Draft
Technical Support Document for Development of a Comparable Fuel Exemption

US Environmental Protection Agency
Office of Solid Waste and Emergency Response (5305)
401 M Street
Washington, DC 20460

February 1996

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

LIST OF TABLES AND FIGURES

LIST OF ABBREVIATIONS

%	percent
˚C	degrees centigrade
˚F	degrees fahrenheit
APCDs	air pollution control devices
API	American Petroleum Institute
ASTM	American Standards Testing Materials
BFB	bromofluorobenzene
BTU	British thermal unit
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CMA	Chemical Manufacturers Association
cst	centa stokes
DCS	duplicate control samples
DFTPP	decafluorotriphenylphosphine
DQOs	data quality objectives
EER	Energy and Environmental Research Corporation
EPA	United States Environmental Protection Agency
g	gram
GC	gas chromatography
GC/MS	gas chromatography with mass spectrometer detector
HAPs	hazardous air pollutants
HPLC	high purity liquid chromatography
HWC	hazardous waste combustion
IDL	instrument detection limit
J	joule
kg	killigram
L	liter
lb	pound
LCS	laboratory control samples
LIMS	laboratory information management system
LVM	low volatility metals
MACT	maximum achievable control technology
MD	matrix duplicate
MDLs	method detection limits
mg	milligram
min	minute
MJ	mega joule
ml	milliliter
MRI	Midwest Research Institute
MS	matrix spike
nd	not detected
NIST	National Institute of Standards and Technology
OSW	Office of Solid Waste
PM	particulate matter
PNAs	polynuclear aromatics
ppm	parts per million
psi	pounds per square inch
PQL	proposed quanitation limit
QA	quality assurance
QC	quality control
RCRA	Research Conservation and Recovery Act
Rep	repitition
RF	radio frequency
RPD	relative percent difference
RSD	relative standard deviation
sd	standard deviation
SAIC	Science Applications International Corporation
SCS	single control samples
SI	standard international
SVM	semi-volatile metals
SVOC	semi-volatile organic compound
VOA	volatile organic analytes
VOCs	volatile organic compounds
vol.	volume

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) regulates the burning of hazardous waste in incinerators under 40 CFR Part 264/265, Subpart O, and in industrial furnaces under 40 CFR Part 266, Subpart H. The Agency is proposing revised regulations applicable to these hazardous waste combustion (HWC) devices. This document provides technical background for the comparable fuel exclusion that is being considered for the proposed rule. This is the sixth in a series of seven (7) volumes of technical background documents for the rule. These volumes are summarized as follows:

- *Technical Support Document for HWC MACT Standards, Volume I: Description of Source Categories*, which provides: process descriptions of major design and operating features, including different process types and air pollution control devices (APCDs) currently in use and potentially applicable to various combustion source categories; descriptions of APCDs, including design principles, performance and operating efficiency, process monitoring options, and upgrade/retrofit options; and major source determination for all sources, including a discussion on the methodology used to estimate annual emissions, assumptions used, and an emissions summary for each source listing each hazardous air pollutant (HAP);

- *Technical Support Document for HWC MACT Standards, Volume II: HWC Emissions Data Base*, which contains a summary of the emissions information on toxic metals, particulate matter (PM), HCl and Cl_2, hydrocarbons, carbon monoxide, semi-volatile and volatile organic compounds, and dioxins/furans from HWCs. Other detailed information encompassed in the data summary includes company name and location, emitting process information, combustor design and operation information, APCD design and operation information, stack conditions during testing, feed stream feed rates, and emissions rates of HAPs by test condition;

- *Technical Support Document for HWC MACT Standards, Volume III: Selection of Proposed MACT Standards and Technologies*, which identifies the MACT floor for each HAP and source category for existing sources and new sources and discusses the approach used to define the floor and beyond-the-floor alternatives considered for the proposed rule;

- *Technical Support Document for HWC MACT Standards, Volume IV: Compliance with the Proposed HWC Standards,* which contains detailed discussions of continuous emissions monitors and operating limits for the proposed rule;

- *Technical Support Document for HWC MACT Standards, Volume V: Engineering Costs,* which contains the cost estimates for APCD requirements for existing and new facilities to meet the proposed emissions standards;

- *Technical Support Document for HWC MACT Standards, Volume VI: Development of Comparable Fuels Specifications,* which summarizes the composition, including hazardous species in benchmark fossil fuels, such as gasoline and Nos. 2, 4, and 6 fuel oils. This information is being used by EPA to develop specifications to allow comparable fuels to be excluded from the definition of hazardous waste; and

- *Technical Support Document for HWC MACT Standards, Volume VII: Miscellaneous Technical Issues,* which provides additional information on several topics, such as the treatment of measurements below analytical detection limits, the procedures for handling missing data, and the rationale for grouping metals of similar volatility. The impact of these methodologies on the proposed MACT limits, the cost estimates, and the national emissions estimates are also discussed.

The MACT emission standards are being proposed for three (3) types of hazardous waste combustion facilities:

- Cement Kilns;
- Lightweight Aggregate Kilns; and
- Incinerators (On-Site and Commercial).

The hazardous air pollutants for which emission standards are proposed are:

- Mercury (Hg);
- Low Volatility Metals (LVM);
- Semi-Volatile Metals (SVM);
- Particulate Matter (PM);

- Hydrogen Chloride and Chlorine as Total Chlorine (HCl/Cl_2);
- Carbon Monoxide (CO);
- Hydrocarbons (HC); and
- Dioxins/Furans (PCDD/PCDF).

These emission standards are being developed through the MACT approach defined in Title 3 of the 1990 Clean Air Act Amendments (CAAA). The proposed floor and beyond-the-floor standards have been selected based on a database (described in Volume II) of trial burn and compliance test emissions measurements from 77 incinerators, 35 cement kilns, and 12 lightweight aggregate kilns.

As part of the rulemaking, EPA is developing a comparable fuel exclusion. A comparable fuel would be an ignitable waste or co-product production stream, both of which are currently defined as a hazardous waste, which meets the specifications of the exclusion. Comparable fuels are burned for energy recovery, in lieu of fossil fuels, due to their high BTU value. Benefits derived from this procedure include decreased use of fossil fuels and reduced operational costs. Under this provision, a comparable fuel would be excluded from the Research Conservation and Recovery Act (RCRA), Subtitle C Regulation, as long as it meets the comparable fuel exclusion and is burned. Industry contends that these waste streams are as clean or cleaner than the fuels they displace and that there is an overall environmental benefit to burning these waste streams. EPA's goal is to provide a comparable fuel exclusion that is both useful to the regulated community and assures that the comparable fuel poses no greater risk than what otherwise would be associated with the burning of fossil fuels.

