0	6.0
Trichloroethene		75	04/14/1994	50.	1.5	J	ug/L	52.	101.0	54.	105.0	3.9

TOTAL ION CHROMATOGRAM



Data File: >D0877::D1 Quant Output File: ^D0877::D3
Name: 9401247-137203 5ML
Misc: 041494 MW2 MS

Id File: IDDVAQ::D7
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 940413 14:01

Operator ID: BURT
Quant Time: 940414 16:55
Injected at: 940414 16:22

QUANT REPORT

Operator ID: BURT
Output File: ^D0877::D3
Data File: >D0877::D1
Name: 9401247-137203 5ML
Misc: 041494 MW2 MS

Quant Rev: 6 Quant Time: 940414 16:55
Injected at: 940414 16:22
Dilution Factor: 1.00000

DAQ-175

ID File: IDDVAQ::D7
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 940413 14:01 ✓

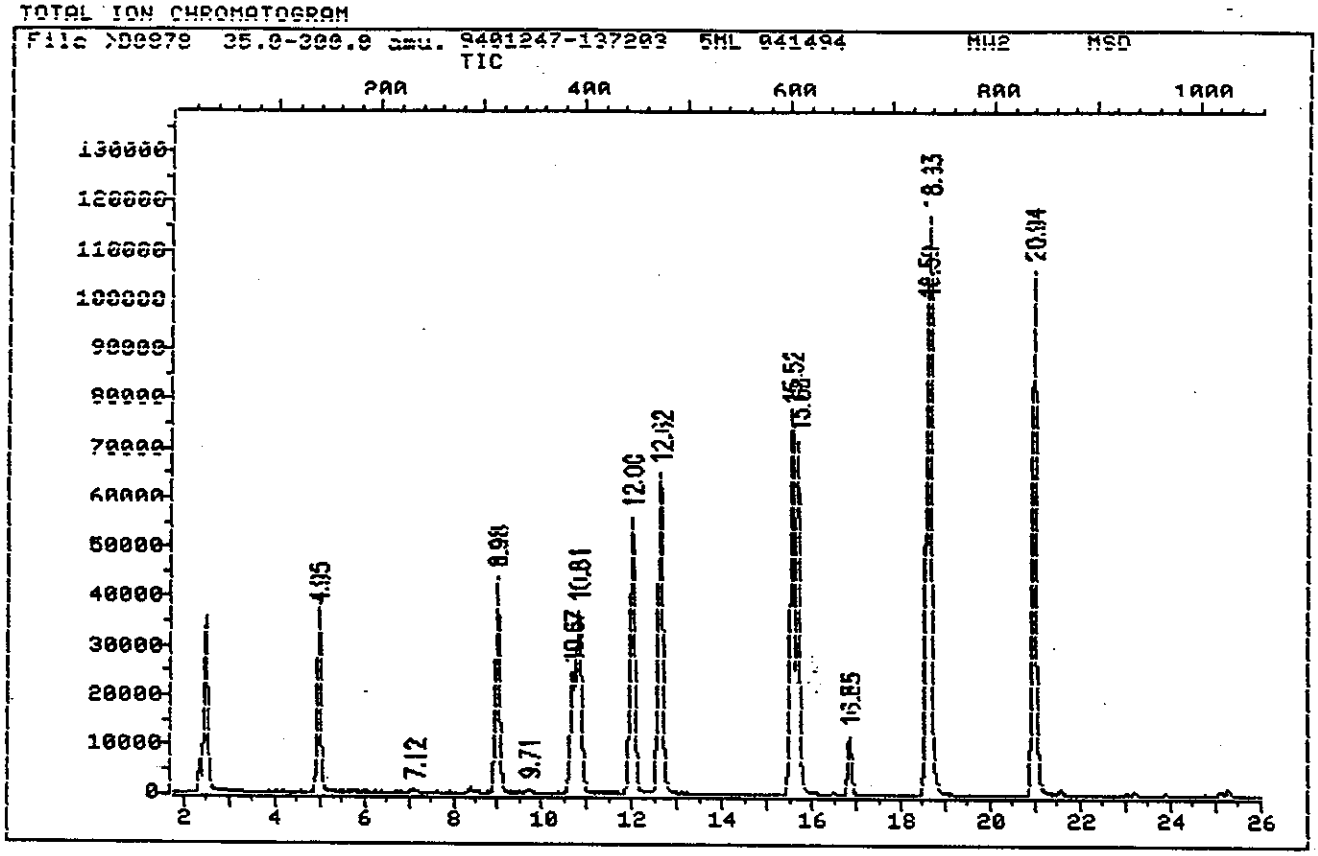
	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.98	128.0	49624	50.00	UG/L	6(
9)	C045 1,1-Dichloroethene		4.98	96.0	45399	45.96	UG/L	90
10)	C050 1,1-Dichloroethane		7.13	63.0	2300	1.29	UG/L	92
13)	CS15 D4-1,2-Dichloroethane	SS-1	10.70	65.0	68299	47.93	UG/L	9(
16)	*CI10 1,4-Difluorobenzene	IS-2	12.00	114.0	181109	50.00	UG/L	68
17)	C115 1,1,1-Trichloroethane		9.71	97.0	2483	1.16	UG/L	72
23)	C150 Trichloroethene		12.62	130.0	84893	52.45	UG/L	9(
26)	C165 Benzene		10.83	78.0	123857	50.92	UG/L	94
29)	*CI20 Chlorobenzene-d5	IS-3	18.57	117.0	162602	50.00	UG/L	93
32)	C220 Tetrachloroethene		16.83	164.0	9269	5.30	UG/L	9(
34)	C230 Toluene		15.66	92.0	95095	47.77	UG/L	95
35)	CS05 D8-Toluene	SS-2	15.53	98.0	174306	47.16	UG/L	95
36)	C235 Chlorobenzene		18.64	112.0	144922	48.19	UG/L	9(
40)	CS10 Bromofluorobenzene	SS-3	20.95	95.0	119948	48.55	UG/L	80
43)	*CI01 Bromochloromethane		8.98	128.0	49624	50.00	UG/L	76
45)	*CI10 1,4-Difluorobenzene		12.00	114.0	181109	50.00	UG/L	6(

RS

* Compound is ISTD

JCB

TOTAL ION CHROMATOGRAM



Data File: >D0878::D1 Quant Output File: ^D0878::D3
Name: 9401247-137203 5ML
Misc: 041494 MW2 MSD

Id File: IDDVAQ::D7
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 940413 14:01

Operator ID: BURT
Quant Time: 940414 17:29
Injected at: 940414 16:58

QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940414 17:29
Output File: ^D0878::D3 Injected at: 940414 16:58
Data File: >D0878::D1 Dilution Factor: 1.00000
Name: 9401247-137203 5ML
Misc: 041494 MW2 MSD

DAQ-178

ID File: IDDVAQ::D7
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 940413 14:01

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.98	128.0	49568	50.00	UG/L	7(
9)	C045 1,1-Dichloroethene		4.95	96.0	44389	44.98	UG/L	87
10)	C050 1,1-Dichloroethane		7.12	63.0	2207	1.24	UG/L	86
13)	CS15 D4-1,2-Dichloroethane	SS-1	10.67	65.0	70278	49.37	UG/L	9(
16)	*CI10 1,4-Difluorobenzene	IS-2	12.00	114.0	174434	50.00	UG/L	69
17)	C115 1,1,1-Trichloroethane		9.71	97.0	2454	1.19	UG/L	87
23)	C150 Trichloroethene		12.62	130.0	84776	54.38	UG/L	9(
26)	C165 Benzene		10.81	78.0	124558	53.16	UG/L	94
29)	*CI20 Chlorobenzene-d5	IS-3	18.59	117.0	154128	50.00	UG/L	97
32)	C220 Tetrachloroethene		16.85	164.0	9487	5.72	UG/L	9(
34)	C230 Toluene		15.68	92.0	96893	51.35	UG/L	97
35)	CS05 D8-Toluene	SS-2	15.52	98.0	180106	51.41	UG/L	98
36)	C235 Chlorobenzene		18.63	112.0	151851	53.27	UG/L	9(
40)	CS10 Bromofluorobenzene	SS-3	20.94	95.0	123336	52.67	UG/L	74
43)	*CI01 Bromochloromethane		8.98	128.0	49568	50.00	UG/L	85
45)	*CI10 1,4-Difluorobenzene		12.00	114.0	174434	50.00	UG/L	6(

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTI
NET Job Number: 94.00995

External Standard Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Ext. Std. True Conc.	Units	Conc. Found	% Recovery
Alkalinity		35	03/25/1994	19.94	ppmCaCO	19.5	97.8
Alkalinity		35	04/04/1994	29.98	ppmCaCO	32.8	109.4
Alkalinity		35	04/12/1994	29.98	ppmCaCO	31.78	106.0
Alkalinity, Bicarb. at pH 4.		18	03/25/1994	19.94	ppmCaCO	19.5	97.8
Ammonia		282	04/05/1994	0.74	mg/L N	0.74	100.0
Ammonia		282	04/05/1994	0.74	mg/L N	0.72	97.3
Ammonia		282	04/06/1994	0.74	mg/L N	0.76	102.7
Ammonia		282	04/06/1994	0.74	mg/L N	0.76	102.7
Ammonia		282	04/06/1994	0.74	mg/L N	0.75	101.4
Ammonia		282	04/06/1994	0.74	mg/L N	0.79	106.8
Ammonia		282	04/07/1994	0.74	mg/L N	0.75	101.4
Ammonia		282	04/07/1994	0.74	mg/L N	0.72	97.3
Ammonia		282	04/07/1994	0.74	mg/L N	0.74	100.0
Ammonia		282	04/07/1994	0.74	mg/L N	0.74	100.0
Chloride		164	04/13/1994	87.16	mg/L	85.98	98.6
Conductivity		80	03/21/1994	100	umhos/c	106	106.0
Conductivity		80	03/22/1994	100	umhos/c	103	103.0
Conductivity		80	03/23/1994	100	umhos/c	97	97.0
Conductivity		80	03/24/1994	100	umhos/c	97	97.0
Conductivity		80	03/25/1994	100	umhos/c	101	101.0
Conductivity		80	03/28/1994	100	umhos/c	99	99.0
Conductivity		80	03/29/1994	100	umhos/c	94	94.0
Fluoride, Total		72	04/04/1994	5.34	mg/L	4.66	87.3
Fluoride, Total		72	04/06/1994	5.34	mg/L	4.94	92.5
Nitrate/nitrite		45	04/06/1994	1.21	mg/L N	1.22	100.8
Nitrate/nitrite		45	04/06/1994	1.21	mg/L N	1.17	96.7
Nitrate/nitrite		45	04/08/1994	1.21	mg/L N	1.21	100.0
Nitrate/nitrite		45	04/08/1994	1.21	mg/L N	1.23	101.7
Nitrate/nitrite		45	04/11/1994	1.21	mg/L N	1.21	100.0
Nitrate/nitrite		45	04/11/1994	1.21	mg/L N	1.21	100.0
Nitrate/nitrite		46	04/14/1994	1.21	mg/L N	1.19	98.3
Nitrate/nitrite		46	04/14/1994	1.21	mg/L N	1.40	115.7
Nitrate/nitrite		46	04/20/1994	1.21	mg/L N	1.21	100.0
Nitrate/nitrite		46	04/20/1994	1.21	mg/L N	1.24	102.5
Solids, dissolved (TDS)		511	03/24/1994	1110	mg/L	1080	97.3
Solids, dissolved (TDS)		511	03/25/1994	1110	mg/L	1074	96.8
Sulfate		138	04/05/1994	39.13	mg/L	40.37	103.2
Total Organic Carbon		634	04/04/1994	105.6	mg/L	106.04	100.4
Total Organic Carbon		634	04/05/1994	105.6	mg/L	105.7	100.1

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00995

Blank Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Blank Result
Alkalinity		35	03/25/1994	2.0	ppmCaC	<2
Alkalinity		35	04/04/1994	2.0	ppmCaC	<2
Alkalinity		35	04/12/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		18	03/25/1994	2.0	ppmCaC	<2
Ammonia		282	04/05/1994	0.1	mg/L N	<0.1
Ammonia		282	04/06/1994	0.1	mg/L N	<0.1
Ammonia		282	04/06/1994	0.1	mg/L N	<0.1
Ammonia		282	04/07/1994	0.1	mg/L N	<0.1
Ammonia		282	04/07/1994	0.1	mg/L N	<0.1
Chloride		164	04/13/1994	2.0	mg/L	<2
Conductivity		80	03/21/1994	1	umhos/	<1
Conductivity		80	03/22/1994	1	umhos/	<1
Conductivity		80	03/23/1994	1	umhos/	<1
Conductivity		80	03/24/1994	1	umhos/	<1
Conductivity		80	03/25/1994	1	umhos/	<1
Conductivity		80	03/28/1994	1	umhos/	<1
Conductivity		80	03/29/1994	1	umhos/	<1
Fluoride, Total		72	04/04/1994	0.1	mg/L	<0.1
Fluoride, Total		72	04/06/1994	0.1	mg/L	<0.1
Nitrate/nitrite		45	04/06/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		45	04/08/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		45	04/11/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		46	04/14/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		46	04/20/1994	0.1	mg/L N	<0.1
Solids, dissolved (TDS)		511	03/24/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		511	03/25/1994	<1.0	mg/L	3
Sulfate		138	04/05/1994	5	mg/L	<10
Sulfide		35	04/13/1994	0.1	mg/L	<0.1
Total Organic Carbon		634	04/04/1994	1.0	mg/L	<1
Total Organic Carbon		634	04/05/1994	1.0	mg/L	<1
Arsenic (As)	661		4-20-94	.003	mg/L	<0.003
Cobalt (Co)	661	448	04/21/1994	0.05	mg/L	<0.01
Iron (Fe)	661	369	04/21/1994	0.1	mg/L	<0.05
Lead (Pb)	661	387	04/20/1994	.003	mg/L	0.002
Manganese (Mn)	661	448	04/21/1994	0.01	mg/L	<0.01

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00995

Duplicate Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Sample Result	Duplicate Result	RPD
Alkalinity		35	03/25/1994	2.0	ppmCaC	210	210	0.0
Alkalinity, Bicarb. at pH 4.		18	03/25/1994	2.0	ppmCaC	210	210	0.0
Ammonia		282	04/05/1994	0.1	mg/L N	4.3	4.3	0.0
Chloride		164	04/13/1994	2.0	mg/L	65	71	8.8
Conductivity		80	03/21/1994	1	umhos/	996	996	0.0
Fluoride, Total		72	04/04/1994	0.1	mg/L	<0.1	<0.1	
Nitrate/nitrite		45	04/06/1994		mg/L N	6.3	6.3	0.0
Nitrate/nitrite		46	04/14/1994	0.1	mg/L N	0.5	0.5	0.0
Solids, dissolved (TDS)		511	03/24/1994	<1.0	mg/L	512	538	5.0
Sulfate		138	04/05/1994	5	mg/L	196	189	3.6
Sulfide		35	03/25/1994	0.1	mg/L	1.64	1.25	27.0
Total Organic Carbon		634	04/04/1994		mg/L	10.6	10.4	1.9
Arsenic (As)	661	316	04/21/1994	0.01	mg/L	0.010	0.010	0.0
Cobalt (Co)	661	448	04/21/1994	0.05	mg/L	0.022	0.017	25.6
Iron (Fe)	661	369	04/21/1994	0.1	mg/L	86.4	86.3	0.1
Iron (Fe)	661	369	04/21/1994	0.1	mg/L	54.1	54.9	1.5
Lead (Pb)	661	387	04/20/1994	.003	mg/L	0.017	0.017	0.0
Manganese (Mn)	661	448	04/21/1994	0.01	mg/L	3.77	3.76	0.3
Manganese (Mn)	661	448	04/21/1994	0.01	mg/L	3.21	3.30	2.8

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00995

Spiked Sample Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Units	Spiked Sample Result	% Recovery
Alkalinity		35	03/25/1994	118.8	210	ppmCaC	343	112.0
Alkalinity, Bicarb. at p		18	03/25/1994	118.8	210	ppmCaC	343	112.0
Ammonia		282	04/05/1994	10.0	4.3	mg/L N	15.6	113.0
Chloride		164	04/13/1994	50.0	65	mg/L	118	106.0
Fluoride, Total		72	04/04/1994	5.0	<0.1	mg/L	4.74	94.8
Nitrate/nitrite		45	04/06/1994	10.0	6.3	mg/L N	14.9	86.0
Nitrate/nitrite		46	04/14/1994	1.0	0.5	mg/L N	1.5	100.0
Sulfate		138	04/05/1994	100.0	196	mg/L	313	117.0
Total Organic Carbon		634	04/04/1994	5.0	10.6	mg/L	14.4	76.0
Arsenic (As)	661	316	04/21/1994	0.04	0.010	mg/L	0.039	72.5
Cobalt (Co)	661	448	04/21/1994	0.5	0.022	mg/L	0.469	89.4
Iron (Fe)	661	369	04/21/1994	0	86.4	mg/L	0	0
Iron (Fe)	661	369	04/21/1994	0	54.1	mg/L	0	0
Lead (Pb)	661	387	04/20/1994	0.02	0.017	mg/L	0.031	70.0
Manganese (Mn)	661	448	04/21/1994	0.5	3.77	mg/L	4.19	84.0
Manganese (Mn)	661	448	04/21/1994	0.5	3.21	mg/L	3.77	112.0

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00995

Laboratory Control Sample (LCS) Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Units	Amount Found	% Recovery
Alkalinity		35	03/25/1994	475.0	ppmCaC	477	100.4
Alkalinity		35	04/04/1994	475.0	ppmCaC	472	99.4
Alkalinity		35	04/12/1994	475.0	ppmCaC	469	98.7
Alkalinity, Bicarb. at p		18	03/25/1994	475	ppmCaC	477	100.4
Ammonia		282	04/05/1994	3.0	mg/L N	2.93	97.7
Ammonia		282	04/06/1994	3.0	mg/L N	2.99	99.7
Ammonia		282	04/06/1994	3.0	mg/L N	3.00	100.0
Ammonia		282	04/07/1994	3.0	mg/L N	2.93	97.7
Ammonia		282	04/07/1994	3.0	mg/L N	3.00	100.0
Chloride		164	04/13/1994	1000	mg/L	1002	100.2
Conductivity		80	03/21/1994	104.5	umhos/	105.8	101.2
Conductivity		80	03/22/1994	104.5	umhos/	102.2	97.8
Conductivity		80	03/23/1994	104.5	umhos/	105.8	101.2
Conductivity		80	03/24/1994	104.5	umhos/	99.7	95.4
Conductivity		80	03/25/1994	104.5	umhos/	106.4	101.8
Conductivity		80	03/28/1994	104.5	umhos/	104.6	100.1
Conductivity		80	03/29/1994	104.5	umhos/	100.2	95.9
Fluoride, Total		72	04/04/1994	10.0	mg/L	10.22	102.2
Fluoride, Total		72	04/06/1994	10.0	mg/L	10.77	107.7
Nitrate/nitrite		45	04/06/1994	2.0	mg/L N	1.98	99.0
Nitrate/nitrite		45	04/08/1994	2.0	mg/L N	1.96	98.0
Nitrate/nitrite		45	04/11/1994	2.0	mg/L N	1.99	99.5
Nitrate/nitrite		46	04/14/1994	2.0	mg/L N	2.01	100.5
Nitrate/nitrite		46	04/20/1994	2.0	mg/L N	1.99	99.5
Sulfate		138	04/05/1994	40.0	mg/L	36.2	90.5
Total Organic Carbon		634	04/04/1994	10.0	mg/L	9.69	96.9
Total Organic Carbon		634	04/05/1994	10.0	mg/L	10.15	101.5
Arsenic (As)	661	317	04/21/1994	0.05	mg/L	0.047	94.0
Cobalt (Co)	661	448	04/21/1994	1.0	mg/L	0.98	98.0
Iron (Fe)	661	369	04/21/1994	1.0	mg/L	0.99	99.0
Lead (Pb)	661	387	04/20/1994	0.05	mg/L	0.051	102.0
Manganese (Mn)	661	448	04/21/1994	1.0	mg/L	0.97	97.0

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/18/94 18:14
Data File: >A5189
Scan: 826

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.01	57.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	74.71	74.71	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	43.56	43.56	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.09	6.09	Ok
275	10-30% of mass 198	19.73	19.73	Ok
365	Greater than 1% of mass 198	2.11	2.11	Ok
441	Less than mass 443	9.17	76.29	Ok
442	Greater than 40% of mass 198	64.11	64.11	Ok
443	17-23% of mass 442	12.02	18.74	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID		DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
>A5190	50PPB	#3370	4/19/94	18:54
>A5191	20PPB	#3371		19:47
>A5192	160PPB	#3367		20:41
>A5193	120 PPB	#3368		21:35
>A5194	80PPB	#3369		22:28

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/22/94 14:27
Data File: >A5239
Scan: 831

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	57.48	57.48	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	75.68	75.68	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.95	40.95	Ok
197	Less than 1% of mass 198	.72	.72	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.75	6.75	Ok
275	10-30% of mass 198	20.75	20.75	Ok
365	Greater than 1% of mass 198	2.00	2.00	Ok
441	Less than mass 443	8.68	76.31	Ok
442	Greater than 40% of mass 198	63.35	63.35	Ok
443	17-23% of mass 442	11.37	17.95	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET THOROFARE | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5239 DFTPP Injection Date: 4/22/94

Instrument ID: 70A70F DFTPP Injection Time: 14:27

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	57.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	75.7
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.0
197	Less than 1.0% of mass 198	.7
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.8
275	10.0 - 30.0% of mass 198	20.8
365	Greater than 1.00% of mass 198	2.0
441	Present, but less than mass 443	8.7
442	Greater than 40.0% of mass 198	63.4
443	17.0 - 23.0% of mass 442	11.4 (17.9)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	050 PPB	50PPB #3370	>A5240	04/22/94	14:49
02	BLK#2A	BLK#2A 295A	>A5241	04/22/94	15:41
03	BLK#3A	BLK#3A 295A	>A5242	04/22/94	16:33
04	BLK#4A	BLK#4A 295A	>A5243	04/22/94	17:25
05	135467 MS	00960 MS	>A5244	04/22/94	18:17
06	135467 MSD	00960 MSD	>A5245	04/22/94	19:09
07	135343	00938	>A5246	04/22/94	20:02
08	135345	00938	>A5247	04/22/94	20:54
09	135467	00960	>A5248	04/22/94	21:46
10	135466	00960	>A5249	04/22/94	22:37
11	135678	00995	>A5250	04/22/94	23:29
12	135680	00995	>A5251	04/23/94	00:21
13	135682	00995	>A5252	04/23/94	01:12
14	135684	00995	>A5253	04/23/94	02:04
15					
16					
17					
18					
19					
20					
21					
22					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5124 BFB Injection Date: 3/16/94

Instrument ID: 70 1 BFB Injection Time: 3/16/94 10:00

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	25.2	
75	30.0 - 66.0% OF MASS 95	61.4	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	8.3	
173	Less than 2.0% of mass 174	.7	.8)1
174	50.0 - 120.0% of mass 95	90.5(	
175	4.0 - 9.0% of mass 174	7.1	7.9)1
176	93.0 - 101% of mass 174	87.0	96.1)1
177	5.0 - 9.0% of mass 176	5.5	6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03		Lee			
04					
05					
06		Nat			
07					
08					
09					
10		Page			
11					
12					
13					
14					
15					
16					
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18					
19					
20					
21					
22					

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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5124 BFB Injection Date: 3/16/94

Instrument ID: HP5970 BFB Injection Time: 10:06

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	25.2
75	30.0 - 66.0% of mass 95	61.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.3
173	Less than 2.0% of mass 174	.7 (.8)1
174	50-120% of mass 95	90.5
175	4.0 - 9.0% of mass 174	7.1 (7.9)1
176	93.0 - 101.0% of mass 174	87.0 (96.1)1
177	5.0 - 9.0% of mass 176	5.5 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB STD	50 STD#2312	>E5126	03/16/94	11:28
02	10 PPB STD	10 STD#2312	>E5127	03/16/94	12:07
03	100 PPB ST	100 STD2312	>E5128	03/16/94	12:49
04	20 PPB STD	20 STD#2312	>E5130	03/16/94	14:03
05	200 PPB ST	200 STD#2312	>E5131	03/16/94	14:52
06	VBLK	VBLK	>E5133	03/16/94	17:03
07	134468	00780	>E5134	03/16/94	17:40
08	134489	00783	>E5135	03/16/94	18:17
09	134490	00783	>E5136	03/16/94	18:53
10	134491	00783	>E5137	03/16/94	19:30
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >D0627 BFB Injection Date: 3/22/94

Instrument ID: 70 2 BFB Injection Time: 3/22/94 8:14

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	18.8	
75	30.0 - 66.0% OF MASS 95	47.9	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	7.8	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	91.0(	
175	4.0 - 9.0% of mass 174	6.0	6.6)1
176	93.0 - 101% of mass 174	89.9	98.8)1
177	5.0 - 9.0% of mass 176	6.5	7.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04					
05					
06					
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16					
17					
18					
19					
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >D0627 BFB Injection Date: 3/22/94

Instrument ID: HP5970 BFB Injection Time: 8:14

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	18.8
75	30.0 - 66.0% of mass 95	47.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50-120% of mass 95	91.0
175	4.0 - 9.0% of mass 174	6.0 (6.6)1
176	93.0 - 101.0% of mass 174	89.9 (98.8)1
177	5.0 - 9.0% of mass 176	6.5 (7.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	050 ppb	8260	>D0630	03/22/94	10:45
02	100 ppb	8260	>D0631	03/22/94	11:25
03	150 ppb	8260	>D0632	03/22/94	12:06
04	200 ppb	8260	>D0634	03/22/94	13:29
05	020 ppb	8260	>D0635	03/22/94	14:31
06					
07					
08					
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10					
11					
12					
13					
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15					
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17					
18					
19					
20					
21					
22					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5263 BFB Injection Date: 3/23/94

Instrument ID: /0 1 BFB Injection Time: 3/23/94 8:58

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	24.5	
75	30.0 - 66.0% OF MASS 95	58.2	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	8.2	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	87.4(	
175	4.0 - 9.0% of mass 174	7.5	8.6)1
176	93.0 - 101% of mass 174	87.1	99.7)1
177	5.0 - 9.0% of mass 176	6.6	7.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
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Error opening Sample output file: -8
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Done
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1

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab code: Case No.: SAS No.: SDG No.:

Lab File ID: >E5263 BFB Injection Date: 3/23/94

Instrument ID: BFB Injection Time: 8:58

Matrix: (soil/water) Level:(low/med) Column:(pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	24.5
75	30.0 - 66.0% of mass 95	58.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50-120% of mass 95	87.4
175	4.0 - 9.0% of mass 174	7.5 (8.6)1
176	93.0 - 101.0% of mass 174	87.1 (99.7)1
177	5.0 - 9.0% of mass 176	6.6 (7.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 ppb	#2312	>E5264	03/23/94	09:18
02	VBLK	VBLK	>E5265	03/23/94	10:14
03	135563	00976	>E5266	03/23/94	11:06
04	135562	00976	>E5267	03/23/94	11:43
05	135558	00976	>E5268	03/23/94	12:21
06	135557	00976	>E5269	03/23/94	12:59
07	135559	00976	>E5270	03/23/94	13:37
08	135557MS	00976	>E5271	03/23/94	14:17
09	135557MSD	00976	>E5272	03/23/94	14:55
10	LCS	LCS	>E5273	03/23/94	15:32
11	135560	00976	>E5274	03/23/94	16:10
12	135561	00976	>E5275	03/23/94	16:46
13	VSTD050	ENDING	>E5277	03/23/94	17:59
14	135467MS	00960	>E5278	03/23/94	18:35
15	135467MSD	00960	>E5279	03/23/94	19:12
16	135680	00995	>E5280	03/23/94	19:48
17	135506	00965	>D0673	03/23/94	20:51
18	135601	00986	>D0675	03/23/94	22:10
19					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >D0678 BFB Injection Date: 3/24/94

Instrument ID: 70 2 BFB Injection Time: 3/24/94 11:23

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	21.6	
75	30.0 - 66.0% OF MASS 95	51.4	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	91.2(	
175	4.0 - 9.0% of mass 174	6.4	7.0)1
176	93.0 - 101% of mass 174	89.0	97.6)1
177	5.0 - 9.0% of mass 176	5.6	6.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04					
05					
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >D0678 BFB Injection Date: 3/24/94

Instrument ID: HP5970 BFB Injection Time: 11:23

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.6
75	30.0 - 60.0% of mass 95	51.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50% of mass 95	91.2
175	5.0 - 9.0% of mass 174	6.4 (7.0)1
176	95.0 - 101.0% of mass 174	89.0 (97.6)1
177	5.0 - 9.0% of mass 176	5.6 (6.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 ppb	8260	>D0679	03/24/94	11:43
02	VBLK	VBLK	>D0681	03/24/94	13:21
03	VSTD020	SEC STD	>D0682	03/24/94	14:23
04	135660	00986	>D0683	03/24/94	15:34
05	135697	00997	>D0685	03/24/94	17:19
06	135844	01020	>D0688	03/24/94	19:23
07	135845	01020	>D0689	03/24/94	20:03
08	135682	00995	>D0691	03/24/94	21:33
09	135684	00995	>D0692	03/24/94	22:14
10	135943	01030	>D0698	03/25/94	02:19
11	135944	01030	>D0699	03/25/94	02:59
12					
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21					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >D0700 BFB Injection Date: 3/25/94

Instrument ID: 70 2 BFB Injection Time: 3/25/94 7:55

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	21.0	
75	30.0 - 66.0% OF MASS 95	52.2	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	6.7	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	93.7(	
175	4.0 - 9.0% of mass 174	5.7	6.1)1
176	93.0 - 101% of mass 174	90.7	96.9)1
177	5.0 - 9.0% of mass 176	6.7	7.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03		Blank			
04					
05					
06		Mid			
07					
08					
09		Page			
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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >D0700 BFB Injection Date: 3/25/94

Instrument ID: HP5970 BFB Injection Time: 7:55

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.0
75	30.0 - 60.0% of mass 95	52.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50% of mass 95	93.7
175	5.0 - 9.0% of mass 174	5.7 (6.1)1
176	95.0 - 101.0% of mass 174	90.7 (96.9)1
177	5.0 - 9.0% of mass 176	6.7 (7.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	20 ppb	SEC STD	>D0702	03/25/94	09:14
02	50 ppb	8260	>D0703	03/25/94	10:04
03	VBLK	VBLK	>D0704	03/25/94	10:45
04	135880	00995	>D0705	03/25/94	11:37
05	135878	00995	>D0706	03/25/94	12:18
06	135879	00997MS	>D0707	03/25/94	12:58
07	135859	00997MSD	>D0708	03/25/94	13:38
08	135881	00997	>D0709	03/25/94	14:19
09	135860	00997	>D0710	03/25/94	15:00
10	135883	00997	>D0711	03/25/94	15:45
11	135861	00997	>D0712	03/25/94	16:25
12	135885	00997	>D0713	03/25/94	17:06
13	135886	00997	>D0714	03/25/94	17:46
14	135887	00997	>D0715	03/25/94	18:27
15	135888	00997	>D0716	03/25/94	19:08
16	135787	01015	>D0717	03/25/94	19:49
17	135791	01015	>D0719	03/25/94	21:10
18	135792	01015	>D0720	03/25/94	21:50
19	135795	01015	>D0721	03/25/94	22:31
20					
21					

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5240
Injection Time: 940422 14:49

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.16841	.01	Average	
CS45 D5-Phenol	1.52248	1.53921	1.10	Average	
C309 Pyridine	1.10561	1.06581	3.60	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.39390	.17	Average	
C335 1,3-Dichlorobenzene	1.70502	1.73758	1.91	Average	
C340 1,4-Dichlorobenzene	1.73050	1.75303	1.30	Average	
C350 1,2-Dichlorobenzene	1.65558	1.69078	2.13	Average	
C349 Indene	2.27085	2.33336	2.75	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.08907	.73	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.37833	.38	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.14497	5.37	Average	
C459 Quinoline	.69188	.69648	.66	Average	
C471 1-Methylnaphthalene	.70593	.72690	2.97	Average	
CS25 2-Fluorobiphenyl	1.39436	1.41553	1.52	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.73584	3.42	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.90334	6.60	Average	
CS55 2,4,6-Tribromophenol	.27799	.23348	16.01	Average	
C640 Phenanthrene	1.10703	1.17021	5.71	Average	
C645 Anthracene	1.06492	1.10800	4.05	Average	
C650 Di-n-butylphthalate	1.68960	2.03914	20.69	Average	
C655 Fluoranthene	1.28823	1.38793	7.74	Average	
C715 Pyrene	1.55165	1.74356	12.37	Average	
CS30 D14-Terphenyl	1.05487	1.07446	1.86	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	1.04227	11.77	Average	
C730 Benzo(a)anthracene	1.24875	1.29458	3.67	Average	
C740 Chrysene	1.22525	1.29672	5.83	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.50605	11.83	Average	
C759 6-Methyl chrysene	.91148	.93155	2.20	Average	
C760 Di-n-octylphthalate	2.02659	2.48262	22.50	Average	
C765 Benzo(b)fluoranthene	1.31752	1.30764	.75	Average	
C770 Benzo(k)fluoranthene	1.17763	1.25334	6.43	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.12435	10.48	Average	
C775 Benzo(a)pyrene	1.10417	1.13644	2.92	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5240
Injection Time: 940422 14:49

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.89465	.86	Average
C785 Dibenz(a,h)anthracene	.96071	.94658	1.47	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Check Standard Data File: >E5264
Injection Time: 940323 09:18

Compound		$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane		.48681	.38076	21.79	Average	
C015 Bromomethane		1.22893	1.18551	3.53	Average	
C020 Vinyl Chloride		.67188	.66414	1.15	Average	
C025 Chloroethane		.49539	.49429	.22	Average	
C030 Methylene Chloride		1.06493	1.05582	.86	Average	
C035 Acetone		.17724	.15000	15.37	Average	
C040 Carbon Disulfide		2.71252	2.68276	1.10	Average	
C045 1,1-Dichloroethene		1.12849	1.10661	1.94	Average	
C050 1,1-Dichloroethane		1.96487	1.93939	1.30	Average	
C053 1,2-Dichloroethene(total)		1.20240	1.18358	1.57	Average	(Conc=100.00)
C060 Chloroform		3.16820	2.91869	7.88	Average	
CS15 D4-1,2-Dichloroethane	SS1	2.12865	1.95636	8.09	Average	
C065 1,2-Dichloroethane		2.25702	2.04004	9.61	Average	
C110 2-Butanone		.22720	.19890	12.45	Average	
C115 1,1,1-Trichloroethane		.79437	.75216	5.31	Average	
C120 Carbon Tetrachloride		.81692	.78830	3.50	Average	
C125 Vinyl Acetate		.34705	.34732	.08	Average	
C130 Bromodichloromethane		.67801	.64411	5.00	Average	
C140 1,2-Dichloropropane		.23583	.23950	1.55	Average	
C143 Cis-1,3-Dichloropropene		.42772	.42366	.95	Average	(Conc=50.00)
C150 Trichloroethene		.41503	.40674	2.00	Average	
C155 Dibromochloromethane		.67860	.63272	6.76	Average	
C160 1,1,2-Trichloroethane		.26307	.24377	7.34	Average	
C165 Benzene		.66286	.66790	.76	Average	
C172 Trans-1,3-Dichloropropene		.41301	.40247	2.55	Average	(Conc=50.00)
C180 Bromoform		.47930	.43240	9.78	Average	
C205 4-Methyl-2-Pentanone		.20266	.18104	10.67	Average	
C210 2-Hexanone		.12706	.09934	21.82	Average	
C220 Tetrachloroethene		.53846	.54199	.66	Average	
C225 1,1,2,2-Tetrachloroethane		.47137	.42577	9.67	Average	
C230 Toluene		1.09081	1.10197	1.02	Average	
CS05 D8-Toluene	SS-2	1.15196	1.17066	1.62	Average	
C235 Chlorobenzene		.88943	.89708	.86	Average	
C240 Ethylbenzene		.40374	.40509	.33	Average	
C245 Styrene		.83188	.82957	.28	Average	
C250 Xylene (total)		.48538	.48462	.16	Average	
meta+para Xylene		.50718	.51192	.93	Average	(Conc=100.00)
ortho Xylene		.48538	.48462	.16	Average	
CS10 Bromofluorobenzene	SS-3	.85928	.83055	3.34	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

000120

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 03/24/94

Contractor: Time: 11:43

Contract No: Laboratory ID: >D0679

Instrument ID: D Initial Calibration Date: 03/22/94

Minimum $\overline{RF}$ for SPCC is 0.3 Maximum % Diff for CCC is 30%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C006 Dichlorodifluoromethane	.30604	.38351	25.31		
C010 Chloromethane	.14481	.13346	7.84		**
C020 Vinyl Chloride	.16821	.17232	2.44	*	
C015 Bromomethane	.10462	.11418	9.13		
C025 Chloroethane	.02543	.01427	43.89		
C033 Trichlorofluoromethane	.71308	.73318	2.82		
C045 1,1-Dichloroethene	.26906	.27887	3.65	*	
C035 Acetone	.04120	.04156	.88		
C040 Carbon Disulfide	.62413	.64814	3.85		
C030 Methylene Chloride	.17410	.17015	2.26		
C055 Trans-1,2-Dichloroethene	.27298	.27480	.67		
C050 1,1-Dichloroethane	.46512	.45546	2.08		**
C125 Vinyl Acetate	.21910	.20009	8.67		
C070 2,2-Dichloropropane	.48486	.49668	2.44		
C075 Cis-1,2-Dichloroethene	.29063	.30608	5.31		
C110 2-Butanone	.07239	.07409	2.35		
C080 Bromochloromethane	.25784	.27435	6.40		
C060 Chloroform	.67591	.68286	1.03	*	
C115 1,1,1-Trichloroethane	.61698	.60912	1.27		
C085 Iodomethane	.51040	.48027	5.90		
C120 Carbon Tetrachloride	.64745	.67534	4.31		
C090 1,1-Dichloropropene	.43942	.45329	3.16		
C143 Cis-1,3-Dichloropropene	.48389	.52192	7.86		
C172 Trans-1,3-Dichloropropene	.44879	.47228	5.23		
CS15 1,2-Dichloroethane-D4 SS1	.37480	.38518	2.77		
C165 Benzene	.69269	.72446	4.59		
C065 1,2-Dichloroethane	.45343	.46694	2.98		
CS08 Fluorobenzene SS2	.90635	.96328	6.28		
C150 Trichloroethene	.44618	.45527	2.04		
C140 1,2-Dichloropropane	.30923	.32351	4.62	*	
C168 Dibromomethane	.40333	.42902	6.37		
C130 Bromodichloromethane	.68361	.70958	3.80		

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 03/24/94

Contractor: Time: 11:43

Contract No: Laboratory ID: >D0679

Instrument ID: D Initial Calibration Date: 03/22/94

Minimum $\overline{RF}$ for SPCC is 0.3 Maximum % Diff for CCC is 30%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C175 2-Chloroethylvinylether	.18386	.18143	1.32		
C205 4-Methyl-2-Pentanone	.23573	.24335	3.23		
C230 Toluene	.53650	.57947	8.01	*	
CS10 Bromofluorobenzene SS3	.63159	.67322	6.59		
C160 1,1,2-Trichloroethane	.29216	.31803	8.86		
CS03 Dibromofluoromethane SS4	.68774	.72787	5.84		
CS05 Toluene-d8 SS5	.94539	.97724	3.37		
C210 2-Hexanone	.15465	.15253	1.37		
C190 1,2-Dibromoethane	.56880	.61252	7.68		
C155 Dibromochloromethane	.89669	.87196	2.76		
C180 Bromoform	.68004	.65383	3.85		**
C235 Chlorobenzene	.96159	.96797	.66		**
C227 1,1,1,2-Tetrachloroethane	.56508	.56488	.03		
C240 Ethylbenzene	1.41805	1.36197	3.95	*	
C248 Xylene (Meta+Para)	1.00710	1.00697	.01		
C249 Xylene (Ortho)	.48137	.48735	1.24		
C245 Styrene	.83670	.83924	.30		
C252 1,3-Dichloropropane	.57755	.57356	.69		
C220 Tetrachloroethene	.69619	.72636	4.33		
C254 Isopropylbenzene	2.44971	2.36271	3.55		
C256 Bromobenzene	1.01473	.96385	5.01		
C258 1,2,3-Trichloropropane	.65839	.61950	5.91		
C225 1,1,2,2-Tetrachloroethane	.95652	.89096	6.85		**
C260 2-Chlorotoluene	2.08915	1.81769	12.99		
C262 4-Chlorotoluene	2.27194	2.12558	6.44		
C264 N-Propylbenzene	2.88607	2.71137	6.05		
C266 1,3,5-Trimethylbenzene	2.02854	1.95579	3.59		
C268 Tert-Butylbenzene	2.08489	1.93818	7.04		
C270 1,2,4-Trimethylbenzene	1.97765	1.87100	5.39		
C272 Sec-Butylbenzene	2.79214	2.71157	2.89		
C274 1,3-Dichlorobenzene	1.50457	1.44592	3.90		
C276 1,4-Dichlorobenzene	1.60403	1.62877	1.54		

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 03/24/94

Contractor: Time: 11:43

Contract No: Laboratory ID: >D0679

Instrument ID: D Initial Calibration Date: 03/22/94

Minimum $\overline{RF}$ for SPCC is 0.3 Maximum % Diff for CCC is 30%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C278 4-Isopropyltoluene	2.08489	1.93818	7.04		
C280 1,2-Dichlorobenzene	1.43807	1.37958	4.07		
C282 N-Butylbenzene	2.31573	2.14556	7.35		
C284 1,2-Dibromo3Chloropropane	.23649	.20039	15.26		
C286 1,2,4-Trichlorobenzene	1.32788	1.25282	5.65		
C288 1,2,3-Trichlorobenzene	1.23539	1.13034	8.50		
C290 Hexachlorobutadiene	.79470	.76899	3.24		
C292 Naphthalene	1.80820	1.66750	7.78		

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 03/25/94

Contractor: Time: 10:04

Contract No: Laboratory ID: >D0703

Instrument ID: D Initial Calibration Date: 03/22/94

Minimum $\overline{RF}$ for SPCC is 0.3 Maximum % Diff for CCC is 30%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C006 Dichlorodifluoromethane	.30604	.26937	11.98		
C010 Chloromethane	.14481	.12493	13.73		**
C020 Vinyl Chloride	.16821	.15127	10.07	*	
C015 Bromomethane	.10462	.08644	17.38		
C025 Chloroethane	.02543	.00959	62.28		
C033 Trichlorofluoromethane	.71308	.67147	5.83		
C045 1,1-Dichloroethene	.26906	.25241	6.19	*	
C035 Acetone	.04120	.03749	9.00		
C040 Carbon Disulfide	.62413	.60598	2.91		
C030 Methylene Chloride	.17410	.13650	21.60		
C055 Trans-1,2-Dichloroethene	.27298	.27463	.61		
C050 1,1-Dichloroethane	.46512	.44625	4.06		**
C125 Vinyl Acetate	.21910	.19854	9.38		
C070 2,2-Dichloropropane	.48486	.46257	4.60		
C075 Cis-1,2-Dichloroethene	.29063	.29443	1.31		
C110 2-Butanone	.07239	.07069	2.34		
C080 Bromochloromethane	.25784	.26143	1.39		
C060 Chloroform	.67591	.63903	5.46	*	
C115 1,1,1-Trichloroethane	.61698	.58313	5.49		
C085 Iodomethane	.51040	.50801	.47		
C120 Carbon Tetrachloride	.64745	.63907	1.30		
C090 1,1-Dichloropropene	.43942	.42513	3.25		
C143 Cis-1,3-Dichloropropene	.48389	.45371	6.24		
C172 Trans-1,3-Dichloropropene	.44879	.43497	3.08		
CS15 1,2-Dichloroethane-D4 SS1	.37480	.36961	1.38		
C165 Benzene	.69269	.68786	.70		
C065 1,2-Dichloroethane	.45343	.42502	6.27		
CS08 Fluorobenzene SS2	.90635	.89059	1.74		
C150 Trichloroethene	.44618	.41332	7.36		
C140 1,2-Dichloropropane	.30923	.30431	1.59	*	
C168 Dibromomethane	.40333	.40251	.20		
C130 Bromodichloromethane	.68361	.66830	2.24		

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 03/25/94

Contractor: _____ Time: 10:04

Contract No: _____ Laboratory ID: >D0703

Instrument ID: D Initial Calibration Date: 03/22/94

Minimum $\overline{RF}$ for SPCC is 0.3 Maximum % Diff for CCC is 30%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C175 2-Chloroethylvinylether	.18386	.16596	9.74		
C205 4-Methyl-2-Pentanone	.23573	.21644	8.18		
C230 Toluene	.53650	.48535	9.53	*	
CS10 Bromofluorobenzene SS3	.63159	.61286	2.96		
C160 1,1,2-Trichloroethane	.29216	.29361	.50		
CS03 Dibromofluoromethane SS4	.68774	.69266	.72		
CS05 Toluene-d8 SS5	.94539	.85998	9.03		
C210 2-Hexanone	.15465	.14614	5.50		
C190 1,2-Dibromoethane	.56880	.58901	3.55		
C155 Dibromochloromethane	.89669	.89932	.29		
C180 Bromoform	.68004	.68574	.84		**
C235 Chlorobenzene	.96159	.97675	1.58		**
C227 1,1,1,2-Tetrachloroethane	.56508	.57375	1.53		
C240 Ethylbenzene	1.41805	1.41902	.07	*	
C248 Xylene (Meta+Para)	1.00710	1.05680	4.93		
C249 Xylene (Ortho)	.48137	.50512	4.94		
C245 Styrene	.83670	.86556	3.45		
C252 1,3-Dichloropropane	.57755	.58669	1.58		
C220 Tetrachloroethene	.69619	.71709	3.00		
C254 Isopropylbenzene	2.44971	2.19528	10.39		
C256 Bromobenzene	1.01473	.94261	7.11		
C258 1,2,3-Trichloropropane	.65839	.62726	4.73		
C225 1,1,2,2-Tetrachloroethane	.95652	.91783	4.04		**
C260 2-Chlorotoluene	2.08915	1.81410	13.17		
C262 4-Chlorotoluene	2.27194	2.06174	9.25		
C264 N-Propylbenzene	2.88607	2.53924	12.02		
C266 1,3,5-Trimethylbenzene	2.02854	1.85621	8.50		
C268 Tert-Butylbenzene	2.08489	1.92132	7.85		
C270 1,2,4-Trimethylbenzene	1.97765	1.78318	9.83		
C272 Sec-Butylbenzene	2.79214	2.64550	5.25		
C274 1,3-Dichlorobenzene	1.50457	1.37196	8.81		
C276 1,4-Dichlorobenzene	1.60403	1.57978	1.51		

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 03/25/94

Contractor: Time: 10:04

Contract No: Laboratory ID: >D0703

Instrument ID: D Initial Calibration Date: 03/22/94

Minimum $\overline{RF}$ for SPCC is 0.3 Maximum % Diff for CCC is 30%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
C278 4-Isopropyltoluene	2.08489	1.92132	7.85		
C280 1,2-Dichlorobenzene	1.43807	1.37192	4.60		
C282 N-Butylbenzene	2.31573	2.04306	11.77		
C284 1,2-Dibromo3Chloropropane	.23649	.19980	15.51		
C286 1,2,4-Trichlorobenzene	1.32788	1.25462	5.52		
C288 1,2,3-Trichlorobenzene	1.23539	1.10156	10.83		
C290 Hexachlorobutadiene	.79470	.77256	2.79		
C292 Naphthalene	1.80820	1.69396	6.32		

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
CS50 2-Fluorophenol	1.03827	1.16064	1.17525	1.27220	1.19497	.694	1.16827	7.228	
CS45 D5-Phenol	1.35302	1.59272	1.51650	1.61665	1.53348	.930	1.52248	6.784	
C309 Pyridine	.98492	1.10807	1.11202	1.17507	1.14798	.399	1.10561	6.590	
C314 Benzenethiol	-	-	-	-	-	-	-	-	
C315 Phenol	-	-	-	-	-	-	-	-	
CS70 D4-2-Chlorophenol	1.27943	1.42308	1.41542	1.47761	1.38555	.950	1.39622	5.247	
C335 1,3-Dichlorobenzene	1.74228	1.73781	1.68614	1.73984	1.61903	.989	1.70502	3.135	
C340 1,4-Dichlorobenzene	1.76983	1.75900	1.73272	1.76950	1.62145	1.004	1.73050	3.629	
C350 1,2-Dichlorobenzene	1.72534	1.70458	1.63722	1.66707	1.54371	1.055	1.65558	4.298	
C349 Indene	2.29853	2.37249	2.24515	2.30462	2.13346	1.077	2.27085	3.925	
CS75 1,2-Dichlorobenzene-D4	1.11976	1.12617	1.08691	1.10562	1.04703	1.051	1.09710	2.897	(Conc=10.0,25.0,40.0,60.0,80.
C355 2-Methylphenol	-	-	-	-	-	-	-	-	
C364 3&4-Methylphenol	-	-	-	-	-	-	-	-	(Conc=40.0,100.0,160.0,240.0,
CS20 D5-Nitrobenzene	.31913	.38886	.38333	.40069	.40694	.854	.37979	9.261	(Conc=10.0,25.0,40.0,60.0,80.
C425 2,4-Dimethylphenol	-	-	-	-	-	-	-	-	
C450 Naphthalene	1.19262	1.10325	1.11941	1.03885	.97893	1.005	1.08661	7.486	
C459 Quinoline	.67225	.69664	.70675	.69664	.68714	1.080	.69188	1.876	
C471 1-Methylnaphthalene	.78012	.71147	.71847	.67481	.64480	1.182	.70593	7.222	
CS25 2-Fluorobiphenyl	1.42042	1.42299	1.39953	1.38005	1.34878	.894	1.39436	2.213	(Conc=10.0,25.0,40.0,60.0,80.
C535 Dimethylphthalate	1.73962	1.70347	1.71171	1.65495	1.58256	.970	1.67846	3.675	
C555 2,4-Dinitrophenol	-	-	-	-	-	-	-	-	
C560 4-Nitrophenol	-	-	-	-	-	-	-	-	
C580 Diethylphthalate	1.82011	1.83848	1.85278	1.72709	1.68923	1.085	1.78554	4.078	
CS55 2,4,6-Tribromophenol	.18311	.24903	.32936	.31676	.31170	1.130	.27799	22.116	
C640 Phenanthrene	1.17574	1.13885	1.10791	1.08607	1.02658	1.003	1.10703	5.079	
C645 Anthracene	1.08061	1.11195	1.10056	1.03391	.99758	1.009	1.06492	4.509	
C650 Di-n-butylphthalate	1.90183	1.97845	1.85027	1.45253	1.26492	1.090	1.68960	18.501	
C655 Fluoranthene	1.30155	1.34302	1.32624	1.26702	1.20330	1.161	1.28823	4.302	
C715 Pyrene	1.71895	1.68738	1.48860	1.45192	1.41141	.881	1.55165	9.114	
CS30 D14-Terphenyl	1.01481	1.09258	1.07287	1.04078	1.05329	.899	1.05487	2.825	(Conc=10.0,25.0,40.0,60.0,bd.
C720 Butylbenzylphthalate	.93384	1.03906	.92013	.87831	.89118	.952	.93250	6.815	
C730 Benzo(a)anthracene	1.25034	1.29521	1.22848	1.23289	1.23684	.999	1.24875	2.180	
C740 Chrysene	1.28555	1.28865	1.16987	1.20193	1.18026	1.003	1.22525	4.705	
C745 bis(2Ethylhexyl)phthalate	1.44790	1.52478	1.32976	1.25544	1.17602	1.010	1.34678	10.481	
C759 6-Methyl chrysene	.89527	.93097	.92132	.90194	.90789	.926	.91148	1.593	
C760 Di-n-octylphthalate	2.20932	2.47809	2.20570	1.71643	1.52341	.942	2.02659	19.407	
C765 Benzo(b)fluoranthene	1.26457	1.32535	1.28964	1.36072	1.34733	.971	1.31752	3.035	
C770 Benzo(k)fluoranthene	1.25798	1.24701	1.25598	1.11106	1.01615	.973	1.17763	9.294	
C771 7,12-Di-ME-benz[a]anthra	.13812	.15343	.11689	.15561	.13051	.973	.13891	11.641	

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD
C775 Benzo(a)pyrene	1.06220	1.14064	1.11095	1.08716	1.11989	.996	1.10417	2.745
C779 Dibenz[a,h]acridine	.83611	.88589	.93770	.92014	.93236	1.075	.90244	4.677
C785 Dibenz(a,h)anthracene	.91301	.93989	.99196	.98215	.97656	1.099	.96071	3.451

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

IDCLPE
CBCLPE
3-16-94

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Compound	Files: >E5127 RF 10.00	>E5130 RF 20.00	>E5126 RF 50.00	>E5128 RF 100.00	>E5131 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
C010 Chloromethane	.51172	.47259	.46088	.49691	.49196	.377	.48681	4.139	
C015 Bromomethane	1.27192	1.18328	1.19858	1.24007	1.25082	.432	1.22893	3.005	
C020 Vinyl Chloride	.67622	.65477	.66362	.67251	.69229	.390	.67188	2.101	
C025 Chloroethane	.49785	.49039	.48228	.48813	.51830	.448	.49539	2.819	
C030 Methylene Chloride	1.17573	1.06124	1.00141	1.02446	1.06181	.661	1.06493	6.295	
C035 Acetone	.24375	.19416	.14599	.15504	.14728	.581	.17724	23.731	
C040 Carbon Disulfide	2.65213	2.62270	2.69980	2.78784	2.80014	.606	2.71252	2.928	
C045 1,1-Dichloroethene	1.12512	1.09348	1.11136	1.11813	1.19439	.568	1.12849	3.426	
C050 1,1-Dichloroethane	1.97385	1.87047	1.98801	1.98914	2.00291	.802	1.96487	2.736	
C053 1,2-Dichloroethene(total)	1.22279	1.12950	1.20835	1.20391	1.24743	.714	1.20240	3.671	(Conc=20.0,40.0,100.0,200.0,
C060 Chloroform	3.39301	2.90462	3.19269	3.17660	3.17409	1.029	3.16820	5.483	
CS15 D4-1,2-Dichloroethane SS1	2.20246	2.06731	2.11924	2.17429	2.07993	1.181	2.12865	2.755	
C065 1,2-Dichloroethane	2.35066	2.14415	2.28279	2.28669	2.22080	1.208	2.25702	3.458	
C110 2-Butanone	.23987	.25783	.20816	.21675	.21337	.949	.22720	9.237	
C115 1,1,1-Trichloroethane	.84328	.74092	.81301	.77067	.80398	.807	.79437	4.976	
C120 Carbon Tetrachloride	.84712	.76478	.84096	.79409	.83764	.845	.81692	4.396	
C125 Vinyl Acetate	.33983	.33218	.33835	.34932	.37555	.614	.34705	4.920	
C130 Bromodichloromethane	.69331	.63648	.66576	.70247	.69206	1.166	.67801	3.974	
C140 1,2-Dichloropropane	.23835	.22701	.23217	.23746	.24416	1.103	.23583	2.762	
C143 Cis-1,3-Dichloropropene	.42816	.40777	.41921	.44174	.44173	1.258	.42772	3.435	
C150 Trichloroethene	.43327	.40040	.41111	.41339	.41695	1.054	.41503	2.873	
C155 Dibromochloromethane	.68318	.69094	.64591	.68157	.69190	1.470	.67860	2.809	
C160 1,1,2-Trichloroethane	.27583	.29099	.23819	.25549	.25483	1.401	.26307	7.806	
C165 Benzene	.68929	.64279	.65251	.64717	.68253	.898	.66286	3.237	
C172 Trans-1,3-Dichloropropene	.41162	.38838	.39494	.43073	.43941	1.369	.41301	5.341	
C180 Bromoform	.50761	.50893	.42277	.46158	.49559	1.721	.47930	7.705	
C205 4-Methyl-2-Pentanone	.22807	.23619	.18498	.18328	.18076	.824	.20266	13.372	
C210 2-Hexanone	.14905	.14252	.10947	.11700	.11728	.926	.12706	13.794	
C220 Tetrachloroethene	.57728	.50970	.53290	.53385	.53856	.903	.53846	4.536	
C225 1,1,2,2-Tetrachloroethane	.54185	.55361	.40549	.41685	.43904	1.151	.47137	15.034	
C230 Toluene	1.14645	1.03052	1.09420	1.11681	1.06608	.839	1.09081	4.108	
CS05 D8-Toluene SS-2	1.16943	1.13006	1.15406	1.19836	1.10788	.831	1.15196	3.034	
C235 Chlorobenzene	.92960	.85141	.87000	.90008	.89605	1.003	.88943	3.370	
C240 Ethylbenzene	.42079	.37615	.39371	.40697	.42108	1.017	.40374	4.737	
C245 Styrene	.84642	.78192	.80524	.84761	.87818	1.076	.83188	4.581	
C250 Xylene (total)	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
meta+para Xylene	.53076	.48181	.50197	.51647	.50491	1.031	.50718	3.579	(Conc=20.0,40.0,100.0,200.0,
ortho Xylene	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
CS10 Bromofluorobenzene SS-3	.88811	.84852	.82771	.86112	.87093	1.132	.85928	2.655	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

V08260
VOACAD
3-22-94

Initial Calibration Data
HSL Compounds

Case No: ---------- Instrument ID: D

Contractor: ---------- Calibration Date: 03/22/94

Contract No: ----------

Minimum $\overline{RF}$ for SPCC is 0.3 Maximum % RSD for CCC is 30%

Laboratory ID:	>D0635	>D0630	>D0631	>D0632	>D0634					
Compound	RF 20.00	RF 50.00	RF 100.00	RF 150.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C006 Dichlorodifluoromethane	.35201	.26861	.29770	.20493	.40693	.274	.30604	25.302		
C010 Chloromethane	.17621	.10541	.14018	.12953	.17271	.299	.14481	20.635		**
C020 Vinyl Chloride	.16135	.16658	.17216	.15060	.19036	.315	.16821	8.748	*	
C015 Bromomethane	.18185	.09465	.09076	.06821	.08764	.361	.10462	42.396		
C025 Chloroethane	.02805	.02745	.02594	.01897	.02672	.377	.02543	14.535		
C033 Trichlorofluoromethane	.67380	.71951	.72263	.67927	.77016	.417	.71308	5.466		
C045 1,1-Dichloroethene	.25898	.27604	.27883	.25685	.27460	.503	.26906	3.834	*	
C035 Acetone	.03864	.04494	.04844	.03570	.03828	.519	.04120	12.822		
C040 Carbon Disulfide	.64461	.62500	.65718	.51811	.67575	.537	.62413	9.947		
C030 Methylene Chloride	.20066	.16925	.18216	.13258	.18582	.591	.17410	14.800		
C055 Trans-1,2-Dichloroethene	.27130	.25822	.27930	.26285	.29321	.640	.27298	5.091		
C050 1,1-Dichloroethane	.44861	.45074	.48371	.44550	.49702	.722	.46512	5.074		**
C125 Vinyl Acetate	.20161	.21882	.23906	.20364	.23235	.740	.21910	7.632		
C070 2,2-Dichloropropane	.45863	.47750	.49764	.47632	.51422	.846	.48486	4.424		
C075 Cis-1,2-Dichloroethene	.26871	.29882	.30336	.27930	.30299	.849	.29063	5.415		
C110 2-Butanone	.06605	.07507	.08209	.06716	.07156	.863	.07239	8.996		
C080 Bromochloromethane	.26037	.26567	.26865	.24453	.25000	.906	.25784	3.988		
C060 Chloroform	.65111	.67785	.70096	.64636	.70324	.934	.67591	3.960	*	
C115 1,1,1-Trichloroethane	.60405	.61927	.63367	.58841	.63952	.979	.61698	3.414		
C085 Iodomethane	.61657	.38399	.49728	.47984	.57431	.528	.51040	17.645		
C120 Carbon Tetrachloride	.65856	.65232	.60754	.61353	.70531	.852	.64745	6.100		
C090 1,1-Dichloropropene	.45495	.44107	.41962	.42227	.45917	.854	.43942	4.135		
C143 Cis-1,3-Dichloropropene	.43871	.46885	.52462	.46649	.52075	1.244	.48389	7.724		
C172 Trans-1,3-Dichloropropene	.44335	.43841	.45820	.43854	.46547	1.349	.44879	2.790		
CS15 1,2-Dichloroethane-D4 SS1	.37378	.38013	.37242	.36150	.38615	.892	.37480	2.463		
C165 Benzene	.71754	.70167	.69804	.68758	.69762	.904	.69269	3.131		
C065 1,2-Dichloroethane	.45709	.44389	.45804	.43114	.47698	.910	.45343	3.783		
CS08 Fluorobenzene SS2	.93883	.87886	.87509	.91691	.92203	.971	.90635	3.094		
C150 Trichloroethene	.43937	.44748	.46953	.42991	.44460	1.051	.44618	3.288		
C140 1,2-Dichloropropane	.29430	.29316	.34599	.29714	.31595	1.097	.30923	7.265	*	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: D

Contractor: _____ Calibration Date: 03/22/94

Contract No: _____

Minimum $\overline{RF}$ for SPCC is 0.3 Maximum % RSD for CCC is 30%

Laboratory ID:	>D0635	>D0630	>D0631	>D0632	>D0634					
Compound	RF 20.00	RF 50.00	RF 100.00	RF 150.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C168 Dibromomethane	.39842	.39771	.41838	.37803	.42412	1.119	.40333	4.562		
C130 Bromodichloromethane	.63046	.66167	.71778	.65933	.74883	1.156	.68361	7.060		
C175 2-Chloroethylvinylether	.18080	.17552	.20270	.16880	.19149	1.223	.18386	7.293		
C205 4-Methyl-2-Pentanone	.22537	.23863	.26627	.21211	.23629	1.282	.23573	8.502		
C230 Toluene	.56829	.54051	.56060	.51491	.49819	1.304	.53650	5.546	*	
CS10 Bromofluorobenzene SS3	.67676	.61254	.63141	.56156	.67568	1.743	.63159	7.615		
C160 1,1,2-Trichloroethane	.29730	.28074	.30872	.27513	.29890	1.381	.29216	4.738		
CS03 Dibromofluoromethane SS4	.66251	.71979	.70092	.65997	.69551	.811	.68774	3.756		
CS05 Toluene-d8 SS5	.93813	.93771	.96118	.90980	.98010	1.292	.94539	2.814		
C210 2-Hexanone	.14730	.15168	.17917	.14059	.15449	1.433	.15465	9.491		
C190 1,2-Dibromoethane	.56957	.56402	.61460	.53755	.55828	1.463	.56880	4.979		
C155 Dibromochloromethane	.82800	.90728	.96648	.89614	.88556	.936	.89669	5.527		
C180 Bromoform	.58450	.65771	.71253	.71235	.73313	1.091	.68004	8.867		**
C235 Chlorobenzene	.91805	.94830	.96811	.99425	.97925	1.003	.96159	3.073		**
C227 1,1,1,2-Tetrachloroethane	.52265	.56103	.58516	.56233	.59422	1.013	.56508	4.908		
C240 Ethylbenzene	1.31996	1.36575	1.42891	1.43675	1.53889	1.017	1.41805	5.839	*	
C248 Xylene (Meta+Para)	.98859	1.01701	1.03510	.96409	1.03076	1.030	1.00710	2.994		
C249 Xylene (Ortho)	.46255	.48066	.48863	.47774	.49726	1.073	.48137	2.695		
C245 Styrene	.79611	.82614	.80516	.83296	.92314	1.074	.83670	6.047		
C252 1,3-Dichloropropane	.54203	.59194	.60586	.57140	.57652	.911	.57755	4.160		
C220 Tetrachloroethene	.66886	.72093	.66874	.71309	.70936	.906	.69619	3.642		
C254 Isopropylbenzene	2.35672	2.39609	2.32287	2.43293	2.73994	.891	2.44971	6.834		
C256 Bromobenzene	.98077	1.00612	1.01084	.99157	1.08436	.915	1.01473	4.011		
C258 1,2,3-Trichloropropane	.60311	.67529	.69825	.63562	.67967	.920	.65839	5.834		
C225 1,1,2,2-Tetrachloroethane	.90998	.96057	1.03623	.90899	.96682	.918	.95652	5.458		**
C260 2-Chlorotoluene	2.02381	2.16925	2.06105	2.05609	2.13554	.932	2.08915	2.904		
C262 4-Chlorotoluene	2.21720	2.27319	2.23254	2.19732	2.43944	.942	2.27194	4.300		
C264 N-Propylbenzene	2.65319	2.71655	2.87883	2.98299	3.19879	.927	2.88607	7.556		
C266 1,3,5-Trimethylbenzene	2.05641	2.06338	1.94832	1.97611	2.09847	.942	2.02854	3.124		
C268 Tert-Butylbenzene	2.04338	2.14766	1.98082	1.99196	2.26064	.969	2.08489	5.676		

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: 0

Contractor: _____ Calibration Date: 03/22/94

Contract No: _____

Minimum $\overline{RF}$ for SPCC is 0.3 Maximum % RSD for CCC is 30%

Laboratory ID:	>00635	>00630	>00631	>00632	>00634					
Compound	RF 20.00	RF 50.00	RF 100.00	RF 150.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
C270 1,2,4-Trimethylbenzene	1.94218	1.93653	2.02388	1.91197	2.07372	.973	1.97765	3.491		
C272 Sec-Butylbenzene	2.67826	2.87181	2.94076	2.71149	2.79838	.987	2.79214	3.966		
C274 1,3-Dichlorobenzene	1.42153	1.47422	1.56644	1.55047	1.51018	.994	1.50457	3.901		
C276 1,4-Dichlorobenzene	1.46429	1.64518	1.60484	1.65840	1.64742	1.002	1.60403	5.032		
C278 4-Isopropyltoluene	2.04338	2.14766	1.98082	1.99196	2.26064	.969	2.08489	5.676		
C280 1,2-Dichlorobenzene	1.46348	1.38467	1.46458	1.37939	1.49823	1.032	1.43807	3.690		
C282 N-Butylbenzene	2.47439	2.27905	2.28270	2.17270	2.36981	1.034	2.31573	4.876		
C284 1,2-Dibromo3Chloropropane	.22964	.22379	.25642	.22863	.24397	1.096	.23649	5.686		
C286 1,2,4-Trichlorobenzene	1.44077	1.23217	1.33480	1.25859	1.37308	1.164	1.32788	6.390		
C288 1,2,3-Trichlorobenzene	1.47108	1.16380	1.20685	1.09391	1.24130	1.205	1.23539	11.557		
C290 Hexachlorobutadiene	.95481	.92541	.71966	.64832	.72529	1.180	.79470	17.184		
C292 Naphthalene	2.07605	1.72751	1.85187	1.66258	1.72297	1.184	1.80820	9.114		

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

NATIONAL ENVIRONMENTAL TESTING, INC.

Thorofare Division
100 Grove Road
P.O. Box 248
Thorofare, NJ 08086
Tel: (609) 848-3939
Fax: (609) 848-9195

FOR:

ENSR Consulting

35 Nagog Park
Acton, MA 01720

Attention: Charlie Martin
Project: Philly Sun Oil

Report #: 94.00856
Date: May 04, 1994

NET ATLANTIC, INC.
Thorofare Division

Approved and released by:

John Visicaro
QA Coordinator

Review and approval of technical data by:

Neil Rossiter
Project Manager

REPORT NARRATIVE

This report contains the results of the analysis of samples by NET Atlantic, Inc. for ENSR Consulting. The samples were from the Philly Sun Oil project and were analyzed for the parameters specified on the chain of custody. The following page lists the samples associated with this job, the date the samples were received by the laboratory and correlates the lab sample ID with the client ID. A laboratory chronicle has been provided that shows the date on which each test was performed.

The following facts may be useful to the end user of these results.

Base Neutrals

1. Sample 37252 was reextracted due to poor surrogate recoveries. The original results were reported since the reextracted sample displayed similar recoveries.

NATIONAL ENVIRONMENTAL TESTING, INC.

The following table identifies all samples submitted to NET for analysis.

Client: ENSR CONSULTING Job No: 94.00856

NET ID	Client ID	Date Sampled	Date Received
134869	27451	03/10/1994	03/11/1994
134870	37252	03/11/1994	03/11/1994
134871	20851	03/10/1994	03/11/1994
134872	209D1	03/10/1994	03/11/1994
134873	37251	03/11/1994	03/11/1994
134874	36951	03/11/1994	03/11/1994
134875	33851	03/11/1994	03/11/1994
134876	TB-300	03/11/1994	03/11/1994
134877	27451 (FILTERED)	03/10/1994	03/11/1994
134878	37252 (FILTERED)	03/11/1994	03/11/1994
134879	20851 (FILTERED)	03/10/1994	03/11/1994
134880	209D1 (FILTERED)	03/10/1994	03/11/1994
134881	37251 (FILTERED)	03/11/1994	03/11/1994
134882	36951 (FILTERED)	03/11/1994	03/11/1994
134883	33851 (FILTERED)	03/11/1994	03/11/1994

Listed below are the current certifications that are held by NET, Inc. - Thorofare Division.

NJ Certification No: 08153
NY Certification No: 10867
PA Certification No: 68-212
SC Certification No: 94008
CT Certification No: PH-0784
MA Certification No: NJ119
DE Certification No: 08153(NJ)
VA Certification No: 00043
FL Certification No: E87427

M901376

ENSR CHAIN OF CUSTODY RECORD

Page 1 of 6

Client/Project Name: ENSR / SUN	Project Location: Philadelphia, PA
Project Number: 6445-051	Field Logbook No.:
Sampler: (Print Name) /Affiliation: J. Soper / ENSR	Chain of Custody Tape No.:
Signature:	Send Results/Report to: Charles Martin, ENSR, 35 Nagog Park, Acton, MA 01720 (508) 635-9500

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BN	BTEX	Sulfide	Iron, Manganese	Chloride, Sulfate, Fluoride	TDS, Bicarb., Total Alkalinity, Spec. Cond.	Nitrate, Nitrite	TOC, Ammonia	Total Metals	Lab I.D.	Remarks
27451	3-10	11:00			2-1L Amber	water	—		X										
					2-40ml		HCl			X									
					1-1L plastic		—						X						
					1-1L Plastic		—							X					
					1-1L Amber		H_2SO_4								X				
					1-1L Plastic		HNO_3									X			
					1-1L Plastic		HNO_3	X			X								Field Filtered
					1-1L Plastic		NaOH			X									
37252	3-11	1115			1-1L Plastic		HNO_3	X			X								Field Filtered
					1-1L Plastic		NaOH			X									

Relinquished by: (Print Name) John Soper	Date: 3-11-94	Received by: (Print Name)	Date: 3/11/94
Signature:	Time: 1634	Signature:	Time: 1700
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Signature:	Time:	Signature:	Time:
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Signature:	Time:	Signature:	Time:

Analytical Laboratory (Destination):

Cooler Temp 3.9, 4.3, 4.0

Serial No. 10364

000003

M901376

ENSR CHAIN OF CUSTODY RECORD

Page 2 of 6

Client/Project Name: ENSR/SUN	Project Location: Philadelphia, PA
Project Number: 6445-051	Field Logbook No.:
Sampler: (Print Name) /Affiliation: J. Soper/ENSR	Chain of Custody Tape No.:
Signature:	Send Results/Report to: Charles Martin/ENSR 35 Nagog Park Acton, MA 01720 (508) 635-9500

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	Analysis Requested: BN	BTEX	Sulfide	Iron, manganese	Chloride/ Sulfate	Fluoride	TDS; Bicarb; total alkalinity; specific cond.	Nitrate + nitrite	TOC	Total mercury	Total metals	Lab I.D.	Remarks
20851	3-10	1500			2-1L Amber	Water	—		X												
					2-40ml		HCl			X											
					1-1L Plastic		—						X								
					1-1L Plastic		—							X							
					1-1L Amber		H_2SO_4								X						
					1-1L Plastic		HNO_3									X					
					1-1L Plastic		HNO_3	X			X										Field Filtered
					1-1L Plastic		NaOH					X									
37252	3-11	1115			1-1L Amber		H_2SO_4									X					
					1-1L Plastic		HNO_3										X				

Relinquished by: (Print Name) J. Soper	Date: 3-11-94	Received by: (Print Name)	Date: 3/11/94
Signature:	Time: 1630	Signature:	Time: 1700
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Signature:	Time:	Signature:	Time:
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:
Signature:	Time:	Signature:	Time:

Analytical Laboratory (Destination):

Cooler Temp 3.9, 4.3, 4.0

Serial No. 10362

000004

M901378

ENSR — CHAIN OF CUSTODY RECORD

Client/Project Name: ENSR/SUN

Project Location: Philadelphia, PA

Project Number: 6455-051

Field Logbook No.:

Sampler: (Print Name) / Affiliation: J. Soper/ENSR

Chain of Custody Tape No.:

Signature:

Send Results/Report to: Charles Martin
ENSR, 35 Nagog Park Acton, MA 01720, (508) 635-9500

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BN	BTEX	Sulfide	Iron, Manganese	chloride, Sulfate, Fluoride	TDS, Bicarb., total alkalinity as CaCO3	Nitrate, Nitrite	TOC	Total metals	Lab I.D.	Remarks
209D1	3-10	1600			2-1L Amber	water	—		X										
					2-40ml		HCl			X									
					1L Plastic		—						X						
					1-1L Plastic		—							X					
					1-1L Amber		H_2SO_4								X				
					1-1L Plastic		HNO_3									X			
					1-1L Plastic		HNO_3	X			X								Field Filtered
					1-1L Plastic		NaOH			X									
37252	3-11	1115			1-1L Plastic		—					X							
					1-1L Plastic		—							X					

Relinquished by: (Print Name) / Signature:	Date: / Time:	Received by: (Print Name) / Signature:	Date: / Time:
John Soper	3-11-94 / 1630	[illegible]	3/11/94 / 1700
Relinquished by: (Print Name) / Signature:	Date: / Time:	Received by: (Print Name) / Signature:	Date: / Time:
Relinquished by: (Print Name) / Signature:	Date: / Time:	Received by: (Print Name) / Signature:	Date: / Time:

Analytical Laboratory (Destination):

Cooler Temp 3.9, 4.0 4.3

Serial No. 10346

500005

ENSR CHAIN OF CUSTODY RECORD

Page 4 of 6

Client/Project Name: ENSR / SUN	Project Location: Philadelphia, PA
Project Number: 6615-051	Field Logbook No.:
Sampler: (Print Name) /Affiliation: J. Soper / ENSR	Chain of Custody Tape No.:
Signature:	Send Results/Report to: Charles Martin, ENSR, 35 Nagog Park, Acton, MA 01720 (508) 635-9500

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BN	BTEX	Sulfide	Iron, Manganese	Chloride, Fluoride, Sulfate	TDS, Bicarb, Total Alkalinity, Spec Cond	Nitrate, Nitrite	TOC, Ammonia	Total Metals	Lab I.D.	Remarks
37251	3-11	1115			2-1L Amber	Water	—		X										
	3-11				2-40ml		HCl			X									
					1-1L Plastic		—				X								
					1-1L plastic		—						X						
					1-1L Amber		H_2SO_4							X					
					1-1L Plastic		HNO_3								X				
					1-1L plastic		HNO_3	X			X								Field Filtered
		↓			1-1L Plastic		NaOH			X									
37252					2-1L Amber		—		X										
↓	↓	↓			2-40ml	↓	HCl		X										

Relinquished by: (Print Name) John Soper	Date: 3-11-94	Received by: (Print Name)	Date: 3/11/94	Analytical Laboratory (Destination):
Signature:	Time: 1630	Signature:	Time: 1700	
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:	Cooler Temp 3.9 4.0 4.3
Signature:	Time:	Signature:	Time:	
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:	
Signature:	Time:	Signature:	Time:	

Serial No. 10361

900000

M901376

ENSR CHAIN OF CUSTODY RECORD

Page 5 of 6

Client/Project Name: ENSR/SUN	Project Location: Philadelphia, PA
Project Number: 6445-051	Field Logbook No.:
Sampler: (Print Name) /Affiliation: J. Soper ENSR	Chain of Custody Tape No.:
Signature:	Send Results/Report to: Charles Martin ENSR 35 Nagog Park, Acton, MA 01720 (508) 635-9500

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BN	BTEX	Sulfide	Iron, manganese	Chloride Fluoride Sulfate	TDS, Bicarb, total alkalinity, spec. cond.	Nitrate nitrite	TOC, ammonia	Total metals	Lab I.D.	Remarks
36951	3-11	1330			2-L Amber	Water	—		X										
					2-40ml		HCl			X									
					1-L Plastic		—						X						
					1-L Plastic		—							X					
					1-L Amber		H_2SO_4								X				
					1-L Plastic		HNO_3									X			
				/	1-L Plastic		HNO_3	X			X								Field Filtered
					1-L Plastic		NaOH			X									

Relinquished by: (Print Name) J. Soper	Date: 3-11-94	Received by: (Print Name) [illegible]	Date: 3/11/94	Analytical Laboratory (Destination):
Signature:	Time: 1630	Signature:	Time: 1700	
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:	
Signature:	Time:	Signature:	Time:	
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:	
Signature:	Time:	Signature:	Time:	

Cooler Temp 3.9, 4.3, 4.0

Serial No. 10360

200007

CHAIN OF CUSTODY RECORD

Page 6 of 6

Client/Project Name: ENSR/SUN	Project Location: Philadelphia, PA
Project Number: 6445-051	Field Logbook No.:
Sampler: (Print Name) /Affiliation: J Soper/ENSR	Chain of Custody Tape No.:
Signature:	Send Results/Report to: ENSR; Charles Mantzaris, 35 Nagog Park, Acton MA 01720, 508 635-9500

Analysis Requested

Field Sample No./ Identification	Date	Time	Grab	Comp	Sample Container (Size/Matl)	Sample Type (Liquid, Sludge, Etc.)	Preservative	Field Filtered	BJ BTEX	Sulfide	Iron, manganese	Chloride, Fluoride, Sulfate	TDS, Bicarb., total alkalinity as CaCO3	Nitrate, nitrite	TOC	Total Cyanide	Lab I.D.	Remarks
33851	3-11-94	1515			Water	2-1L Amber	—		X									
						2-40ml	HCl			X								
						1-1L Plastic	—					X						
						1-1L Plastic	—						X					
						1-1L Amber	H_2SO_4							X				
						1-1L Plastic	HNO_3								X			
						1-1L Plastic	HNO_3	X			X							
						1-1L Plastic	NaOH			X								Field filtered
TB-300	3-11-94	1600				2-40ml	HCl		X									Field Blank

Relinquished by: (Print Name) J. Soper	Date: 3-11-94	Received by: (Print Name)	Date: 3/11/94	Analytical Laboratory (Destination):
Signature:	Time: 1630	Signature:	Time: 1700	
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:	
Signature:	Time:	Signature:	Time:	
Relinquished by: (Print Name)	Date:	Received by: (Print Name)	Date:	Cooler Temp 3.9, 4.3, 4.0
Signature:	Time:	Signature:	Time:	

Serial No. 10349

800000

METHODOLOGY SUMMARY

PURGEABLES GC/MS

USEPA Method 624(40 CFR Ch. I (7-1-91 Edition), Method 8240 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are purge and trap methods applicable to the determination of purgeable organic compounds. An inert gas is bubbled thru a sample aliquot contained in a purging chamber where the purgeables are transferred to the vapor phase. The purgeables are collected on a sorbent trap which is rapidly heated and backflushed with helium to desorb the purgeables onto a capillary GC column. The GC is temperature programmed to allow the separation of the purgeables which are then detected with a mass spectrometer. Refer to the method for specific interferences.

As per the applicable methodology the laboratory supplies vials containing Hydrochloric Acid (HCL) for preservation of aqueous samples. 2-Chloroethylvinyl ether is susceptible to acidic degradation which can adversely affect the detectability of this compound.

BASE/NEUTRALS

USEPA Method 625(40 CFR Ch. I (7-1-91 Edition), Method 8270 (SW 846 rev.2 1990) and/or USEPA CLP (3/90 rev. 1.8). These are GC/MS methods applicable to the determination of organic compounds that are partitioned into an organic solvent and amenable to gas chromatography. A sample aliquot is extracted with methylene chloride (continuous liquid-liquid for waters, sonication for soils) which is dried, concentrated and analyzed on a Hewlett-Packard GC/MS fitted with a capillary column. Extracts may be subjected to one or more clean-up steps to eliminate matrix interferences. Refer to the method for specific interferences.

METALS

Aqueous samples for metals analysis were run in accordance with the methods prescribed in "Methods for Analysis of Water and Wastes" (EPA-600/4-79-020), Metals-4, as modified for use in the USEPA CLP.

INORGANIC PARAMETERS

The following USEPA Methods for Chemical Analysis of Water and Wastes EPA-600/4-79-020 were used by the laboratory.

Ammonia Nitrogen (Ammonia) - Method 350.2
Chloride - Method 325.3
Conductance - Method 120.1
Fluoride - Method 340.2
Nitrate/Nitrie - Method 353.1
Sulfate - Method 375.4
Sulfide - Method 376.1
Total Dissolved Solids (TDS) - Method 160.1
Total Organic Carbon (TOC) - Method AQ 415.1 SO 415.1 MOD

ALKALINITY

An aliquot of the unaltered sample is titrated against standardized sulfuric acid to pH 4.5 using a pH meter. Results are reported as ug of Calcium Carbonate per Liter of sample. USEPA Method 310.1

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis .

Client: ENSR CONSULTING Job No: 94.00856

NET ID	Client ID	Sampling Date	Date Received	MATRIX
134869	27451	03/10/1994	03/11/1994	GR
134870	37252	03/11/1994	03/11/1994	GR
134871	20851	03/10/1994	03/11/1994	GR
134872	20901	03/10/1994	03/11/1994	GR
134873	37251	03/11/1994	03/11/1994	GR
134874	36951	03/11/1994	03/11/1994	GR
134875	33851	03/11/1994	03/11/1994	GR

Laboratory ID:	134869	134870	134871	134872	134873	134874	134875
Organic Extraction							
Semivolatile AQ (GC/MS)	03/17/1994	03/20/1994	03/17/1994	03/17/1994	03/20/1994	03/20/1994	03/20/1994
Semivolatile SO (GC/MS)							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							
TCLP Non-volatiles extraction							
TCLP Volatiles extraction							
Inorganic Preparation							
Metals(Except Hg & CrVI)	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994
Phenols							
Cyanides							
Organic Analysis							
Semivolatiles AQ	04/21/1994	04/20/1994	04/20/1994	04/20/1994	04/20/1994	04/20/1994	04/20/1994
Semivolatiles SO							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Volatile Organics AQ (GC/MS)	03/19/1994	03/21/1994	03/18/1994	03/18/1994	03/18/1994	03/18/1994	03/18/1994
Volatile Organics SO (GC/MS)							
Volatile Organics AQ (GC)							
Volatile Organics SO (GC)							
Acrolein & Acrylonitrile (GC)							
Selected Organics (GC)							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis

Client: ENSR CONSULTING Job No: 94.00856

NET ID	Client ID	Sampling Date	Date Received	MATRIX
134876	TB-300	03/11/1994	03/11/1994	GR
134877	27451 (FILTERED)	03/10/1994	03/11/1994	MI
134878	37252 (FILTERED)	03/11/1994	03/11/1994	MI
134879	20851 (FILTERED)	03/10/1994	03/11/1994	MI
134880	20901 (FILTERED)	03/10/1994	03/11/1994	MI
134881	37251 (FILTERED)	03/11/1994	03/11/1994	MI
134882	36951 (FILTERED)	03/11/1994	03/11/1994	MI

Laboratory ID:	134876	134877	134878	134879	134880	134881	134882
Organic Extraction							
Semivolatile AQ (GC/MS)							
Semivolatile SO (GC/MS)							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							
TCLP Non-volatiles extraction							
TCLP Volatiles extraction							
Inorganic Preparation							
Metals(Except Hg & CrVI)	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	04/06/1994	
Phenols							
Cyanides							
Organic Analysis							
Semivolatiles AQ							
Semivolatiles SO							
Pesticides/PCBs AQ							
Pesticides/PCBs SO							
Herbicides AQ							
Herbicides SO							
Volatile Organics AQ (GC/MS)	03/18/1994						
Volatile Organics SO (GC/MS)							
Volatile Organics AQ (GC)							
Volatile Organics SO (GC)							
Acrolein & Acrylonitrile (GC)							
Selected Organics (GC)							
Petroleum Hydrocarbons AQ							
Petroleum Hydrocarbons SO							

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle
Organic Extraction / Inorganic Prep / Organic Analysis

Client: ENSR CONSULTING Job No: 94.00856

NET ID	Client ID	Sampling Date	Date Received	MATRIX
134883	33851 (FILTERED)	03/11/1994	03/11/1994	MI

Laboratory ID: 134883

Organic Extraction

Semivolatile AQ (GC/MS)
Semivolatile SO (GC/MS)
Pesticides/PCBs AQ
Pesticides/PCBs SO
Herbicides AQ
Herbicides SO
Petroleum Hydrocarbons AQ
Petroleum Hydrocarbons SO
TCLP Non-volatiles extraction
TCLP Volatiles extraction

Inorganic Preparation

Metals(Except Hg & CrVI) 04/06/1994
Phenols
Cyanides

Organic Analysis

Semivolatiles AQ
Semivolatiles SO
Pesticides/PCBs AQ
Pesticides/PCBs SO
Herbicides AQ
Herbicides SO
Volatile Organics AQ (GC/MS)
Volatile Organics SO (GC/MS)
Volatile Organics AQ (GC)
Volatile Organics SO (GC)
Acrolein & Acrylonitrile (GC)
Selected Organics (GC)
Petroleum Hydrocarbons AQ
Petroleum Hydrocarbons SO

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00856

NET ID	Client ID	Sampling Date	Date Received	MATRIX
134869	27451	03/10/1994	03/11/1994	GR
134870	37252	03/11/1994	03/11/1994	GR
134871	20851	03/10/1994	03/11/1994	GR
134872	20901	03/10/1994	03/11/1994	GR
134873	37251	03/11/1994	03/11/1994	GR
134874	36951	03/11/1994	03/11/1994	GR
134875	33851	03/11/1994	03/11/1994	GR

Laboratory ID:	134869	134870	134871	134872	134873	134874	134875
Parameter							
Alkalinity	03/13/1994	03/13/1994	03/13/1994	03/13/1994	03/13/1994	03/13/1994	03/13/1994
Alkalinity, Bicarb. at pH 4.	03/13/1994	03/13/1994	03/13/1994	03/13/1994	03/13/1994	03/13/1994	03/13/1994
Ammonia	03/29/1994	03/29/1994	03/29/1994	03/29/1994	03/29/1994	03/29/1994	03/29/1994
Chloride	04/04/1994	04/04/1994	04/04/1994	04/04/1994	04/04/1994	04/04/1994	04/04/1994
Conductivity	03/14/1994	03/14/1994	03/14/1994	03/14/1994	03/14/1994	03/14/1994	03/14/1994
Fluoride, Total	03/25/1994	03/25/1994	03/25/1994	03/25/1994	03/25/1994	03/25/1994	03/25/1994
Nitrate/nitrite	03/29/1994	03/29/1994	03/29/1994	03/29/1994	03/29/1994	03/29/1994	03/29/1994
Solids, dissolved (TDS)	03/15/1994	03/15/1994	03/15/1994	03/15/1994	03/15/1994	03/15/1994	03/15/1994
Sulfate	03/30/1994	03/30/1994	03/30/1994	03/30/1994	03/30/1994	03/30/1994	03/30/1994
Sulfide	03/17/1994	03/17/1994	03/17/1994	03/17/1994	03/17/1994	03/17/1994	03/17/1994
Total Organic Carbon	03/22/1994	03/22/1994	03/22/1994	03/22/1994	03/22/1994	03/22/1994	03/22/1994
Arsenic (As)	04/15/1994	04/15/1994	04/19/1994	04/15/1994	04/15/1994	04/15/1994	04/22/1994
Cobalt (Co)	04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994
Iron (Fe)	04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994
Lead (Pb)	04/19/1994	04/19/1994	04/20/1994	04/19/1994	04/19/1994	04/19/1994	04/20/1994
Manganese (Mn)	04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00856

NET ID	Client ID	Sampling Date	Date Received	MATRIX
134876	TB-300	03/11/1994	03/11/1994	GR
134877	27451 (FILTERED)	03/10/1994	03/11/1994	MI
134878	37252 (FILTERED)	03/11/1994	03/11/1994	MI
134879	20851 (FILTERED)	03/10/1994	03/11/1994	MI
134880	20901 (FILTERED)	03/10/1994	03/11/1994	MI
134881	37251 (FILTERED)	03/11/1994	03/11/1994	MI
134882	36951 (FILTERED)	03/11/1994	03/11/1994	MI

Laboratory ID:	134876	134877	134878	134879	134880	134881	134882
Parameter							
Iron (Fe)		04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994
Manganese (Mn)		04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994	04/15/1994

NATIONAL ENVIRONMENTAL TESTING, INC.
Laboratory Chronicle

Client: ENSR CONSULTING Job No: 94.00856

NET ID	Client ID	Sampling Date	Date Received	MATRIX
134883	3851 (FILTERED)	03/11/1994	03/11/1994	MI

Laboratory ID: 134883

Parameter	
Iron (Fe)	04/15/1994
Manganese (Mn)	04/15/1994

Definition of terms, abbreviations and flags that may be used in this report.