Previous attempts to derive "clean fuel" exclusions were based on risk. However, there were many unknown factors associated with using risk models, requiring conservative assumptions which tended to drive the constituent concentrations to low levels. Thus, this approach had very limited value to the regulated community. Risk modeling is a dynamic process, and setting a specification is time-consuming, due to the need to constantly re-evaluate the comparable fuel exclusion against the latest risk model. If the risk level changes, based on the re-evaluation, it will be necessary for EPA to amend a "comparable fuel" specification by undertaking another rulemaking process. The problems associated with this approach, therefore, have led EPA to abandon risk as a means of setting a "comparable fuel" specification. Instead, EPA is pursuing the comparable fuel exclusion described in this report.

The Agency's current approach is to base a comparable fuel exclusion on constituent concentrations normally found in fossil fuels. For this "benchmark" approach, the concept is to permit hazardous constituents in the comparable fuel which are no greater in concentration than those of the same constituents naturally occurring in commercially available fossil fuels. Additionally, the current approach will not allow detectable levels of toxic synthetic chemicals, such as pesticides, in the comparable fuels. This approach will assure EPA that the comparable fuel will pose no greater risk when burned than a fossil fuel. This document contains data on as many toxic organics from 40 CFR, Part 261, Appendix VIII as could be quanitated for each fuel sample collected during this study. EPA intends to develop a series of constituent specifications based on the following parameters: kinematic viscosity, flash point, total nitrogen, total halogens, individual metals, Appendix VIII organics, and BTU content of each fuel. EPA is proposing that these specifications apply to all hazardous gaseous and liquid fuels, with the exception of viscosity and flash point, which are not relevant for gaseous fuels. Table 1-1 gives the units of measure for each of these constituents and the individual metals analyzed.

Setting a comparable fuel specification using this "benchmark" approach raises a number of issues, including:

- BTU contents and over all environmental loading; and
- What fuel to use as the "benchmark fuel."

These issues could not be directly assessed with this study. However, EPA has sufficient data to support the development of an initial specification. This document summarizes some of the concerns about using the "benchmark" approach toward setting the specifications and discusses, with some detail, the analytical approach used to characterize the constituents of concern.

1.1 BTU Content

Since most comparable fuels are expected to have a lower BTU content than fossil fuels, more comparable fuel will be needed to produce the same heating value. This situation will potentially increase the environmental loading of hazardous constituent emissions from the comparable fuel, in comparison with that of a fossil fuel of the same energy value, leading to greater environmental loading of potentially toxic substances. This would not follow the intent of the comparable fuel exclusion. If a minimum BTU content was specified, it would be that of the benchmark fossil fuel,

TABLE 1-1. ANALYTICAL PARAMETERS AND CONSTITUENTS FOR COMPARABLE FUEL STUDY

Property of Interest	Units	Described As
Heating Value	BTU/lb	min. or range
Kinematic Viscosity	cst at 100°F	min. or range
Specific Gravity	at 15°C	range and average
Flash Point	°C	minimum
Total Nitrogen	weight %	maximum
Total Halogens:	ppm_w	maximum
Fluorine	ppm_w	maximum
Chlorine	ppm_w	maximum
Bromine	ppm_w	maximum
Iodine	ppm_w	maximum
Metals:		
Antimony	ppm_w	maximum
Arsenic	ppm_w	maximum
Barium	ppm_w	maximum
Beryllium	ppm_w	maximum
Cadmium	ppm_w	maximum
Chromium	ppm_w	maximum
Cobalt	ppm_w	maximum
Lead	ppm_w	maximum
Manganese	ppm_w	maximum
Mercury	ppm_w	maximum
Nickel	ppm_w	maximum
Selenium	ppm_w	maximum
Silver	ppm_w	maximum
Thallium	ppm_w	maximum
Appendix IX Organics[1]	ppm_w	maximum
Total Aromatics	vol. %	maximum
Total PNA's	vol. %	maximum

1 For this initial study, 40 CFR, Part 264, Appendix IX organic constituents that exist on 40 CFR, Part 261, Appendix VIII and could be reliably quanitated were analyzed. All 40 CFR, Part 261, Appendix VIII compounds are being examined as to their potential to exist in fossil fuels and for methods to reliably quanitate them within a fuel oil matrix.

excluding a number of comparable fuels. However, by setting the limits on a milligram-per-Joule basis, the environmental loading issue is addressed in a manner that compensates for the nominal difference in energy content.

1.2 Benchmark Fuel

Another issue brought forth by this "benchmark" approach to specification setting is which fuel to use as a reference. EPA believes that the comparable fuel exclusion should not be based on solid fuels, which have the highest concentration of hazardous constituents, or on gaseous fuels, which have the lowest constituent concentration. Therefore, it was decided that the comparable fuel exclusion should be based on liquid fuels. However, commercially available liquid fossil fuels differ significantly in their composition as a function of their end use. All data collected from the analysis of fossil fuels were from commonly used liquid fossil fuels: gasoline and Nos. 2, 4 and 6 fuel oils.

Commercially available fossil fuels are very diverse. The constituents in fuels can vary, depending on where fuels are refined, the condition of the catalysts used, and the origin of the raw material. Typically, fuels found on the East Coast are refined from Venezuelan and Middle East crude. Fuels on the West Coast are refined from domestic crude, although they can contain Venezuelan crude. This makes it almost impossible to determine the source of a given fuel. All fossil fuels are prepared to meet a series of American Standards for Testing Materials (ASTM) specifications, which were adopted as commercial standards by the National Bureau of Standards. These standards have been revised many times to meet changes in supply, so it is likely that they will continue to change as supplies change. The specifications focus on the physical parameters for the fuels, such as distillation temperatures, specific gravity, and viscosity.

To set the preliminary specification for comparable fuels, EPA needs data on the concentrations of hazardous constituents in these fuels, as well as data on the physical parameters, like viscosity, heating value, etc. Since this data is not readily available, EPA collected representative samples from the end users of conventional liquid fuels from various geographic locations around the country, listed on Table 1-2. This approach was designed to ensure a representative sampling, since constituents can vary, depending on the point of origin.

A database comparing emissions using comparable fuels and fossil fuels does not exist. Since a comparison cannot be made between these fuels, a database on the toxic constituents of fuels being

TABLE 1-2. GEOGRAPHIC REGIONS WHERE FUEL SAMPLES WERE COLLECTED

LOCATION	SAMPLES COLLECTED
Irvine, California	Gasoline and Nos. 2, 4, and 6 fuel oils
North West New Jersey	Gasoline and No. 2 fuel oil
North East Connneticut	Gasoline and Nos. 2 and 6 fuel oils
Coffeyville, Kansas	Gasoline and No. 2 fuel oil
Fredonia, Kansas	Gasoline and No. 2 fuel oil
Norco, Louisiana	Gasoline and Nos. 2 and 6 fuel oils
Hopewell, Virginia	Gasoline and Nos. 2 and 6 fuel oils
Research Triangle Park, North Carolina	Gasoline and No. 2 fuel oil

burned needs to be developed. This study analyzed each fossil fuel for all 40 CFR, Part 264, Appendix IX toxic organic constituents for which a reasonable approach exists under SW-846 methodologies. The study also covered physical parameters, using ASTM protocols.