Flag/Term/Abbrev.	Definition
U	Compound was analyzed for but not detected. The laboratory has reported the method detection limit for the compound.
J	Compound was detected at a concentration below the practical reporting level, yet above the method detection limit. These values are estimates.
B	Compound was detected in the method/extraction blank as well as the sample. The data user is warned of possible laboratory introduced contamination.
NA	Not Applicable
ND	Not Detected
NC	Not Calculable
NR	Not Requested or Not Reported
MDL	Method detection limit. Can be a limit specified by the method or a number determined by performing an MDL study.
LCS	Laboratory Control Sample
MS/MSD	Matrix Spike/Matrix Spike Duplicate
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
umhos	conductivity units; resistance is expressed in ohms.
NTU	Nephlometric Turbidity Units; used for turbidity.
col/9	Colonies per volume of sample analyzed; used for bacteriology.
deg C	degrees celcius
deg F	degrees fahrenheit
ug	microgram; there are 1000 ug in 1 mg.
mg	milligram; there are 1000 mg in 1 g.
g	gram; there are 1000 g in 1 Kg.
Kg	kilogram
ul	microliter; there are 1000 ul in 1 ml.
ml	milliliter; there are 1000 ml in 1 liter.
L	liter
dw	Dry weight; indicates that the reported value has been corrected for percent solids.
ppm	Parts per million = mg/Kg, ug/g, mg/L, ug/ml; 1 ppm = 1000ppb
ppb	Parts per billion = ug/Kg, ug/L

INORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134869
Client Sample ID: 27451

Parameter	Results	Units
Alkalinity	235	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	235	ppmCaCO3
Ammonia	5.6	mg/L N
Chloride	25	mg/L
Conductivity	1606	umhos/cm
Fluoride, Total	0.81	mg/L
Nitrate/nitrite	<1.0	mg/L N
Solids, dissolved (TDS)	1550	mg/L
Sulfate	816	mg/L
Sulfide	5.33	mg/L
Total Organic Carbon	73	mg/L
Arsenic (As)	0.039	mg/L
Cobalt (Co)	<0.01	mg/L
Iron (Fe)	45.5	mg/L
Lead (Pb)	0.034	mg/L
Manganese (Mn)	2.66	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134870
Client Sample ID: 37252

Parameter	Results	Units
Alkalinity	337	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	337	ppmCaCO3
Ammonia	9.4	mg/L N
Chloride	736	mg/L
Conductivity	3468	umhos/cm
Fluoride, Total	0.30	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	2500	mg/L
Sulfate	896	mg/L
Sulfide	<0.2	mg/L
Total Organic Carbon	61	mg/L
Arsenic (As)	0.029	mg/L
Cobalt (Co)	0.092	mg/L
Iron (Fe)	171	mg/L
Lead (Pb)	0.009	mg/L
Manganese (Mn)	12.7	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134871
Client Sample ID: 20851

Parameter	Results	Units
Alkalinity	396	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	396	ppmCaCO3
Ammonia	0.2	mg/L N
Chloride	36	mg/L
Conductivity	922	umhos/cm
Fluoride, Total	0.19	mg/L
Nitrate/nitrite	9.8	mg/L N
Solids, dissolved (TDS)	890	mg/L
Sulfate	75	mg/L
Sulfide	<1.0	mg/L
Total Organic Carbon	3	mg/L
Arsenic (As)	0.059	mg/L
Cobalt (Co)	0.43	mg/L
Iron (Fe)	547	mg/L
Lead (Pb)	0.44	mg/L
Manganese (Mn)	28.2	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134872
Client Sample ID: 209D1

Parameter	Results	Units
Alkalinity	250	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	250	ppmCaCO3
Ammonia	0.6	mg/L N
Chloride	115	mg/L
Conductivity	937	umhos/cm
Fluoride, Total	0.14	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	575	mg/L
Sulfate	34	mg/L
Sulfide	5.18	mg/L
Total Organic Carbon	3.0	mg/L
Arsenic (As)	0.007	mg/L
Cobalt (Co)	0.051	mg/L
Iron (Fe)	50.2	mg/L
Lead (Pb)	0.037	mg/L
Manganese (Mn)	1.00	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134873
Client Sample ID: 37251

Parameter	Results	Units
Alkalinity	473	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	473	ppmCaCO3
Ammonia	9.8	mg/L N
Chloride	613	mg/L
Conductivity	3190	umhos/cm
Fluoride, Total	0.29	mg/L
Nitrate/nitrite	<0.1	mg/L N
Solids, dissolved (TDS)	2270	mg/L
Sulfate	715	mg/L
Sulfide	3.28	mg/L
Total Organic Carbon	57	mg/L
Arsenic (As)	0.036	mg/L
Cobalt (Co)	0.080	mg/L
Iron (Fe)	148	mg/L
Lead (Pb)	0.010	mg/L
Manganese (Mn)	11.4	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134874
Client Sample ID: 36951

Parameter	Results	Units
Alkalinity	124	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	124	ppmCaCO3
Ammonia	<0.1	mg/L N
Chloride	13	mg/L
Conductivity	1638	umhos/cm
Fluoride, Total	0.71	mg/L
Nitrate/nitrite	1.7	mg/L N
Solids, dissolved (TDS)	400	mg/L
Sulfate	41	mg/L
Sulfide	<0.2	mg/L
Total Organic Carbon	4	mg/L
Arsenic (As)	0.035	mg/L
Cobalt (Co)	0.11	mg/L
Iron (Fe)	212	mg/L
Lead (Pb)	0.071	mg/L
Manganese (Mn)	2.20	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134875
Client Sample ID: 33851

Parameter	Results	Units
Alkalinity	111	ppmCaCO3
Alkalinity, Bicarb. at pH 4.5	111	ppmCaCO3
Ammonia	<0.1	mg/L N
Chloride	11	mg/L
Conductivity	295	umhos/cm
Fluoride, Total	1.39	mg/L
Nitrate/nitrite	0.5	mg/L N
Solids, dissolved (TDS)	300	mg/L
Sulfate	14	mg/L
Sulfide	<0.2	mg/L
Total Organic Carbon	5	mg/L
Arsenic (As)	0.068	mg/L
Cobalt (Co)	0.35	mg/L
Iron (Fe)	583	mg/L
Lead (Pb)	1.75	mg/L
Manganese (Mn)	19.4	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134877
Client Sample ID: 27451 (FILTERED)

Parameter	Results	Units
Iron (Fe)	43.1	mg/L
Manganese (Mn)	2.70	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134878
Client Sample ID: 37252 (FILTERED)

Parameter	Results	Units
Iron (Fe)	139	mg/L
Manganese (Mn)	12.1	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134879
Client Sample ID: 20851 (FILTERED)

Parameter	Results	Units
Iron (Fe)	0.16	mg/L
Manganese (Mn)	3.27	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134880
Client Sample ID: 209D1 (FILTERED)

Parameter	Results	Units
Iron (Fe)	8.70	mg/L
Manganese (Mn)	0.73	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134881
Client Sample ID: 37251 (FILTERED)

Parameter	Results	Units
Iron (Fe)	115	mg/L
Manganese (Mn)	10.4	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134882
Client Sample ID: 36951 (FILTERED)

Parameter	Results	Units
Iron (Fe)	<0.10	mg/L
Manganese (Mn)	<0.01	mg/L

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
Job No: 94.00856
Sample No: 134883
Client Sample ID: 33851 (FILTERED)

Parameter	Results	Units
Iron (Fe)	<0.10	mg/L
Manganese (Mn)	0.11	mg/L

ORGANIC RESULTS SUMMARY SECTION

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134869
Client Sample ID: 27451

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	3.8	J	ug/L	2.5	04/21/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/21/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134869
Client Sample ID: 27451

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	37,730		ug/L	1000	03/19/1994	res	201
Toluene	1,500	U	ug/L	1500	03/19/1994	res	201
Ethylbenzene	1,500	U	ug/L	1500	03/19/1994	res	201
m+p-Xylenes	1,200	U	ug/L	1200	03/19/1994	res	201
o-Xylene	1,200	U	ug/L	1200	03/19/1994	res	201

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134870
Client Sample ID: 37252

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134870
Client Sample ID: 37252

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	20.	U	ug/L	20.	03/21/1994	res	198
Toluene	30.	U	ug/L	30.	03/21/1994	res	198
Ethylbenzene	30.	U	ug/L	30.	03/21/1994	res	198
m+p-Xylenes	25.	U	ug/L	25.	03/21/1994	res	198
o-Xylene	25.	U	ug/L	25.	03/21/1994	res	198

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134871
Client Sample ID: 20851

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134871
Client Sample ID: 20851

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/18/1994	res	195
Toluene	6.0	U	ug/L	6.0	03/18/1994	res	195
Ethylbenzene	6.0	U	ug/L	6.0	03/18/1994	res	195
m+p-Xylenes	5.0	U	ug/L	5.0	03/18/1994	res	195
o-Xylene	5.0	U	ug/L	5.0	03/18/1994	res	195

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134872
Client Sample ID: 2090I

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134872
Client Sample ID: 209D1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/18/1994	res	195
Toluene	6.0	U	ug/L	6.0	03/18/1994	res	195
Ethylbenzene	6.0	U	ug/L	6.0	03/18/1994	res	195
m+p-Xylenes	5.0	U	ug/L	5.0	03/18/1994	res	195
o-Xylene	5.0	U	ug/L	5.0	03/18/1994	res	195

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134873
Client Sample ID: 37251

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	1.2	J	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134873
Client Sample ID: 37251

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	1.5	J	ug/L	4.0	03/18/1994	res	201
Toluene	6.0	U	ug/L	6.0	03/18/1994	res	201
Ethylbenzene	6.0	U	ug/L	6.0	03/18/1994	res	201
m+p-Xylenes	5.0	U	ug/L	5.0	03/18/1994	res	201
o-Xylene	5.0	U	ug/L	5.0	03/18/1994	res	201

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134874
Client Sample ID: 36951

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134874
Client Sample ID: 36951

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/18/1994	res	195
Toluene	6.0	U	ug/L	6.0	03/18/1994	res	195
Ethylbenzene	6.0	U	ug/L	6.0	03/18/1994	res	195
m+p-Xylenes	5.0	U	ug/L	5.0	03/18/1994	res	195
o-Xylene	5.0	U	ug/L	5.0	03/18/1994	res	195

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134875
Client Sample ID: 33851

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	9.2	J	ug/L	10.	04/20/1994	jig	10	4

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134875
Client Sample ID: 33851

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	1,220		ug/L	40.	03/18/1994	res	195
Toluene	734.		ug/L	60.	03/18/1994	res	195
Ethylbenzene	285.		ug/L	60.	03/18/1994	res	195
m+p-Xylenes	495.		ug/L	50.	03/18/1994	res	195
o-Xylene	54.		ug/L	50.	03/18/1994	res	195

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134876
Client Sample ID: TB-300

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/18/1994	res	195
Toluene	6.0	U	ug/L	6.0	03/18/1994	res	195
Ethylbenzene	6.0	U	ug/L	6.0	03/18/1994	res	195
m+p-Xylenes	5.0	U	ug/L	5.0	03/18/1994	res	195
o-Xylene	5.0	U	ug/L	5.0	03/18/1994	res	195

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

ACID EXTRACTABLE/BASE NEUTRALS

Client: [illegible] Consulting Report No: 94-008516

Client ID	NET ID	Nitrobenzene-d5 (35-114)	2-Fluorobiphenyl (43-116)	p-terphenyl-d14 (33-141)	Phenol-d6 (10-94)	2-Fluorophenol (21-100)	2,4,6-Tribromophenol (10-123)
27451	134869	76	106	24*	55	22	59
37252	134870	24*	58	21*	4*	14*	85
20851	134871	76	74	42	3*	5*	1*
20901	134872	64	64	38	5*	27	107
37251	134873	48	46	28*	5*	0*	115
31a951	134874	82	80	44	5*	0*	0*
33851	134875	76	72	34	5*	0*	0*
Blank #3	A2938	80	84	100	5*	0*	0*
Blank #4	A2939	92	90	112	4*	0*	0*
MS	A2936	76	74	31a	7*	0*	0*
MSD	A2937	74	72	41a	12	0*	0*

COMMENTS: * Outside Control Limits — NA

NET ATLANTIC, INC.
THOROFARE DIVISION

WATER SURROGATE PERCENT RECOVERY SUMMARY

VOLATILES

Client: Fish Consulting Report No: 94008516

Client ID	NET ID	Toluene-d8 (88-110)	BFB (86-115)	1,2-Dichloroethane-d4 (76-114)
27451	134869	100	108	108
37252	134870	98	102	90
20851	134871	96	102	98
20901	134872	100	102	96
37251	134873	100	108	98
31951	134874	102	98	98
33851	134875	98	100	94
TB-303	134876	98	102	96
Blank	>00587	96	96	96
Blank	>00613	100	100	102
Blank	>E5220	100	102	98
MS	E1D216A	100	102	98
MSD	E1P216A	101	102	96
MS	E90197	94	98	104
MSD	E90-197	92	100	102

COMMENTS: _____

000049

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

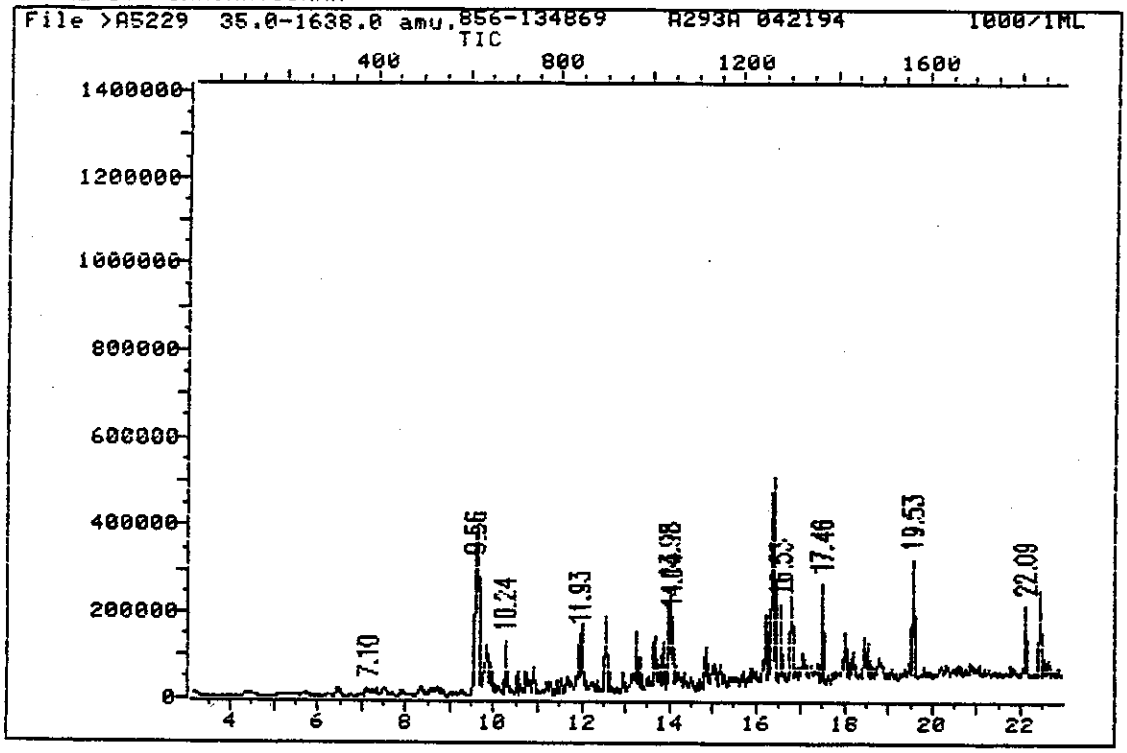
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134869
Client Sample ID: 27451

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/21/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/21/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	3.8	J	ug/L	2.5	04/21/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/21/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/21/1994	jig	10	4

TOTAL ION CHROMATOGRAM



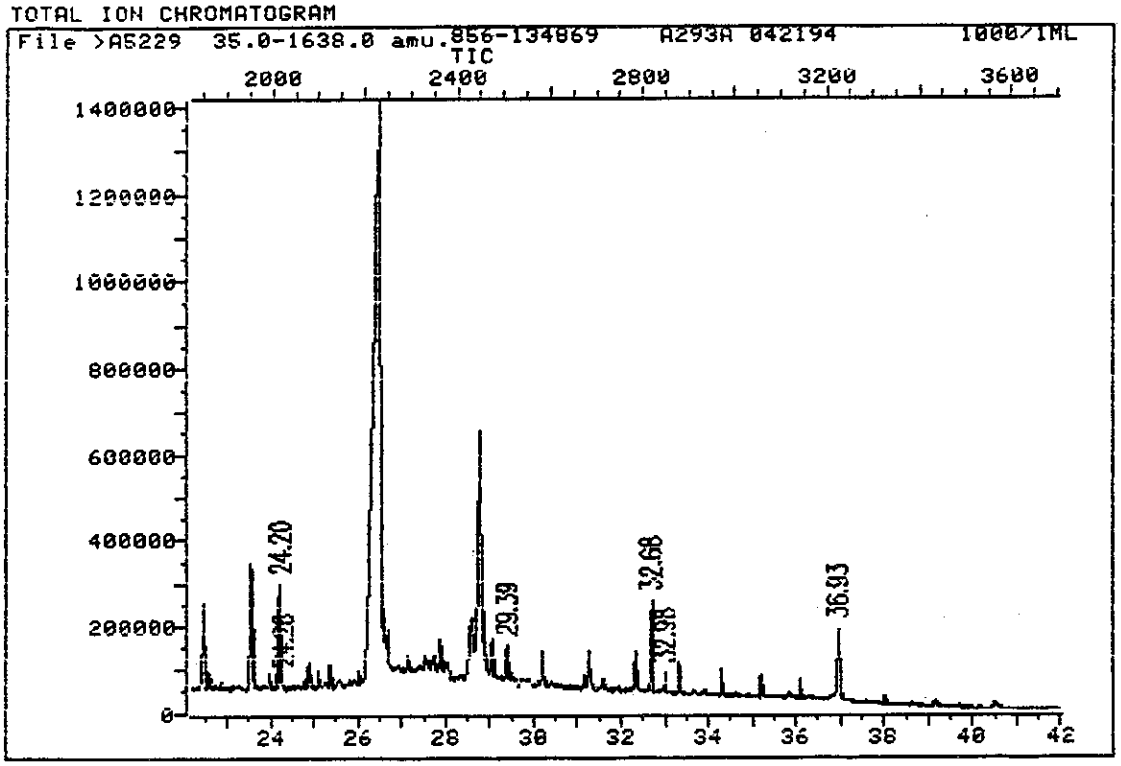
Data File: >A5229::E4 Quant Output File: ^A5229::D3
Name: 856-134869 A293A
Misc: 042194 1000/1ML HP5970 A BTL# 5

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 18:37
Injected at: 940421 17:51

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5229::E4 Quant Output File: ^A5229::D3
Name: 856-134869 A293A
Misc: 042194 1000/1ML HP5970 A BTL# 5

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940421 18:37
Injected at: 940421 17:51

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940421 18:37
Output File: ^A5229::D3 Injected at: 940421 17:51
Data File: >A5229::E4 Dilution Factor: 1.00000
Name: 856-134869 A293A
Misc: 042194 1000/1ML HP5970 A BTL# 5

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.24	152.0	56369	40.00	ug/L	3
2)	CS50 2-Fluorophenol	7.10	112.0	35934	21.83	ug/L	97
3)	CS45 D5-Phenol	9.56	99.0	118600	55.28	ug/L	98
15)	*CI40 D8-Naphthalene	13.98	136.0	202824	40.00	ug/L	4
16)	CS20 D5-Nitrobenzene	11.93	82.0	73907	38.38	ug/L	93
18)	C450 Naphthalene	14.04	128.0	80377	14.59	ug/L	99
20)	C471 1-Methylnaphthalene	16.53	142.0	87122	24.34	ug/L	3
21)	*CI50 D10-Acenaphthene	19.53	164.0	121995	40.00	ug/L	98
22)	CS25 2-Fluorobiphenyl	17.46	172.0	140052	32.93	ug/L	95
27)	CS55 2,4,6-Tribromophenol	22.09	330.0	49616	58.52	ug/L	4
28)	*CI60 D10-Phenanthrene	24.20	188.0	224207	40.00	ug/L	98
29)	C640 Phenanthrene	24.26	178.0	16657	2.68	ug/L	98
33)	*CI70 D12-Chrysene	32.68	240.0	194634	40.00	ug/L	6
35)	CS30 D14-Terphenyl	29.39	244.0	62125	12.10	ug/L	85
39)	C745 bis(2Ethylhexyl)phthalate	32.98	149.0	25088	3.83	ug/L	88
40)	*CI75 D12-Perylene	36.93	264.0	188736	40.00	ug/L	5

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

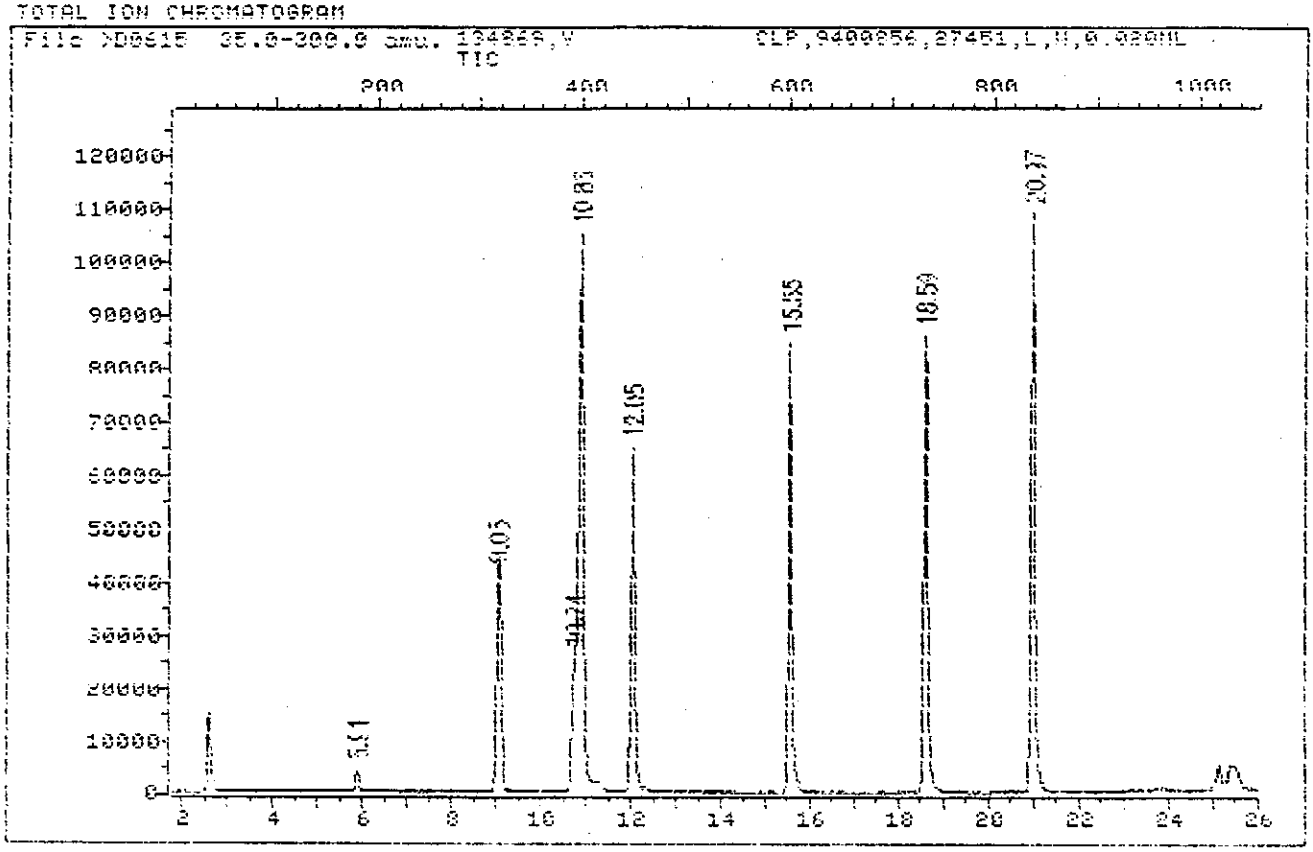
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134869
Client Sample ID: 27451

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	37,730		ug/L	1000	03/19/1994	res	201
Toluene	1,500	U	ug/L	1500	03/19/1994	res	201
Ethylbenzene	1,500	U	ug/L	1500	03/19/1994	res	201
m+p-Xylenes	1,200	U	ug/L	1200	03/19/1994	res	201
o-Xylene	1,200	U	ug/L	1200	03/19/1994	res	201

TOTAL ION CHROMATOGRAM



Data File: >D0615::D1 Quant Output File: ^D0615::D3
Name: 134869,V
Misc: CLP,9400856,27451,L,W,0.020ML

Id File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940319 09:41

Operator ID: BURT
Quant Time: 940319 11:49
Injected at: 940319 11:18

QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940319 11:49
Output File: ^D0615::D3 Injected at: 940319 11:18
Data File: >D0615::D1 Dilution Factor: 1.00000
Name: 134869,U
Misc: CLP,9400856,27451,L,W,0.020ML

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940319 09:41

	Compound		R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	9.05	128.0	48606	50.00	UG/L	84
6)	C030 Methylene Chloride		5.91	84.0	5135	5.71	UG/L	7
13)	CS15 D4-1,2-Dichloroethane	SS1	10.74	65.0	71817	54.27	UG/L	89
16)	*CI10 1,4-Difluorobenzene	IS-2	12.05	114.0	164819	50.00	UG/L	69
26)	C165 Benzene		10.88	78.0	344596	150.93	UG/L	8
29)	*CI20 D5-Chlorobenzene	IS-3	18.59	117.0	161291	50.00	UG/L	98
35)	CS05 D8-Toluene	SS-2	15.55	98.0	176927	50.11	UG/L	98
42)	CS10 Bromofluorobenzene	SS-3	20.97	95.0	129400	53.66	UG/L	8

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

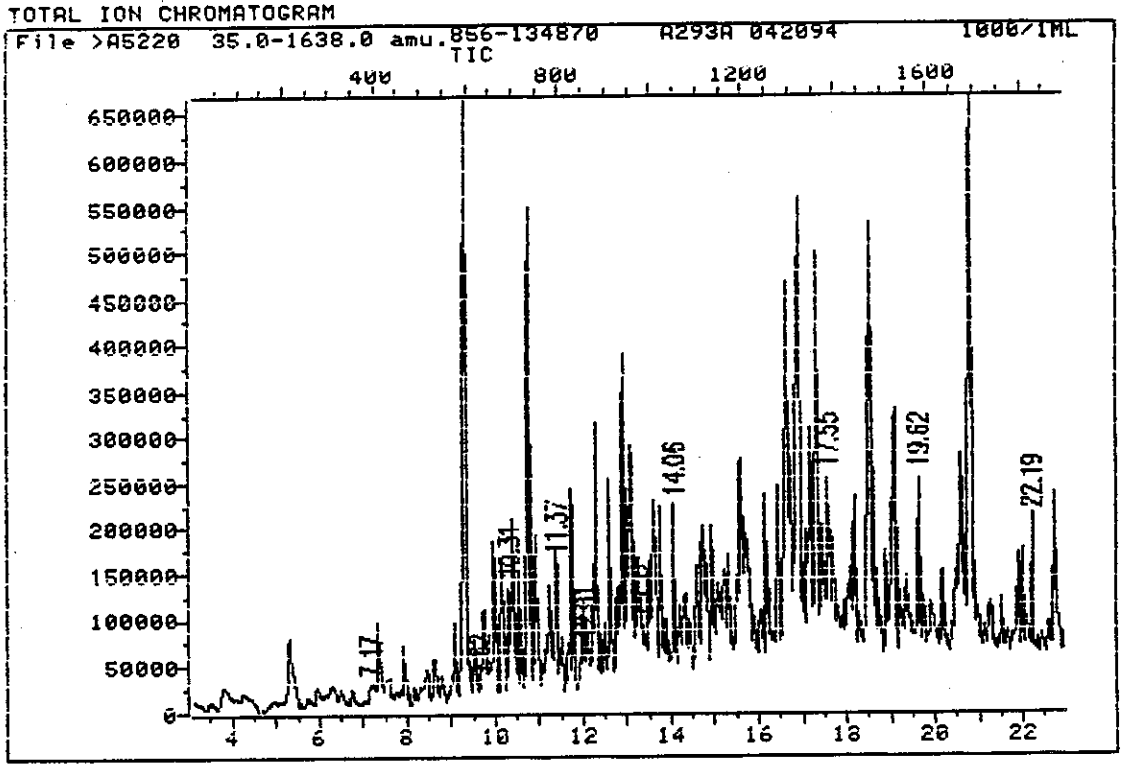
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134870
Client Sample ID: 37252

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

TOTAL ION CHROMATOGRAM



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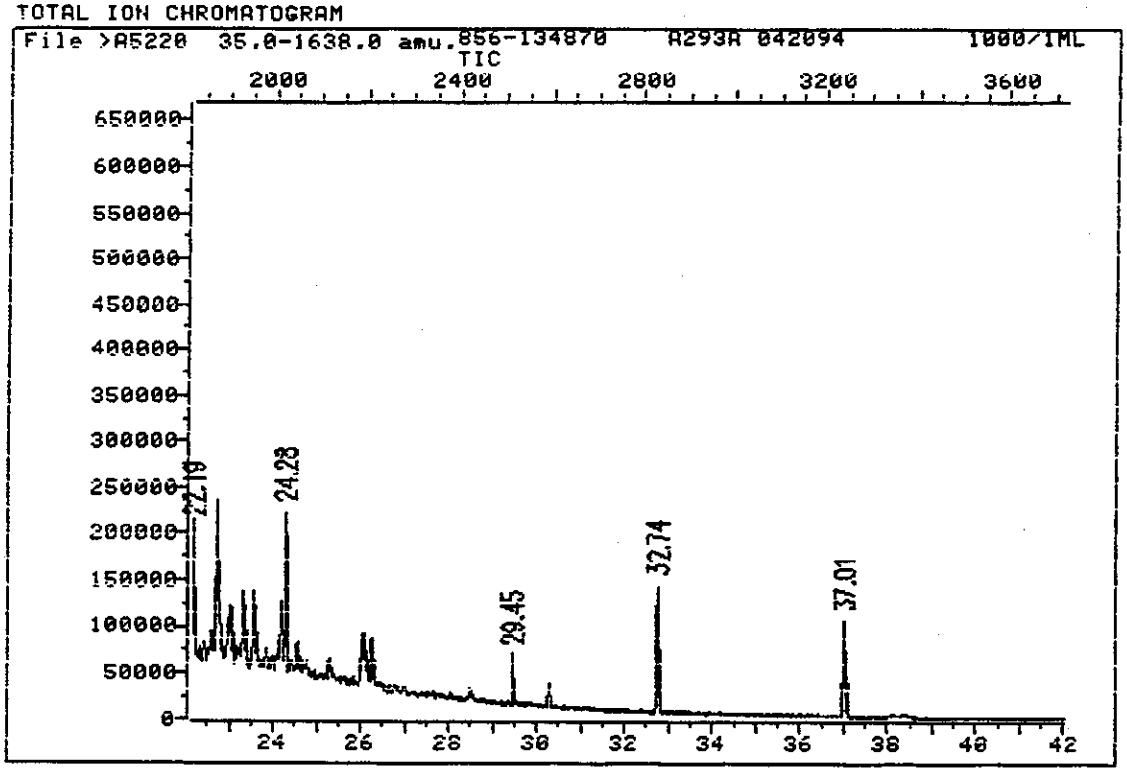
Name: 856-134870 A293A
Misc: 042094 1000/1ML HP5970 A BTL#11

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 18:43
Injected at: 940420 17:58

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5220::E4 Quant Output File: ^A5220::D5
Name: 856-134870 A293A
Misc: 042094 1000/1ML HP5970 A BTL#11

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 18:43
Injected at: 940420 17:58

TIC page 2 of 2

QUANT REPORT

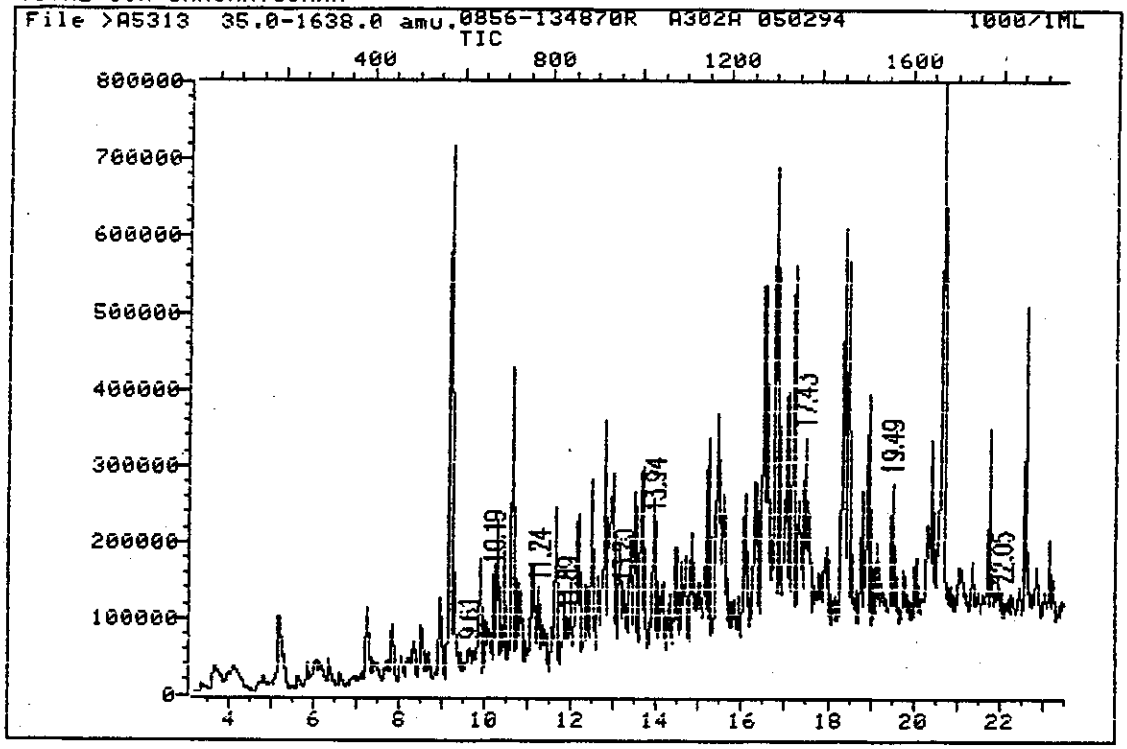
Operator ID: RS4475 Quant Rev: 6 Quant Time: 940420 18:4?
Output File: ^A5220::D5 Injected at: 940420 17:58
Data File: >A5220::E4 Dilution Factor: 1.00000
Name: 856-134870 A293A
Misc: 042094 1000/1ML HP5970 A BTL#11

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	35206	40.00	ug/L	(
2)	CS50 2-Fluorophenol	7.17	112.0	14868	14.46	ug/L	9
3)	CS45 D5-Phenol	9.62	99.0	4854	3.62	ug/L	8
13)	~~C355 2-Methylphenol~~	11.37	108.0	7716	11.65	ug/L	(
14)	~~C364 3&4-Methylphenol~~	11.37	108.0	7716	12.56	ug/L	7
15)	*CI40 D8-Naphthalene	14.06	136.0	126860	40.00	ug/L	9
16)	CS20 D5-Nitrobenzene	12.01	82.0	14300	11.87	ug/L	(
17)	~~C425 2,4-Dimethylphenol~~	13.32	107.0	4665	7.93	ug/L	8
21)	*CI50 D10-Acenaphthene	19.62	164.0	78577	40.00	ug/L	9
22)	CS25 2-Fluorobiphenyl	17.55	172.0	79443	29.00	ug/L	(
27)	CS55 2,4,6-Tribromophenol	22.19	330.0	51608	94.50	ug/L	9
28)	*CI60 D10-Phenanthrene	24.28	188.0	146770	40.00	ug/L	9
33)	*CI70 D12-Chrysene	32.74	240.0	121175	40.00	ug/L	(
35)	CS30 D14-Terphenyl	29.45	244.0	42356	13.25	ug/L	8
40)	*CI75 D12-Perylene	37.01	264.0	124324	40.00	ug/L	9

* Compound is ISTD

TOTAL ION CHROMATOGRAM



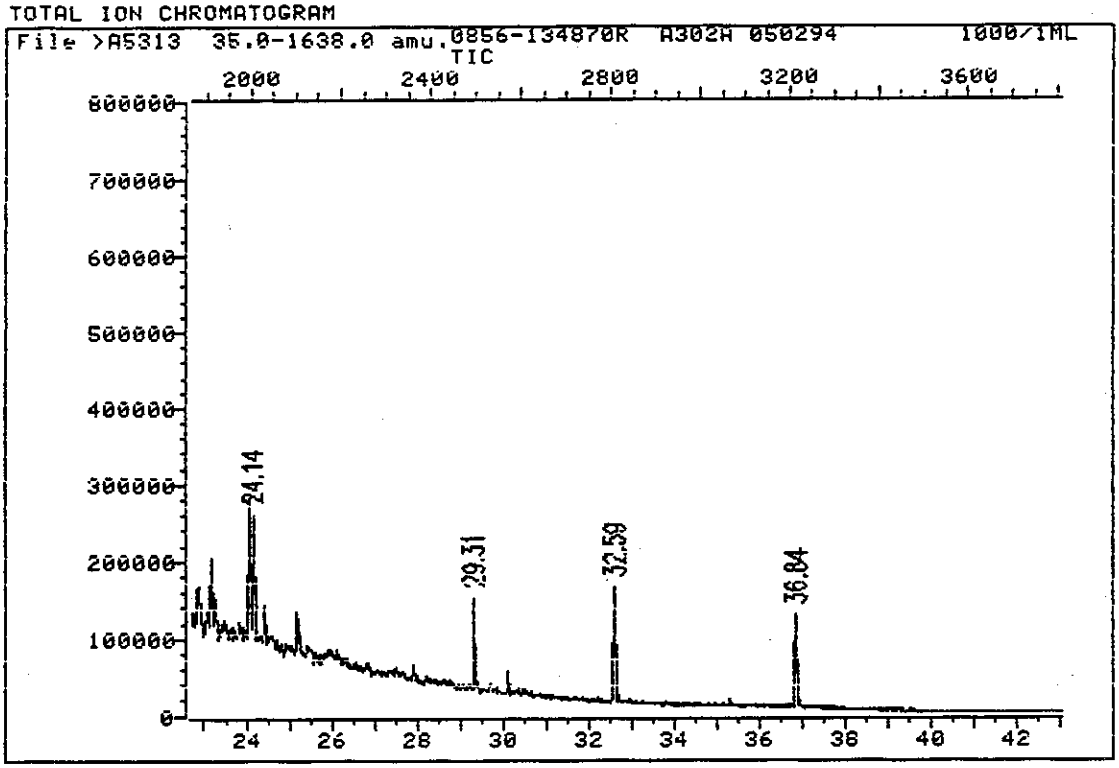
Data File: >A5313::E5 Quant Output File: ^A5313::D5
Name: 0856-134870R A302A
Misc: 050294 1000/1ML HP5970 A BTL# 2

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940502 16:30
Injected at: 940502 15:43

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5313::E5 Quant Output File: ^A5313::D5
Name: 0856-134870R A302A
Misc: 050294 1000/1ML HP5970 A BTL# 2

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940502 16:30
Injected at: 940502 15:43

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940502 16:30
Output File: ^A5313::D5 Injected at: 940502 15:43
Data File: >A5313::E5 Dilution Factor: 1.00000
Name: 0856-134870R A302A
Misc: 050294 1000/1ML HP5970 A BTL# 2

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.19	152.0	31364	40.00	ug/L	
3)	CS45 D5-Phenol	9.61	99.0	26749	22.41	ug/L	
13)	~~C355 2-Methylphenol~~ AE	11.24	108.0	11601	19.66	ug/L	
14)	~~C364 3&4-Methylphenol~~ AE	11.24	108.0	11601	21.19	ug/L	
15)	*CI40 D8-Naphthalene	13.94	136.0	121664	40.00	ug/L	
16)	CS20 D5-Nitrobenzene	11.89	82.0	18648	16.14	ug/L	
17)	~~C425 2,4-Dimethylphenol~~ AE	13.20	107.0	20791	36.87	ug/L	
21)	*CI50 D10-Acenaphthene	19.49	164.0	77602	40.00	ug/L	
22)	CS25 2-Fluorobiphenyl	17.43	172.0	105958	39.17	ug/L	
27)	CS55 2,4,6-Tribromophenol	22.05	330.0	3567	6.61	ug/L	
28)	*CI60 D10-Phenanthrene	24.14	188.0	148106	40.00	ug/L	
33)	*CI70 D12-Chrysene	32.59	240.0	128740	40.00	ug/L	
35)	CS30 D14-Terphenyl	29.31	244.0	88956	26.20	ug/L	
40)	*CI75 D12-Perylene	36.84	264.0	137311	40.00	ug/L	