Based on the results of this study, a specification can be derived for comparable fuels that ensures they contain no more toxic constituents than the "benchmark" fuel(s). In addition, method detection limits (MDLs) were determined for each SW-846 Method used, in accordance with 40 CFR, Part 136, Appendix B. Section 2 of this document discusses the process used for determining the MDLs in more detail.

1.3 Summary

This report describes in detail the procedure and rationale used to devlope the comparable fuel exclusion, as well as documenting the levels of the constituents (listed on Table 1-1) in liquid fossil fuels (gasoline and Nos. 2, 4, and 6 fuel oils), considered the most representative fossil fuels on which to base a comparable fuel exclusion. It consists of the following sections:

Section 2: Describes the sampling, analytical, and quality assurance/quality control procedures used to determine the levels of hazardous constituents in fuel oils;

Section 3: Presents the analytical and statistical results, as well as an evaluation of the potential to analyze fuel oils for the hazardous constituents from 40 CFR, Part 261, Appendix VIII that could not be analyzed in the first round;

Appendix A: Lists the analytical data for each fuel type analyzed;

Appendix B: Lists the results of the statistical analysis of the data;

Appendix C: Lists the method detection limit data for each fuel type;

Appendix D: Lists the quality assurance results for each type of analysis and fuel type; and

Appendix E: Discusses the potential for analyzing the remaining constituents to be identified and quanitated from 40 CFR, Part 261, Appendix VIII.

2.0 SAMPLING AND ANALYSIS

As stated previously, EPA collected and characterized samples of gasoline and Nos. 2, 4, and 6 fuel oils in order to provide data on which to base a "benchmark" fuel. Altogether, EPA collected ten (10) gasoline samples, eleven (11) No. 2 fuel oil samples, one (1) No. 4 fuel oil sample, and seven (7) No. 6 fuel oil samples from various geographic regions around the country.

EPA worked with the Chemical Manufacturers Association (CMA) and its member organizations in obtaining fuel samples. CMA supplied a list of members to contact, as well as a letter endorsing EPA's efforts in this area. Contact was initiated with each company by telephone. They were questioned as to the nature of the fuels they burned in their boiler systems and, if one or more was a fuel of concern, whether they would they be willing to supply EPA with a one (1) liter sample for characterization and quantification.

Many industrial users were either skeptical about participation in a program of this type or had converted their units to natural gas. However, approximately 10% of those contacted were willing to cooperate. A number of industries had switched from No. 6 fuel oil to No. 2 fuel oil and/or natural gas, due to the difficulties and energy required to handle No. 6 fuel oil, especially in colder weather. Also, a very limited number of companies in the United States uses No. 4 fuel oil. With tight time constraints for this program, the limited use of Nos. 4 and 6 fuel oil by U.S. industries, and the corporate restraints on participating in these type of programs, EPA was limited in the number of Nos. 4 and 6 fuel oil samples it could obtain.

2.1 Analysis of Samples

This aspect of the program focused on samples of representative combustion fuels (gasoline and Nos. 2, 4, and 6 fuel oils) in order to characterize the chemical and physical properties and the presence of hazardous constituents. Table 2-1 lists all of the physical and chemical parameters of concern, as well as the methods used to determine the level of each, in the fossil fuels analyzed. From a historical perspective, 40 CFR Part 260 Appendix VIII is the reference list of potential hazardous constituents which need to be quanitated in the fossil fuels in order to set a specification. From a practical perspective, however, the essence of such a list and

TABLE 2-1. ANALYTICAL METHODS
USED IN THE COMPARABLE FUEL STUDY

PROPERTY OF INTEREST	UNITS	METHOD
Heating Value	BTU/lb	EPA 325.3/PARR
Kinematic Viscosity	cst at 100°F	ASTM D240
Specific Gravity	at 15°C	ASTM D445
Flash Point	°C	SW-846 1010
Total Nitrogen	weight %	ASTM D4629
Total Halogens:		
Fluorine	ppm_w	EPA 325.3/PARR*
Chlorine	ppm_w	EPA 325.3/PARR*
Bromine	ppm_w	EPA 325.3/PARR*
Iodine	ppm_w	EPA 325.3/PARR*
Metals:		
Antimony	ppm_w	SW-846 7040
Arsenic	ppm_w	SW-846 7060
Barium	ppm_w	SW-846 7080
Beryllium	ppm_w	SW-846 7090
Cadmium	ppm_w	SW-846 7130
Chromium	ppm_w	SW-846 7190
Cobalt	ppm_w	SW-846 7200
Lead	ppm_w	SW-846 7420
Manganese	ppm_w	SW-846 7460
Mercury	ppm_w	SW-846 7470
Nickel	ppm_w	SW-846 7520
Selenium	ppm_w	SW-846 7740
Silver	ppm_w	SW-846 7760
Thallium	ppm_w	SW-846 7840
Appendix IX Organics	ppm_w	SW-846 8270/8240
Total Aromatics	vol. %	SW-846 8270/8240**
Total PNA's	vol. %	SW-846 8270/8240**

* Reported as total halogens
** Calculated from the semi-volatile and volatile data.

testing for the substances in the list present significant problems. The problems and some of the difficulties they impose are as follows:

1. The chemicals are listed on 40 CFR, Part 261, Appendix VIII as they would exist in a pure state, as opposed to the forms they would take after being dispersed into the environment;

2. In developing 40 CFR, Part 261, Appendix VIII, no consideration was given to factors such as the environmental fate or the level of production of a given chemical. The list contains both prevalent, mobil, and toxic chemicals, that present major risks, and some chemicals that present a lesser risk due to low prevalence or instability in a matrix such as fuel oil or water; and

3. Analysis of many constituents from 40 CFR, Part 261, Appendix VIII would be impossible and/or impractical for the matrix being considered in this study for a variety of reasons: 40 CFR, Part 261, Appendix VIII is ill defined; some listings are ambiguous; there are indefinitely large classes of compounds, many of which would not exist in fossil fuels; and standards do not exist for many other compounds.