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

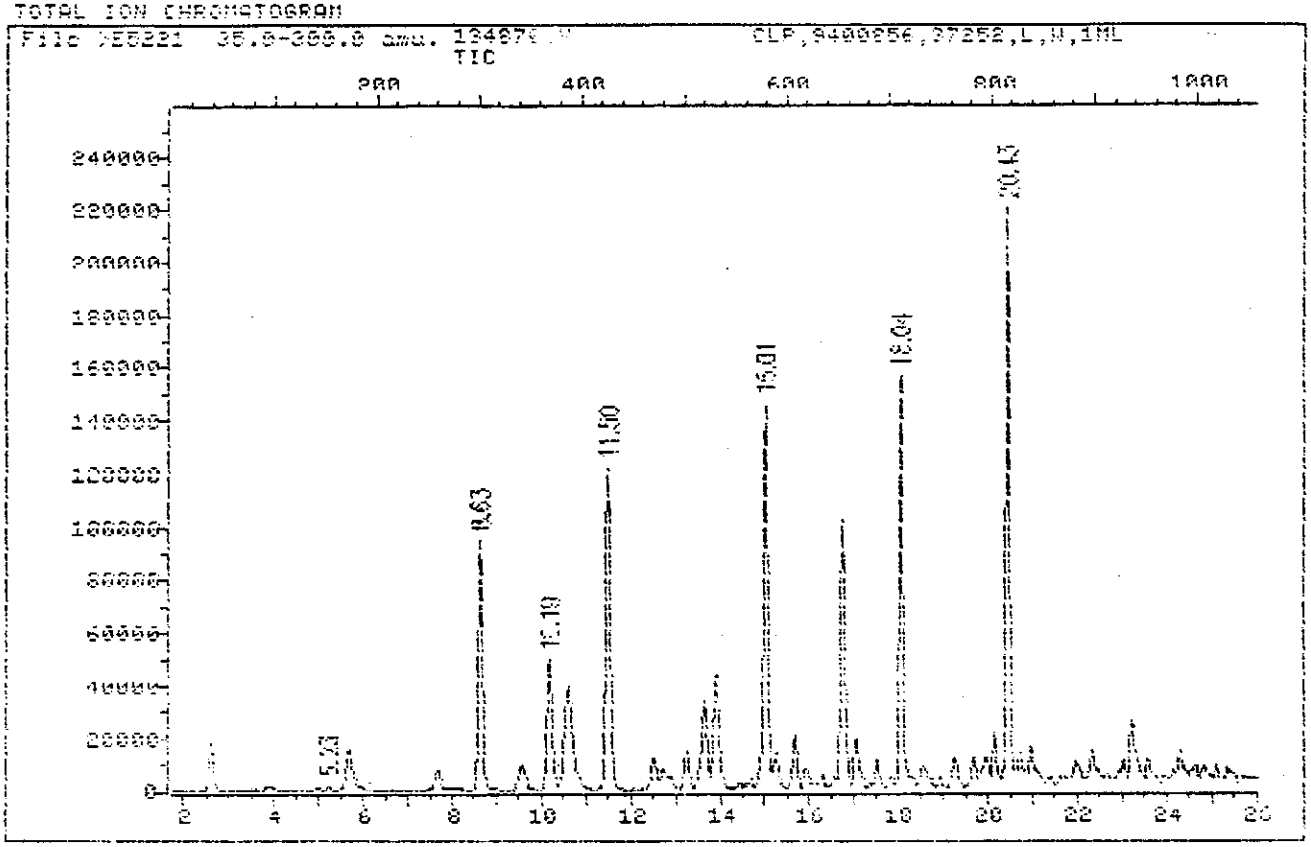
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134870
Client Sample ID: 37252

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	20.	U	ug/L	20.	03/21/1994	res	198
Toluene	30.	U	ug/L	30.	03/21/1994	res	198
Ethylbenzene	30.	U	ug/L	30.	03/21/1994	res	198
m+p-Xylenes	25.	U	ug/L	25.	03/21/1994	res	198
o-Xylene	25.	U	ug/L	25.	03/21/1994	res	198

TOTAL ION CHROMATOGRAM



Data File: >E5221::D6 Quant Output File: ^E5221::D8
Name: 134870,U
Misc: CLP,9400856,37252,L,W,1ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940721 09:57

Operator ID: RITA
Quant Time: 940721 11:26
Injected at: 940721 10:55

QUANT REPORT

Operator ID: RITA
Output File: ^E5221::D8
Data File: >E5221::D6
Name: 134870,U
Misc: CLP,9400856,37252,L,W,1ML

Quant Rev: 6 Quant Time: 940321 11:26
Injected at: 940321 10:55
Dilution Factor: 1.00000

EAQ-197

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

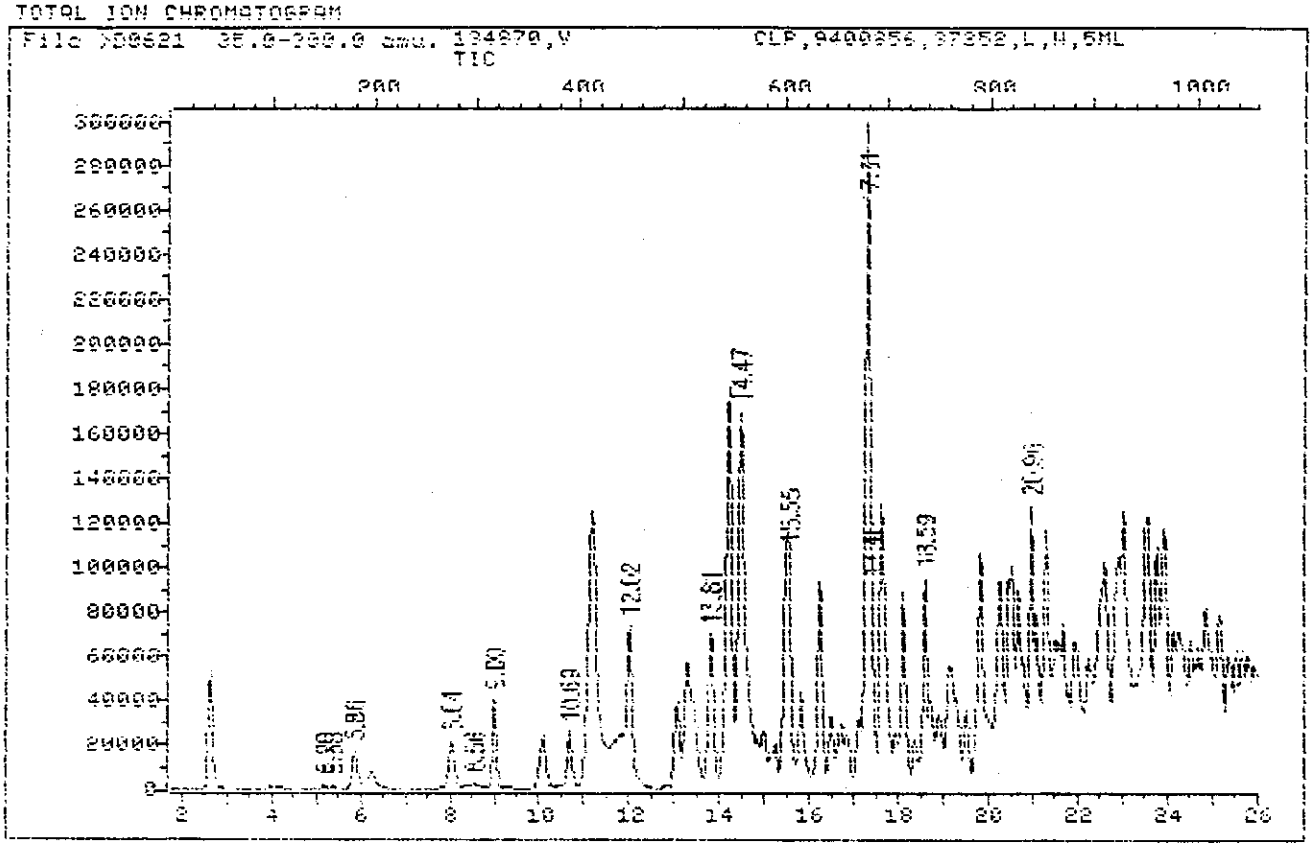
	Compound	RRs	R.T.	Q ion	Area	Conc	Units	
1)	*C101 Bromochloromethane	IS-1	8.63	128.0	92561	50.00	UG/L	96
8)	C040 Carbon Disulfide		5.23	76.0	5941	1.13	UG/L	1[illegible]
13)	CS15 D4-1,2-Dichloroethane	SS1	10.19	65.0	165154	44.84	UG/L	93
16)	*C110 1,4-Difluorobenzene	IS-2	11.50	114.0	361232	50.00	UG/L	68
29)	*C120 D5-Chlorobenzene	IS-3	18.04	117.0	262023	50.00	UG/L	[illegible]
35)	CS09 D8-Toluene	SS-2	15.01	98.0	301114	49.24	UG/L	99
42)	CS10 Bromofluorobenzene	SS-3	20.43	95.0	221531	51.40	UG/L	93

* Compound is ISTD

Sample cannot be rerun at lower dilution due to high concentration non target analyte.

JD

TOTAL ION CHROMATOGRAM



Data File: >D0621::D1 Quant Output File: ^D0621::D3
Name: 134870,U
Misc: CLP,9400856,37252,L,W,5ML

Id File: DCLP1D::DT
Title: D Instrument 10FILE FOR CLP 6/91 Rev. E
Last Calibration: 940319 09:41

Operator ID: BURT
Quant Time: 940319 15:27
Injected at: 940319 14:5A

QUANT REPORT

Operator ID: BURT
Output File: ^D0621::D3
Data File: >D0621::D1
Name: 134870,U
Misc: CLP,9400856,37252,L,W,5ML

Quant Rev: 6 Quant Time: 940319 15:27
Injected at: 940319 14:56
Dilution Factor: 1.00000

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940319 09:41

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*C101 Bromochloromethane	IS-1	9.00	128.0	40572	50.00	UG/L	87
~~6)~~	~~C030 Methylene Chloride~~ OK JB		5.86	84.0	2888	~~3.89~~	UG/L	62
7)	C035 Acetone		5.20	43.0	9015	73.42	UG/L	78
8)	C040 Carbon Disulfide		5.38	76.0	7455	3.83	UG/L	100
13)	CS15 D4-1,2-Dichloroethane	SS1	10.69	65.0	69571	62.98	UG/L	94
15)	C110 2-Butanone		8.56	43.0	4123	19.04	UG/L	90
16)	*C110 1,4-Difluorobenzene	IS-2	12.02	114.0	176338	50.00	UG/L	87
~~19)~~	~~C155 Vinyl Acetate~~ FP		8.04	43.0	51499	~~45.75~~	UG/L	59
~~20)~~	~~C170 Bromochloromethane~~ FP		13.81	83.0	6430	~~2.81~~	UG/L	75
~~25)~~	~~C160 1,1,2-Trichloroethane~~ FP		17.40	97.0	19643	~~17.49~~	UG/L	87
29)	*C120 D5-Chlorobenzene	IS-3	18.59	117.0	155922	50.00	UG/L	89
~~30)~~	~~CS05 4-Methyl-2-Pentanone~~ FP		14.47	43.0	431584	~~509.27~~	UG/L	41
~~31)~~	~~C210 2-Hexanone~~ FP		17.31	43.0	90218	~~158.85~~	UG/L	96
35)	CS05 D8-Toluene	SS-2	15.55	98.0	170916	50.07	UG/L	94
42)	CS10 Bromofluorobenzene	SS-3	20.96	95.0	115385	49.50	UG/L	92

* Compound is ISTD

JB

SS1 high

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

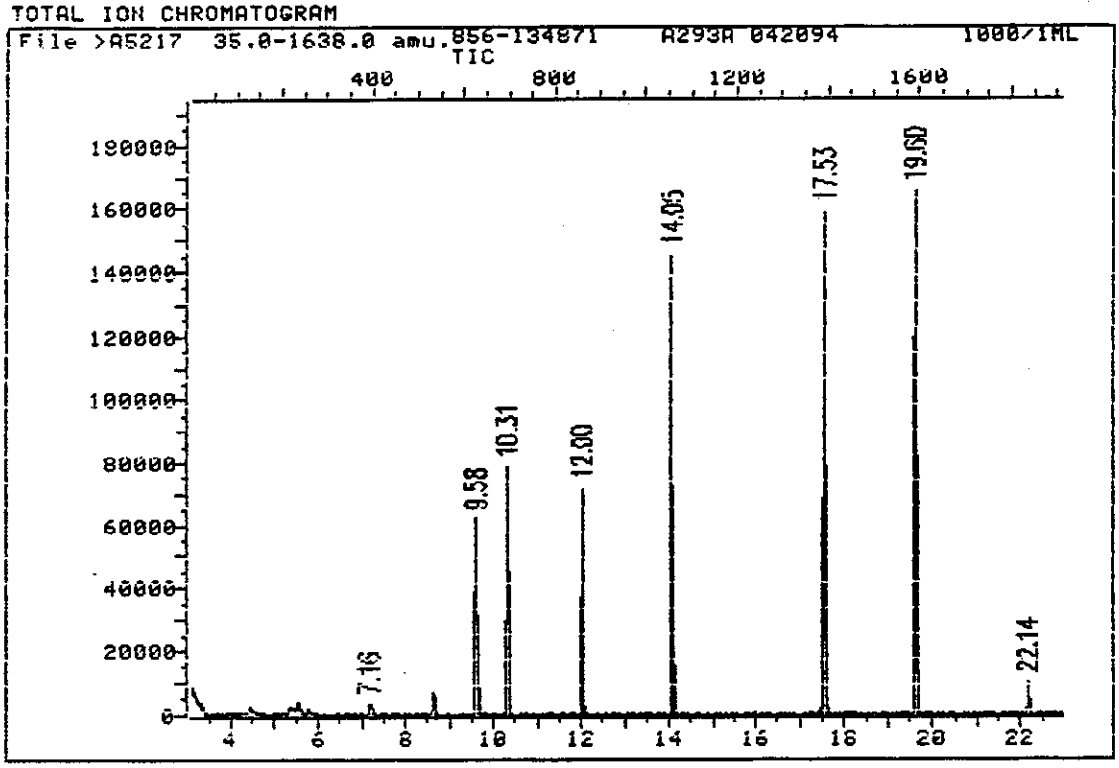
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134871
Client Sample ID: 20851

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

TOTAL ION CHROMATOGRAM



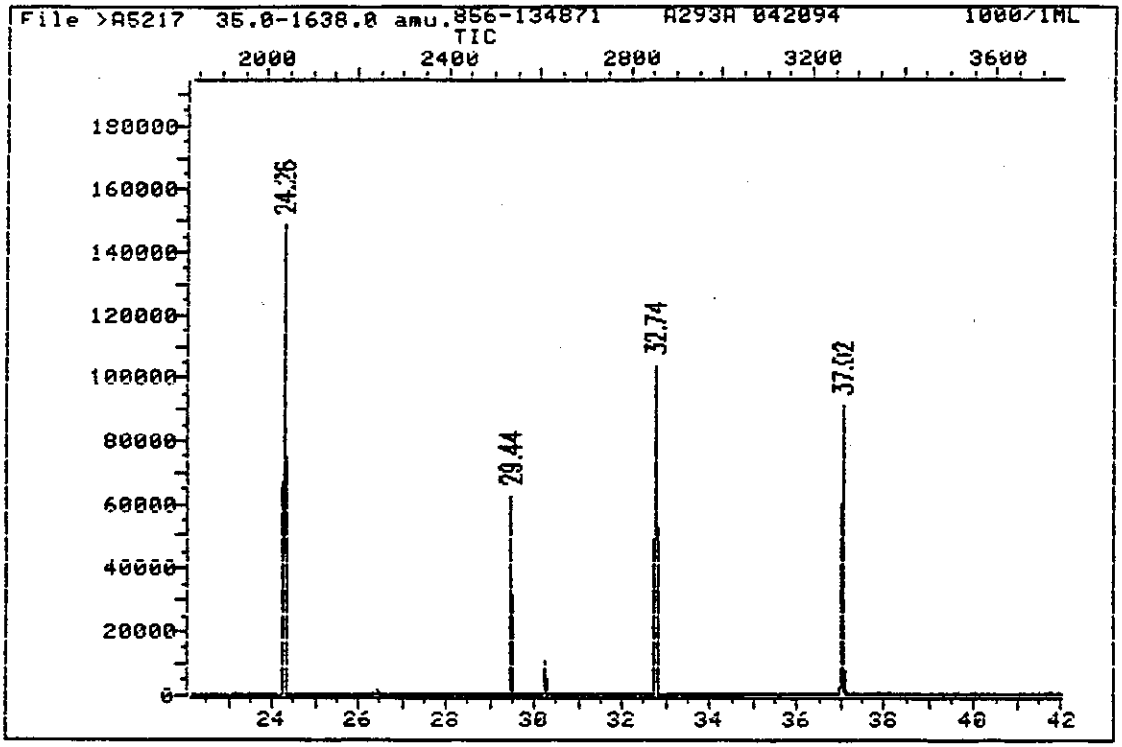
Data File: >A5217::E2 Quant Output File: ^A5217::D5
Name: 856-134871 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 8

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 16:04
Injected at: 940420 15:19

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5217::E2 Quant Output File: ^A5217::D5
Name: 856-134871 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 8

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 16:04
Injected at: 940420 15:19

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940420 16:04
Output File: ^A5217::D5 Injected at: 940420 15:19
Data File: >A5217::E2 Dilution Factor: 1.00000
Name: 856-134871 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 8

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	35804	40.00	ug/L	
2)	CS50 2-Fluorophenol	7.16	112.0	5109	4.89	ug/L	7
3)	CS45 D5-Phenol	9.58	99.0	50256	36.88	ug/L	9
15)	*CI40 D8-Naphthalene	14.05	136.0	130159	40.00	ug/L	
16)	CS20 D5-Nitrobenzene	12.00	82.0	47024	38.05	ug/L	9
21)	*CI50 D10-Acenaphthene	19.60	164.0	77380	40.00	ug/L	9
22)	CS25 2-Fluorobiphenyl	17.53	172.0	99855	37.02	ug/L	
27)	CS55 2,4,6-Tribromophenol	22.14	330.0	3846	7.15	ug/L	8
28)	*CI60 D10-Phenanthrene	24.26	188.0	129027	40.00	ug/L	9
33)	*CI70 D12-Chrysene	32.74	240.0	97812	40.00	ug/L	
35)	CS30 D14-Terphenyl	29.44	244.0	53866	20.88	ug/L	8
40)	*CI75 D12-Perylene	37.02	264.0	106219	40.00	ug/L	9

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

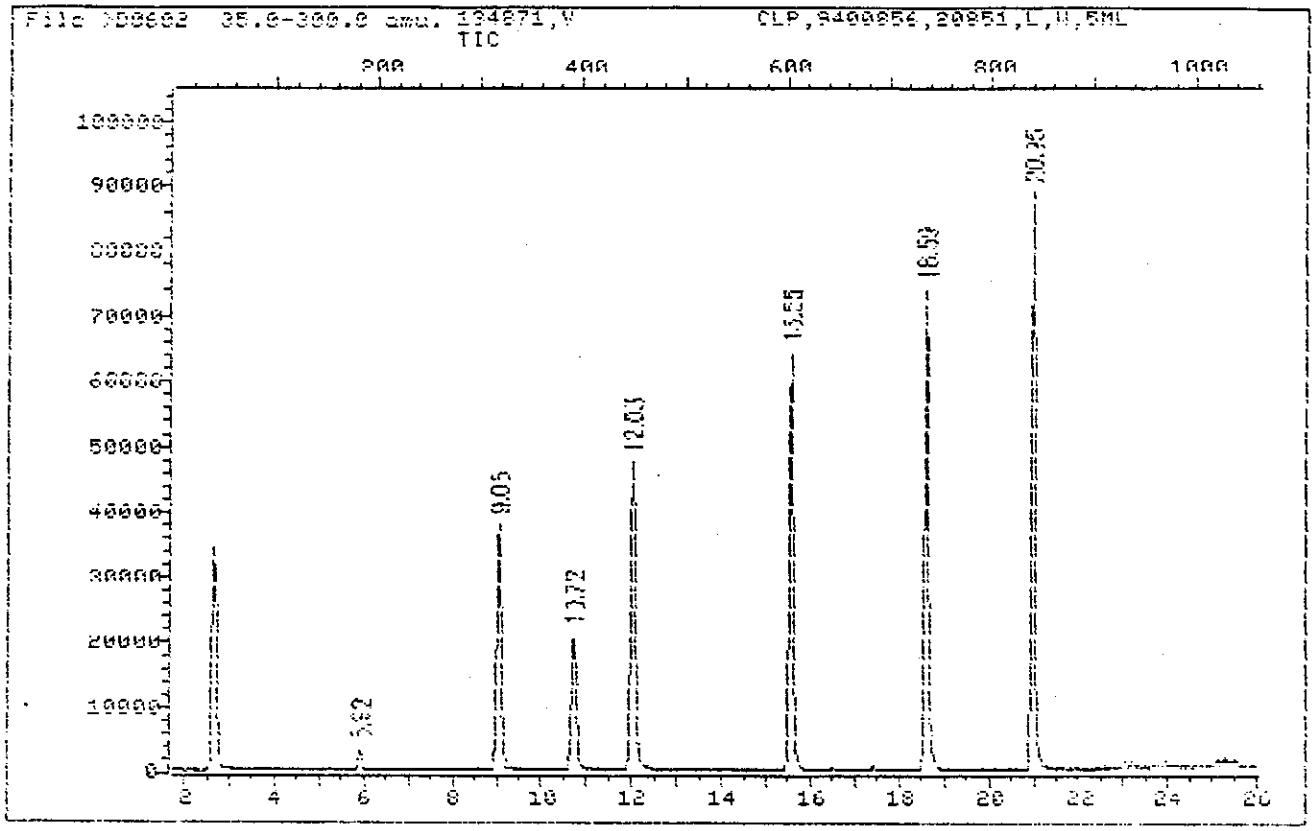
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134871
Client Sample ID: 20851

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/18/1994	res	195
Toluene	6.0	U	ug/L	6.0	03/18/1994	res	195
Ethylbenzene	6.0	U	ug/L	6.0	03/18/1994	res	195
m+p-Xylenes	5.0	U	ug/L	5.0	03/18/1994	res	195
o-Xylene	5.0	U	ug/L	5.0	03/18/1994	res	195

TOTAL ION CHROMATOGRAM



Data File: >00602::01 Quant Output File: ^00602::03
Name: 134871,V
Misc: CLP,9400856,20851,L,W,5ML

Id File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

Operator ID: BURT
Quant Time: 940318 19:40
Injected at: 940318 19:09

QUANT REPORT

Operator ID: BURT
Output File: ^D0602::D3
Data File: >D0602::D1
Name: 134871,U
Misc: CLP,9400856,20851,L,W,5ML

Quant Rev: 6
Quant Time: 940318 19:40
Injected at: 940318 19:09
Dilution Factor: 1.00000

DCLP26A

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

	Compound	Rs	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	9.05	128.0	41628	50.00	UG/L	97
6)	C030 Methylene Chloride	B:8	5.92	84.0	3787	4.62	UG/L	86
13)	CS15 D4-1,2-Dichloroethane	SS1	10.72	65.0	61712	49.11	UG/L	95
16)	*CI10 1,4-Difluorobenzene	IS-2	12.03	114.0	150127	50.00	UG/L	99
29)	*CI20 D5-Chlorobenzene	IS-3	18.59	117.0	133858	50.00	UG/L	94
35)	CS05 D8-Toluene	SS-2	15.55	98.0	143843	47.82	UG/L	96
42)	CS10 Bromofluorobenzene	SS-3	20.95	95.0	103939	50.83	UG/L	97

* Compound is ISTD

JS

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

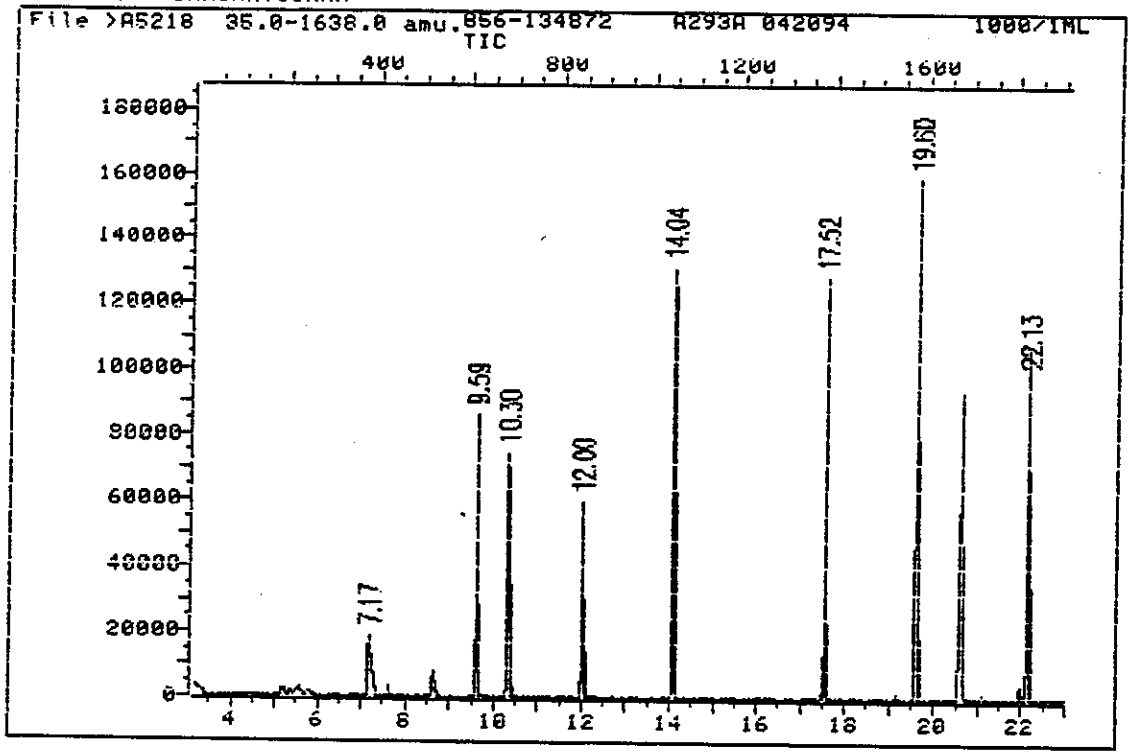
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134872
Client Sample ID: 209D1

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

TOTAL ION CHROMATOGRAM



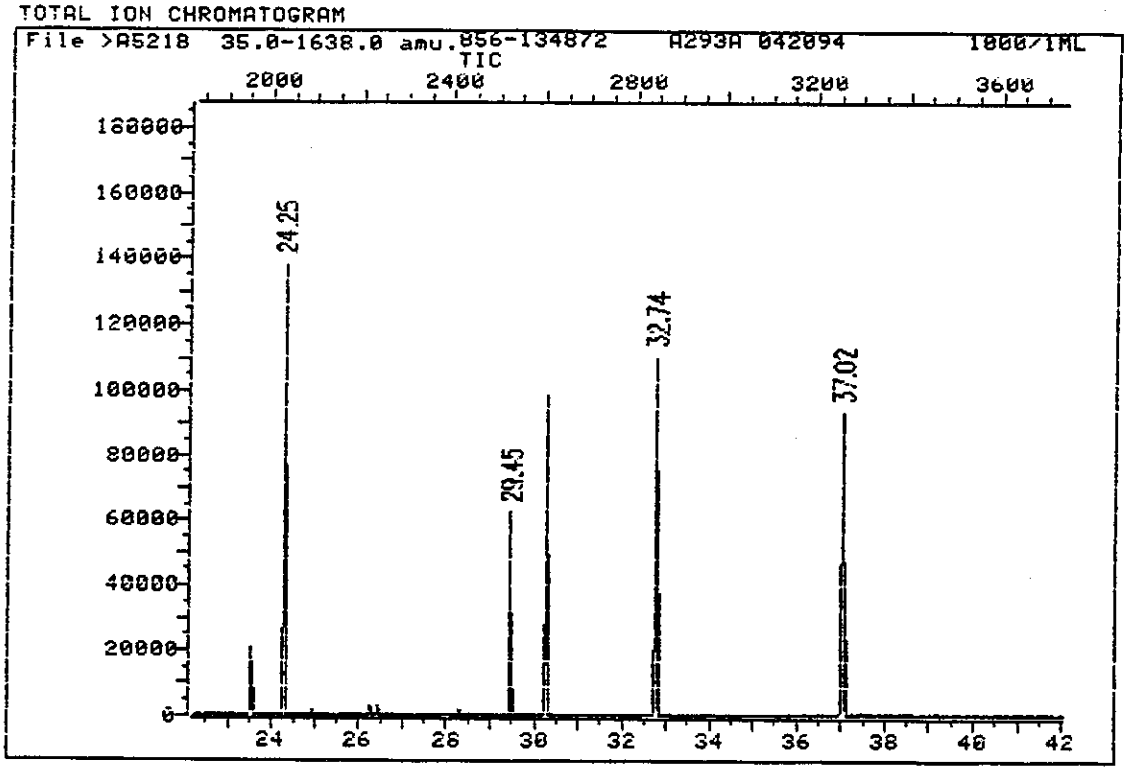
Data File: >A5218::E2 Quant Output File: ^A5218::D5
Name: 856-134872 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 9

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 16:56
Injected at: 940420 16:10

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5218::E2 Quant Output File: ^A5218::D5
Name: 856-134872 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 9

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 16:56
Injected at: 940420 16:10

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940420 16:56
Output File: ^A5218::D5 Injected at: 940420 16:10
Data File: >A5218::E2 Dilution Factor: 1.00000
Name: 856-134872 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 9

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.30	152.0	34190	40.00	ug/L	(5
2)	CS50 2-Fluorophenol	7.17	112.0	26669	26.71	ug/L	96
3)	CS45 D5-Phenol	9.59	99.0	66982	51.47	ug/L	94
15)	*CI40 D8-Naphthalene	14.04	136.0	122643	40.00	ug/L	(3
16)	CS20 D5-Nitrobenzene	12.00	82.0	37657	32.34	ug/L	94
21)	*CI50 D10-Acenaphthene	19.60	164.0	72943	40.00	ug/L	98
22)	CS25 2-Fluorobiphenyl	17.52	172.0	80735	31.75	ug/L	(3
27)	CS55 2,4,6-Tribromophenol	22.13	330.0	33714	66.51	ug/L	98
28)	*CI60 D10-Phenanthrene	24.25	188.0	125395	40.00	ug/L	98
33)	*CI70 D12-Chrysene	32.74	240.0	102858	40.00	ug/L	(3
35)	CS30 D14-Terphenyl	29.45	244.0	51805	19.10	ug/L	85
40)	*CI75 D12-Perylene	37.02	264.0	112258	40.00	ug/L	94

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

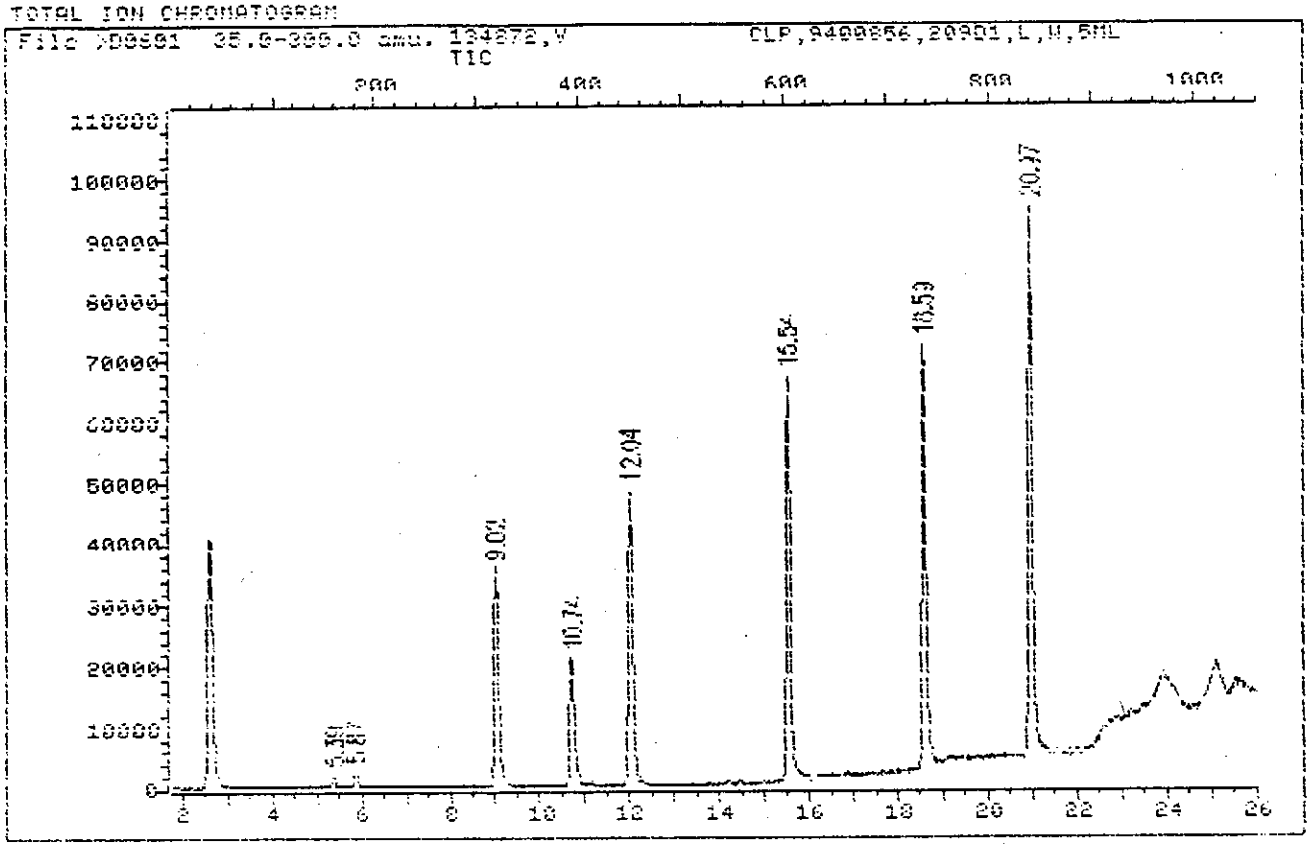
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134872
Client Sample ID: 209D1

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/18/1994	res	195
Toluene	6.0	U	ug/L	6.0	03/18/1994	res	195
Ethylbenzene	6.0	U	ug/L	6.0	03/18/1994	res	195
m+p-Xylenes	5.0	U	ug/L	5.0	03/18/1994	res	195
o-Xylene	5.0	U	ug/L	5.0	03/18/1994	res	195

TOTAL ION CHROMATOGRAM



Data File: >00601::D1 Quant Output File: ^00601::D3
Name: 134872,W
Misc: CLP.9400896,20901,L,W,5ML

Id File: DCLP1D::DT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

Operator ID: BURT
Quant Time: 940318 19:03
Injected at: 940318 18:32

QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940318 19:03
Output File: ^D0601::D3 Injected at: 940318 18:32
Data File: >D0601::01 Dilution Factor: 1.00000
Name: 134872,U
Misc: CLP,9400856,2090,L,W,5ML

DCLP26A

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

	Compound		R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	9.02	128.0	39492	50.00	UG/L	93
6)	C030 Methylene Chloride	B=8	5.87	84.0	2951	3.80	UG/L	[illegible]
8)	C040 Carbon Disulfide		5.39	76.0	5820	3.35	UG/L	100
13)	CS15 D4-1,2-Dichloroethane	SS1	10.74	65.0	60665	50.94	UG/L	97
16)	*CI10 1,4-Difluorobenzene	IS-2	12.04	114.0	151679	50.00	UG/L	[illegible]
29)	*CI20 D5-Chlorobenzene	IS-3	18.59	117.0	134579	50.00	UG/L	92
35)	CS05 D8-Toluene	SS-2	19.54	98.0	152471	50.42	UG/L	93
42)	CS10 Bromofluorobenzene	SS-3	20.97	95.0	104751	50.96	UG/L	[illegible]

* Compound is ISTD

JCB

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

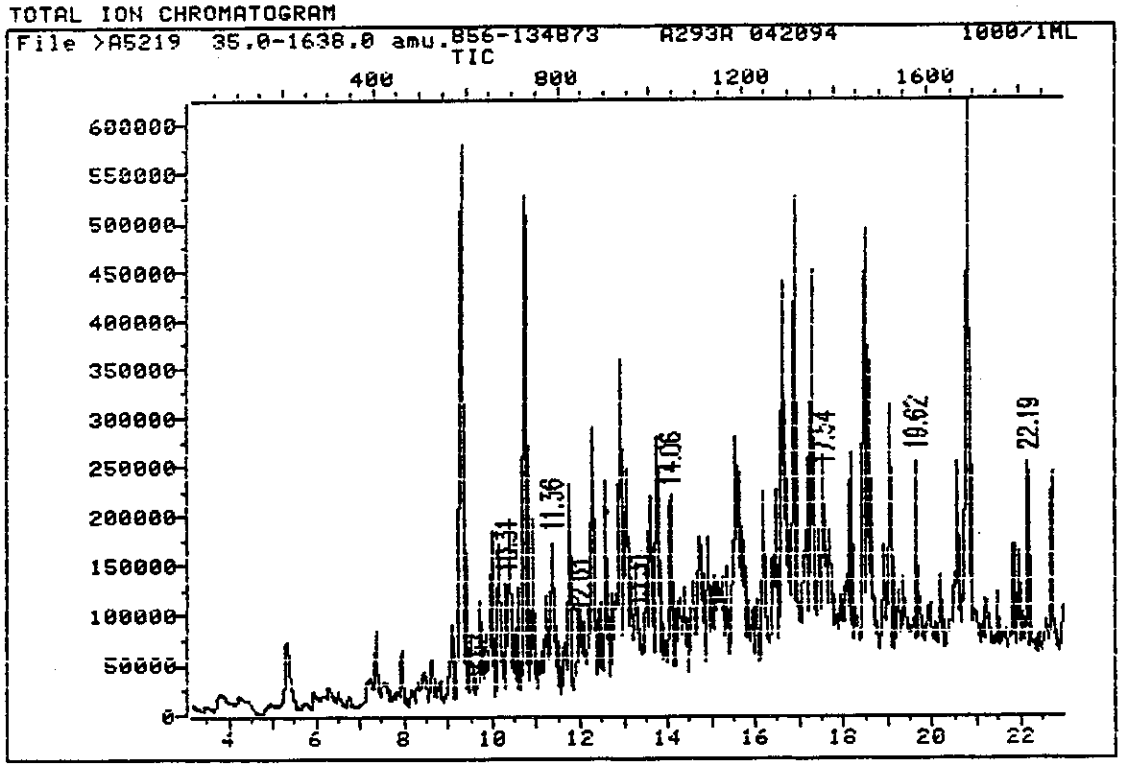
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134873
Client Sample ID: 37251

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	1.2	J	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

TOTAL ION CHROMATOGRAM



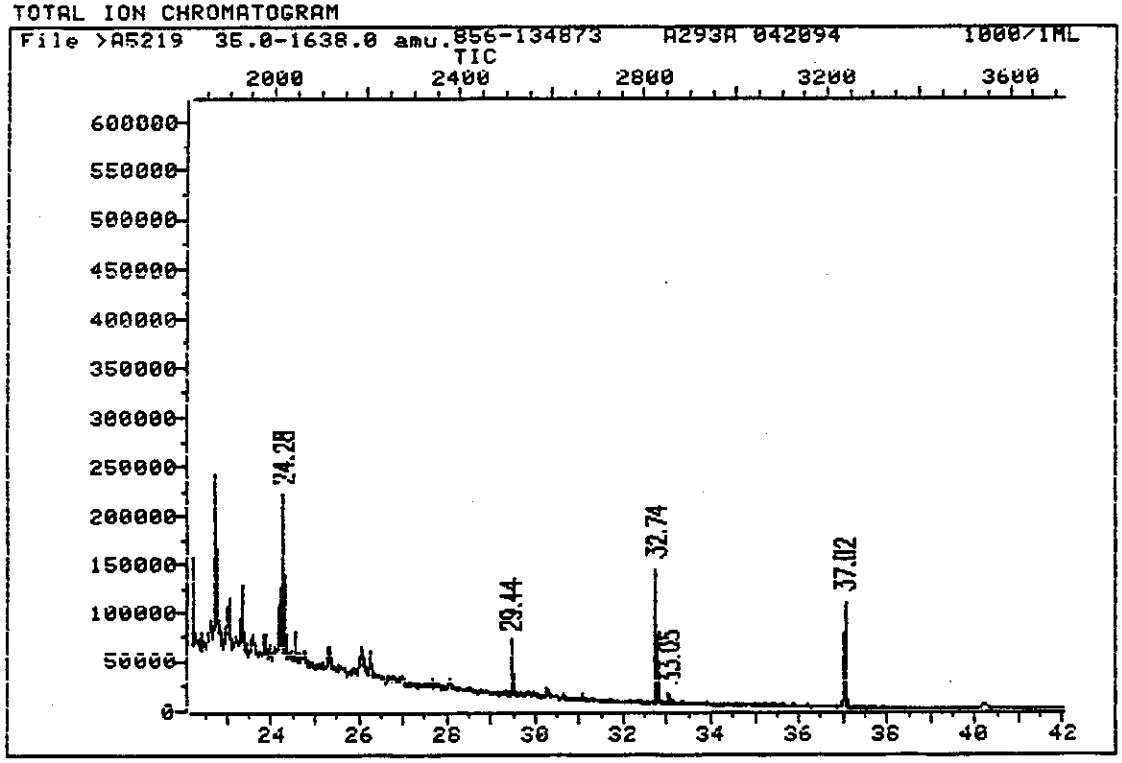
Data File: >A5219::E2 Quant Output File: ^A5219::D5
Name: 856-134873 A293A
Misc: 042094 1000/1ML HP5970 A BTL#10

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 17:47
Injected at: 940420 17:02

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5219::E2 Quant Output File: ^A5219::D5
Name: 856-134873 A293A
Misc: 042094 1000/1ML HP5970 A BTL#10

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 17:47
Injected at: 940420 17:02

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940420 17:47
Output File: ^A5219::D5 Injected at: 940420 17:02
Data File: >A5219::E2 Dilution Factor: 1.00000
Name: 856-134873 A293A
Misc: 042094 1000/1ML HP5970 A BTL#10

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	34771	40.00	ug/L	
3)	CS45 D5-Phenol	9.62	99.0	6536	4.94	ug/L	
13)	~~C355 2-Methylphenol~~	11.36	108.0	10719	16.38	ug/L	
14)	~~C364 3&4-Methylphenol~~	11.36	108.0	10719	17.66	ug/L	
15)	*CI40 D8-Naphthalene	14.06	136.0	126152	40.00	ug/L	
16)	CS20 D5-Nitrobenzene	12.01	82.0	29282	24.45	ug/L	
17)	~~C425 2,4-Dimethylphenol~~	13.31	107.0	13394	22.91	ug/L	
21)	*CI50 D10-Acenaphthene	19.62	164.0	76320	40.00	ug/L	
22)	CS25 2-Fluorobiphenyl	17.54	172.0	86624	32.56	ug/L	
27)	CS55 2,4,6-Tribromophenol	22.19	330.0	61149	115.29	ug/L	
28)	*CI60 D10-Phenanthrene	24.28	188.0	142194	40.00	ug/L	
33)	*CI70 D12-Chrysene	32.74	240.0	124704	40.00	ug/L	
35)	CS30 D14-Terphenyl	29.44	244.0	44439	13.51	ug/L	
39)	C745 bis(2Ethylhexyl)phthalate	33.05	149.0	5146	1.23	ug/L	
40)	*CI75 D12-Perylene	37.02	264.0	127277	40.00	ug/L	

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

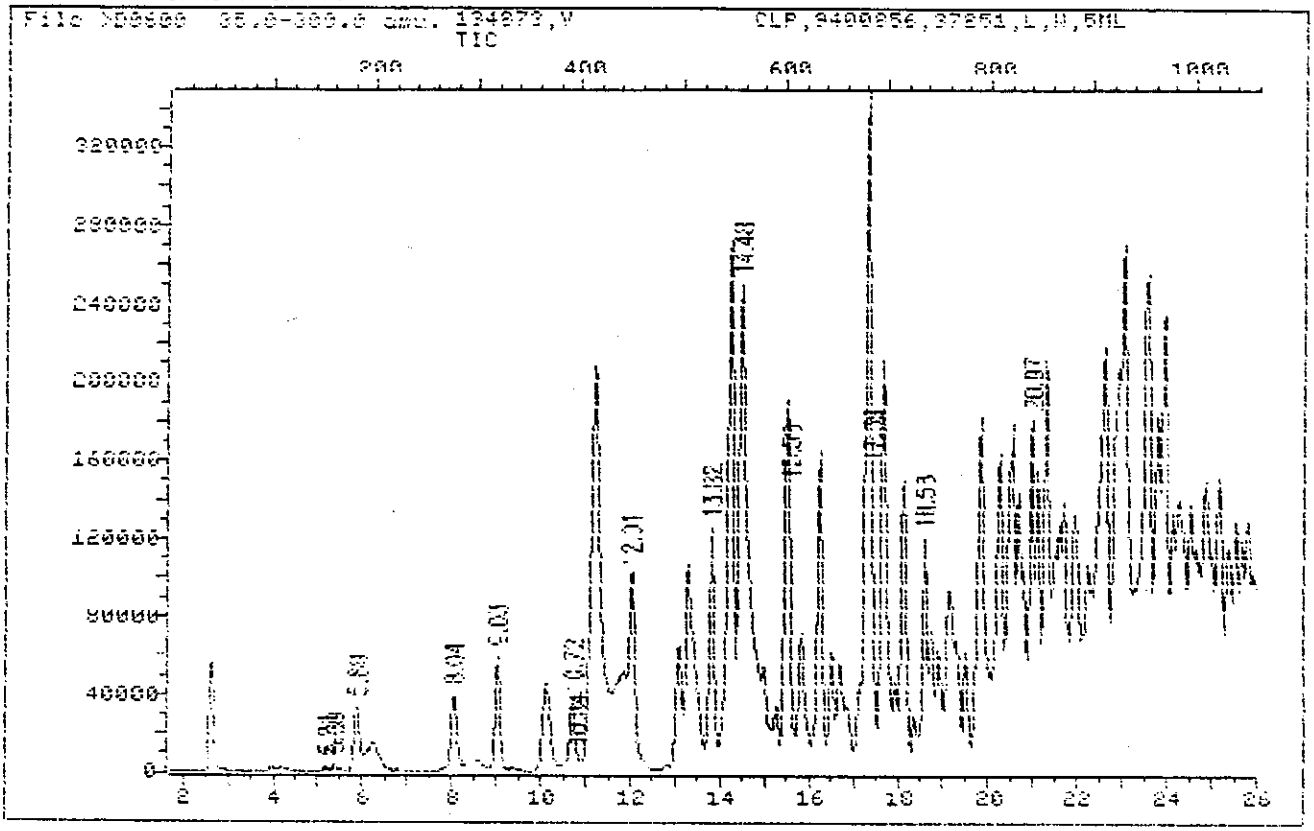
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134873
Client Sample ID: 37251

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	1.5	J	ug/L	4.0	03/18/1994	res	201
Toluene	6.0	U	ug/L	6.0	03/18/1994	res	201
Ethylbenzene	6.0	U	ug/L	6.0	03/18/1994	res	201
m+p-Xylenes	5.0	U	ug/L	5.0	03/18/1994	res	201
o-Xylene	5.0	U	ug/L	5.0	03/18/1994	res	201

TOTAL ION CHROMATOGRAM



Data File: >D0600::D1 Quant Output File: ^D0600::D3
Name: 13-873,U
Misc: CLP,9400896,37291,L,W,5ML

Id File: DCIPID::DT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

Operator ID: BURT
Quant Time: 940318 18:26
Injected at: 940318 17:55

Rerun 1mL

QUANT REPORT

Operator ID: BURT
Output File: ^D0600::D3
Data File: >D0600::D1
Name: 134873,U
Misc: CLP,9400856,37251,L,W,5ML

Quant Rev: 6 Quant Time: 940318 18:26
Injected at: 940318 17:55
Dilution Factor: 1.00000

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

RS

		Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01	Bromochloromethane	IS-1	9.03	128.0	61369	50.00	UG/L	8
~~6)~~	~~C030~~	~~Methylene Chloride~~		5.89	84.0	3194	~~2.64~~	UG/L	73
7)	C035	Acetone		5.21	43.0	10456	45.82	UG/L	72
8)	C040	Carbon Disulfide		5.39	76.0	12667	4.69	UG/L	1[illegible]
13)	CS15	D4-1,2-Dichloroethane	SS1	10.72	65.0	90336	48.77	UG/L	96
16)	*CI10	1,4-Difluorobenzene	IS-2	12.01	114.0	238839	50.00	UG/L	69
~~19)~~	~~C125~~	~~Vinyl Acetate~~		8.04	43.0	87939	~~58.83~~	UG/L	[illegible]
~~20)~~	~~C130~~	~~Bromodichloromethane~~		13.82	83.0	11997	~~9.00~~	UG/L	97
~~22)~~	~~C140~~	~~1,1,2-Trichloroethane~~		17.39	97.0	27345	~~17.35~~	UG/L	98
26)	C165	Benzene		10.84	78.0	4971M	1.53	UG/L	[illegible]
29)	*CI20	D5-Chlorobenzene	IS-3	18.58	117.0	197514	50.00	UG/L	99
~~30)~~	~~C210~~	~~4-Methyl-2-Pentanone~~		14.48	43.0	746239	~~625.34~~	UG/L	47
35)	CS05	D8-Toluene	SS-2	15.56	98.0	233912	52.70	UG/L	[illegible]
42)	CS10	Bromofluorobenzene	SS-3	20.97	95.0	162538	53.87	UG/L	82

FP
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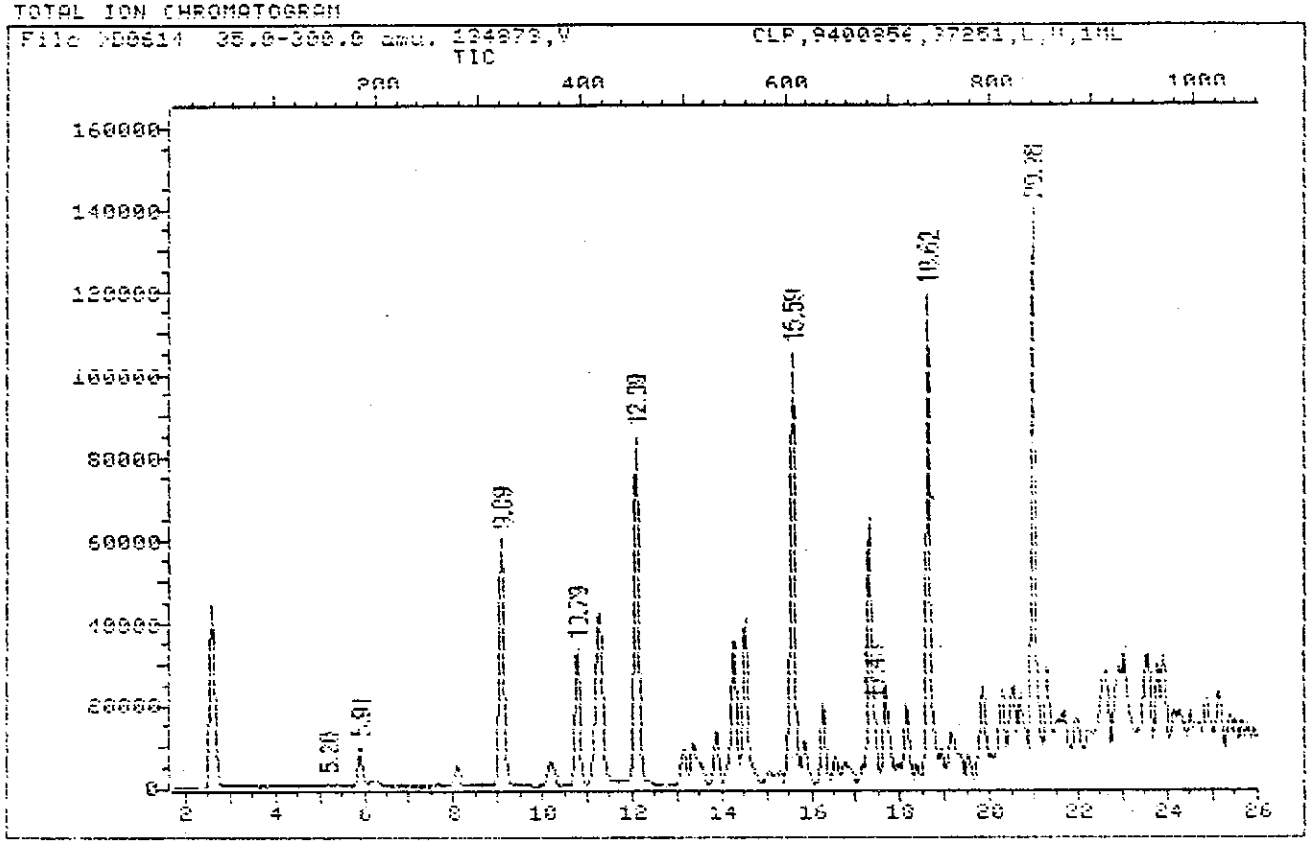
FP

* Compound is ISTD

OK 5ml for BTEX
report D0600

000089

TOTAL ION CHROMATOGRAM



Data File: >D0614::D1 Quant Output File: ^D0614::D3
Name: 134873,U
Misc: CLP,9400856,37251,L,W,1ML

Id File: DCLPID::QT
Title: D Instrument INFILE FOR CLP 6/91 Rev. E
Last Calibration: 940319 09:41

Operator ID: BURT
Quant Time: 940319 11:13
Injected at: 940319 10:42

QUANT REPORT

Operator ID: BURT
Output File: ^D0614::D3
Data File: >D0614::D1
Name: 134873,U
Misc: CLP,9400856,37251,L,W,1ML

Quant Rev: 6 Quant Time: 940319 11:13
Injected at: 940319 10:42
Dilution Factor: 1.00000

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940319 09:41

	Compound		R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	9.09	128.0	68852	50.00	UG/L	92
6)	C030 Methylene Chloride		5.91	84.0	7654	6.01	UG/L	
7)	C035 Acetone		5.20	43.0	2398	11.51	UG/L	99
13)	CS15 D4-1,2-Dichloroethane	SS1	10.79	65.0	94326	50.32	UG/L	92
16)	*CI10 1,4-Difluorobenzene	IS-2	12.09	114.0	260870	50.00	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.62	117.0	215807	50.00	UG/L	94
35)	CS05 D8-Toluene	SS-2	15.59	98.0	233067	49.33	UG/L	92
42)	CS10 Bromofluorobenzene	SS-3	20.98	95.0	151266	46.88	UG/L	

* Compound is ISTD

000091

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

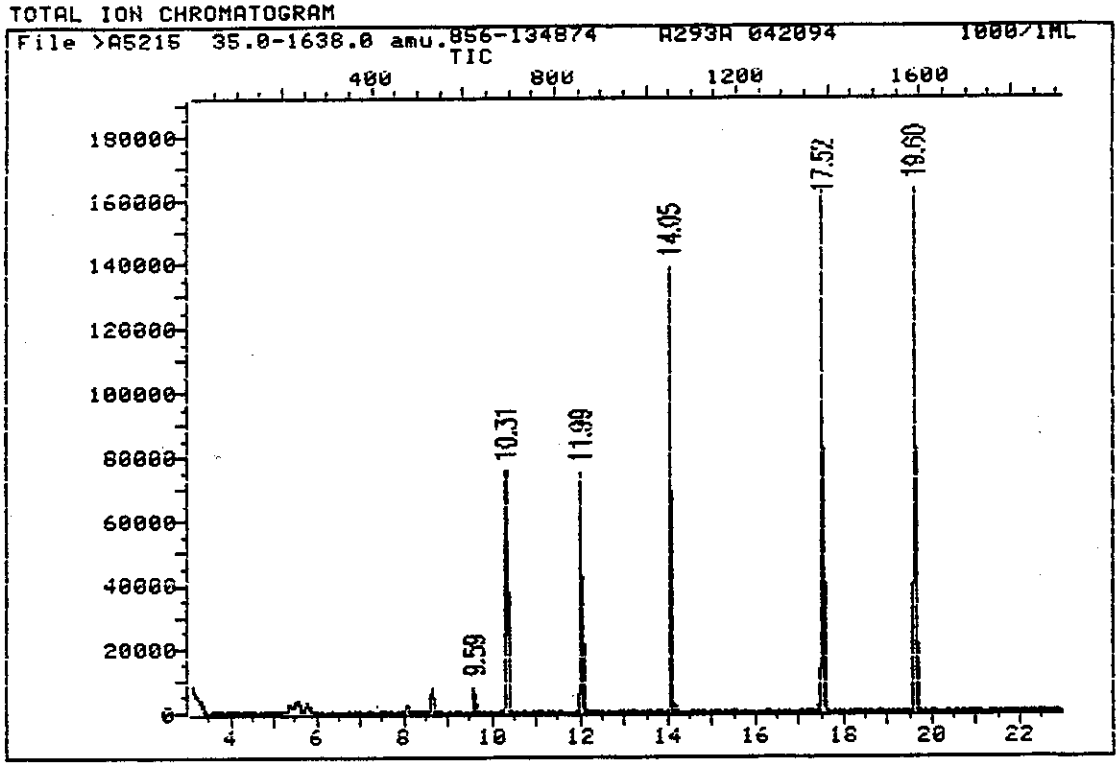
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134874
Client Sample ID: 36951

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	10.	U	ug/L	10.	04/20/1994	jig	10	4

TOTAL ION CHROMATOGRAM



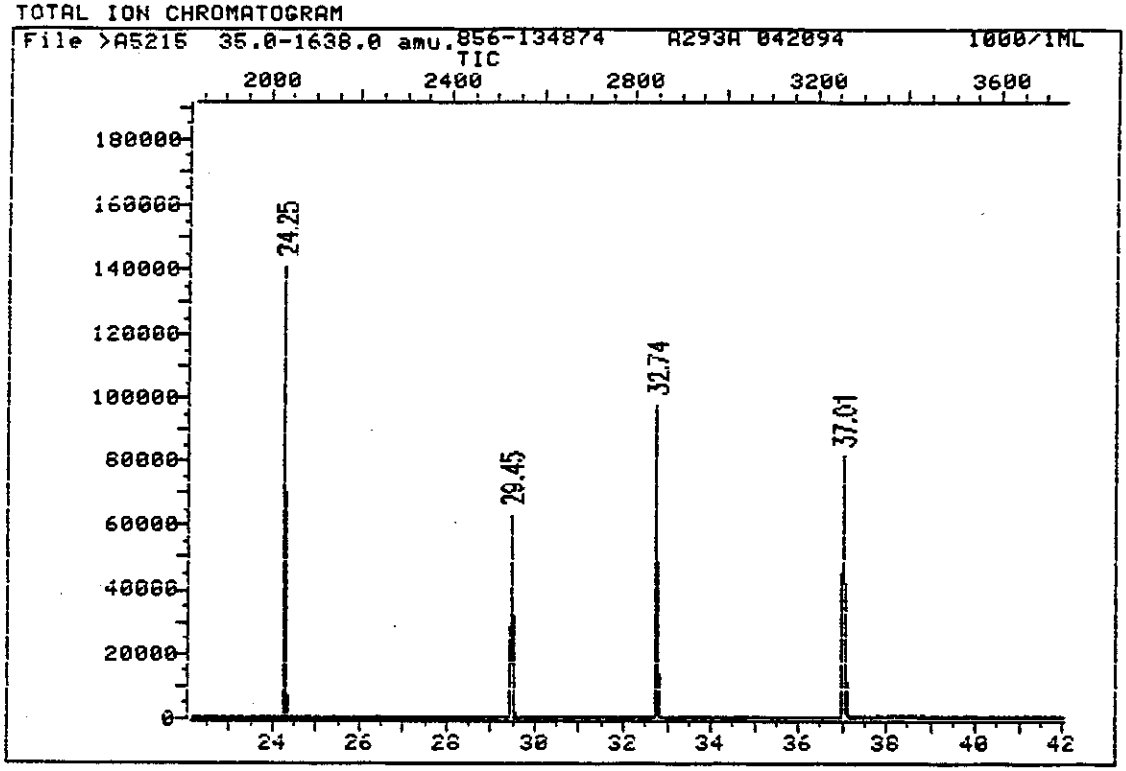
Data File: >A5215::E2 Quant Output File: ^A5215::D5
Name: 856-134874 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 6

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 14:20
Injected at: 940420 13:35

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5215::E2 Quant Output File: ^A5215::D5
Name: 856-134874 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 6

Id File: 1ASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 14:20
Injected at: 940420 13:35

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940420 14:20
Output File: ^A5215::D5 Injected at: 940420 13:35
Data File: >A5215::E2 Dilution Factor: 1.00000
Name: 856-134874 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 6

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	34967	40.00	ug/L	
3)	CS45 D5-Phenol	9.59	99.0	6871	5.16	ug/L	
15)	*CI40 D8-Naphthalene	14.05	136.0	127517	40.00	ug/L	
16)	CS20 D5-Nitrobenzene	11.99	82.0	49500	40.88	ug/L	
21)	*CI50 D10-Acenaphthene	19.60	164.0	74543	40.00	ug/L	
22)	CS25 2-Fluorobiphenyl	17.52	172.0	104300	40.14	ug/L	
28)	*CI60 D10-Phenanthrene	24.25	188.0	119848	40.00	ug/L	
33)	*CI70 D12-Chrysene	32.74	240.0	91259	40.00	ug/L	
35)	CS30 D14-Terphenyl	29.45	244.0	52129	21.66	ug/L	
40)	*CI75 D12-Perylene	37.01	264.0	97699	40.00	ug/L	

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

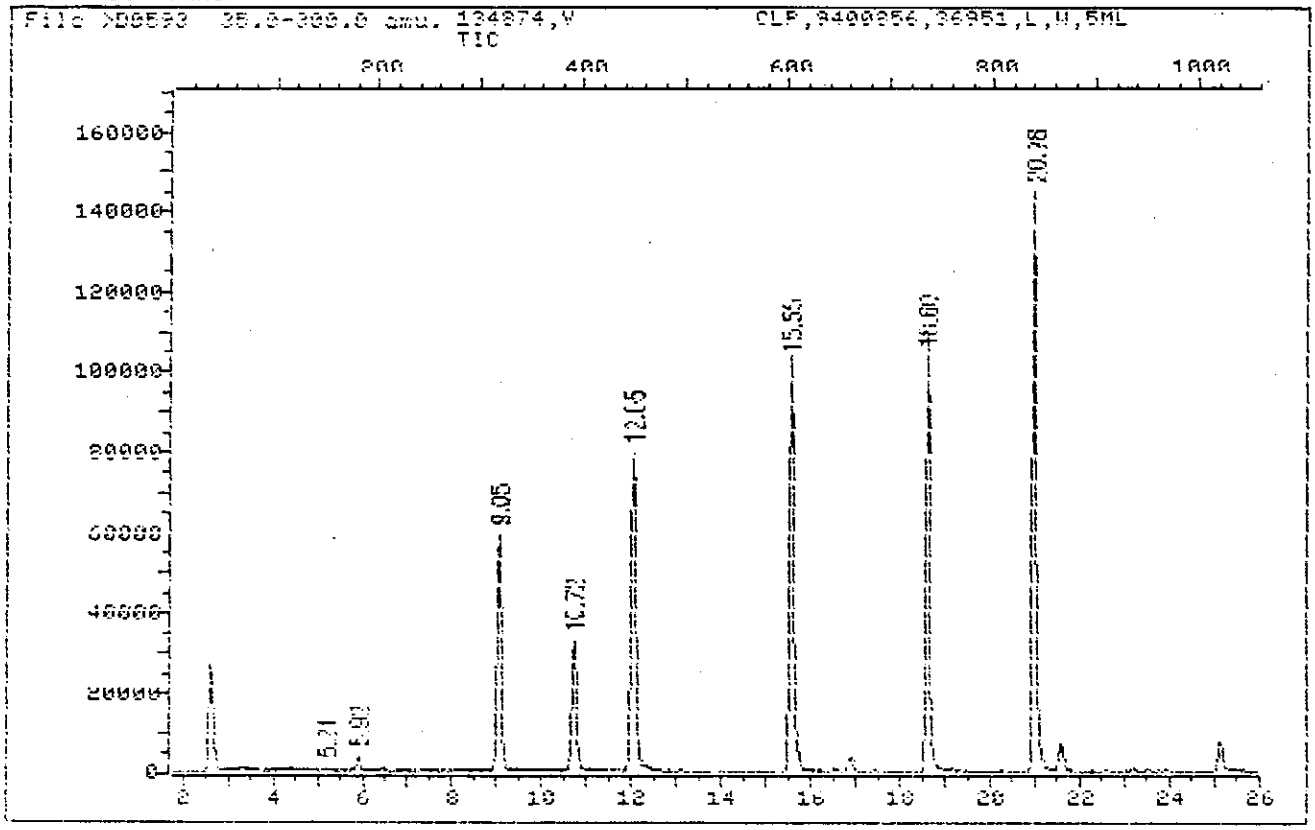
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134874
Client Sample ID: 36951

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/18/1994	res	195
Toluene	6.0	U	ug/L	6.0	03/18/1994	res	195
Ethylbenzene	6.0	U	ug/L	6.0	03/18/1994	res	195
m+p-Xylenes	5.0	U	ug/L	5.0	03/18/1994	res	195
o-Xylene	5.0	U	ug/L	5.0	03/18/1994	res	195

TOTAL ION CHROMATOGRAM



Data File: >D0593::D1 Quant Output File: ^D0593::D3
Name: 134874,U
Misc: CLP,9400856,36951,L,W,5ML

Id File: DCLPID::QT
Title: 5 Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

Operator ID: BURT
Quant Time: 940318 14:08
Injected at: 940318 13:36

QUANT REPORT

Operator ID: BURT
Output File: ^D0593::D3
Data File: >D0593::D1
Name: 134874,U
Misc: CLP,9400856,36951,L,W,5ML

Quant Rev: 6 Quant Time: 940318 14:08
Injected at: 940318 13:36
Dilution Factor: 1.00000

DCLP26A

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

		Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01	Bromochloromethane	IS-1	9.05	128.0	63357	50.00	UG/L	[illegible]
6)	C030	Methylene Chloride		5.92	84.0	5012	4.02	UG/L	82
7)	C035	Acetone		5.21	43.0	1538	6.53	UG/L	74
13)	CS15	D4-1,2-Dichloroethane	SS1	10.72	65.0	94171	49.24	UG/L	[illegible]
16)	*CI10	1,4-Difluorobenzene	IS-2	12.05	114.0	256078	50.00	UG/L	70
29)	*CI20	D5-Chlorobenzene	IS-3	18.60	117.0	216534	50.00	UG/L	94
35)	CS05	D8-Toluene	SS-2	15.55	98.0	249485	51.27	UG/L	[illegible]
49)	CS10	Bromofluorobenzene	SS-3	20.98	95.0	160449	48.51	UG/L	77

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

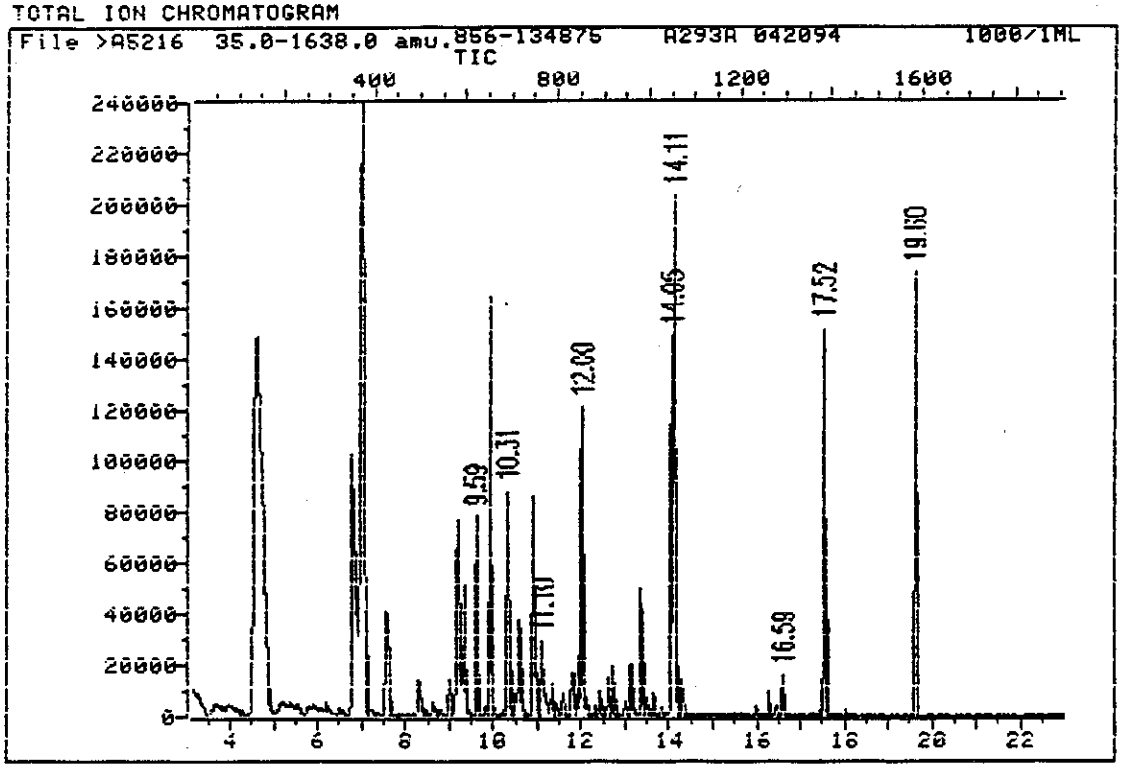
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134875
Client Sample ID: 33851

Base/Neutrals 8270

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	PREP BATCH	RUN BATCH
Benzo(a)Anthracene	10.	U	ug/L	7.8	04/20/1994	jig	10	4
Benzo(b)Fluoranthene	10.	U	ug/L	4.8	04/20/1994	jig	10	4
Benzo(a)Pyrene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
bis(2-Ethylhexyl)Phthalate	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Chrysene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Dibenz(a,h)Anthracene	10.	U	ug/L	2.5	04/20/1994	jig	10	4
Indene	9.2	J	ug/L	10.	04/20/1994	jig	10	4

TOTAL ION CHROMATOGRAM



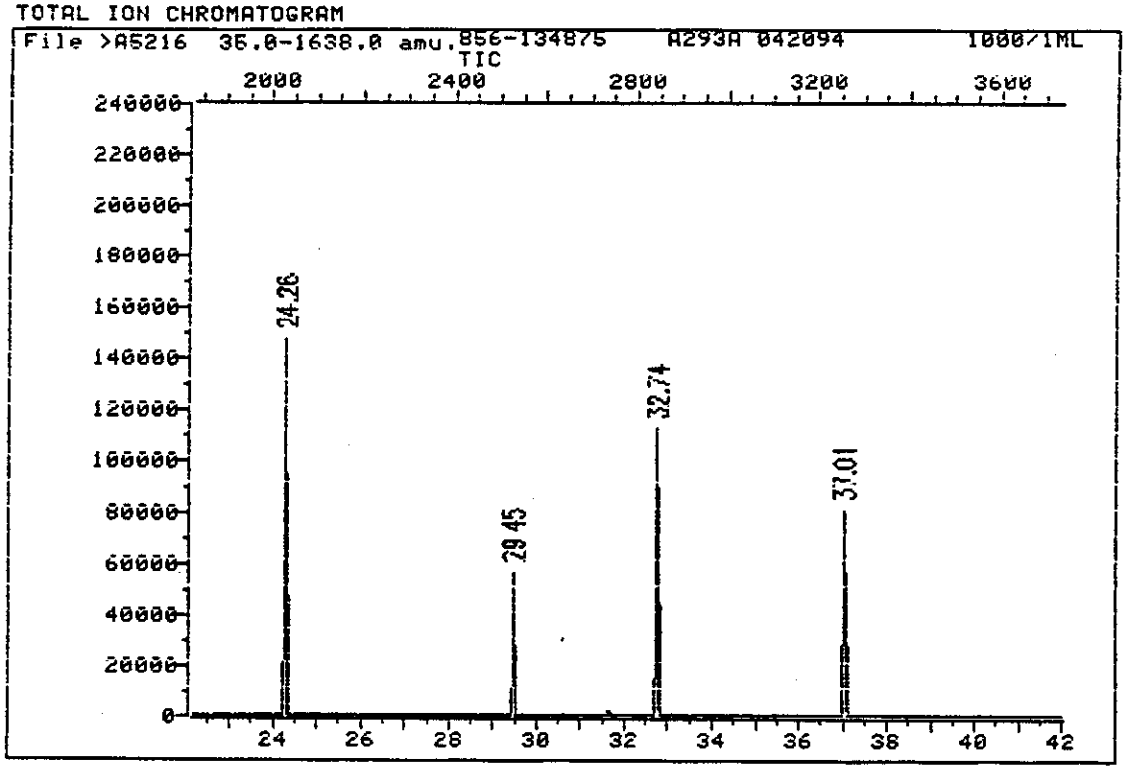
Data File: >A5216::E2 Quant Output File: ^A5216::D5
Name: 856-134875 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 15:12
Injected at: 940420 14:27

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5216::E2 Quant Output File: ^A5216::D5
Name: 856-134875 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940420 15:12
Injected at: 940420 14:27

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940420 15:12
Output File: ^A5216::D5 Injected at: 940420 14:27
Data File: >A5216::E2 Dilution Factor: 1.00000
Name: 856-134875 A293A
Misc: 042094 1000/1ML HP5970 A BTL# 7

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	37527	40.00	ug/L	
3)	CS45 D5-Phenol	9.59	99.0	7501	5.25	ug/L	9
11)	C349 Indene	11.10	116.0	19611	9.21	ug/L	7
15)	*CI40 D8-Naphthalene	14.05	136.0	135832	40.00	ug/L	
16)	CS20 D5-Nitrobenzene	12.00	82.0	48881	37.90	ug/L	9
18)	C450 Naphthalene	14.11	128.0	170417	46.18	ug/L	9
20)	C471 1-Methylnaphthalene	16.59	142.0	8336	3.48	ug/L	
21)	*CI50 D10-Acenaphthene	19.60	164.0	79246	40.00	ug/L	9
22)	CS25 2-Fluorobiphenyl	17.52	172.0	99356	35.97	ug/L	9
28)	*CI60 D10-Phenanthrene	24.26	188.0	132508	40.00	ug/L	
33)	*CI70 D12-Chrysene	32.74	240.0	102644	40.00	ug/L	9
35)	CS30 D14-Terphenyl	29.45	244.0	46806	17.29	ug/L	8
40)	*CI75 D12-Perylene	37.01	264.0	99654	40.00	ug/L	

* Compound is ISTD

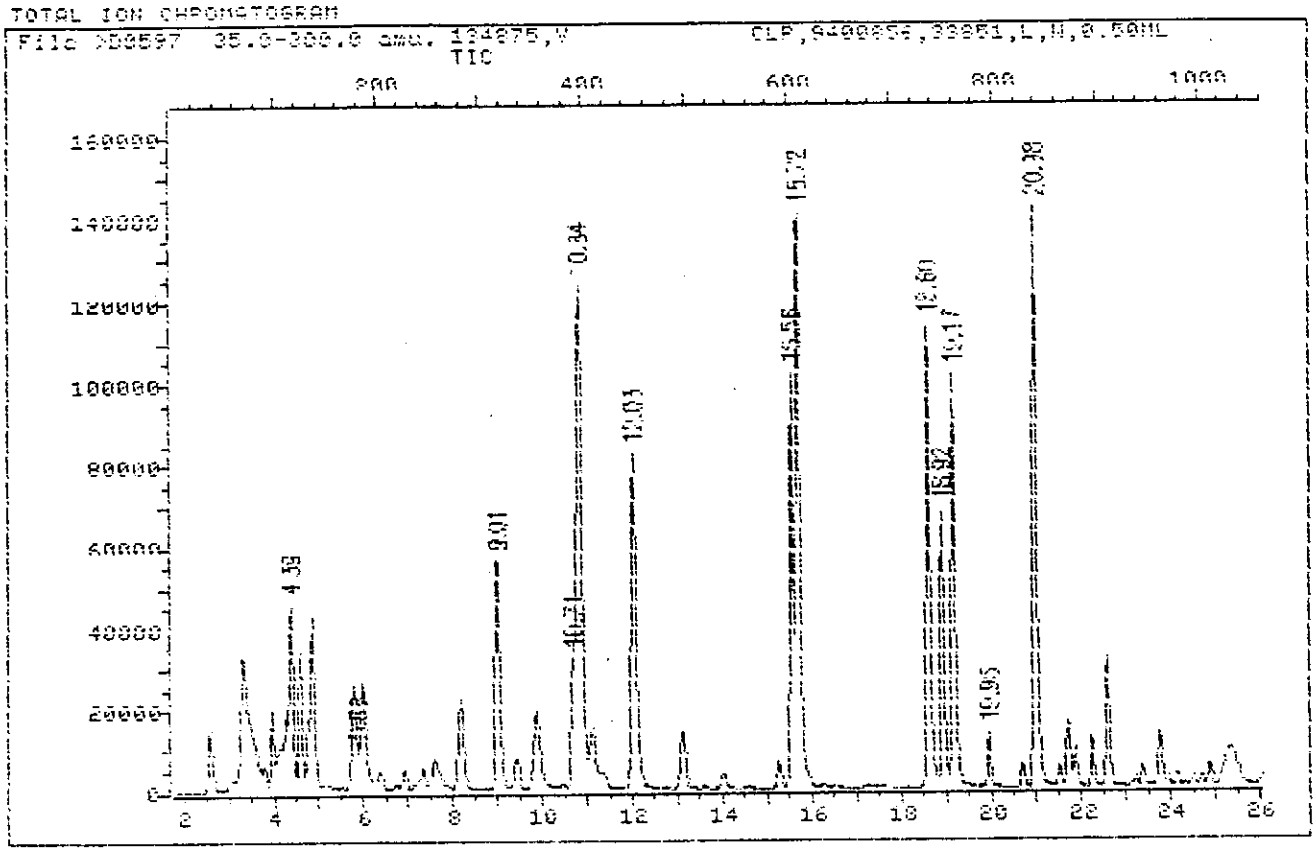
NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134875
Client Sample ID: 33851

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	1,220		ug/L	40.	03/18/1994	res	195
Toluene	734.		ug/L	60.	03/18/1994	res	195
Ethylbenzene	285.		ug/L	60.	03/18/1994	res	195
m+p-Xylenes	495.		ug/L	50.	03/18/1994	res	195
o-Xylene	54.		ug/L	50.	03/18/1994	res	195



Data File: >D0597::D1 Quant Output File: ^D0597::D3
Name: 134875,U
Misc: CLP,9400856,33851,L,W,0.50ML

Id File: DCLPID::QT
Title: 0 Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

Operator ID: BURT
Quant Time: 940318 16:38
Injected at: 940318 16:05

5900

QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940318 16:38
Output File: ^D0597::D3 Injected at: 940318 16:05
Data File: >D0597::D1 Dilution Factor: 1.00000
Name: 134875,U
Misc: CLP,9400896,33851,L,W,0.50ML

DCLP26A

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

B3

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*C101 Bromochloromethane	IS-1	9.01	128.0	62117	50.00	UG/L	87
6)	C030 Methylene Chloride	B=8	5.88	84.0	3723	3.04	UG/L	90
7)	~~C035 Acetone FP~~		4.39	43.0	61973	268.28	UG/L	41
13)	CS15 D4-1,2-Dichloroethane	SS1	10.71	65.0	89005	47.47	UG/L	84
16)	*C110 1,4-Difluorobenzene	IS-2	12.03	114.0	248784	50.00	UG/L	69
26)	C165 Benzene		10.84	78.0	411572	121.92	UG/L	93
29)	*C120 D5-Chlorobenzene	IS-3	18.60	117.0	215614	50.00	UG/L	87
34)	C230 Toluene		15.72	91.0	346716	73.40	UG/L	89
35)	CS05 D8-Toluene	SS-2	15.56	98.0	236947	48.90	UG/L	99
37)	C240 Ethylbenzene		18.92	106.0	48805	28.52	UG/L	87
39)	C250 Xylene (total)		19.17	106.0	101577M1	49.53	UG/L	89
40)	meta+para XYLENE		19.17	106.0	88644	42.57	UG/L	95
41)	ortho XYLENE		19.95	106.0	11030	5.38	UG/L	87
42)	CS10 Bromofluorobenzene	SS-3	20.98	95.0	164722	50.01	UG/L	89

* Compound is ISTD

BTEX only

JD

NATIONAL ENVIRONMENTAL TESTING, INC.
Thorofare Division

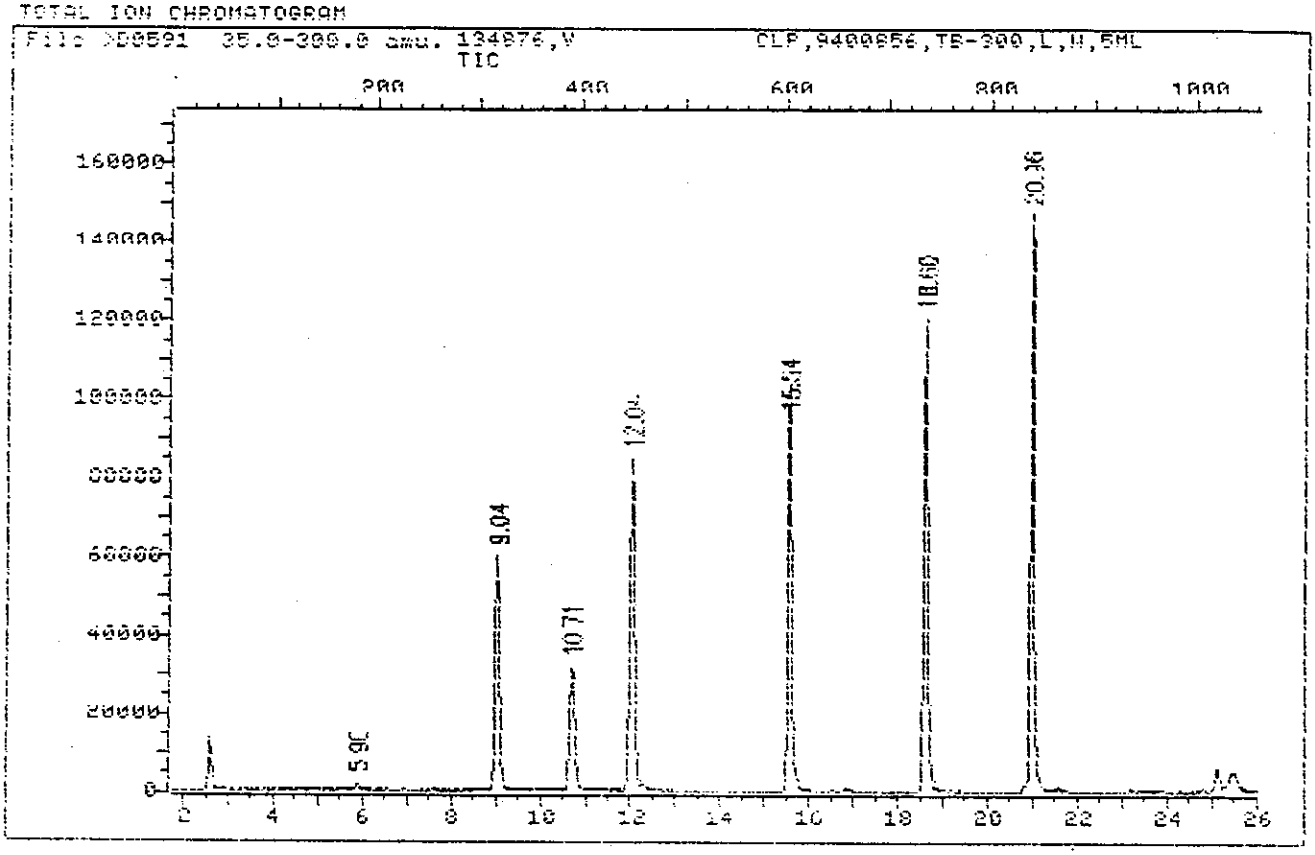
REPORT OF ANALYSIS

Client: ENSR CONSULTING
NET Job No: 94.00856
NET Sample No: 134876
Client Sample ID: TB-300

BTEX by GC/MS, 624

PARAMETER	RESULT	FLAG	UNITS	MDL	DATE ANALYZED	ANALYST	RUN BATCH
Benzene	4.0	U	ug/L	4.0	03/18/1994	res	195
Toluene	6.0	U	ug/L	6.0	03/18/1994	res	195
Ethylbenzene	6.0	U	ug/L	6.0	03/18/1994	res	195
m+p-Xylenes	5.0	U	ug/L	5.0	03/18/1994	res	195
o-Xylene	5.0	U	ug/L	5.0	03/18/1994	res	195

TOTAL ION CHROMATOGRAM



Data File: >D0591::D1 Quant Output File: ^D0591::D3
Name: 134876,V
Misc: CLP,9400856,TB-300,L,W,5ML

Id File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

Operator ID: BURT
Quant Time: 940318 12:55
Injected at: 940318 12:24

QUANT REPORT

Operator ID: BURT
Output File: ^D0591::D3
Data File: >D0591::D1
Name: 134876,U
Misc: CLP,9400856,TB-300,L,W,5ML

Quant Rev: 6 Quant Time: 940318 12:55
Injected at: 940318 12:24
Dilution Factor: 1.00000

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*C101 Bromochloromethane	IS-1	9.04	128.0	64827	50.00	UG/L	87
6)	C030 Methylene Chloride	B-8	5.90	84.0	2777	2.18	UG/L	73
13)	CS15 D4-1,2-Dichloroethane	SS1	10.71	65.0	93932	48.00	UG/L	99
16)	*C110 1,4-Difluorobenzene	IS-2	12.04	114.0	262467	50.00	UG/L	88
29)	*C120 D5-Chlorobenzene	IS-3	18.60	117.0	218920	50.00	UG/L	96
35)	CS05 D8-Toluene	SS-2	15.54	98.0	243261	49.45	UG/L	98
42)	CS10 Bromofluorobenzene	SS-3	20.96	95.0	169077	50.56	UG/L	87