The fundamental concern for EPA in developing the comparable fuel exclusion is to create a database by quanitating as many of the constituents from 40 CFR, Part 261, Appendix VIII as could readily and reliably be identified in fossil fuels. However, the development and validation of new methodologies was not within the scope of this program. Thus, it was necessary to take an approach that used existing methodologies to quanitate as many of the constituents on 40 CFR, Part 261, Appendix VIII as possible.

To quanitate each fossil fuel sample, EPA chose to use the methodologies defined for the constituents from 40 CFR, Part 264, Appendix IX subject to the following criteria:

1) The constituent must also exist on 40 CFR, Part 261, Appendix VIII; and

2) It must be practical to analyze fossil fuels for the constituent under consideration.

The chemistry of fossil fuels, the processes involved in their production, and the availability of practical and reliable analytical methodologies and standards were used to identify whether constituents fit the later consideration. However, it is important to realize that 40 CFR, Part 264, Appendix IX is a subset of 40 CFR, Part 261, Appendix VIII and there are a number of constituents which were not quanitated in the initial study.

SW-846, "Testing Methods for Evaluating Solid Waste," presents the methods most commonly used for quanitating 40 CFR, Part 264, Appendix IX organic and metal constituents in various matrices. Since matrices vary in waste streams, the methods have some flexibility, allowing the analyst to adjust the sample preparation procedures for the matrix being analyzed. However, as already discussed, SW-846 protocols do not present methods for all the hazardous constituents in 40 CFR, Part 261, Appendix VIII. For the purpose of this study, interest was limited to those compounds common to both lists. An assessment of the potential and practicality of reliably analyzing the constituents on 40 CFR, Part 261, Appendix VIII which are not listed in 40 CFR, Part 264, Appendix IX was also performed and is discussed further in Section 3.2 of this document.

2.2 Quality Assurance

2.2.1 *Chain-of-Custody, Sample Tracking, and Sample Collection*

The quality assurance (QA) and quality control (QC) for any sample begins with the chain-of-custody form. A stringent chain-of-custody system is important to ensure the defensiblitiy of analytical data. There must be a traceable link between any given measurement and the point where the sample originated. The record starts when the sample is collected and follows the sample until the analysis is completed and reported. The custody procedures also ensure that the integrity of the sample is maintained throughout the collection and analysis processes. Samples collected for this program were documented using the chain-of-custody form in Figure 2-1.

Samples enter the lab through sample management, who collects all samples and signs the chain-of-custody forms to show a change in possession for each sample. Once the samples reach the laboratory, data sheets and analytical work sheets are generated for each sample. The work sheets show where the samples are stored before analysis and which analyses are to be performed.

Energy and Enviromnental Research Corporation
18 Mason, Irvine, CA 92718
tel: (714) 859-8851
fax: (714) 859-3194

Laboratory Report Due by _____ **to:**
EER Contact: Address:
Tel: ( )
Fax: ( )

Bill to: PO No.:
EER Corporation
18 Mason
Irvine, CA 92718

Sample Chain of Custody Record

Page _____ **of** _____

EER Project No.:	Sampling System Prepared by:
Project Name:	Test Operator(s):
Site Name:	Samples Recovered by:

Laboratory I.D. No.	EER Label No.	FIELD SAMPLE IDENTIFICATION AND SAMPLING INFORMATION				No. of Containers	Analyses Required						**Additional Information** (e.g. Volumes, TT, Holding Times Sample Preparation, Add'l Instructions, etc.)
		Test ID/Location	Physical Description	Date	Time								

Method of Shipment:	Remarks (RUSH!, units: mg/L, ppm, etc.):	Relinquished by: (Sign & Print)	Date/Time	Relinquished by: (Sign & Print)	Date/Time
Shipment I.D.: / Date Shipped:					
Samples Shipped to:	After Analysis: ☐ **Archive Samples** (Hold for _____ months, then dispose.)				
Attention:	☐ **Return Samples to:** EER Corporation 8001 Irvine Blvd., Irvine, CA 92705				

Figure 2-1. Example of EER's "Sample Chain of Custody" form.

For this study, each sample was collected in a pre-cleaned, 1-liter amber glass sample bottle with a Teflon®-lined cap. This type of sample bottle is available commercially with a certificate of analysis. All sample bottles were pre-cleaned according to EPA protocol. Samples were collected through purge valves, located on the main system feed lines prior to the burner. The fuel was allowed to purge through the valve and into a waste container, ensuring the collection of a fresh sample and removing any debris which may have collected in the line or valve.

2.2.2 *Quality Assurance: Field*

Quality assurance encompasses the organization and program within which quality control activities are performed. QC activities accompany sampling and analysis procedures to provide control of data quality and quantity. The QA objectives for analyses are generally expressed as accuracy and precision. The level of QA for field activities is dependent upon the type of sampling activities to be performed. QA/QC procedures are designed to minimize the effect of analytical variability and to reduce the potential for "false positives."

The comparable fuel program consisted of the simplest type of sampling program: A sample of fossil fuel from a drum, tank, or feed line was collected in a pre-cleaned sample container and sent to the lab for characterization. QC for field samples is normally managed through the use of trip blanks and field blanks. The primary purpose of trip and field blanks is to detect additional sources of contamination that might influence contaminant values reported in actual samples both quantitatively and qualitatively. These QA/QC procedures were designed around samples containing moderate to low levels of hazardous constituents such as emission samples collected per manual methods or waste water. For this study, they were determined to be of minimum use due to the nature of the samples being collected and shipped. However each is discussed in this section.

Trip blanks consist of a set of sample bottles filled at the laboratory with analyte-free water. Trip blanks are handled in the same manner as the samples to see if the various laboratory environments contribute to the levels of hazardous constituents in the samples. In this analysis, trip blanks would yield little, if any, reliable information, because the levels of volatiles present within the fossil fuels samples themselves could contaminate the trip blanks.

The primary purpose of field blanks is to provide an additional check on possible sources of contamination beyond those intended for trip blanks. These blanks are produced by transferring contaminate-free water to sample containers in the field where the samples are handled. This allows the samples to be checked for contamination occurring because of the environment in the sampling area. Again, due to the nature of the fossil fuels (high levels of volatiles and hazardous constituents), the field blanks would yield little, if any, reliable information about the potential contamination of the sampling environment.

To minimize the potential for cross contamination between the different types of fuel oils and to maintain control over the samples during shipping, they were shipped individually in Department of Transportation approved packaging. Once the samples were received in the laboratory they were stored in groups, in separate coolers, based on their fuel types.

2.2.3 *Quality Assurance: Laboratory*

Analytical variability will occur no matter how well trained the analysts are or how up to date the instrumentation is. Because analytical variability increases in inverse proportion to the constituent concentration, as analytical variability increases, the test results become increasingly unreliable. However, these performance limitations are minimized through the use of a strong QA/QC program.