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

CLIENT ENSR Consulting

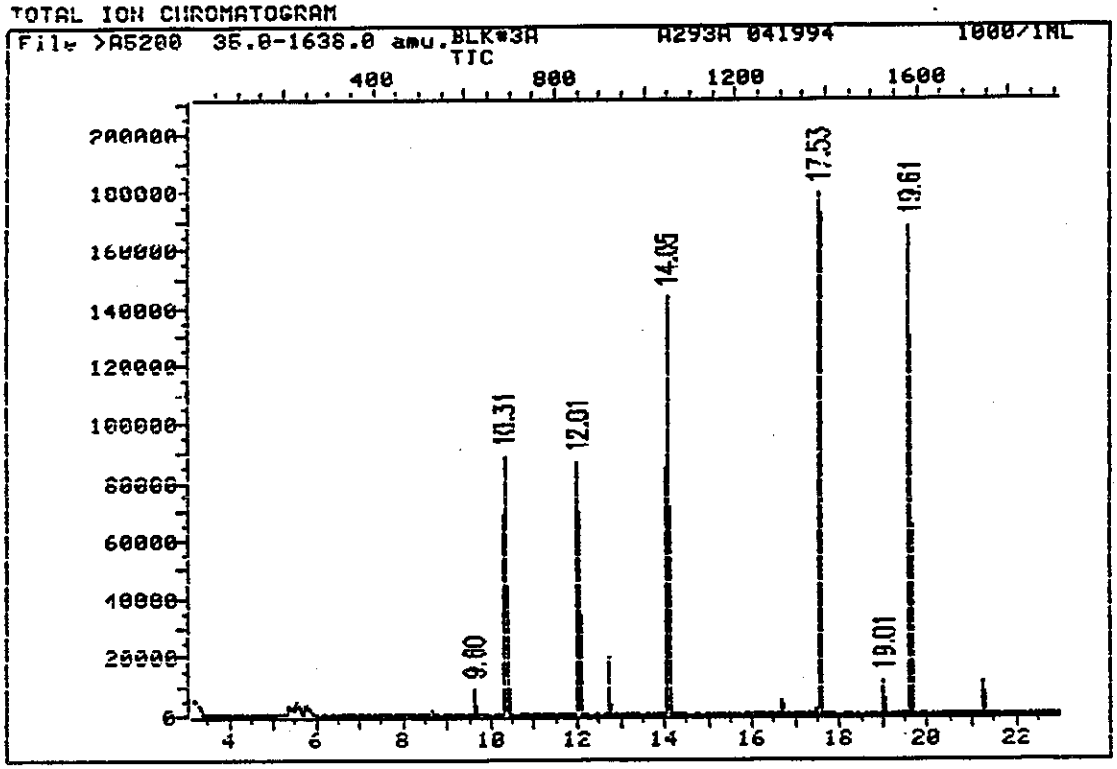
REPORT # 94.00856

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>A5200	04/19/94	BN	Aq	---	No Targets Found	NA	ug/L	NA
>A5201	04/19/94	BN	Aq	---	No Targets Found	NA	ug/L	NA

COMMENTS: _____

000109

TOTAL ION CHROMATOGRAM



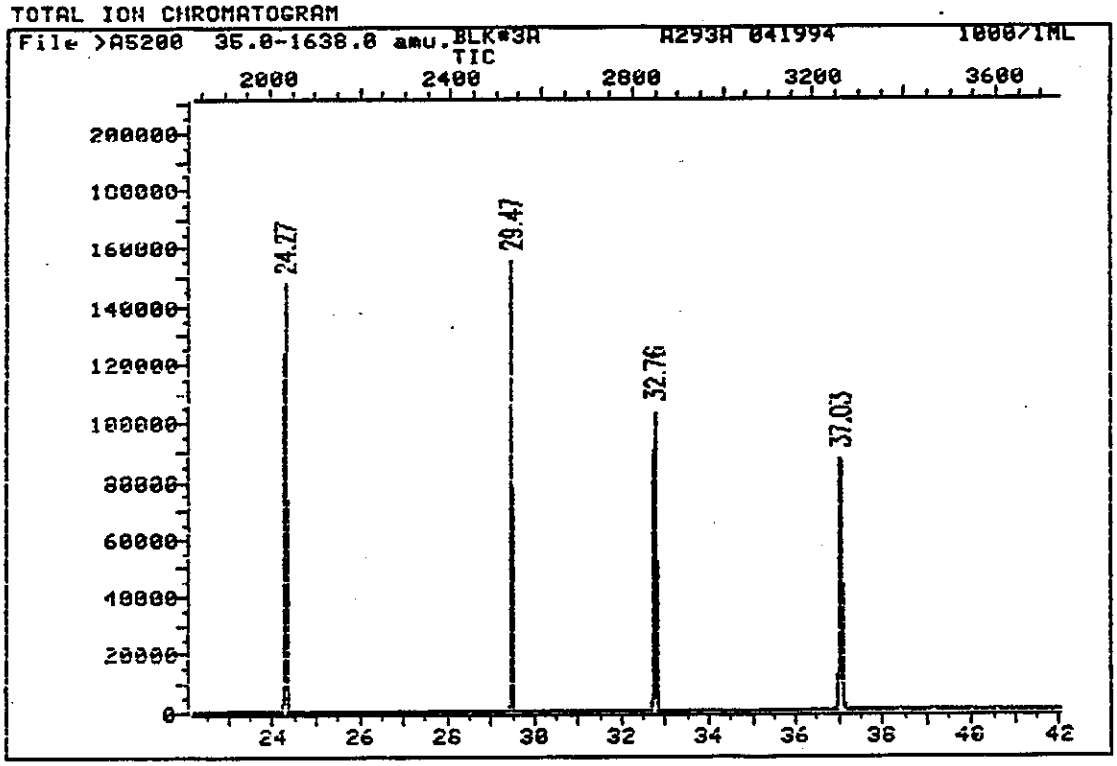
Data File: >A5200::E2 Quant Output File: ^A5200::D5
Name: BLK#3A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 5

Id File: IASKNR::D4
Title: SP Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 14:52
Injected at: 940419 14:07

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5200::E2 Quant Output File: ^A5200::D5
Name: BLK#3A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 5

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 14:52
Injected at: 940419 14:07

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 14:5V
Output File: ^A5200::D5 Injected at: 940419 14:07
Data File: >A5200::E2 Dilution Factor: 1.00000
Name: BLK#3A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 5

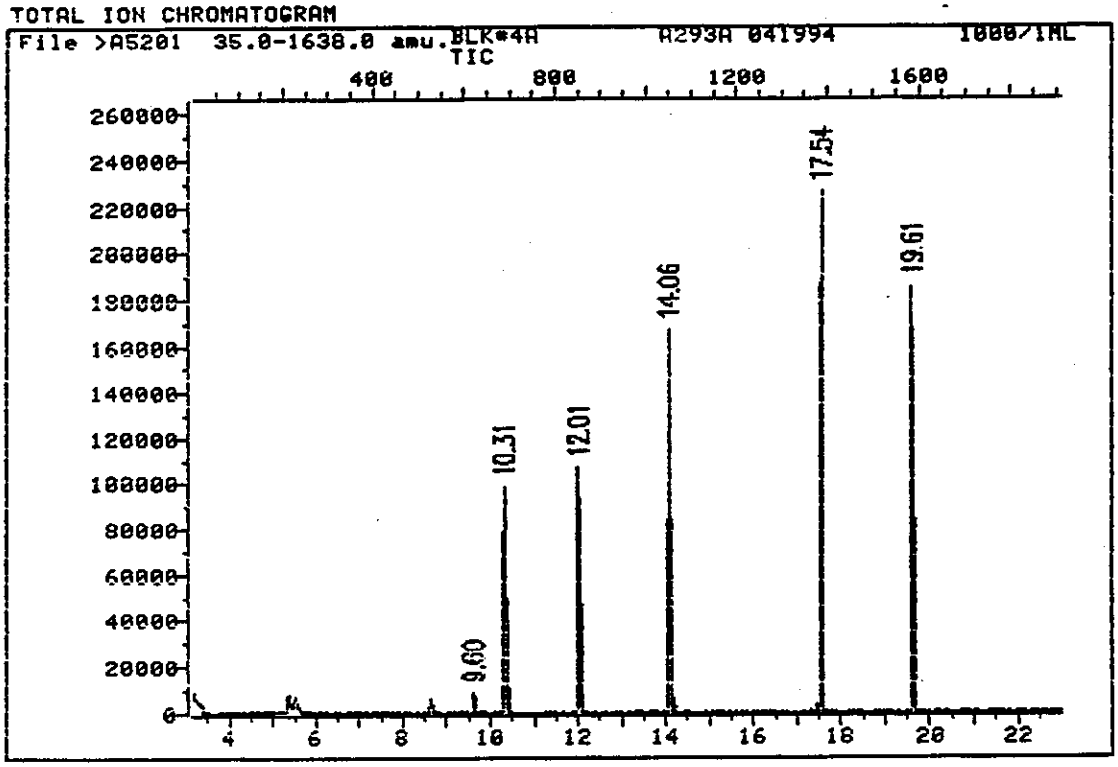
ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	37560	40.00	ug/L	98
3)	CS45 D5-Phenol	9.60	99.0	7360	5.15	ug/L	97
15)	*CI40 D8-Naphthalene	14.05	136.0	135720	40.00	ug/L	94
16)	CS20 D5-Nitrobenzene	12.01	82.0	51754	40.16	ug/L	92
21)	*CI50 D10-Acenaphthene	19.61	164.0	78666	40.00	ug/L	97
22)	CS25 2-Fluorobiphenyl	17.53	172.0	114965	41.92	ug/L	93
23)	C535 Dimethylphthalate	19.01	163.0	10318	3.13	ug/L	95
28)	*CI60 D10-Phenanthrene	24.27	188.0	126197	40.00	ug/L	98
33)	*CI70 D12-Chrysene	32.76	240.0	93679	40.00	ug/L	95
35)	CS30 D14-Terphenyl	29.47	244.0	124744	50.49	ug/L	93
40)	*CI75 D12-Perylene	37.03	264.0	106202	40.00	ug/L	93

* Compound is ISTD

000112

TOTAL ION CHROMATOGRAM



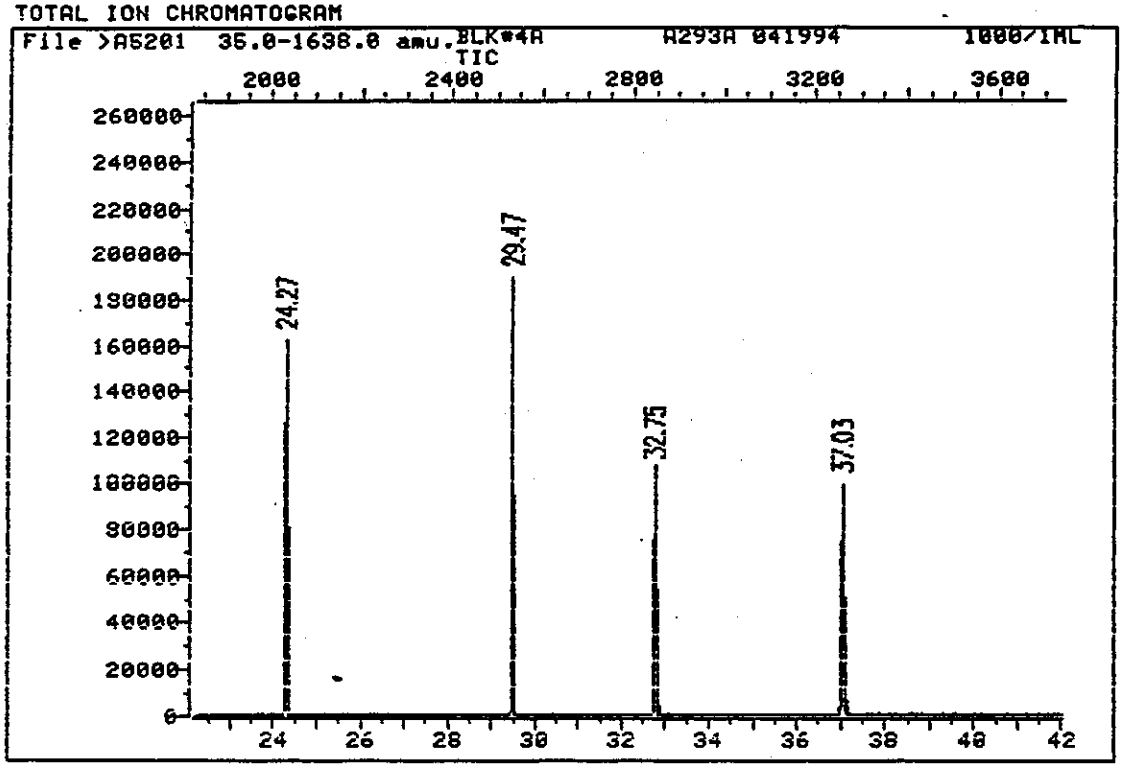
Data File: >A5201::E2 Quant Output File: ^A5201::D5
Name: BLK$4A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 6

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 15:44
Injected at: 940419 14:58

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5201::E2 Quant Output File: ^A5201::D5
Name: BLK#4A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 6

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 15:44
Injected at: 940419 14:58

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 15:44
Output File: ^A5201::D5 Injected at: 940419 14:58
Data File: >A5201::E2 Dilution Factor: 1.00000
Name: BLK#4A A293A
Misc: 041994 1000/1ML HP5970 A BTL# 6

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.31	152.0	42463	40.00	ug/L	9
3)	CS45 D5-Phenol	9.60	99.0	6844	4.23	ug/L	99
15)	*CI40 D8-Naphthalene	14.06	136.0	150427	40.00	ug/L	95
16)	CS20 D5-Nitrobenzene	12.01	82.0	65546	45.89	ug/L	1
21)	*CI50 D10-Acenaphthene	19.61	164.0	87412	40.00	ug/L	97
22)	CS25 2-Fluorobiphenyl	17.54	172.0	138518	45.46	ug/L	94
28)	*CI60 D10-Phenanthrene	24.27	188.0	141282	40.00	ug/L	9
33)	*CI70 D12-Chrysene	32.75	240.0	104625	40.00	ug/L	96
35)	CS30 D14-Terphenyl	29.47	244.0	155047	56.19	ug/L	85
40)	*CI75 D12-Perylene	37.03	264.0	117973	40.00	ug/L	9

* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
METHOD BLANK SUMMARY

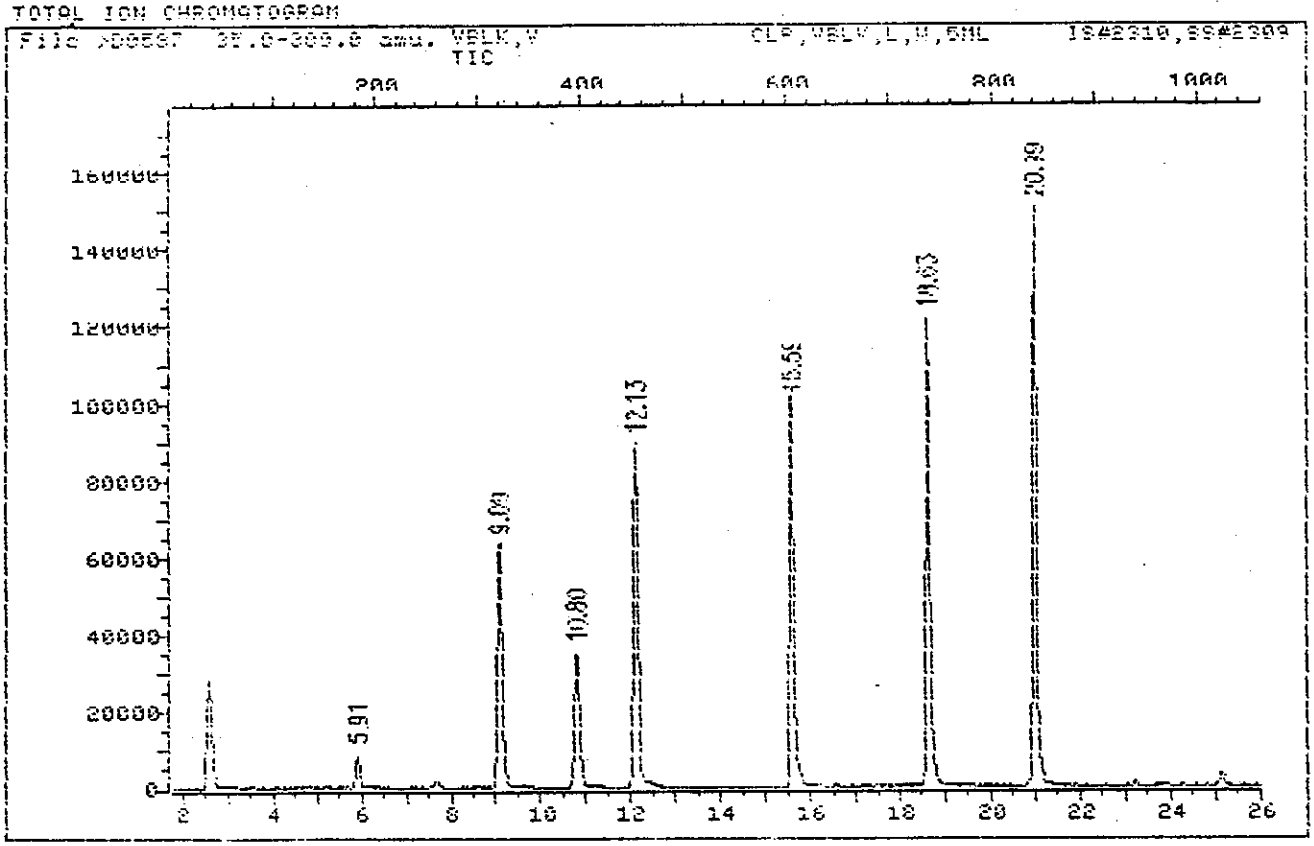
CLIENT ENSR Consulting

REPORT # 94.00856

FILE ID	DATE OF ANALYSIS	FRACTION	MATRIX	LEVEL	COMPOUND (HSL, TIC, OR UNKNOWN)	CONC	UNITS	CRDL
>D0587	03/18/94	VOA	Aq	---	No Targets Found	NA	ug/L	NA
>D0613	03/19/94	VOA	Aq	---	No Targets Found	NA	ug/L	NA
>E5220	03/21/94	VOA	Aq	---	No Targets Found	NA	ug/L	NA

COMMENTS:

TOTAL ION CHROMATOGRAM



Data File: >D0587::D2 Quant Output File: ^D0587::D3
Name: VBLK,V
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

Id File: DCLPID::QT
Title: 3 Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

Operator ID: BURT
Quant Time: 940318 11:12
Injected at: 940318 09:50

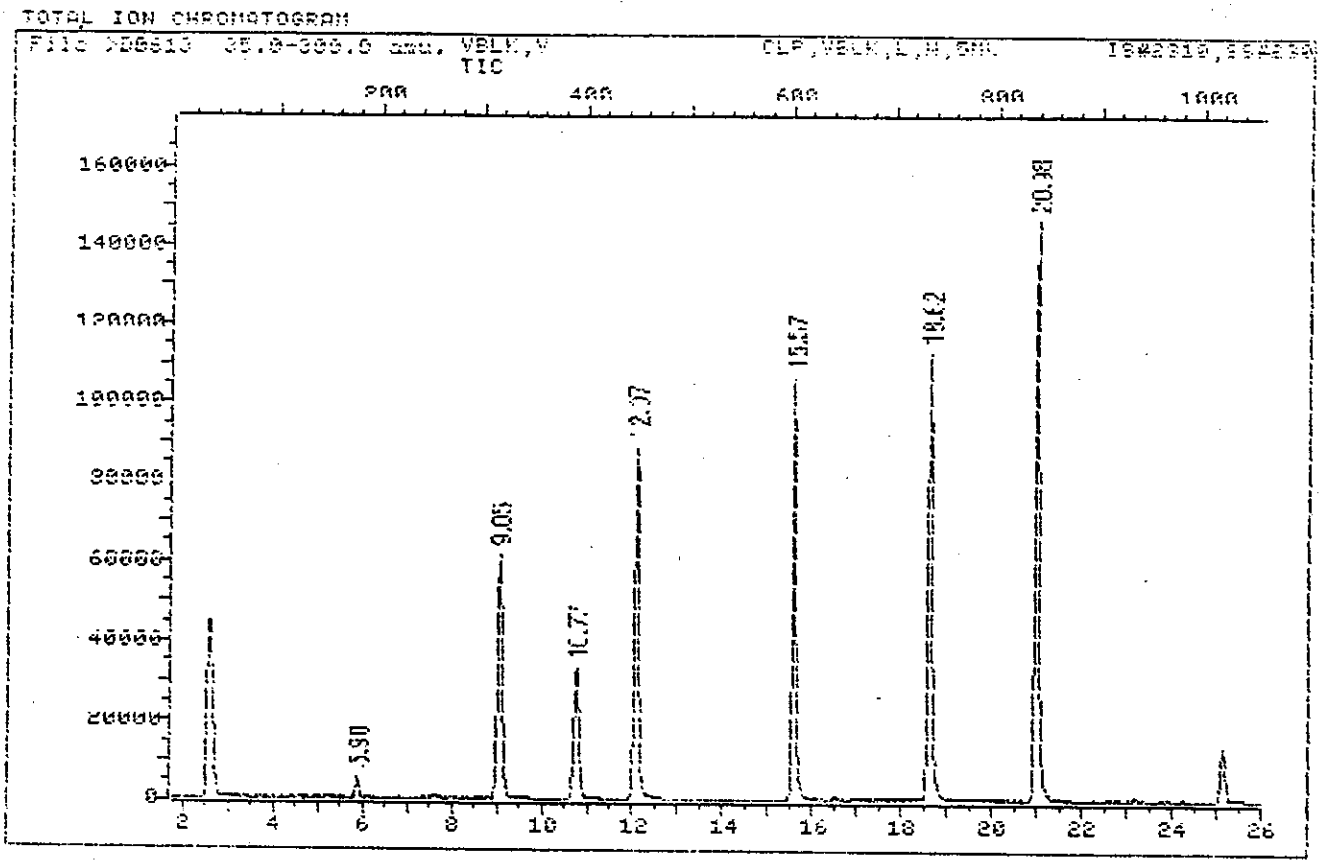
QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940318 11:12
Output File: ^D0587::D3 Injected at: 940318 09:50
Data File: >D0587::D2 Dilution Factor: 1.00000
Name: VBLK,V
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

	Compound	QRS	R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	9.09	128.0	72904	50.00	UG/L	8
6)	C030 Methylene Chloride		5.91	84.0	11475	7.99	UG/L	83
13)	CS15 D4-1,2-Dichloroethane	SS1	10.80	65.0	99042	45.01	UG/L	97
16)	*CI10 1,4-Difluorobenzene	IS-2	12.13	114.0	274948	50.00	UG/L	8
29)	*CI20 D5-Chlorobenzene	IS-3	18.63	117.0	228801	50.00	UG/L	97
35)	CS05 D8-Toluene	SS-2	15.59	98.0	247433	48.13	UG/L	97
42)	CS10 Bromofluorobenzene	SS-3	20.99	95.0	169226	48.42	UG/L	7

* Compound is ISTD



Data File: >D0613::D2 Quant Output File: ^D0613::D3
Name: VBLK,U
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

Id File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940319 09:41

Operator ID: BURT
Quant Time: 940319 10:07
Injected at: 940319 09:36

QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940319 10:07
Output File: ^D0613::D3 Injected at: 940319 09:36
Data File: >D0613::D2 Dilution Factor: 1.00000
Name: VBLK,U
Misc: CLP,VBLK,L,W,5ML IS#2310,SS#2309

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940319 09:41

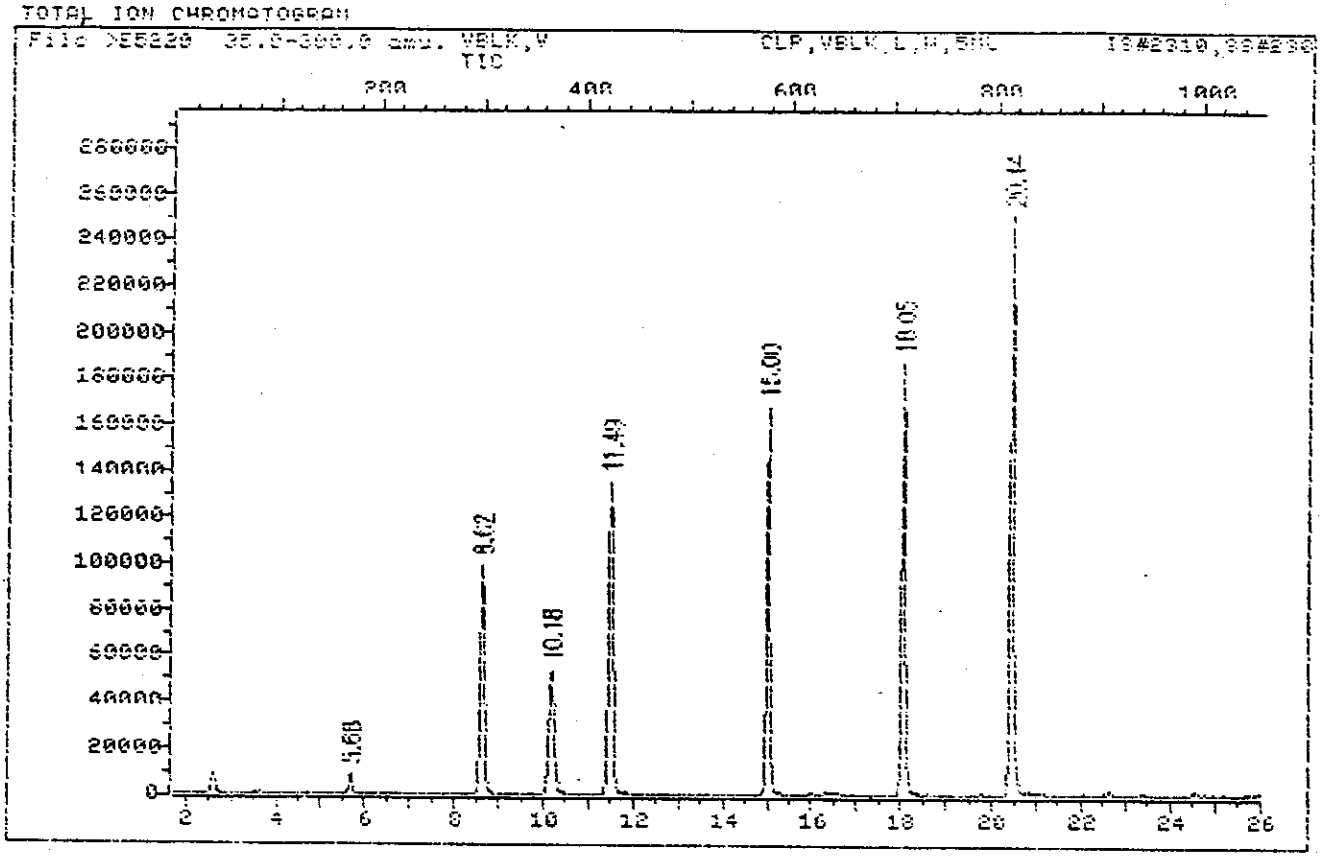
	Compound		R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	9.05	128.0	67719	50.00	UG/L	93
6)	C030 Methylene Chloride		5.90	84.0	6241	4.98	UG/L	[illegible]
13)	CS15 D4-1,2-Dichloroethane	SS1	10.77	65.0	93627	50.78	UG/L	98
16)	*CI10 1,4-Difluorobenzene	IS-2	12.07	114.0	276227	50.00	UG/L	67
29)	*CI20 D5-Chlorobenzene	IS-3	18.62	117.0	221250	50.00	UG/L	[illegible]
35)	CS05 D8-Toluene	SS-2	15.57	98.0	240066	49.56	UG/L	94
42)	CS10 Bromofluorobenzene	SS-3	20.98	95.0	163957	49.57	UG/L	79

* Compound is ISTD

JCB

000120

TOTAL ION CHROMATOGRAM



Data File: >E5220::D6 Quant Output File: ^E5220::D8
Name: VBLK,V
Misc: CLP.VBLK.L,W,5ML IS#2310,SS#2309

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

Operator ID: RITA
Quant Time: 940321 10:38
Injected at: 940321 10:07

QUANT REPORT

Operator ID: RITA
Output File: ^E5220::D8
Data File: >E5220::D6
Name: VBLK,U
Misc: CLP,VBLK,L,W,5ML

Quant Rev: 6
Quant Time: 940321 10:38
Injected at: 940321 10:07
Dilution Factor: 1.00000

IS#2310,SS#2309

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940321 09:57

	Compound		R.T.	Q ion	Area	Conc	Units	
1)	*CI01 Bromochloromethane	IS-1	8.62	128.0	97416	50.00	UG/L	94
6)	C030 Methylene Chloride		5.68	84.0	10340	4.30	UG/L	81
13)	CS15 D4-1,2-Dichloroethane	SS1	10.18	65.0	176432	45.51	UG/L	91
16)	*CI10 1,4-Difluorobenzene	IS-2	11.49	114.0	408161	50.00	UG/L	68
29)	*CI20 D5-Chlorobenzene	IS-3	18.05	117.0	296009	50.00	UG/L	
35)	CS05 D8-Toluene	SS-2	15.00	98.0	347672	50.32	UG/L	99
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	246931	50.71	UG/L	91

* Compound is ISTD

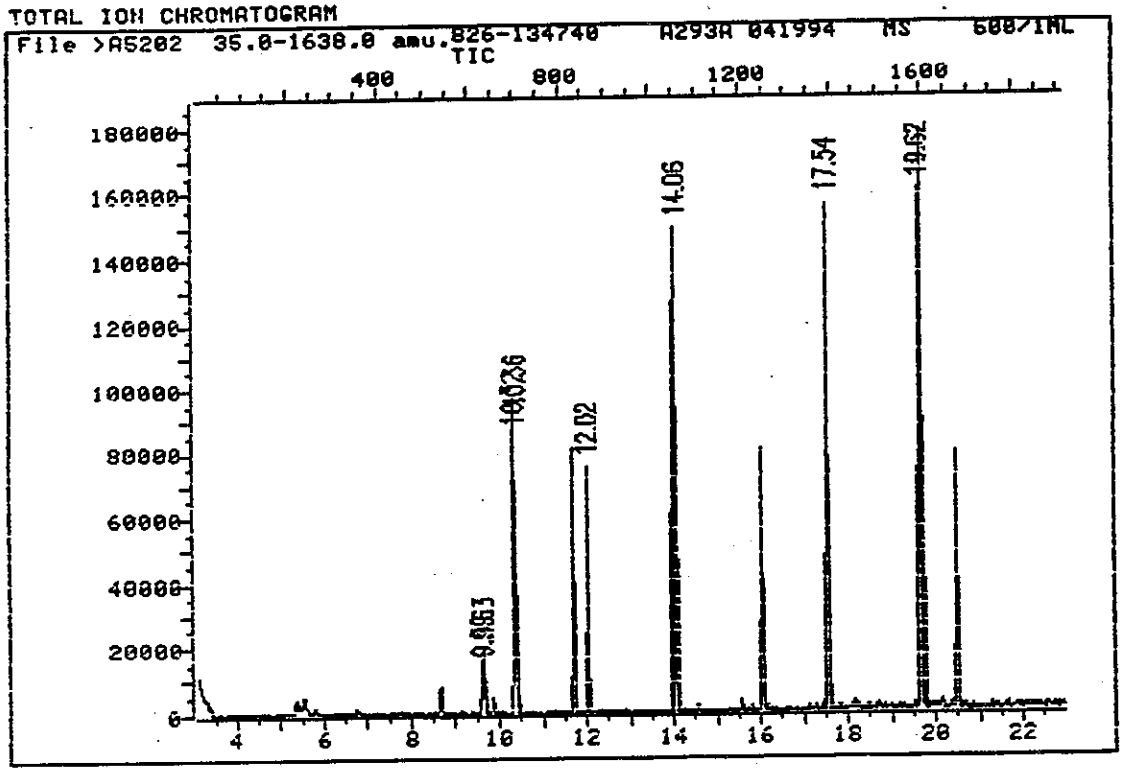
000122

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: A293A
QC Sample Number: 9400826-134740

Compound Name	Spike Added	Sample Result	MS Conc	Percent Recovery	MSD Conc	Percent Recovery	RPD
1,4-Dichlorobenzene	50	N.D.	33	66.00	31	62.00	6.0
Pyrene	50	N.D.	34	68.00	36	72.00	6.0

TOTAL ION CHROMATOGRAM



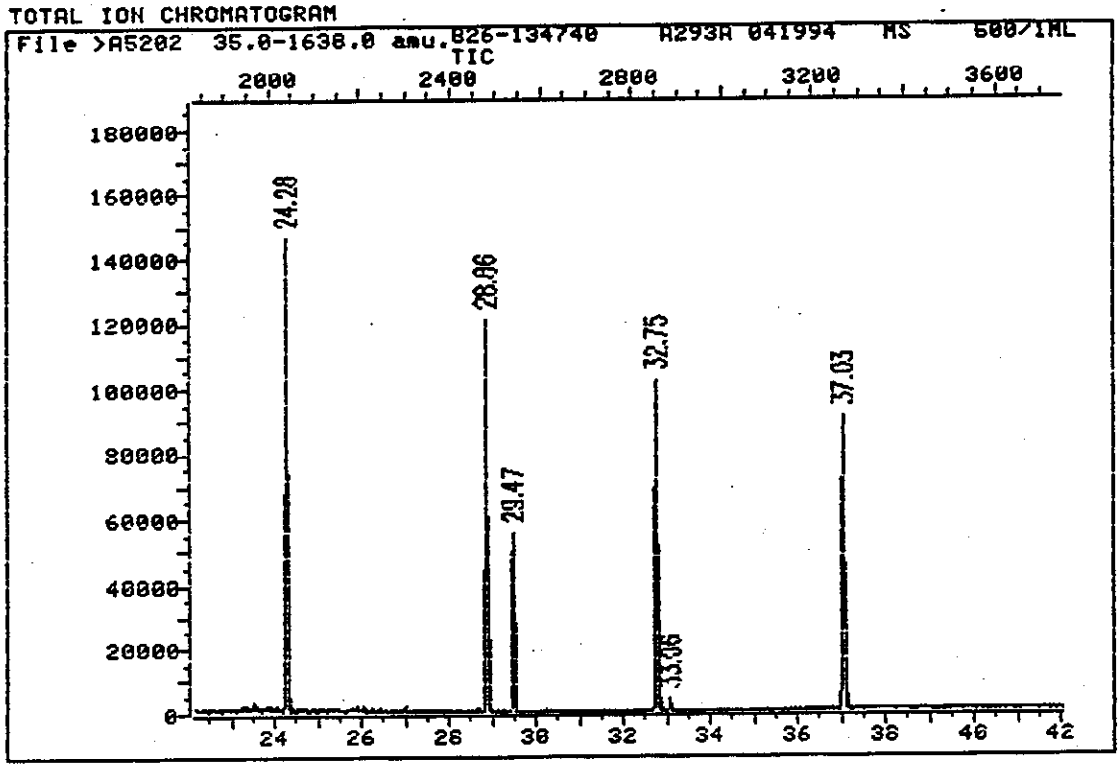
Data File: >A5202::E2 Quant Output File: ^A5202::D5
Name: 826-134740 A293A
Misc: 041994 MS 500/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 16:35
Injected at: 940419 15:50

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5202::E2 Quant Output File: ^A5202::D5
Name: 826-134740 A293A
Misc: 041994 MS 500/1ML HP5970 A BTL# 7

Id File: IASKNR::D4
Title: SP Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 16:35
Injected at: 940419 15:50

TIC page 2 of 2

QUANT REPORT

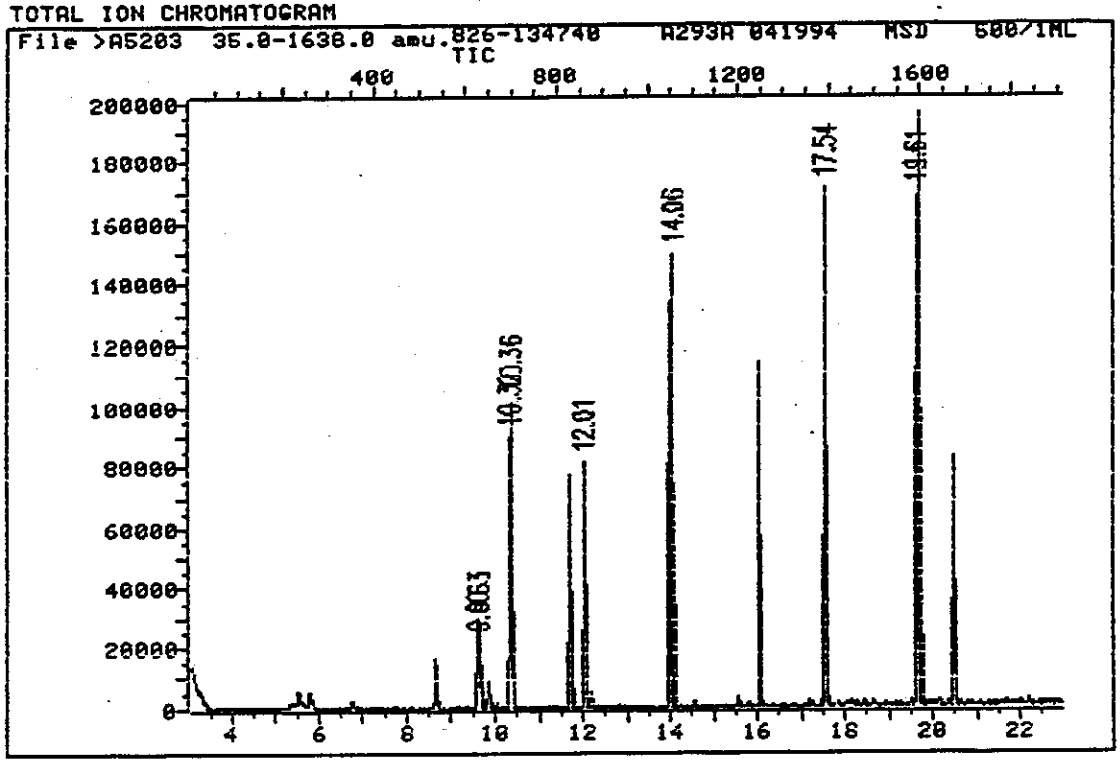
Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 16:35
Output File: ^A5202::D5 Injected at: 940419 15:50
Data File: >A5202::E2 Dilution Factor: 1.00000
Name: 826-134740 A293A
Misc: 041994 MS 500/1ML HP5970 A BTL# 7

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.32	152.0	35799	40.00	ug/L	7
3)	CS45 D5-Phenol	9.59	99.0	10082	7.40	ug/L	98
6)	C315 Phenol	9.63	94.0	10152	11.00	ug/L	94
9)	C340 1,4-Dichlorobenzene	10.36	146.0	51875	33.49	ug/L	5
15)	*CI40 D8-Naphthalene	14.06	136.0	128304	40.00	ug/L	95
16)	CS20 D5-Nitrobenzene	12.02	82.0	46508	38.18	ug/L	94
21)	*CI50 D10-Acenaphthene	19.62	164.0	75617	40.00	ug/L	7
22)	CS25 2-Fluorobiphenyl	17.54	172.0	97760	37.09	ug/L	93
28)	*CI60 D10-Phenanthrene	24.28	188.0	123763	40.00	ug/L	98
33)	*CI70 D12-Chrysene	32.75	240.0	95266	40.00	ug/L	7
34)	C715 Pyrene	28.86	202.0	125287	33.90	ug/L	9
35)	CS30 D14-Terphenyl	29.47	244.0	45055	17.93	ug/L	8
~~39)~~	~~C745 bis(2Ethylhexyl)phthalate~~	33.06	149.0	3013	.94	ug/L	1
40)	*CI75 D12-Perylene	37.03	264.0	109278	40.00	ug/L	93

* Compound is ISTD

TOTAL ION CHROMATOGRAM



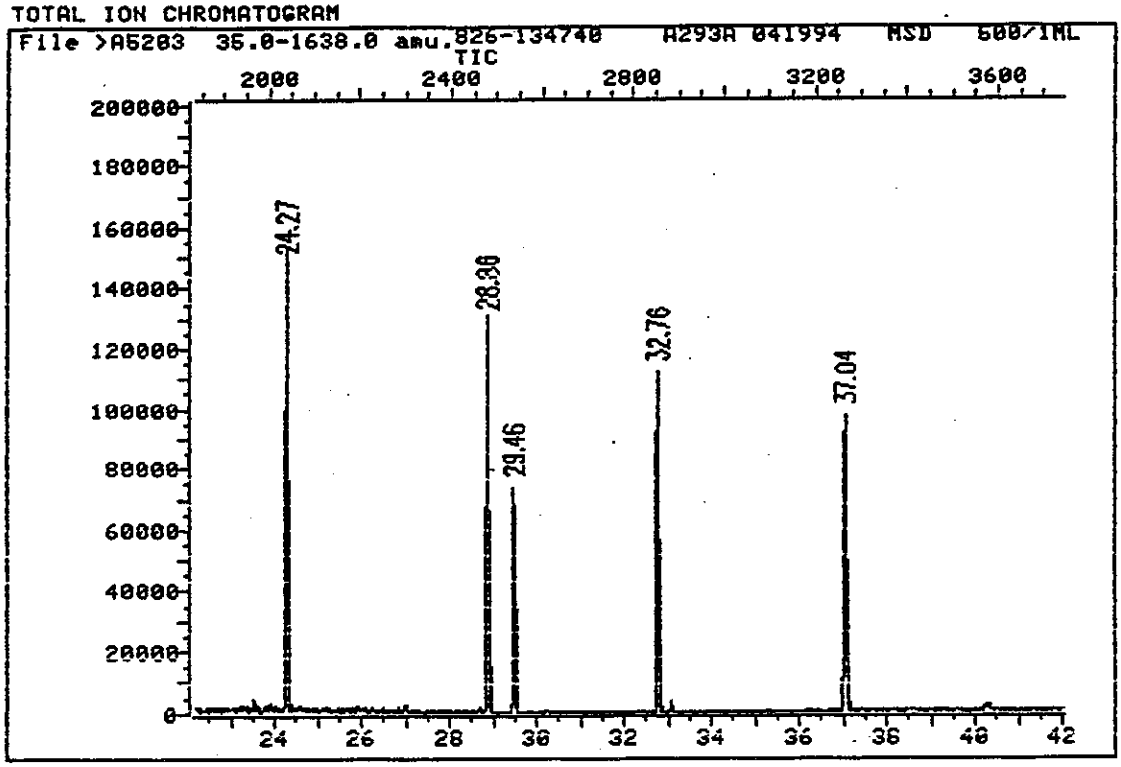
Data File: >A5203::E2 Quant Output File: ^A5203::D5
Name: 826-134740 A293A
Misc: 041994 MSD 500/1ML HP5970 A BTL# 8

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 17:27
Injected at: 940419 16:42

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >A5203::E2 Quant Output File: ^A5203::D5
Name: 826-134740 A293A
Misc: 041994 MSD 500/1ML HP5970 A BTL# 8

Id File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

Operator ID: RS4475
Quant Time: 940419 17:27
Injected at: 940419 16:42

TIC page 2 of 2

QUANT REPORT

Operator ID: RS4475 Quant Rev: 6 Quant Time: 940419 17:27
Output File: ^A5203::D5 Injected at: 940419 16:42
Data File: >A5203::E2 Dilution Factor: 1.00000
Name: 826-134740 A293A
Misc: 041994 MSD 500/1ML HP5970 A BTL# 8

ID File: IASKNR::D4
Title: 5P Skinner List ABN/8270
Last Calibration: 940419 10:09

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*CI30 D4-1,4-Dichlorobenzene	10.32	152.0	37931	40.00	ug/L	1
3)	CS45 D5-Phenol	9.60	99.0	16697	11.57	ug/L	92
6)	C315 Phenol	9.63	94.0	16133	16.49	ug/L	89
9)	C340 1,4-Dichlorobenzene	10.36	146.0	51112	31.15	ug/L	7
15)	*CI40 D8-Naphthalene	14.06	136.0	136637	40.00	ug/L	96
16)	CS20 D5-Nitrobenzene	12.01	82.0	48029	37.02	ug/L	88
21)	*CI50 D10-Acenaphthene	19.61	164.0	81484	40.00	ug/L	5
22)	CS25 2-Fluorobiphenyl	17.54	172.0	102938	36.24	ug/L	93
28)	*CI60 D10-Phenanthrene	24.27	188.0	134728	40.00	ug/L	99
33)	*CI70 D12-Chrysene	32.76	240.0	103062	40.00	ug/L	7
34)	C715 Pyrene	28.86	202.0	142542	35.65	ug/L	94
35)	CS30 D14-Terphenyl	29.46	244.0	61488	22.62	ug/L	85
40)	*CI75 D12-Perylene	37.04	264.0	119440	40.00	ug/L	0

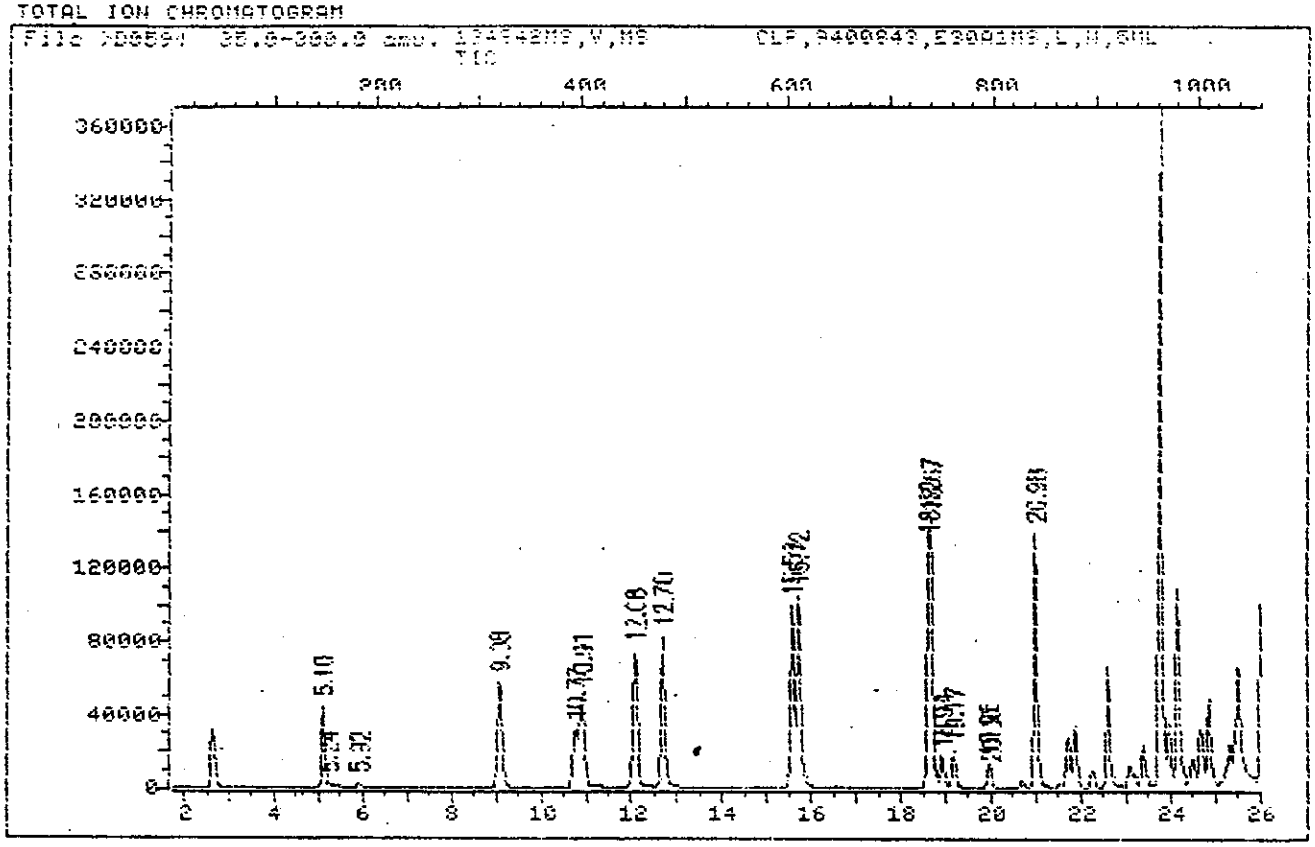
* Compound is ISTD

NATIONAL ENVIRONMENTAL TESTING, INC.
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: DCLP26A
QC Sample Number: 9400843-134842

Compound Name	Spike Added	Sample Result	MS Conc	Percent Recovery	MSD Conc	Percent Recovery	RPD
1,1-Dichloroethene	50	N.D.	42	85.00	42	85.00	0.0
Trichloroethene	50	N.D.	48	96.00	49	98.00	2.0
Benzene	50	N.D.	51	102.00	52	104.00	2.0
Methylene Chloride	50	N.D.	2	5.00	2	5.00	0.0
Toluene	50	N.D.	56	111.00	58	116.00	4.0
Chlorobenzene	50	N.D.	50	99.00	52	104.00	5.0
Ethylbenzene	50	N.D.	7	14.00	7	15.00	7.0

TOTAL ION CHROMATOGRAM



Data File: >D0594::D1 Quant Output File: ^D0594::D3
Name: 134842MS,V,MS
Misc: CLP,9400843,E30A1MS,L,W,5ML

Id File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

Operator ID: BURT
Quant Time: 940318 14:46
Injected at: 940318 14:15 .