A laboratory QA/QC program controls, monitors, and assesses data quality with internal QC checks. Internal QC checks are used to answer three questions:

1) Are laboratory operations "in control" (i.e., operating within acceptable QC guidelines), during data generation?
2) What effect does the sample matrix have on the data being generated?
3) What effect do field conditions have on the analytical results?

The first question is answered by laboratory performance QC. Laboratory performance QC is based on the use of a standard control matrix to generate precision and accuracy data that are compared, on a daily basis, to control limits. This information, in conjunction with method blank data, is used to assess daily laboratory performance.

The second question is addressed with matrix-specific QC. Matrix-specific QC is based on the use of an actual sample for precision and accuracy determinations and commonly relies on the analysis of matrix spikes, matrix duplicates, and matrix spike duplicates. This information is used to assess the effect of the matrix on analytical data.

The third question is addressed with field QC samples. These samples, including field blanks, trip blanks, equipment blanks, field duplicates, and field splits and are used to monitor the collection, transport, and storage of samples. This portion of the QC was discussed in the previous section.

Laboratory performance QC was provided as a standard part of the laboratory analysis performed during this study. Matrix-specific QC was based on the fossil fuel matrix being analyzed, the data quality objectives (DQOs), and the project's regulatory requirements. A complete discussion of the general programs used follows.

2.2.3.1 Laboratory Performance QC Program

Laboratory performance QC was performed for each laboratory analysis to demonstrate that laboratory operations were "in control." The main elements of laboratory performance QC are:

- The analysis of laboratory control samples (LCS), which include duplicate control samples (DCS), single control samples (SCS), and method blanks; and

- The use of calibration standards to assure that both qualitative identification and quantitative measurements are within control limits.

Laboratory control samples are laboratory generated samples used to monitor the laboratory's day-to-day performance of analytical methods. Three types of LCS were routinely analyzed: Duplicate control samples (DCS), single control samples (SCS), and method blanks. Certain LCS (DCS, SCS) are used to monitor the precision and accuracy of the analytical process independent of matrix effects. Other LCS (method blanks) are used to identify any background interference or contamination of the analytical system which may lead to the reporting of elevated concentration levels or false positive data. The use of DCS samples and or SCS samples is driven by the number of samples to be analyzed in a given set. For the analysis of fossil fuel and

comparable fuel matrices, it was important to ensure that the QC procedures used are specific to the sample set even when it consists of 1 sample as in the case with the No. 4 fuel oil. This was a deviation from most environmental laboratory's normal laboratory procedures of running one check sample every twenty normal samples even though the set may contain samples from varying sources. Each of these LCS are described below.

The results of the LCS are compared to well-defined laboratory acceptance criteria to determine whether the laboratory system is "in control." Controlling lab operations with LCS (as opposed to matrix spike/matrix spike duplicate samples), offers the advantage of being able to differentiate quality problems due to laboratory procedural errors from those due to matrix effects. As a result, procedural errors can be identified and corrected by the analyst at the bench, without waiting for extensive senior level review or costly and time-consuming re-analysis of the sample.

Duplicate control samples (DCSs) are normally used to monitor the precision and accuracy of the analytical system on an on-going basis. Each DCS set consists of a standard, control matrix that is spiked with a group of target compounds representative of the method analytes. A DCS pair are analyzed for every 20 samples processed by a given method.

Accuracy data (average recovery of each analyte in the DCS pair) and precision data (relative percent difference [RPD] between each analyte in the DCS pair) are compared to control limits that have been established for each of the analytes contained in the DCS. The control limits are calculated periodically, as sufficient laboratory data become available. Control limits for accuracy for each analyte are based on the historical average recovery (mean of the average recoveries of the DCS pairs) plus or minus three standard deviation units. Control limits for precision for each analyte are based on the historical RPD. Acceptable RPDs range from zero (no difference between DCS results) to the average RPD plus three standard deviation units. Analytical data that are generated with a DCS pair which falls within the established control limits are judged to be in control. Data generated with a DCS pair which falls outside of the control limits are considered suspect and corrective action must be performed. The corrective action procedures include examination of instrument performance and preparation and analysis information, consultation with the supervisor, and finally a decision path for determining whether reanalysis is warranted.

DCS have been established for each routine analytical method. Reagent water is used as the control matrix for the analysis of liquid samples. The DCS compounds are spiked into reagent water and carried through the appropriate steps of the analysis. For metal analyses, a spiked solid matrix from a commercial source is used. The DCS for some wet chemistry parameters are obtained from a commercial source and used without dilution.

DCS precision and accuracy data are archived in the laboratory information management system (LIMS). In addition, the associated DCS data are reported with each set of sample results to enable the client to make a quality assessment of the data.

2.2.3.2 Single Control Samples

Under normal laboratory procedure a DCS pair are normally analyzed with every 20 samples to measure the precision and accuracy of an analysis. However, during this program samples were analyzed in lots of less than 20, due to the need to analyze one fossil fuel type at a time to eliminate any possibility of cross contamination between samples. To maintain a high level of quality control over the analysis it was necessary to have a measure of laboratory performance with each type analyzed so a single control samples (SCSs) program was used by the laboratory.

A SCS program allows QC to be carried out on a specific sample set regardless of the number of samples in the set. A SCS control sample consisted of a sample that was spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available (e.g., metals or wet chemistry), the analytes used for the DCS were spiked into the control sample. For some wet chemistry parameters, the SCS was obtained from a commercial source and used without dilution. An SCS was prepared for each sample lot (fossil fuel type). Recovery data generated from the SCS was compared to control limits that have been established for each of the compounds being monitored.

Analytical data generated with the SCS, which falls within the control limits, were judged to be in control. Data generated with an SCS which fell outside of acceptance criteria were considered suspect and corrective action was performed. The protocols for evaluating SCS are identical to those established for DCS. SCS recovery (accuracy) data were archived in the LIMS. In addition, the associated SCS data were reported with each set of sample results to enable the client to make a quality assessment of the data.

2.2.3.3 Method Blanks

Method blanks, also known as analytical, process, or preparation blanks, were analyzed to assess the level of background interference or contamination which exists in the analytical system and which might lead to the reporting of elevated concentration levels or false positive data.

A method blank was analyzed with every lot of samples processed. A method blank consisted of reagents specific to the method which are carried through every aspect of the procedure, including preparation, clean-up, and analysis. The results of the method blank analysis were evaluated, in conjunction with other QC information, to determine the acceptability of the data generated for that lot of samples.

The concentration of target analytes in the blank should be below the reporting limit for that analyte. The criteria for determining blank acceptability was based on the analytical techniques used, analytes reported, and reporting limits required.