E30A1+QCMS 3-11-94

QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940318 14:46
Output File: ^D0594::D3 Injected at: 940318 14:15
Data File: >D0594::D1 Dilution Factor: 1.00000
Name: 134842MS,V,MS
Misc: CLP,9400843,E30A1MS,L,W,5ML

DCLP2.1A

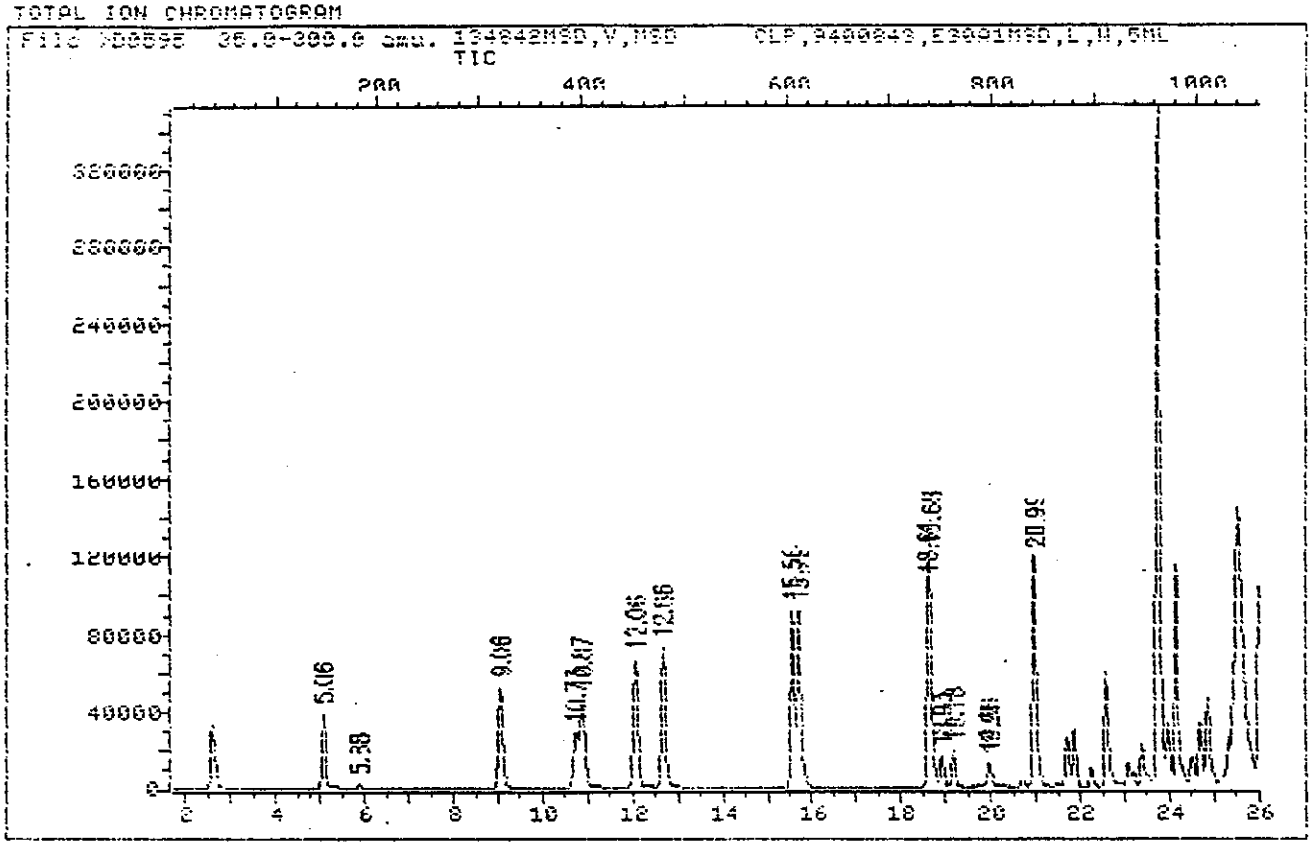
ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

		Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01	Bromochloromethane	IS-1	9.08	128.0	61804	50.00	UG/L	87
6)	C030	Methylene Chloride		5.92	84.0	2850	2.34	UG/L	80
7)	C035	Acetone		5.24	43.0	2559	11.13	UG/L	91
9)	C045	1,1-Dichloroethene		5.10	96.0	46087	42.32	UG/L	87
13)	CS15	D4-1,2-Dichloroethane	SS1	10.77	65.0	86604	46.42	UG/L	97
16)	*CI10	1,4-Difluorobenzene	IS-2	12.08	114.0	230161	50.00	UG/L	69
23)	C150	Trichloroethene		12.70	130.0	106932	48.22	UG/L	87
26)	C165	Benzene		10.91	78.0	158917	50.89	UG/L	95
29)	*CI20	D5-Chlorobenzene	IS-3	18.62	117.0	202888	50.00	UG/L	98
34)	C230	Toluene		15.72	91.0	247275	55.63	UG/L	87
35)	CS05	D8-Toluene	SS-2	15.58	98.0	229655	50.37	UG/L	93
36)	C235	Chlorobenzene		18.67	112.0	185297	49.68	UG/L	88
37)	C240	Ethylbenzene		18.94	106.0	11638	7.23	UG/L	87
38)	C245	Styrene		20.00	104.0	5363	1.65	UG/L	84
39)	C250	Xylene (total)		19.17	106.0	27540M	14.27	UG/L	90
40)		meta+para XYLENE		19.17	106.0	18335	9.36	UG/L	87
41)		ortho XYLENE		19.95	106.0	9213	4.77	UG/L	95
42)	CS10	Bromofluorobenzene	SS-3	20.98	95.0	158015	50.99	UG/L	80

* Compound is ISTD

JCB

TOTAL ION CHROMATOGRAM



Data File: >D0595::D1 Quant Output File: ^D0595::D3
Name: 134842MSD,V,MSD
Misc: CLP,9400843,E30A1MSD,L,W,5ML

Id File: DCLPID::QT
Title: C Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

Operator ID: BURT
Quant Time: 940318 15:23
Injected at: 940318 14:51

E30A1+QCMSD 3-11-94

QUANT REPORT

Operator ID: BURT Quant Rev: 6 Quant Time: 940318 15:23
Output File: >D0595::D3 Injected at: 940318 14:51
Data File: >D0595::D1 Dilution Factor: 1.00000
Name: 134849MSD,V,MSD
Misc: CLP,9400843,E30A1MSD,L,W,5ML

DCLP26a

ID File: DCLPID::QT
Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Last Calibration: 940318 09:32

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	9.06	128.0	57988	50.00	UG/L	
6)	C030 Methylene Chloride B=8		5.88	84.0	2641	2.31	UG/L	76
9)	C045 1,1-Dichloroethene		5.06	96.0	43362	42.44	UG/L	86
13)	CS15 D4-1,2-Dichloroethane	SS1	10.73	65.0	83236	47.56	UG/L	
16)	*CI10 1,4-Difluorobenzene	IS-2	12.06	114.0	205388	50.00	UG/L	68
23)	C150 Trichloroethene		12.66	130.0	96645	48.84	UG/L	96
26)	C165 Benzene		10.87	78.0	144942	52.01	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.61	117.0	177907	50.00	UG/L	95
34)	C230 Toluene		15.72	91.0	225171	57.77	UG/L	91
35)	CS05 D8-Toluene	SS-2	15.56	98.0	213380	53.38	UG/L	
36)	C235 Chlorobenzene		18.68	112.0	169681	51.88	UG/L	91
37)	C240 Ethylbenzene		18.93	106.0	10550	7.47	UG/L	9
38)	C245 Styrene		19.98	104.0	4973	1.75	UG/L	
39)	C250 Xylene (total)		19.18	106.0	25783m	15.24	UG/L	93
40)	meta+para XYLENE		19.18	106.0	16705	9.72	UG/L	98
41)	ortho XYLENE		19.96	106.0	8848	5.23	UG/L	
42)	CS10 Bromofluorobenzene	SS-3	20.99	95.0	138982	51.14	UG/L	87

* Compound = STD

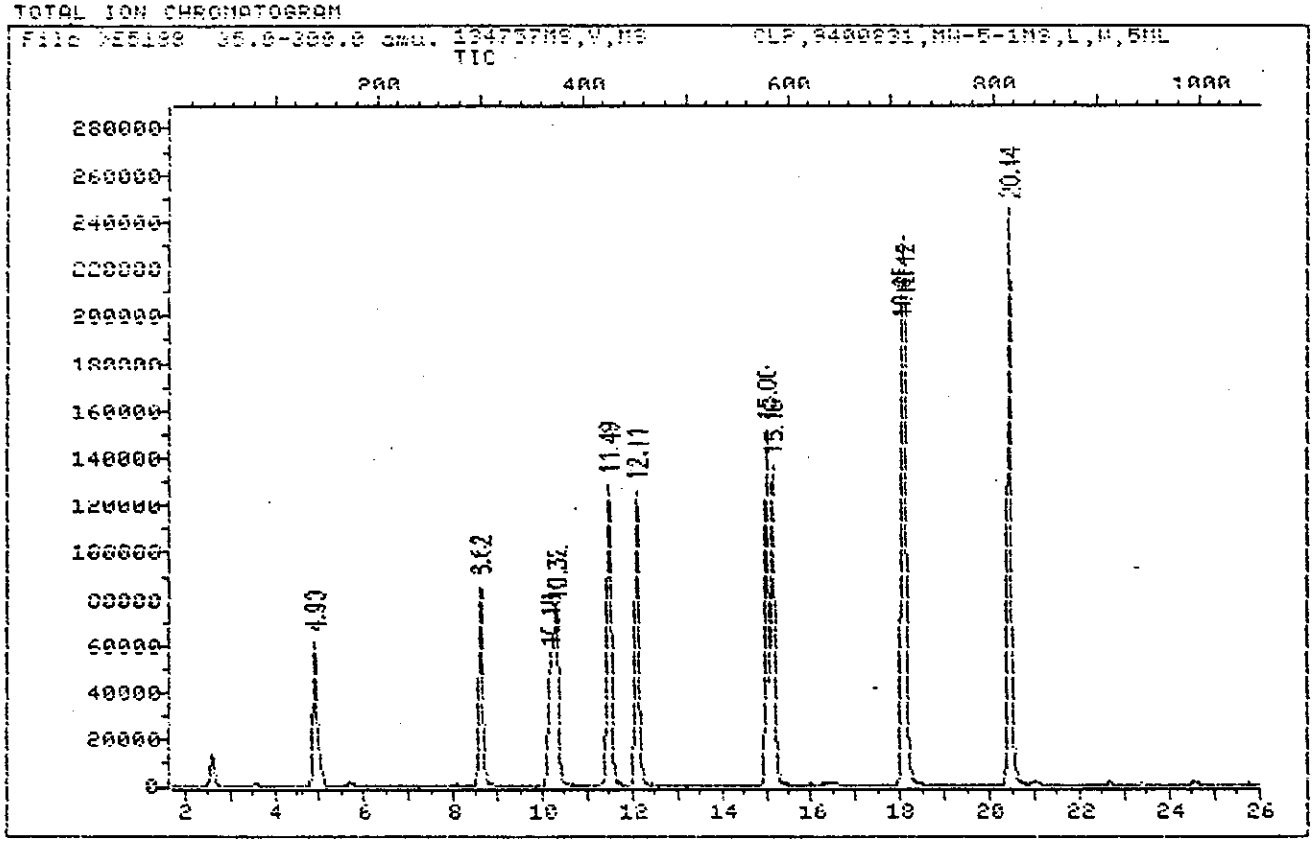
YB

NATIONAL ENVIRONMENTAL TESTING, INC
THOROFARE DIVISION
ORGANICS QUALITY ASSURANCE REPORT

QC Batch Number: EAQ-197
QC Sample Number: 9400831-134757

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Flag	Units	Spike Result	% recov.	Spike Dup. Result	% recov.	RPD
Volatiles by GC/MS CLP												
Benzene		68	03/18/1994	50.	10.	U	ug/L	45.	90.0	45.	90.0	0.0
Chlorobenzene		68	03/18/1994	50.	10.	U	ug/L	46.	92.0	46.	92.0	0.0
1,1-Dichloroethene		68	03/18/1994	50.	10.	U	ug/L	37.	74.0	35.	70.0	5.6
Toluene		68	03/18/1994	50.	10.	U	ug/L	46.	92.0	45.	90.0	2.2
Trichloroethene		68	03/18/1994	50.	10.	U	ug/L	46.	92.0	48.	96.0	4.3

TOTAL ION CHROMATOGRAM



Data File: >E5188::D6 Quant Output File: ^E5188::D8
Name: 134757MS,V,MS
Misc: CLP,9400831,MW-5-1MS,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940318 09:13

Operator ID: RITA
Quant Time: 940318 17:12
Injected at: 940318 16:41

MW-5-1SMS 3-10-94

QUANT REPORT

Operator ID: RITA
Output File: ^E5188::D8
Data File: >E5188::D6
Name: 134757MS,U,MS
Misc: CLP,9400831,MW-5-1MS,L,W,5ML

Quant Rev: 6 Quant Time: 940318 17:12
Injected at: 940318 16:41
Dilution Factor: 1.00000

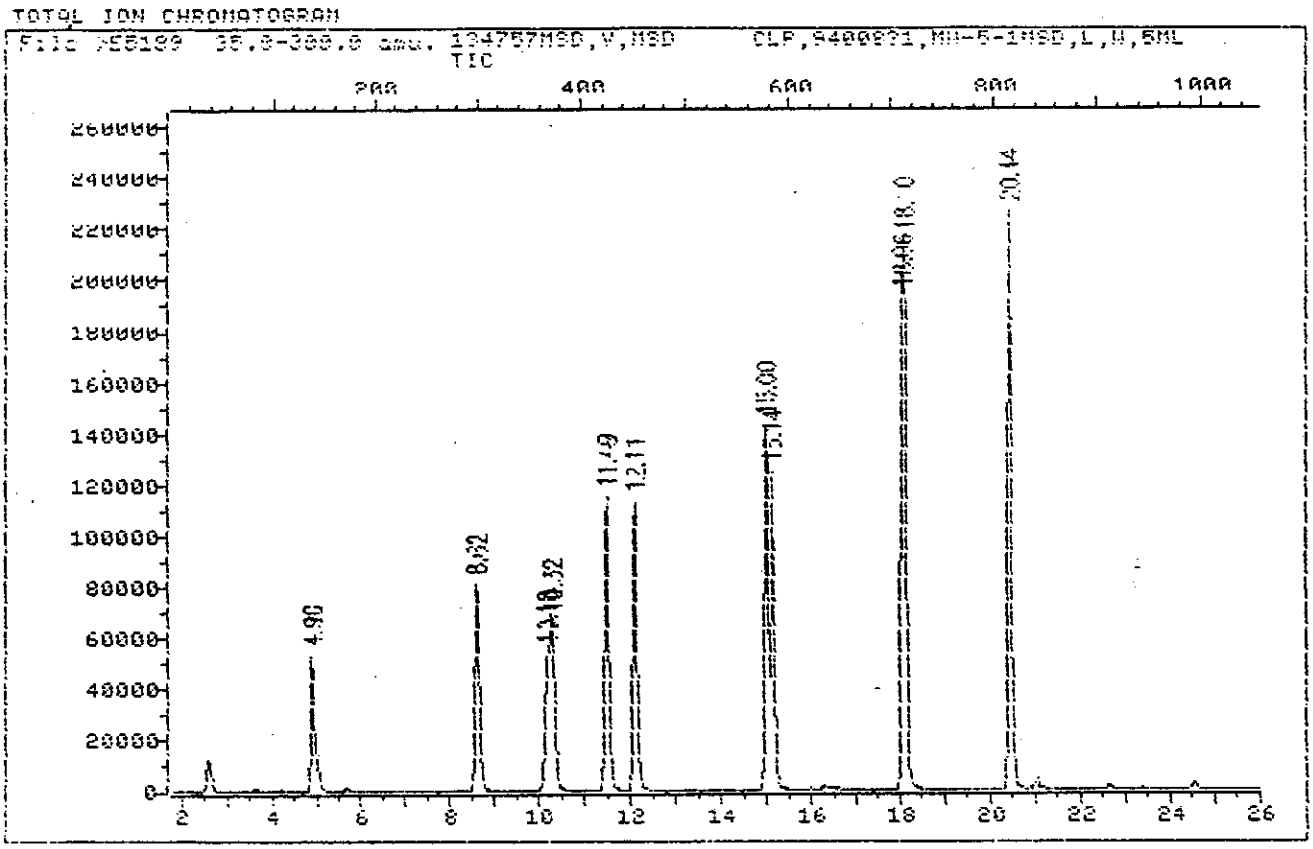
EAQ-197

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940318 09:13

	Compound		R.T.	Q ion	Area	Conc	Units	C
1)	*CI01 Bromochloromethane	IS-1	8.62	128.0	86972	50.00	UG/L	
9)	C045 1,1-Dichloroethene		4.90	96.0	76245	36.61	UG/L	
13)	CS15 D4-1,2-Dichloroethane	SS1	10.18	65.0	182259	52.08	UG/L	
16)	*CI10 1,4-Difluorobenzene	IS-2	11.49	114.0	366442	50.00	UG/L	
23)	C150 Trichloroethene		12.11	130.0	143196	46.27	UG/L	
26)	C165 Benzene		10.32	78.0	227876	45.41	UG/L	
29)	*CI20 D5-Chlorobenzene	IS-3	18.05	117.0	286995	50.00	UG/L	
34)	C230 Toluene		15.16	91.0	298607	45.78	UG/L	
35)	CS05 D8-Toluene	SS-2	15.00	98.0	320197	46.73	UG/L	
36)	C235 Chlorobenzene		18.12	112.0	247898	46.49	UG/L	
42)	CS10 Bromofluorobenzene	SS-3	20.44	95.0	240819	48.86	UG/L	

* Compound is ISTD

000137



Data File: >E5189::D6 Quant Output File: ^E5189::D8
Name: 134757MSD,V,MSD
Misc: CLP.9400831,MW-5-1MSD,L,W,5ML

Id File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940318 09:13

Operator ID: RITA
Quant Time: 940318 17:51
Injected at: 940318 17:19

MW-5-1+QCMSD 3.10.94

QUANT REPORT

Operator ID: RITA Quant Rev: 6 Quant Time: 940318 17:51
Output File: ^E5189::D8 Injected at: 940318 17:19
Data File: >E5189::D6 Dilution Factor: 1.00000
Name: 134757MSD,V,MSD
Misc: CLP,9400831,MW-5-1MSD,L,W,5ML

EAQ-197

ID File: IDCLPE::D4
Title: AQUEOUS CLP ID
Last Calibration: 940318 09:13

	Compound		R.T.	Q ion	Area	Conc	Units	q
1)	*CI01 Bromochloromethane	IS-1	8.62	128.0	81611	50.00	UG/L	[illegible]
9)	C045 1,1-Dichloroethene		4.90	96.0	68246	34.92	UG/L	94
13)	CS15 D4-1,2-Dichloroethane	SS1	10.18	65.0	168336	51.26	UG/L	90
16)	*CI10 1,4-Difluorobenzene	IS-2	11.49	114.0	326376	50.00	UG/L	[illegible]
23)	C150 Trichloroethene		12.11	130.0	131957	47.87	UG/L	95
26)	C165 Benzene		10.32	78.0	203190	45.46	UG/L	90
29)	*CI20 D5-Chlorobenzene	IS-3	18.06	117.0	264738	50.00	UG/L	[illegible]
34)	C230 Toluene		15.14	91.0	272366	45.27	UG/L	97
35)	CS05 D8-Toluene	SS-2	15.00	98.0	290620	45.98	UG/L	97
36)	C235 Chlorobenzene		18.10	112.0	224673	45.68	UG/L	[illegible]
42)	CS10 Bromoflubrobenzene	SS-3	20.44	95.0	228749	50.31	UG/L	94

* Compound is ISTD

JLC

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00856

External Standard Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Ext. Std. True Conc.	Units	Conc. Found	% Recovery
Alkalinity		33	03/13/1994	19.94	ppmCaCO	18.8	94.3
Alkalinity		33	03/16/1994	19.94	ppmCaCO	20.8	104.3
Alkalinity, Bicarb. at pH 4.		16	03/13/1994	19.94	ppmCaCO	18.8	94.3
Alkalinity, Bicarb. at pH 4.		16	03/24/1994	19.94	ppmCaCO	20.8	104.3
Ammonia		279	03/28/1994	0.74	mg/L N	0.73	98.6
Ammonia		279	03/28/1994	0.74	mg/L N	0.71	95.9
Ammonia		279	03/29/1994	0.74	mg/L N	0.71	95.9
Ammonia		279	03/29/1994	0.74	mg/L N	0.64	86.5
Ammonia		279	03/30/1994	0.74	mg/L N	0.72	97.3
Ammonia		279	03/30/1994	0.74	mg/L N	0.68	91.9
Ammonia		279	03/31/1994	0.74	mg/L N	0.73	98.6
Ammonia		279	03/31/1994	0.74	mg/L N	0.69	93.2
Chloride		162	03/31/1994	87.164	mg/L	86.93	99.7
Chloride		162	04/04/1994	87.16	mg/L	88.39	101.4
Conductivity		78	03/08/1994	100	umhos/c	102	102.0
Conductivity		78	03/09/1994	100	umhos/c	100	100.0
Conductivity		78	03/10/1994	100	umhos/c	98	98.0
Conductivity		78	03/11/1994	100	umhos/c	99	99.0
Conductivity		78	03/14/1994	100	umhos/c	100	100.0
Conductivity		79	03/14/1994	100	umhos/c	100	100.0
Conductivity		79	03/16/1994	100	umhos/c	99	99.0
Conductivity		79	03/17/1994	100	umhos/c	99	99.0
Conductivity		79	03/18/1994	100	umhos/c	98	98.0
Conductivity		79	03/21/1994	100	umhos/c	106	106.0
Fluoride, Total		70	03/07/1994	5.34	mg/L	5.80	108.6
Fluoride, Total		70	03/15/1994	5.34	mg/L	5.44	101.9
Fluoride, Total		70	03/24/1994	5.34	mg/L	5.26	98.5
Fluoride, Total		70	03/25/1994	5.34	mg/L	5.45	102.1
Nitrate/nitrite		39	03/24/1994	1.21	mg/L N	1.16	95.9
Nitrate/nitrite		39	03/24/1994	1.21	mg/L N	1.18	97.5
Nitrate/nitrite		39	03/29/1994	1.21	mg/L N	1.22	100.8
Nitrate/nitrite		39	03/29/1994	1.21	mg/L N	1.21	100.0
Nitrate/nitrite		40	03/29/1994	1.21	mg/L N	1.20	99.2
Nitrate/nitrite		40	03/29/1994	1.21	mg/L N	1.19	98.3
Solids, dissolved (TDS)		507	03/14/1994	1110	mg/L	1026	92.4
Solids, dissolved (TDS)		507	03/15/1994	1110	mg/L	1082	97.5
Solids, dissolved (TDS)		507	03/16/1994	1110	mg/L	1072	96.6
Sulfate		135	03/22/1994	45.08	mg/L	40.8	90.5
Sulfate		135	03/30/1994	39.13	mg/L	43.21	110.4
Sulfate		136	03/30/1994	39.13	mg/L	43.21	110.4
Total Organic Carbon		628	03/22/1994	105.6	mg/L	101.3	95.9
Total Organic Carbon		629	03/22/1994	105.6	mg/L	101.1	95.7
Total Organic Carbon		629	03/23/1994	105.6	mg/L	101.5	96.1
Total Organic Carbon		629	03/24/1994	105.6	mg/L	106.3	100.7

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00856

Blank Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Blank Result
Alkalinity		33	03/13/1994	2.0	ppmCaC	<2
Alkalinity		33	03/16/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		16	03/13/1994	2.0	ppmCaC	<2
Alkalinity, Bicarb. at pH 4.		16	03/24/1994	2.0	ppmCaC	<2
Ammonia		279	03/28/1994	0.1	mg/L N	<0.1
Ammonia		279	03/29/1994	0.1	mg/L N	<0.1
Ammonia		279	03/30/1994	0.1	mg/L N	<0.1
Ammonia		279	03/31/1994	0.1	mg/L N	<0.1
Chloride		162	03/31/1994	2.0	mg/L	<2
Chloride		162	04/04/1994	2.0	mg/L	<2
Conductivity		78	03/08/1994	1	umhos/	<1
Conductivity		78	03/09/1994	1	umhos/	<1
Conductivity		78	03/10/1994	1	umhos/	<1
Conductivity		78	03/11/1994	1	umhos/	<1
Conductivity		78	03/14/1994	1	umhos/	<1
Conductivity		79	03/14/1994	1	umhos/	<1
Conductivity		79	03/16/1994	1	umhos/	<1
Conductivity		79	03/17/1994	1	umhos/	<1
Conductivity		79	03/18/1994	1	umhos/	<1
Conductivity		79	03/21/1994	1	umhos/	<1
Fluoride, Total		70	03/07/1994	0.1	mg/L	<0.1
Fluoride, Total		70	03/15/1994	0.1	mg/L	<0.1
Fluoride, Total		70	03/24/1994	0.1	mg/L	<0.1
Fluoride, Total		70	03/25/1994	0.1	mg/L	<0.1
Nitrate/nitrite		39	03/24/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		39	03/29/1994	0.1	mg/L N	<0.1
Nitrate/nitrite		40	03/29/1994	0.1	mg/L N	<0.1
Solids, dissolved (TDS)		507	03/14/1994	<1.0	mg/L	<1
Solids, dissolved (TDS)		507	03/15/1994	<1.0	mg/L	2
Solids, dissolved (TDS)		507	03/16/1994	<1.0	mg/L	<1
Sulfate		135	03/22/1994	5	mg/L	<10
Sulfate		135	03/30/1994	5	mg/L	<10
Sulfate		136	03/30/1994	5	mg/L	<10
Sulfide		33	03/09/1994	0.1	mg/L	<0.1
Sulfide		33	03/17/1994	0.1	mg/L	<0.1
Sulfide		34	03/17/1994	0.1	mg/L	<0.1
Sulfide		34	03/24/1994	0.1	mg/L	<0.1
Total Organic Carbon		628	03/22/1994	1.0	mg/L	<1
Total Organic Carbon		629	03/22/1994	1.0	mg/L	<1
Total Organic Carbon		629	03/23/1994	1.0	mg/L	<1
Total Organic Carbon		629	03/24/1994	1.0	mg/L	<1
Arsenic (As)	658	312	04/15/1994	0.01	mg/L	<0.003
Cobalt (Co)	658	444	04/15/1994	0.05	mg/L	<0.01
Iron (Fe)	658	365	04/15/1994	0.1	mg/L	<0.1
Lead (Pb)	658	386	04/19/1994	.003	mg/L	0.001
Manganese (Mn)	658	444	04/15/1994	0.01	mg/L	<0.01

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00856

Duplicate Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	MDL	Units	Sample Result	Duplicate Result	RPD
Alkalinity		33	03/13/1994	2.0	ppmCaC	550	545	0.9
Alkalinity, Bicarb. at pH 4.		16	03/13/1994	2.0	ppmCaC	550	545	0.9
Ammonia		279	03/28/1994		mg/L N	10.4	10.4	0.0
Chloride		162	03/31/1994	2.0	mg/L	54	52	3.8
Conductivity		78	03/08/1994		umhos/	639	654	2.3
Conductivity		79	03/14/1994	1	umhos/	3190	3113	2.4
Fluoride, Total		70	03/07/1994	0.1	mg/L	<0.1	<0.1	
Nitrate/nitrite		39	03/24/1994	0.1	mg/L N	3.2	3.4	6.1
Nitrate/nitrite		40	03/29/1994		mg/L N	<1.0	<1.0	
Solids, dissolved (TDS)		507	03/14/1994	<1.0	mg/L	228	196	15.1
Sulfate		135	03/22/1994	5	mg/L	37	40	7.8
Sulfate		136	03/30/1994	5	mg/L	715	750	4.8
Sulfide		33	03/09/1994	0.1	mg/L	1.04	1.04	0.0
Sulfide		34	03/17/1994	0.1	mg/L	1.62	1.62	0.0
Total Organic Carbon		628	03/22/1994	1.0	mg/L	2.1	2.1	0.0
Total Organic Carbon		629	03/22/1994	1.0	mg/L	3.0	3.9	26.1
Arsenic (As)	658	312	04/15/1994	0.01	mg/L	0.039	0.039	0.0
Cobalt (Co)	658	444	04/15/1994	0.05	mg/L	<0.01	<0.01	
Iron (Fe)	658	365	04/15/1994	0.1	mg/L	45.5	44.9	1.3
Lead (Pb)	658	386	04/19/1994	.003	mg/L	0.034	0.034	0.0
Manganese (Mn)	658	444	04/15/1994	0.01	mg/L	2.66	2.64	0.8

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00856

Spiked Sample Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Sample Result	Units	Spiked Sample Result	% Recovery
Alkalinity		33	03/13/1994	118.75	550	ppmCaC	622	60.6
Alkalinity, Bicarb. at p		16	03/13/1994	118.75	550	ppmCaC	622	60.6
Ammonia		279	03/28/1994	40.0	10.4	mg/L N	48.4	95.0
Chloride		162	03/31/1994	50.0	54	mg/L	104	100.0
Fluoride, Total		70	03/07/1994	5.0	<0.1	mg/L	5.04	100.8
Nitrate/nitrite		39	03/24/1994	10.0	3.2	mg/L N	13.9	107.0
Nitrate/nitrite		40	03/29/1994	10.0	<1.0	mg/L N	9.2	92.0
Sulfate		135	03/22/1994	20.0	37	mg/L	64	135.0
Sulfate		136	03/30/1994	250	715	mg/L	999	113.6
Total Organic Carbon		628	03/22/1994	5.0	2.1	mg/L	7.1	100.0
Total Organic Carbon		629	03/22/1994	5.0	3.0	mg/L	9.6	132.0
Arsenic (As)	658	312	04/15/1994	0.04	0.039	mg/L	.066	68
Cobalt (Co)	658	444	04/15/1994	0.5	<0.01	mg/L	0.503	100.6
Iron (Fe)	658	365	04/15/1994	1.0	45.5	mg/L	46.2	70.0
Lead (Pb)	658	386	04/19/1994	0.02	0.034	mg/L	0.050	80.0
Manganese (Mn)	658	444	04/15/1994	0.5	2.66	mg/L	3.12	92.0

NATIONAL ENVIRONMENTAL TESTING, INC.
QUALITY ASSURANCE REPORT

Client: ENSR CONSULTING
NET Job Number: 94.00856

Laboratory Control Sample (LCS) Analysis

Parameter	Prep Batch	Run Batch	Date Analyzed	Amount Added	Units	Amount Found	% Recovery
Alkalinity		33	03/13/1994	475.0	ppmCaC	468	98.5
Alkalinity		33	03/16/1994	475.0	ppmCaC	463	97.5
Alkalinity, Bicarb. at p		16	03/13/1994	475	ppmCaC	468	98.5
Alkalinity, Bicarb. at p		16	03/24/1994	475	ppmCaC	459	96.6
Ammonia		279	03/28/1994	3.0	mg/L N	2.98	99.3
Ammonia		279	03/29/1994	3.0	mg/L N	2.90	96.7
Ammonia		279	03/31/1994	3.0	mg/L N	2.89	96.3
Chloride		162	03/31/1994	1000	mg/L	998	99.8
Chloride		162	04/04/1994	1000	mg/L	1002	100.2
Conductivity		78	03/08/1994	104.5	umhos/	105.2	100.7
Conductivity		78	03/09/1994	104.5	umhos/	103.9	99.4
Conductivity		78	03/10/1994	104.5	umhos/	103	98.6
Conductivity		78	03/11/1994	104.5	umhos/	105.5	101.0
Conductivity		78	03/14/1994	104.5	umhos/	106.5	101.9
Conductivity		79	03/14/1994	104.5	umhos/	106.5	101.9
Conductivity		79	03/16/1994	104.5	umhos/	102.2	97.8
Conductivity		79	03/17/1994	104.5	umhos/	103.3	98.9
Conductivity		79	03/18/1994	104.5	umhos/	100	95.7
Conductivity		79	03/21/1994	104.5	umhos/	105.8	101.2
Fluoride, Total		70	03/07/1994	10.0	mg/L	10.21	102.1
Fluoride, Total		70	03/15/1994	10.0	mg/L	10.43	104.3
Fluoride, Total		70	03/24/1994	10.0	mg/L	10.53	105.3
Nitrate/nitrite		39	03/24/1994	2.0	mg/L N	1.96	98.0
Nitrate/nitrite		39	03/29/1994	2.0	mg/L N	2.00	100.0
Nitrate/nitrite		40	03/29/1994	2.0	mg/L N	1.98	99.0
Sulfate		135	03/22/1994	40.0	mg/L	39.8	99.5
Sulfate		135	03/30/1994	40.0	mg/L	39.7	99.3
Sulfate		136	03/30/1994	40.0	mg/L	39.7	99.3
Total Organic Carbon		628	03/22/1994	10.0	mg/L	10.07	100.7
Total Organic Carbon		629	03/22/1994	10.0	mg/L	9.81	98.1
Total Organic Carbon		629	03/23/1994	10.0	mg/L	10.48	104.8
Total Organic Carbon		629	03/24/1994	10.0	mg/L	10.26	102.6
Total Organic Carbon		629	03/24/1994	10.0	mg/L	10.26	102.6
Arsenic (As)	658	312	04/15/1994	0.05	mg/L	0.046	92.0
Cobalt (Co)	658	444	04/15/1994	1.0	mg/L	1.08	108.0
Iron (Fe)	658	365	04/15/1994	1.0	mg/L	1.07	107.0
Lead (Pb)	658	386	04/19/1994	0.05	mg/L	0.051	102.0
Manganese (Mn)	658	444	04/15/1994	1.0	mg/L	1.02	102.0

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/18/94 18:14
Data File: >A5189
Scan: 826

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	57.01	57.01	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	74.71	74.71	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	43.56	43.56	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.09	6.09	Ok
275	10-30% of mass 198	19.73	19.73	Ok
365	Greater than 1% of mass 198	2.11	2.11	Ok
441	Less than mass 443	9.17	76.29	Ok
442	Greater than 40% of mass 198	64.11	64.11	Ok
443	17-23% of mass 442	12.02	18.74	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
>A5190	50PPB #3370	4/19/94	18:54
>A5191	20PPB #3371		19:47
>A5192	160PPB #3367		20:41
>A5193	120 PPB #3368		21:35
>A5194	80PPB #3369		22:28

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/19/94 10:12
Data File: >A5195
Scan: 828

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	51.11	51.11	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	60.87	60.87	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.36	40.36	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.89	6.89	Ok
275	10-30% of mass 198	20.56	20.56	Ok
365	Greater than 1% of mass 198	2.59	2.59	Ok
441	Less than mass 443	11.98	84.76	Ok
442	Greater than 40% of mass 198	77.33	77.33	Ok
443	17-23% of mass 442	14.13	18.28	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
>A5196	50PPB #3370	4/19/94	10:35
>A5197	QCSpK A293A		11:32
>A5198	BLK#1A		12:24
>A5199	BLK#2A		13:15
>A5200	BLK#3A		14:07
>A5201	BLK#4A		14:58
>A5202	134740MS - 9400826		15:50
>A5203	134740MSD-9400826		16:42
>A5206	134613 - 9400806		19:16
>A5207	100826-134736		20:07
>A5208	100826-134738		20:59
>A5211	9400806-134615	4-20-94	10:11
>A5212	9400806-134611		11:02

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/20/94 08:51
Data File: >A5209
Scan: 832

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	55.59	55.59	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	69.71	69.71	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	41.90	41.90	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	7.29	7.29	Ok
275	10-30% of mass 198	21.57	21.57	Ok
365	Greater than 1% of mass 198	2.56	2.56	Ok
441	Less than mass 443	11.52	87.93	Ok
442	Greater than 40% of mass 198	76.04	76.04	Ok
443	17-23% of mass 442	13.10	17.23	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS
	#3370		

1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET THOROFARE | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5209 DFTPP Injection Date: 4/20/94

Instrument ID: 70A70F DFTPP Injection Time: 8:51

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	55.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	69.7
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	7.3
275	10.0 - 30.0% of mass 198	21.6
365	Greater than 1.00% of mass 198	2.6
441	Present, but less than mass 443	11.5
442	Greater than 40.0% of mass 198	76.0
443	17.0 - 23.0% of mass 442	13.1 (17.2)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB	50PPB #3370	>A5210	04/20/94	09:16
02	134615	00806 A293A	>A5211	04/20/94	10:11
03	134611	00806 A293A	>A5212	04/20/94	11:02
04	134740	00826 A293A	>A5213	04/20/94	11:53
05	134763	00826 A293A	>A5214	04/20/94	12:44
06	134874	00856 A293A	>A5215	04/20/94	13:35
07	134875	00856 A293A	>A5216	04/20/94	14:27
08	134871	00856 A293A	>A5217	04/20/94	15:19
09	134872	00856 A293A	>A5218	04/20/94	16:10
10	134873	00856 A293A	>A5219	04/20/94	17:02
11	134870	00856 A293A	>A5220	04/20/94	17:58
12	135101	00893 A293A	>A5223	04/20/94	20:35
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

Contractor: NET ATLANTIC
Instrument ID: 5970
Date/Time: 04/21/94 13:55
Data File: >A5224
Scan: 838

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	53.96	53.96	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	66.46	66.46	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	41.29	41.29	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.22	6.22	Ok
275	10-30% of mass 198	20.39	20.39	Ok
365	Greater than 1% of mass 198	1.97	1.97	Ok
441	Less than mass 443	8.61	73.66	Ok
442	Greater than 40% of mass 198	59.19	59.19	Ok
443	17-23% of mass 442	11.70	19.76	Ok

THIS PERFORMANCE TUNE APPLIES TO THE

FOLLOWING SAMPLES, BLANKS AND STANDARDS.