For organic analyses, the concentration of target analytes in the blank must be below the reporting limit for that analyte in order for the blank to be considered acceptable. An exception is made for common laboratory contaminants (methylene chloride, acetone, 2-butanone, and phthalate esters) which may be present in the blank at up to 5 times the reporting limit and still be considered acceptable. These compounds are frequently found at low levels in method blanks due to the materials used in the collection, preparation, and analysis of samples for organic parameters.

For metals and wet chemistry analyses, where the reporting limits are typically near the instrument detection limit (IDL), the concentration of the target analytes in the blank must be below two times the reporting limit. If the blank value for a target analyte lies below the reporting limit, the analyte was reported with no flag on the associated sample data. A blank containing an analyte(s) above two times the reporting limit was considered unacceptable unless the lowest concentration of the analyte in the associated samples was at least ten times the blank concentration or the concentration of the analyte in all samples associated with the blank was below the reporting limit.

In addition, for wet chemistry tests, the method standard operating procedure directs the use of blanks. Generally, a reagent blank was used both to zero the equipment and as one of the calibration standards. If a preparation step was required for the analysis, then a preparation blank

was also analyzed to determine the extent of contamination or background interference. Some methods required that the concentration of analyte found in this preparation blank be subtracted from the concentration of the analyte found in any associated sample prior to calculating the final result. Blanks have no application or significance for some wet chemistry parameters (e.g., viscosity).

If the blank for any test did not meet acceptance criteria, the source of contamination was investigated, and appropriate corrective action was taken and documented. Investigation includes an evaluation of the data to determine the extent and effect of the contamination on the sample results. Corrective actions could include reanalysis of the blank, and/or re-preparation and reanalysis of the blank and all associated samples.

For organic and metals analyses and selected wet chemistry tests, method blank results are reported with each set of sample results. Sample results are not corrected for blank contamination unless required by the analytical method.

2.2.3.4 Matrix-Specific QC

Matrix-specific QC was used to assess the effects of a sample matrix on the analytical data. The main elements of matrix-specific QC are:

- The analysis of matrix spikes, matrix duplicates, and matrix spike duplicates;
- Monitoring the recovery of surrogate compounds from environmental samples;
- Monitoring the results of standard additions in environmental samples; and
- The determination of method detection limits in a specific matrix.

Different regulatory programs have different requirements in terms of matrix-specific QC. At a minimum, the laboratories analyze matrix spikes, matrix spike duplicates, or matrix duplicates at the frequency specified by the method, to meet the regulatory requirements of the method. In order to ensure that the data generated meet all data quality objectives matrix-specific QC for the samples was reported. A discussion of the different elements of matrix-specific QC follows.

A matrix spike (MS) is a sample to which known concentrations of representative target analytes have been added. The MS, in addition to an un-spiked aliquot, was taken through the entire analytical procedure, and the recovery of the analytes was calculated. Results are expressed as percent recovery. The MS is used to evaluate the effect of the sample matrix on the accuracy of the analysis.

A matrix duplicate (MD) is a sample that is divided into two separate aliquots. The aliquots are processed separately, and the results are compared to determine the effects of the matrix on the precision of the analysis. Results are expressed as relative percent difference (RPD).

A matrix spike duplicate (MSD) is a ample that is divided into two separate aliquots, each of which is spiked with known concentrations of analytes. The two spiked aliquots, in addition to an un-spiked sample aliquot, are processed separately, and the results are compared to determine the effects of the matrix on the precision and accuracy of the analysis. Results are expressed as the RPD and percent recovery.

Surrogates are organic compounds which are similar to the analytes of interest in chemical behavior, but which are not normally found in environmental samples. Surrogates are added to samples to monitor the effect of the matrix on the accuracy of the analysis. Results are reported in terms of percent recovery.

The laboratory added surrogates to samples requiring GC or GC/MS analysis. The lab does not control its operations based on surrogate recoveries in environmental samples. However, individual methods may dictate sample reanalyses based on surrogate criteria. When required by regulations, these method requirements supersede laboratory practices. As discussed earlier in this section, the lab controls its analytical systems based on the results of laboratory control samples. The surrogate recoveries are primarily used by the laboratory to assess matrix effects. However, obvious problems with sample preparation and analysis (e.g., evaporation to dryness, leaking septum, etc.), which can lead to poor surrogate spike recoveries, must be ruled out prior to attributing low surrogate recoveries to matrix effects.

2.2.3.5 Matrix-Specific Detection Limits

Method detection limits (MDLs) determined on a specific sample matrix are called matrix-specific detection limits. As compliance limits approach the detection limits in the matrix being analyzed, technical consideration must be given to the potential implications of the variability of laboratory analysis being performed. To understand the implications of the variability or limitations in analytical procedure, it is important to understand the laboratory terminology used to define detection levels. Laboratories define detection limits in essentially two ways: Practical quanitation limit (PQL) and method detection limit (MDL). PQL is the "lowest level achievable by good laboratories, within specified limits, during routine laboratory operating conditions." In essence, this is the level below which the measurement is not reliable, indicating a constituent is present in a sample under the laboratories operating procedures. The MDL "is not necessarily reproducible over time in a given laboratory, even with the same analytical procedures, instruments, and sample matrix."[1] The MDL is statistically determined by running seven (7) replicate blanks and averaging the results. This procedure is from 40 CFR, Part 136, Appendix B. A method detection limit study was performed during this program and the results are discussed in Section 2.4.

2.2.3.6 Summary

In developing the initial database for the comparative fuels exclusion, EPA attempted to minimize the analytical variability to produce a standard that is as unambiguous as possible. The variability in analyses was taken into account throughout the procedures used to statistically analyze the data and set the final limits based on a fossil fuel matrix. SW-846 and American Standards Testing Materials (ASTM) protocols, listed previously in Table 2-1, were chosen as the best means of initially quanitating the physical and chemical parameters and the hazardous constituents in each sample. These protocols, in association with the QA/QC discussed previously, yielded the most reliable results possible, at this time, for a fossil fuel matrix.

To fully minimize the impact of analytical variability and identify all Appendix VIII constituents would have involve an extensive method development program looking specifically at a fossil fuel matrix. Accomplishing this task would be prohibitively expensive and would yield

---

[1] Koorse, Steven J. "False Positives, Detection Limits and Other Laboratory Imperfections." Environmental Law Reporter. May 1989.

detection limits for fossil fuels which would not necessarily be achievable in the potential comparable fuel matrix. For this reason, EPA elected to use standard protocols, maximizing the performance of these procedures to obtain as reliable a result as possible for as many constituents as possible. The constituents that can not be validated by these procedures were addressed individually to determine if they could be quanitated reliably by additional methodologies and if it was practical to do so. As stated earlier these constituents are discussed in Section 3.2 of this document.

Section 2.3 contains a general discussion of the methods used in this study and some of the problems that were encountered. It also contains a discussion of the QC results with each procedure.

2.3 Analytical Test Methods

The following section summarizes the analytical procedures used to generate the data collected for these samples. Each section also includes a short discussion of the quality control measures used and the results obtained for each analysis procedure, as well as a brief synopsis of the difficulties encountered in performing each procedure. Appendix D contains the surrogate recoveries for the volatile, semi-volatile and metals analysis.

2.3.1 *GC/MS Volatile*

Samples for volatile organics were analyzed per SW-846 Method 8240 for gas chromatography with mass spectrometer detector (GC/MS). A gas chromatograph with a fused silica capillary column coupled with a mass spectrometer was used to separate, identify, and quanitate the target analytes. A standard containing the target analytes in methanol was prepared at five different concentrations. One microliter of each of these standards was used to calibrate the analytical system. Samples were treated as high level and diluted weight-to-volume prior to being extracted. This extract was then injected, in some cases diluted and injected, into a heated injection port, thereby transferring the sample to the analytical system.

The matrix being analyzed required some minor deviations from the SW-846 methodology. The SW-846 methodology requires a 2.5x weight-to-volume sample dilution/extraction with methanol, making methanol the analyzed portion. To provide the lowest detection limits, a 2x

dilution/extraction was performed. The actual sample was prepared by mixing 4-5 grams of sample with 6-8 milliliters of methanol. Actual sample weights were recorded and used to calculate the true dilution factor. The sample was spiked with 50 ppm surrogates. Surrogate compounds were added to the methanol portion of the sample extracts, not to the sample/methanol extract mixture. The two aforementioned deviations from the SW-846 followed a procedure similar to the medium-level sample preparation used in U.S. EPA Contract Laboratory Program OLM02.1. Then, a 1 milliliter sample was directly injected in to the GC/MS.

The mass spectrometer was tuned every twelve hours (12) to give an acceptable spectrum for bromofluorobenzene (BFB). Samples were analyzed on four (4) tune batches. GC/MS performance tuning check criteria were met in each case. The system performance checks were performed every twelve (12) hours. The following system performance check compounds were used:

- Chloromethane
- 1,1-Dichloroethane
- 1,1,2,2-Tetrachloroethane
- Chlorobenzene
- Bromoform

A minimum average response factor of 0.3 (0.2 for Bromoform) is required to pass the system performance check compounds.

The continuing calibration standard was analyzed every twelve (12) hours to verify the validity of the initial calibration. The calibration check compounds must have had a relative standard deviation of less than thirty percent (30%) for the initial calibration to be acceptable. For each calibration check, these compounds must have had a single-point response factor (RF) of twenty-five percent (25%) of the five-point RF, or a new five point curve was generated. All continuing calibrations met the minimum response factor criteria for the calibration check compounds. The calibration check compounds were:

- Vinyl chloride
- 1,1-Dichloroethene
- Chloroform
- 1,2-Dichloromethane
- Toluene
- Ethyl benzene

Two continuing calibration check compounds, vinyl chloride and 1,1-dichloroethene, exceeded the 25% difference criteria. Note that these compounds were not detected in any samples. Method blanks contained no target compounds above the quanitation limit. Internal and surrogate standard recoveries were acceptable in all samples.

SW-846 methods were followed. However, the oily matrix is not a perfect matrix for the methanol extraction since methanol is partially diluted in fuels. The efficiency of methanol as an extraction solvent for an oil matrix has not been studied directly. However, there is data relating to the solubility of methanol in various fuels as an additive.[2] [3] The affinity for the analytes versus methanol and the instrument maintenance required with the method are problems which have not been validated for the matrix being analyzed. Further studies may create more reliable results.

2.3.2 *Semi-Volatile Organics*

Samples for semi-volatile organics were analyzed per SW-846 Method 8270 for gas chromatography with a mass spectrometer detector. Method 8270 was followed for the on-instrument analysis, and SW-846 Method 3640 was used to clean up samples by gel permeation to allow analysis at the lowest possible dilutions.

For Nos. 2,4, and 6 fuel oils, 1 gram of sample was placed in a Class A 40 ml graduated cylinder. One milliliter of 1,000 ppm solution containing the surrogates was added to the graduated cylinder. Then, a final volume was brought of 10 milliliters with methylene chloride. The sample was run through the SW-846 Method 3640 gel permeation clean up procedure, yielding a 5 ml sample. the 1 µl of sample was injected onto the GC/MS column.

The procedure used was modified for gasoline to decrease the levels of benzene, toluene, ethyl benzene, and xylene. These components will be detected during a semi-volatile analysis and are at levels which would require dilution of the samples, raising the detection limits of the semi-volatiles constituents. Recoveries of the surrogates onn gasoline suggesting that the procedure was effective and did not remove any of the constituents of concern.

---

2 American Petroleum Institute. "Alcohols and Ethers: A Technical Assessment of Their Application as Fuels and Fuel Components." API Publication 4261. Second Edition. July 1988.

3 American petroleum Institute. "Methanol Vehicle Emissions." API Publication 4262. December 1990.

To perform the semi-volatile analysis in the gasoline, 1 ml of sample (along with 1 ml of a 100 ppm surrogate solution) was placed in a concentration tip. The volatiles (benzene, toluene, ethyl benzene, and xylene) were driven off by blowing high purity (99.999%) nitrogen on the sample until the volume remained constant. The sample was then solvent-exchanged into 5 ml of methylene chloride and concentrated to a final volume of 1 ml using high purity nitrogen. Then, 1 microliter was injected onto the GC/MS.

Identification and quanitation were performed using response factors and retention times generated from a five-point calibration curve, relative to the closest eluting of six internal standards. The mass spectrometer was tuned daily to decafluorotriphenylphosphine (DFTPP). As with the volatile analyses, system performance was verified every twelve (12) hours of operation using the following system performance check compounds:

- N-Nitroso-di-propylamine
- Hexachlorcyclopentadiene
- 2,4-Dichlorophenol
- 4-Nitrophenol

A 5-point calibration curve was generated by injecting 10, 20, 50, 80, and 120 µg/L standards. The relative standard deviation of the calibration check compounds was less than thirty percent (30%), with the exception of the compounds discussed later in this section. The calibration check compounds were:

- Phenol
- Fluoranthene
- 2,4,6-Trichlorophenol
- 2-Nitrophenol
- Benzo(a)pyrene
- N-Nitroso-di-n-phenylamaine
- Pentachlorophenol
- 4-Chloro-3-methyl phenol
- 1,4-Dichlorbenzene
- Di-n-octylpthylate
- Acenaphthene
- 2,4-Dichlorphenol
- Hexachlorobutadiene

A single concentration of each calibration check compound was analyzed and the response factor calculated. The single-point response factor for each calibration check compound was within twenty-five percent (25%) of the average five-point RF.