DATA_FILE	SAMPLE_ID	DATE_OF_ANALYSIS	TIME_OF_ANALYSIS

1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: NET THOROUGHARE | 25 char Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >A5224 DFTPP Injection Date: 4/21/94

Instrument ID: /UA/UF DFTPP Injection Time: 13:55

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	54.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	66.5
70	Less then 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.3
197	Less than 1.0% of mass 198	0.8
198	Base Peak, 100% relative abundance	100.0
199	5.0 - 9.0% mass 198	6.2
275	10.0 - 30.0% of mass 198	20.4
365	Greater than 1.00% of mass 198	2.0
441	Present, but less than mass 443	8.6
442	Greater than 40.0% of mass 198	59.2
443	17.0 - 23.0% of mass 442	11.7 (19.8)2

1-Value is % of mass 69 2-Value is % of mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB	50PPB #33/0	>A5225	04/21/94	14:25
02	WCSPK	LCS A295A	>A5226	04/21/94	15:17
03	BLK#1	BLK#1 A295A	>A5227	04/21/94	16:09
04	134734	00826 A295A	>A5228	04/21/94	17:00
05	134869	00856 A295A	>A5229	04/21/94	17:51
06	135107 MS	00893 A295A	>A5230	04/21/94	18:42
07	135107 MSD	00893 A295A	>A5231	04/21/94	19:33
08	135107	00893 A295A	>A5232	04/21/94	20:23
09	135099	00893 A295A	>A5233	04/21/94	21:14
10	135342	00938 A295A	>A5234	04/21/94	22:05
11	135344	00938 A295A	>A5236	04/21/94	23:47
12	135105	00893 A295A	>A5237	04/22/94	00:37
13					
14					
15					
16					
17					
18					
19					
20					
21					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >D0504 BFB Injection Date: 3/14/94

Instrument ID: 70 2 BFB Injection Time: 3/14/94 9:0?

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% OF MASS 95	19.7
75	30.0 - 66.0% OF MASS 95	47.4
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.0 0.0)1
174	50.0 - 120.0% of mass 95	94.7(
175	4.0 - 9.0% of mass 174	5.9 6.2)1
176	93.0 - 101% of mass 174	95.0 100.3)1
177	5.0 - 9.0% of mass 176	6.4 6.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
04		I			
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

:DU,UD0504,1
1

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >D0504 BFB Injection Date: 3/14/94

Instrument ID: HP5970 BFB Injection Time: 9:02

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	19.7
75	30.0 - 66.0% of mass 95	47.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50-120% of mass 95	94.7
175	4.0 - 9.0% of mass 174	5.9 (6.2)1
176	93.0 - 101.0% of mass 174	95.0 (100.3)1
177	5.0 - 9.0% of mass 176	6.4 (6.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB STD	50 STD#2312	>D0505	03/14/94	09:44
02	100 PPB ST	100STD#2312	>D0506	03/14/94	10:27
03	20 PPB STD	20 STD#2312	>D0507	03/14/94	11:07
04	200 PPB ST	200STD#2312	>D0508	03/14/94	11:47
05	10 PPB STD	10 STD#2312	>D0511	03/14/94	14:37
06	VBLK	VBLK	>D0512	03/14/94	15:38
07	134402	00763	>D0513	03/14/94	16:23
08	134401	00763	>D0514	03/14/94	16:59
09	134398	00763	>D0515	03/14/94	17:35
10	134397	00763	>D0516	03/14/94	18:12
11	134396	00763	>D0517	03/14/94	18:47
12	134410	00764	>D0518	03/14/94	19:23
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5124

BFB Injection Date: 3/16/94

Instrument ID: 70 1

BFB Injection Time: 3/16/94 10:06

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% OF MASS 95	25.2
75	30.0 - 66.0% OF MASS 95	61.4
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	8.3
173	Less than 2.0% of mass 174	.7 .8)1
174	50.0 - 120.0% of mass 95	90.5(
175	4.0 - 9.0% of mass 174	7.1 7.9)1
176	93.0 - 101% of mass 174	87.0 96.1)1
177	5.0 - 9.0% of mass 176	5.5 6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5124 BFB Injection Date: 3/16/94

Instrument ID: HP5970 BFB Injection Time: 10:06

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	25.2
75	30.0 - 66.0% of mass 95	61.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.3
173	Less than 2.0% of mass 174	.7 (.8)1
174	50-120% of mass 95	90.5
175	4.0 - 9.0% of mass 174	7.1 (7.9)1
176	93.0 - 101.0% of mass 174	87.0 (96.1)1
177	5.0 - 9.0% of mass 176	5.5 (6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 PPB STD	50 STD#2312	>E5126	03/16/94	11:28
02	10 PPB STD	10 STD#2312	>E5127	03/16/94	12:07
03	100 PPB ST	100 STD2312	>E5128	03/16/94	12:49
04	20 PPB STD	20 STD#2312	>E5130	03/16/94	14:03
05	200 PPB ST	200 STD#2312	>E5131	03/16/94	14:52
06	VBLK	VBLK	>E5133	03/16/94	17:03
07	134468	00780	>E5134	03/16/94	17:40
08	134489	00783	>E5135	03/16/94	18:17
09	134490	00783	>E5136	03/16/94	18:53
10	134491	00783	>E5137	03/16/94	19:30
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >D0585 BFB Injection Date: 3/18/94

Instrument ID: 70 2 BFB Injection Time: 3/18/94 7:56

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	19.4	
75	30.0 - 66.0% OF MASS 95	50.3	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	8.0	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	91.8	
175	4.0 - 9.0% of mass 174	6.4	7.0)1
176	93.0 - 101% of mass 174	90.9	99.1)1
177	5.0 - 9.0% of mass 176	5.9	6.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03					
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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >D0585 BFB Injection Date: 3/18/94

Instrument ID: HP5970 BFB Injection Time: 7:56

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	19.4
75	30.0 - 66.0% of mass 95	50.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50-120% of mass 95	91.8
175	4.0 - 9.0% of mass 174	6.4 (7.0)1
176	93.0 - 101.0% of mass 174	90.9 (99.1)1
177	5.0 - 9.0% of mass 176	5.9 (6.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 ppb	#2312	>D0586	03/18/94	08:30
02	VBLK	VBLK	>D0587	03/18/94	09:50
03	134844	00843	>D0588	03/18/94	10:36
04	134842	00843	>D0589	03/18/94	11:12
05	134843	00843	>D0590	03/18/94	11:48
06	134876	00856	>D0591	03/18/94	12:24
07	134874	00856	>D0593	03/18/94	13:36
08	134842MS	00843	>D0594	03/18/94	14:15
09	134842MSD	00843	>D0595	03/18/94	14:51
10	134843	00843	>D0596	03/18/94	15:28
11	134875	00856	>D0597	03/18/94	16:09
12	134873	00856	>D0600	03/18/94	17:55
13	134872	00856	>D0601	03/18/94	18:32
14	134871	00856	>D0602	03/18/94	19:09
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >D0611 BFB Injection Date: 3/19/94

Instrument ID: 70 2 BFB Injection Time: 3/19/94 7:57

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	20.3	
75	30.0 - 66.0% OF MASS 95	51.0	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	7.1	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	50.0 - 120.0% of mass 95	94.6(	
175	4.0 - 9.0% of mass 174	6.9	7.3)1
176	93.0 - 101% of mass 174	92.2	97.4)1
177	5.0 - 9.0% of mass 176	6.1	6.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >D0611 BFB Injection Date: 3/19/94

Instrument ID: HP5970 BFB Injection Time: 7:57

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	20.3
75	30.0 - 66.0% of mass 95	51.0
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	0.0 (0.0)1
174	50-120% of mass 95	94.6
175	4.0 - 9.0% of mass 174	6.9 (7.3)1
176	93.0 - 101.0% of mass 174	92.2 (97.4)1
177	5.0 - 9.0% of mass 176	6.1 (6.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 ppb	#2312	>D0612	03/19/94	08:30
02	VBLK	VBLK	>D0613	03/19/94	09:36
03	134873	00856	>D0614	03/19/94	10:42
04	134869	00856	>D0615	03/19/94	11:18
05	135058	00879	>D0617	03/19/94	12:30
06	135059	00879	>D0618	03/19/94	13:07
07	135105	00893	>D0620	03/19/94	14:19
08					
09					
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19					
20					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET ATLANTIC

Lab File ID: >E5218

BFB Injection Date: 3/21/94

Instrument ID: 70 1

BFB Injection Time: 3/21/94 8:28

Matrix: (soil/water) Level: (low/med) Column: (pack/cap)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% OF MASS 95	22.8	
75	30.0 - 66.0% OF MASS 95	49.9	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	1.1	1.3)1
174	50.0 - 120.0% of mass 95	87.8	
175	4.0 - 9.0% of mass 174	7.3	8.3)1
176	93.0 - 101% of mass 174	83.8	95.5)1
177	5.0 - 9.0% of mass 176	7.1	8.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01					
02					
03		BFB			
04					
05					
06		Vblk			
07					
08					
09		Pbq			
10					
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VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: NET-THOROFARE Contract:

Lab code: NET Case No.: SAS No.: SDG No.:

Lab File ID: >E5218 BFB Injection Date: 3/21/94

Instrument ID: HP5970 BFB Injection Time: 8:28

Matrix: (soil/water) SOIL Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	22.8
75	30.0 - 66.0% of mass 95	49.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	1.1 (1.3)1
174	50-120% of mass 95	87.8
175	4.0 - 9.0% of mass 174	7.3 (8.3)1
176	93.0 - 101.0% of mass 174	83.8 (95.5)1
177	5.0 - 9.0% of mass 176	7.1 (8.5)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	50 ppb	#2312	>E5219	03/21/94	08:50
02	VBLK	VBLK	>E5220	03/21/94	10:07
03	134870	00856	>E5221	03/21/94	10:55
04	134531	00792	>E5222	03/21/94	11:33
05	135093	00888	>E5223	03/21/94	12:10
06	135099	00893	>E5224	03/21/94	12:47
07	135101	00893	>E5225	03/21/94	13:24
08	135103	00893	>E5226	03/21/94	14:01
09	135109	00893	>E5227	03/21/94	14:41
10	135107	00893	>E5228	03/21/94	15:17
11	135340	00938	>E5229	03/21/94	15:55
12	135107MS	00893	>E5230	03/21/94	16:32
13	135107MSD	00893	>E5231	03/21/94	17:09
14	135342	00938	>E5233	03/21/94	18:23
15	135344	00938	>E5235	03/21/94	19:38
16	135345	00938	>E5236	03/21/94	20:15
17					
18					
19					

Calibration Check Report

Title: SP Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5196
Injection Time: 940419 10:35

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.19071	1.92	Average	
CS45 D5-Phenol	1.52248	1.52020	.15	Average	
C309 Pyridine	1.10561	1.11151	.53	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.40786	.83	Average	
C335 1,3-Dichlorobenzene	1.70502	1.71011	.30	Average	
C340 1,4-Dichlorobenzene	1.73050	1.74607	.90	Average	
C350 1,2-Dichlorobenzene	1.65558	1.67928	1.43	Average	
C349 Indene	2.27085	2.28963	.83	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.08716	.91	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.37428	1.45	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.13186	4.16	Average	
C459 Quinoline	.69188	.70904	2.48	Average	
C471 1-Methylnaphthalene	.70593	.70425	.24	Average	
CS25 2-Fluorobiphenyl	1.39436	1.45984	4.70	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.77931	6.01	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.91166	7.06	Average	
CS55 2,4,6-Tribromophenol	.27799	.31451	13.14	Average	
C640 Phenanthrene	1.10703	1.17621	6.25	Average	
C645 Anthracene	1.06492	1.15285	8.26	Average	
C650 Di-n-butylphthalate	1.68960	1.93877	14.75	Average	
C655 Fluoranthene	1.28823	1.36883	6.26	Average	
C715 Pyrene	1.55165	1.62115	4.48	Average	
CS30 D14-Terphenyl	1.05487	1.06808	1.25	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.94996	1.87	Average	
C730 Benzo(a)anthracene	1.24875	1.28052	2.54	Average	
C740 Chrysene	1.22525	1.27821	4.32	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.37521	2.11	Average	
C759 6-Methyl chrysene	.91148	.91033	.13	Average	
C760 Di-n-octylphthalate	2.02659	2.29613	13.30	Average	
C765 Benzo(b)fluoranthene	1.31752	1.33701	1.48	Average	
C770 Benzo(k)fluoranthene	1.17763	1.18831	.91	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.15338	10.41	Average	
C775 Benzo(a)pyrene	1.10417	1.09765	.59	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: SP Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5196
Injection Time: 940419 10:35

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.88786	1.62	Average
C785 Dibenz(a,h)anthracene	.96071	.93334	2.85	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

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Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5210
Injection Time: 940420 09:16

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.24494	6.56	Average	
CS45 D5-Phenol	1.52248	1.58499	4.11	Average	
C309 Pyridine	1.10561	1.13868	2.99	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.42903	2.35	Average	
C335 1,3-Dichlorobenzene	1.70502	1.75195	2.75	Average	
C340 1,4-Dichlorobenzene	1.73050	1.78733	3.28	Average	
C350 1,2-Dichlorobenzene	1.65558	1.70494	2.98	Average	
C349 Indene	2.27085	2.29001	.84	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.07406	2.10	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.38020	.11	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.10999	2.15	Average	
C459 Quinoline	.69188	.70917	2.50	Average	
C471 1-Methylnaphthalene	.70593	.70466	.18	Average	
CS25 2-Fluorobiphenyl	1.39436	1.47036	5.45	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.74800	4.14	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.85606	3.95	Average	
CS55 2,4,6-Tribromophenol	.27799	.34637	24.60	Average	
C640 Phenanthrene	1.10703	1.15832	4.63	Average	
C645 Anthracene	1.06492	1.12257	5.41	Average	
C650 Di-n-butylphthalate	1.68960	1.95245	15.56	Average	
C655 Fluoranthene	1.28823	1.39144	8.01	Average	
C715 Pyrene	1.55165	1.47042	5.24	Average	
CS30 D14-Terphenyl	1.05487	1.08470	2.83	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.91381	2.00	Average	
C730 Benzo(a)anthracene	1.24875	1.27775	2.32	Average	
C740 Chrysene	1.22525	1.21284	1.01	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.34224	.34	Average	
C759 6-Methyl chrysene	.91148	.87310	4.21	Average	
C760 Di-n-octylphthalate	2.02659	2.21469	9.28	Average	
C765 Benzo(b)fluoranthene	1.31752	1.30605	.87	Average	
C770 Benzo(k)fluoranthene	1.17763	1.14114	3.10	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.16443	18.37	Average	
C775 Benzo(a)pyrene	1.10417	1.09243	1.06	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5210
Injection Time: 940420 09:16

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.92378	2.37	Average
C785 Dibenz(a,h)anthracene	.96071	.97159	1.13	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5225
Injection Time: 940421 14:25

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
CS50 2-Fluorophenol	1.16827	1.19976	2.70	Average	
CS45 D5-Phenol	1.52248	1.56515	2.80	Average	
C309 Pyridine	1.10561	1.11425	.78	Average	
C314 Benzenethiol	-	-	-	Average	
C315 Phenol	-	-	-	Average	
CS70 D4-2-Chlorophenol	1.39622	1.40772	.82	Average	
C335 1,3-Dichlorobenzene	1.70502	1.69577	.54	Average	
C340 1,4-Dichlorobenzene	1.73050	1.74854	1.04	Average	
C350 1,2-Dichlorobenzene	1.65558	1.64498	.64	Average	
C349 Indene	2.27085	2.24461	1.16	Average	
CS75 1,2-Dichlorobenzene-D4	1.09710	1.04849	4.43	Average	(Conc=25.00)
C355 2-Methylphenol	-	-	-	Average	
C364 3&4-Methylphenol	-	-	-	Average	(Conc=100.00)
CS20 D5-Nitrobenzene	.37979	.39155	3.10	Average	(Conc=25.00)
C425 2,4-Dimethylphenol	-	-	-	Average	
C450 Naphthalene	1.08661	1.09507	.78	Average	
C459 Quinoline	.69188	.71602	3.49	Average	
C471 1-Methylnaphthalene	.70593	.71784	1.69	Average	
CS25 2-Fluorobiphenyl	1.39436	1.53251	9.91	Average	(Conc=25.00)
C535 Dimethylphthalate	1.67846	1.78030	6.07	Average	
C555 2,4-Dinitrophenol	-	-	-	Average	
C560 4-Nitrophenol	-	-	-	Average	
C580 Diethylphthalate	1.78554	1.99144	11.53	Average	
CS55 2,4,6-Tribromophenol	.27799	.34367	23.62	Average	
C640 Phenanthrene	1.10703	1.17278	5.94	Average	
C645 Anthracene	1.06492	1.18625	11.39	Average	
C650 Di-n-butylphthalate	1.68960	1.90489	12.74	Average	
C655 Fluoranthene	1.28823	1.37797	6.97	Average	
C715 Pyrene	1.55165	1.48907	4.03	Average	
CS30 D14-Terphenyl	1.05487	1.07335	1.75	Average	(Conc=25.00)
C720 Butylbenzylphthalate	.93250	.90796	2.63	Average	
C730 Benzo(a)anthracene	1.24875	1.24441	.35	Average	
C740 Chrysene	1.22525	1.22980	.37	Average	
C745 bis(2Ethylhexyl)phthalate	1.34678	1.34225	.34	Average	
C759 6-Methyl chrysene	.91148	.86878	4.68	Average	
C760 Di-n-octylphthalate	2.02659	2.21768	9.43	Average	
C765 Benzo(b)fluoranthene	1.31752	1.25089	5.06	Average	
C770 Benzo(k)fluoranthene	1.17763	1.20783	2.56	Average	
C771 7,12-Di-ME-benz[a]anthra	.13891	.10295	25.89	Average	
C775 Benzo(a)pyrene	1.10417	1.06629	3.43	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

000165

Calibration Check Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Check Standard Data File: >A5225
Injection Time: 940421 14:25

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
C779 Dibenz[a,h]acridine	.90244	.89307	1.04	Average
C785 Dibenz(a,h)anthracene	.96071	.93431	2.75	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Calibrated: 940314 15:17

Check Standard Data File: >D0586
Injection Time: 940318 08:30

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane	.61196	.63741	4.16	Average	
C015 Bromomethane	1.06191	1.00751	5.12	Average	
C020 Vinyl Chloride	.65269	.64164	1.69	Average	
C025 Chloroethane	.44510	.44890	.85	Average	
C030 Methylene Chloride	.97889	.98461	.58	Average	
C035 Acetone	.14233	.18594	30.64	Average	
C040 Carbon Disulfide	2.60039	2.19993	15.40	Average	
C045 1,1-Dichloroethene	.95412	.88099	7.67	Average	
C050 1,1-Dichloroethane	1.78620	1.78395	.13	Average	
C053 1,2-Dichloroethene(total)	1.13293	1.08861	3.91	Average	(Conc=100.00)
C060 Chloroform	2.57943	2.66659	3.38	Average	
CS15 D4-1,2-Dichloroethane SS1	1.34442	1.50919	12.26	Average	
C065 1,2-Dichloroethane	1.53105	1.70254	11.20	Average	
C110 2-Butanone	.24219	.32775	35.33	Average	
C115 1,1,1-Trichloroethane	.58322	.58189	.23	Average	
C120 Carbon Tetrachloride	.58081	.58257	.30	Average	
C125 Vinyl Acetate	.25346	.31743	25.24	Average	
C130 Bromodichloromethane	.65457	.69449	6.10	Average	
C140 1,2-Dichloropropane	.29968	.30474	1.69	Average	
C143 Cis-1,3-Dichloropropene	.45854	.48768	6.36	Average	(Conc=50.00)
C150 Trichloroethene	.48114	.48174	.13	Average	
C155 Dibromochloromethane	.70231	.76258	8.58	Average	
C160 1,1,2-Trichloroethane	.29860	.33000	10.52	Average	
C165 Benzene	.67286	.67843	.83	Average	
C172 Trans-1,3-Dichloropropene	.39951	.43885	9.85	Average	(Conc=50.00)
C180 Bromoform	.51148	.60722	18.72	Average	
C205 4-Methyl-2-Pentanone	.21847	.30209	38.28	Average	
C210 2-Hexanone	.14201	.19830	39.64	Average	
C220 Tetrachloroethene	.51955	.51612	.66	Average	
C225 1,1,2,2-Tetrachloroethane	.46702	.61156	30.95	Average	
C230 Toluene	1.06213	1.09546	3.14	Average	
CS05 D8-Toluene SS-2	1.08803	1.12355	3.26	Average	
C235 Chlorobenzene	.88176	.91918	4.24	Average	
C240 Ethylbenzene	.37711	.39682	5.23	Average	
C245 Styrene	.77370	.80040	3.45	Average	
C250 Xylene (total)	.43906	.47562	8.33	Average	
meta+para XYLENE	.46337	.48290	4.21	Average	(Conc=100.00)
ortho XYLENE	.43906	.47562	8.33	Average	
CS10 Bromofluorobenzene SS-3	.73449	.76377	3.99	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

000167

Calibration Check Report

Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Calibrated: 940314 15:17

Check Standard Data File: >D0612
Injection Time: 940319 08:30

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane	.61196	.53227	13.02	Average	
C015 Bromomethane	1.06191	.93889	11.59	Average	
C020 Vinyl Chloride	.65269	.57847	11.37	Average	
C025 Chloroethane	.44510	.38999	12.38	Average	
C030 Methylene Chloride	.97889	.92440	5.57	Average	
C035 Acetone	.14233	.15133	6.32	Average	
C040 Carbon Disulfide	2.60039	2.40042	7.69	Average	
C045 1,1-Dichloroethene	.95412	.86597	9.24	Average	
C050 1,1-Dichloroethane	1.78620	1.64384	7.97	Average	
C053 1,2-Dichloroethene(total)	1.13293	1.02393	9.62	Average	(Conc=100.00)
C060 Chloroform	2.57943	2.51171	2.63	Average	
CS15 D4-1,2-Dichloroethane SS1	1.34442	1.36134	1.26	Average	
C065 1,2-Dichloroethane	1.53105	1.56079	1.94	Average	
C110 2-Butanone	.24219	.26693	10.22	Average	
C115 1,1,1-Trichloroethane	.58322	.58265	.10	Average	
C120 Carbon Tetrachloride	.58081	.57939	.24	Average	
C125 Vinyl Acetate	.25346	.31914	25.91	Average	
C130 Bromodichloromethane	.65457	.64783	1.03	Average	
C140 1,2-Dichloropropane	.29968	.28821	3.83	Average	
C143 Cis-1,3-Dichloropropene	.45854	.46364	1.11	Average	(Conc=50.00)
C150 Trichloroethene	.48114	.47966	.31	Average	
C155 Dibromochloromethane	.70231	.73560	4.74	Average	
C160 1,1,2-Trichloroethane	.29860	.31849	6.66	Average	
C165 Benzene	.67286	.69264	2.94	Average	
C172 Trans-1,3-Dichloropropene	.39951	.42226	5.70	Average	(Conc=50.00)
C180 Bromoform	.51148	.57156	11.75	Average	
C205 4-Methyl-2-Pentanone	.21847	.27175	24.39	Average	
C210 2-Hexanone	.14201	.18304	28.89	Average	
C220 Tetrachloroethene	.51955	.51512	.85	Average	
C225 1,1,2,2-Tetrachloroethane	.46702	.56570	21.13	Average	
C230 Toluene	1.06213	1.06054	.15	Average	
CS05 D8-Toluene SS-2	1.08803	1.09457	.60	Average	
C235 Chlorobenzene	.88176	.87580	.68	Average	
C240 Ethylbenzene	.37711	.38447	1.95	Average	
C245 Styrene	.77370	.77641	.35	Average	
C250 Xylene (total)	.43906	.46003	4.78	Average	
meta+para XYLENE	.46337	.45427	1.96	Average	(Conc=100.00)
ortho XYLENE	.43906	.46003	4.78	Average	
CS10 Bromofluorobenzene SS-3	.73449	.74755	1.78	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: AQUEOUS CLP 10
Calibrated: 940316 15:48

Check Standard Data File: >E5219
Injection Time: 940321 08:50

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
C010 Chloromethane	.48681	.47521	2.38	Average	
C015 Bromomethane	1.22893	1.22371	.43	Average	
C020 Vinyl Chloride	.67188	.69325	3.18	Average	
C025 Chloroethane	.49539	.51185	3.32	Average	
C030 Methylene Chloride	1.06493	1.23362	15.84	Average	
C035 Acetone	.17724	.18058	1.88	Average	
C040 Carbon Disulfide	2.71252	2.84120	4.74	Average	
C045 1,1-Dichloroethene	1.12849	1.12000	.75	Average	
C050 1,1-Dichloroethane	1.96487	1.91334	2.62	Average	
C053 1,2-Dichloroethene(total)	1.20240	1.19455	.65	Average	(Conc=100.00)
C060 Chloroform	3.16820	2.92315	7.73	Average	
CS15 D4-1,2-Dichloroethane SS1	2.12865	1.98981	6.52	Average	
C065 1,2-Dichloroethane	2.25702	2.09661	7.11	Average	
C110 2-Butanone	.22720	.22070	2.86	Average	
C115 1,1,1-Trichloroethane	.79437	.76673	3.48	Average	
C120 Carbon Tetrachloride	.81692	.80553	1.39	Average	
C125 Vinyl Acetate	.34705	.39341	13.36	Average	
C130 Bromodichloromethane	.67801	.67216	.86	Average	
C140 1,2-Dichloropropane	.23583	.25405	7.72	Average	
C143 Cis-1,3-Dichloropropene	.42772	.45090	5.42	Average	(Conc=50.00)
C150 Trichloroethene	.41503	.42524	2.46	Average	
C155 Dibromochloromethane	.67860	.68880	1.50	Average	
C160 1,1,2-Trichloroethane	.26307	.26885	2.20	Average	
C165 Benzene	.66286	.69177	4.36	Average	
C172 Trans-1,3-Dichloropropene	.41301	.43688	5.78	Average	(Conc=50.00)
C180 Bromoform	.47930	.47585	.72	Average	
C205 4-Methyl-2-Pentanone	.20266	.19787	2.36	Average	
C210 2-Hexanone	.12706	.12615	.72	Average	
C220 Tetrachloroethene	.53846	.55001	2.15	Average	
C225 1,1,2,2-Tetrachloroethane	.47137	.47766	1.33	Average	
C230 Toluene	1.09081	1.11536	2.25	Average	
CS05 D8-Toluene SS-2	1.15196	1.16699	1.30	Average	
C235 Chlorobenzene	.88943	.89256	.35	Average	
C240 Ethylbenzene	.40374	.41005	1.56	Average	
C245 Styrene	.83188	.84333	1.38	Average	
C250 Xylene (total)	.48538	.49200	1.37	Average	
meta+para Xylene	.50718	.51021	.60	Average	(Conc=100.00)
ortho Xylene	.48538	.49200	1.37	Average	
CS10 Bromofluorobenzene SS-3	.85928	.82252	4.28	Average	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

000169

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
CS50 2-Fluorophenol	1.03827	1.16064	1.17525	1.27220	1.19497	.694	1.16827	7.228	
CS45 D5-Phenol	1.35302	1.59272	1.51650	1.61665	1.53348	.930	1.52248	6.784	
C309 Pyridine	.98492	1.10807	1.11202	1.17507	1.14798	.399	1.10561	6.590	
C314 Benzenethiol	-	-	-	-	-	-	-	-	
C315 Phenol	-	-	-	-	-	-	-	-	
CS70 D4-2-Chlorophenol	1.27943	1.42308	1.41542	1.47761	1.38555	.950	1.39622	5.247	
C335 1,3-Dichlorobenzene	1.74228	1.73781	1.68614	1.73984	1.61903	.989	1.70502	3.135	
C340 1,4-Dichlorobenzene	1.76983	1.75900	1.73272	1.76950	1.62145	1.004	1.73050	3.629	
C350 1,2-Dichlorobenzene	1.72534	1.70458	1.63722	1.66707	1.54371	1.055	1.65558	4.298	
C349 Indene	2.29853	2.37249	2.24515	2.30462	2.13346	1.077	2.27085	3.925	
CS75 1,2-Dichlorobenzene-D4	1.11976	1.12617	1.08691	1.10562	1.04703	1.051	1.09710	2.897	(Conc=10.0,25.0,40.0,60.0,80.0
C355 2-Methylphenol	-	-	-	-	-	-	-	-	
C364 3&4-Methylphenol	-	-	-	-	-	-	-	-	(Conc=40.0,100.0,160.0,240.0,3
CS20 D5-Nitrobenzene	.31913	.38886	.38333	.40069	.40694	.854	.37979	9.261	(Conc=10.0,25.0,40.0,60.0,80.0
C425 2,4-Dimethylphenol	-	-	-	-	-	-	-	-	
C450 Naphthalene	1.19262	1.10325	1.11941	1.03885	.97893	1.005	1.08661	7.486	
C459 Quinoline	.67225	.69664	.70675	.69664	.68714	1.080	.69188	1.876	
C471 1-Methylnaphthalene	.78012	.71147	.71847	.67481	.64480	1.182	.70593	7.222	
CS25 2-Fluorobiphenyl	1.42042	1.42299	1.39953	1.38005	1.34878	.894	1.39436	2.213	(Conc=10.0,25.0,40.0,60.0,80.0
C535 Dimethylphthalate	1.73962	1.70347	1.71171	1.65495	1.58256	.970	1.67846	3.675	
C555 2,4-Dinitrophenol	-	-	-	-	-	-	-	-	
C560 4-Nitrophenol	-	-	-	-	-	-	-	-	
C580 Diethylphthalate	1.82011	1.83848	1.85278	1.72709	1.68923	1.085	1.78554	4.078	
CS55 2,4,6-Tribromophenol	.18311	.24903	.32936	.31676	.31170	1.130	.27799	22.116	
C640 Phenanthrene	1.17574	1.13885	1.10791	1.08607	1.02658	1.003	1.10703	5.079	
C645 Anthracene	1.08061	1.11195	1.10056	1.03391	.99758	1.009	1.06492	4.509	
C650 Di-n-butylphthalate	1.90183	1.97845	1.85027	1.45253	1.26492	1.090	1.68960	18.501	
C655 Fluoranthene	1.30155	1.34302	1.32624	1.26702	1.20330	1.161	1.28823	4.302	
C715 Pyrene	1.71895	1.68738	1.48860	1.45192	1.41141	.881	1.55165	9.114	
CS30 D14-Terphenyl	1.01481	1.09258	1.07287	1.04078	1.05329	.899	1.05487	2.825	(Conc=10.0,25.0,40.0,60.0,80.0
C720 Butylbenzylphthalate	.93384	1.03906	.92013	.87831	.89118	.952	.93250	6.815	
C730 Benzo(a)anthracene	1.25034	1.29521	1.22848	1.23289	1.23684	.999	1.24875	2.180	
C740 Chrysene	1.28555	1.28865	1.16987	1.20193	1.18026	1.003	1.22525	4.705	
C745 bis(2Ethylhexyl)phthalate	1.44790	1.52478	1.32976	1.25544	1.17602	1.010	1.34678	10.481	
C759 6-Methyl chrysene	.89527	.93097	.92132	.90194	.90789	.926	.91148	1.593	
C760 Di-n-octylphthalate	2.20932	2.47809	2.20570	1.71643	1.52341	.942	2.02659	19.407	
C765 Benzo(b)fluoranthene	1.26457	1.32535	1.28964	1.36072	1.34733	.971	1.31752	3.035	
C770 Benzo(k)fluoranthene	1.25798	1.24701	1.25598	1.11106	1.01615	.973	1.17763	9.294	
C771 7,12-Di-ME-benz[a]anthra	.13812	.15343	.11689	.15561	.13051	.973	.13891	11.641	

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

Title: 5P Skinner List ABN/8270 CASKNR/IASKNR
Calibrated: 940419 10:06

Compound	Files: >A5191 RF 20.00	>A5190 RF 50.00	>A5194 RF 80.00	>A5193 RF 120.00	>A5192 RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD
C775 Benzo(a)pyrene	1.06220	1.14064	1.11095	1.08716	1.11989	.996	1.10417	2.745
C779 Dibenz[a,h]acridine	.83611	.88589	.93770	.92814	.93236	1.075	.90244	4.677
C785 Dibenz(a,h)anthracene	.91301	.93989	.99196	.98215	.97656	1.099	.96071	3.451

RF - Response Factor (Subscript is amount in ug/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

DCLP1D
CBCLPD
3-14-94

Title: D Instrument IDFILE FOR CLP 6/91 Rev. E
Calibrated: 940314 15:17

Compound	Files: >D0511 RF 10.00	>D0507 RF 20.00	>D0505 RF 50.00	>D0506 RF 100.00	>D0508 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
C010 Chloromethane	.73977	.64608	.56882	.54150	.56365	.351	.61196	13.340	
C015 Bromomethane	1.22974	1.12402	.92372	1.04836	.98373	.430	1.06191	11.282	
C020 Vinyl Chloride	.76754	.67085	.57705	.63957	.60844	.370	.65269	11.199	
C025 Chloroethane	.53678	.46226	.38507	.43425	.40712	.458	.44510	13.227	
C030 Methylene Chloride	1.16121	.96800	.95186	.95331	.86007	.650	.97889	11.291	
C035 Acetone	.18883	.11004	.17286	.11619	.12375	.573	.14233	25.247	
C040 Carbon Disulfide	2.82991	2.62595	2.36419	2.63407	2.54785	.595	2.60039	6.464	
C045 1,1-Dichloroethene	1.07006	1.00472	.85028	.96166	.88387	.559	.95412	9.342	
C050 1,1-Dichloroethane	1.93802	1.81654	1.64780	1.78799	1.74064	.795	1.78620	5.952	
C053 1,2-Dichloroethene(total)	1.21101	1.14042	1.03923	1.17042	1.10356	.706	1.13293	5.788	(Conc=20.0,40.0,100.0,200.0,400.0
C060 Chloroform	2.81458	2.62625	2.40546	2.56152	2.48934	1.030	2.57943	6.012	
CS15 D4-1,2-Dichloroethane SS1	1.32975	1.32829	1.37385	1.33998	1.35021	1.185	1.34442	1.389	
C065 1,2-Dichloroethane	1.66438	1.53138	1.51403	1.49374	1.45172	1.210	1.53105	5.240	
C110 2-Butanone	.27090	.22472	.29669	.22024	.19838	.950	.24219	16.645	
C115 1,1,1-Trichloroethane	.58678	.56957	.55009	.62258	.58710	.812	.58322	4.585	
C120 Carbon Tetrachloride	.57684	.56317	.54521	.62238	.59643	.853	.58081	5.141	
C125 Vinyl Acetate	.23425	.18875	.30124	.27190	.27116	.612	.25346	17.076	
C130 Bromodichloromethane	.66566	.62314	.64432	.69256	.64716	1.155	.65457	3.980	
C140 1,2-Dichloropropane	.31495	.30462	.28489	.30677	.28718	1.096	.29968	4.361	
C143 Cis-1,3-Dichloropropene	.46308	.43616	.44720	.48640	.45985	1.242	.45854	4.121	
C150 Trichloroethene	.51710	.48349	.46065	.50753	.43692	1.050	.48114	6.870	
C155 Dibromochloromethane	.72789	.66361	.69884	.72613	.69506	1.443	.70231	3.757	
C160 1,1,2-Trichloroethane	.31656	.29460	.29569	.30199	.28414	1.377	.29860	3.989	
C165 Benzene	.70151	.65078	.67831	.68064	.65305	.904	.67286	3.145	
C172 Trans-1,3-Dichloropropene	.39908	.37185	.40342	.42040	.40278	1.346	.39951	4.385	
C180 Bromoform	.50603	.46629	.56141	.52538	.49832	1.680	.51148	6.865	
C205 4-Methyl-2-Pentanone	.23629	.19783	.26722	.20510	.18590	.830	.21847	15.112	
C210 2-Hexanone	.15654	.11936	.17716	.13386	.12313	.927	.14201	17.185	
C220 Tetrachloroethene	.55755	.53477	.50718	.51541	.48285	.907	.51955	5.437	
C225 1,1,2,2-Tetrachloroethane	.49659	.43439	.54553	.45018	.40844	1.144	.46702	11.639	
C230 Toluene	1.12942	1.04510	1.05111	1.06469	1.02030	.845	1.06213	3.852	
CS05 DB-Toluene SS-2	1.01490	1.09569	1.15691	1.10428	1.06839	.837	1.08803	4.776	
C235 Chlorobenzene	.93729	.88481	.86642	.88801	.83228	1.003	.88176	4.324	
C240 Ethylbenzene	.40385	.38097	.37615	.37643	.34815	1.017	.37711	5.253	
C245 Styrene	.82883	.78240	.78066	.77521	.70136	1.074	.77370	5.923	
C250 Xylene (total)	.47739	.44651	.44282	.43573	.39282	1.072	.43906	6.916	
meta+para XYLENE	.50211	.47238	.46622	.44888	.42729	1.030	.46337	6.010	(Conc=20.0,40.0,100.0,200.0,400.0
ortho XYLENE	.47739	.44651	.44282	.43573	.39282	1.072	.43906	6.916	
CS10 Bromofluorobenzene SS-3	.71266	.74683	.77543	.73649	.70105	1.128	.73449	3.985	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

IDCLPE
CBCLPE
3-16-94

Title: AQUEOUS CLP ID
Calibrated: 940316 15:48

Compound	Files: >E5127 RF 10.00	>E5130 RF 20.00	>E5126 RF 50.00	>E5128 RF 100.00	>E5131 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
C010 Chloromethane	.51172	.47259	.46088	.49691	.49196	.377	.48681	4.139	
C015 Bromomethane	1.27192	1.18328	1.19858	1.24007	1.25082	.432	1.22893	3.005	
C020 Vinyl Chloride	.67622	.65477	.66362	.67251	.69229	.390	.67188	2.101	
C025 Chloroethane	.49785	.49039	.48228	.48813	.51830	.448	.49539	2.819	
C030 Methylene Chloride	1.17573	1.06124	1.00141	1.02446	1.06181	.661	1.06493	6.295	
C035 Acetone	.24375	.19416	.14599	.15504	.14728	.581	.17724	23.731	
C040 Carbon Disulfide	2.65213	2.62270	2.69980	2.78784	2.80014	.606	2.71252	2.928	
C045 1,1-Dichloroethene	1.12512	1.09348	1.11136	1.11813	1.19439	.568	1.12849	3.426	
C050 1,1-Dichloroethane	1.97385	1.87047	1.98801	1.98914	2.00291	.802	1.96487	2.736	
C053 1,2-Dichloroethene(total)	1.22279	1.12950	1.20835	1.20391	1.24743	.714	1.20240	3.671	(Conc=20.0,40.0,100.0,200.0
C060 Chloroform	3.39301	2.90462	3.19269	3.17660	3.17409	1.029	3.16820	5.483	
CS15 D4-1,2-Dichloroethane SS1	2.20246	2.06731	2.11924	2.17429	2.07993	1.181	2.12865	2.755	
C065 1,2-Dichloroethane	2.35066	2.14415	2.28279	2.28669	2.22080	1.208	2.25702	3.458	
C110 2-Butanone	.23987	.25783	.20816	.21675	.21337	.949	.22720	9.237	
C115 1,1,1-Trichloroethane	.84328	.74092	.81301	.77067	.80398	.807	.79437	4.976	
C120 Carbon Tetrachloride	.84712	.76478	.84096	.79409	.83764	.845	.81692	4.396	
C125 Vinyl Acetate	.33983	.33218	.33835	.34932	.37555	.614	.34705	4.920	
C130 Bromodichloromethane	.69331	.63648	.66576	.70247	.69206	1.166	.67801	3.974	
C140 1,2-Dichloropropane	.23835	.22701	.23217	.23746	.24416	1.103	.23583	2.762	
C143 Cis-1,3-Dichloropropene	.42816	.40777	.41921	.44174	.44173	1.258	.42772	3.435	
C150 Trichloroethene	.43327	.40040	.41111	.41339	.41695	1.054	.41503	2.873	
C155 Dibromochloromethane	.68310	.69094	.64551	.68157	.69190	1.470	.67868	2.809	
C160 1,1,2-Trichloroethane	.27583	.29099	.23819	.25549	.25483	1.401	.26307	7.806	
C165 Benzene	.68929	.64279	.65251	.64717	.68253	.898	.66286	3.237	
C172 Trans-1,3-Dichloropropene	.41162	.38838	.39494	.43073	.43941	1.369	.41301	5.341	
C180 Bromoform	.50761	.50893	.42277	.46158	.49559	1.721	.47930	7.705	
C205 4-Methyl-2-Pentanone	.22807	.23619	.18498	.18328	.18076	.824	.20266	13.372	
C210 2-Hexanone	.14905	.14252	.10947	.11700	.11728	.926	.12706	13.794	
C220 Tetrachloroethene	.57728	.50970	.53290	.53385	.53856	.903	.53846	4.536	
C225 1,1,2,2-Tetrachloroethane	.54185	.55361	.40549	.41685	.43904	1.151	.47137	15.034	
C230 Toluene	1.14645	1.03052	1.09420	1.11681	1.06608	.839	1.09081	4.108	
CS05 D8-Toluene SS-2	1.16943	1.13006	1.15406	1.19836	1.10788	.831	1.15196	3.034	
C235 Chlorobenzene	.92960	.85141	.87000	.90008	.89605	1.003	.88943	3.370	
C240 Ethylbenzene	.42079	.37615	.39371	.40697	.42108	1.017	.40374	4.737	
C245 Styrene	.84642	.78192	.80524	.84761	.87818	1.076	.83188	4.581	
C250 Xylene (total)	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
meta+para Xylene	.53076	.48181	.50197	.51647	.50491	1.031	.50718	3.579	(Conc=20.0,40.0,100.0,200.0
ortho Xylene	.50350	.45708	.47128	.47929	.51573	1.074	.48538	4.925	
CS10 Bromofluorobenzene SS-3	.88811	.84852	.82771	.86112	.87093	1.132	.85928	2.655	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

APPENDIX D

WATER LEVEL DATA

Water Level Record
Sun Oil Company
Philadelphia Refinery

Well No.	Product (Y/N)	ToC Elev.	WL	WT Elev.
S69	N	17.44	14.79	2.65
S69D	N	17.50[2]	14.18	3.32
S38	N	21.00	17.35	3.65
S38I	N	21.00[2]	19.27	1.73
S38D	N	21.00[2]	20.51	0.49
S41	N	27.88	25.79	2.09
S42	N	27.85	25.22	2.63
S72	N	36.24	28.91	7.33
S72D	N	36.50	32.45	4.05
S5	N	8.20	4.01	4.19
S6	N	8.37	8.27	0.10
S7	N	8.32	4.56	3.76
W8	Y	10.60	3.95[1]	6.65
W9	N	10.75	10.10	0.65
N50	N	36.11	31.36	4.75
N51	N	34.75	22.09	12.66
N8	N	39.63	25.28	14.35
N9	N	40.36	34.11	6.25
N29	N	41.47	27.54	13.93
N30	N	41.92	36.81	5.11
N74	N	10.17	5.32	4.85
N75	N	10.75	7.73	3.02
N38	N	13.70	8.22	5.48
N38D	N	12.73	10.70	2.03

Data transcribed from field notes by C. Martin (3/31/94).
[1]Depth to top of product.
[2]Estimated elevation; survey data in question.

APPENDIX E

REFERENCES

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REFERENCES

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