The sample matrix required some deviation from the standard methodology. SW-846 Method 8270 was followed for all analyte analyses, with the exceptions detailed below:

1) Hexachlorophene, a 40 CFR, Part 264, Appendix IX target, was not detected in any initial calibration curve point. This analyte was instead run as a single-point calibration at 500 ppm following each continuing calibration. Apparently, degradation in the injection port inlet prevents this compound's detection at lower concentrations.

2) Famphur and kepone, while detected in each initial calibration curve point, were non-linear in response. The percent relative standard deviation (%RSD) for these compounds was greater than 50%.

3) p-Phenylenediamine, 1,4-Naphthaquinone, m-Di-nitrobenzene, 1,3,5-Trinitrobenzene, and 3-3'-Dimethylbenzidine were all detected in the initial calibration curves, but never found in matrix spikes. Method 8270 does not appear effective in finding these analytes in fuel oils.

The compounds 1-Methylnaphthalene, 1,2,3-Trimethylbenzene, 1,2,5-Trimethylbenzene, 1,2,3,4-Tetrahydroquinoline, and 2,6-Dimethylquinone, which are not 40 CFR, Part 264, Appendix IX targets, were quantitatively analyzed by running a one-point calibration at 100 ppm every twelve (12) hours prior to analysis of samples.

Samples were run as undiluted as possible. However, dilutions were made to keep the highest reported target analyte in the upper-half of the calibration range or prevent detector saturation by non-target peaks. Six (6) surrogate compounds, three (3) acids and three (3) base neutrals, were spiked into each sample prior to preparation for analysis. If at least two of the three surrogates for each fraction recovered within +/- 35%, the sample analysis was considered valid. Six (6) internal standards were used for target quanitation. All six internal standards met the +/- 50% recovery.

Most of the target analytes were easily detected, with the exceptions noted above. The only problems involved: Contamination of the analytical instrumentation by the fuel oil matrix, which caused occasional peak broadening; base line elevation; and reduced sensitivity of easily degraded

analytes, such as nitrophenols. However, routine maintenance to the injection port inlet after each batch of fuel oil analyses kept the GC/MS system within acceptable operating parameters.

The analysis for total aromatic hydrocarbons and total polynuclear aromatic hydrocarbons yielded results much lower than expected. A small number of specific analytes in these categories were analyzed and summed into totals. There were numerous analytes and isomers that should have been included in this total, but due to the huge number of compounds, they could not be individually calibrated and quanitated. The majority of these compounds are not listen in Appendix IX and do not have validated methods for analysis. Other methods more suited to this type of analysis, other than identification and quanitation of individual compounds, should be considered for these total numbers.

2.3.3 *Metals*

The dissolution procedure was used for all samples in this study. Method SW-846 3040 was used. All dissolved samples were then analyzed by the appropriate flame atomic absorption methodology, with the exception of arsenic and selenium, where the graphite furnace atomic absorption was chosen. Mercury was analyzed by Method 7471. The gasoline and diesel No. 2 samples were diluted 1:10 with xylene. The Nos. 4 and 6 fuel oils were diluted 1:20 with xylene. The final results were reported using density data to convert to mg/kg from the original dilution.

The analysis of all of the diluted samples proceeded normally. In general, a blank and three standards were used to perform initial calibration. Correlation coefficients were calculated for each curve. A quality control check sample was analyzed after each curve. This sample was a standard obtained from a second source to verify accuracy between standards. An initial calibration verification and an initial blank verification were then performed. After every ten (10) samples, or between matrices, a calibration verification and a blank verification were performed. A duplicate sample and a matrix spike were performed on each matrix.

For each metal analyte, a standard curve was performed. The methodology requires stock standard solutions be purchased from separate sources so that one can serve as a check on the other. All curves were linear, and most correlation coefficients were better than 0.995. There was one notable exception: Barium in an organic matrix gave a curve coefficient of 0.992. Arsenic and

selenium in an organic matrix displayed a curve-linear relationship, and the resulting curve coefficients were 0.98 and 0.99, respectively, for the linear component.

At the beginning of and during each run, standard calibration checks and blank calibration checks were performed. All initial and continuing calibration blanks were under the established practical quanitation limit. All initial and continuing calibration verification results were between 90-110%, with the following exceptions: Lead stayed at about 111% for the duration of the run and did not deviate more than 1-2%; and arsenic was variable, although most of the values were 90-110%.

Sample matrix QC consisted of preparing and analyzing one duplicate and spike for each matrix. For values significantly above the PQL, the results for relative percent differences were less than 20%. The No. 4 fuel oil's selenium result at the PQL showed some variability in the duplicate result. This may be due to the matrix. Most of the spike results were very good and fell within the 75-125% limit with the following exceptions: The barium spike for the No. 6 fuel oil returned a value of 72%. This could be attributed to the matrix; the silver spike results were unusual in that they were all high. This may be due to some stabilizing effect in the fuel versus xylene solvent; all selenium results were good, except for the No. 4 fuel oil mentioned above. Spike results for mercury were exceptional, relative to the method used. This round of results gave 36-47% recovery for mercury spike across the matrices.

The mercury method is not as well suited to the matrices encountered in this study. The spike results were the best that could be obtained under these conditions. In the time allowed, we could not find a second standard source for thallium and manganese. Silver displayed some unusual variability in the results for the QC check and the spike. Silver may be more susceptible to certain kinds of matrix enhancements that were not well documented. The furnace methods used to analyze arsenic and selenium needed some extra effort to set up properly, although once the furnace method was set, the results were very good.

2.3.4 *Heating Value*

Heat of combustion was determined using Method ASTM D-240. In this test method, heat of combustion was determined by burning a weighed sample in an Oxygen Bomb Calorimeter

under controlled conditions. The rate of combustion was computed from temperature readings before and after combustion.

QC procedures consisted of a duplicate determination for ten (10) samples and an analysis of a certified standard benzoic acid pellet for ten (10) samples. Method precision and reproducibility were within the ranges specified in the method. Gross heat of combustion was reported. No adjustments were made for the heat of combustion of nitrogen and sulfur in the sample. Values were reported as BTU/lb rather than in the SI units of MJ/kg, as stated in the method.

2.3.5 *Specific Gravity*

Specific gravity was determined by Method ASTM-1298. This method uses a hydrometer to determine specific gravity after the sample and apparatus were brought to a stable temperature of 60˚F. The appropriate hydrometer was lowered into the sample cylinder and allowed to settle. At positional equilibrium, the hydrometer was read and the temperature of the sample noted.

The hydrometers used were calibrated in accordance with National Institute of Standards and Technology (NIST) Circular 555, and ASTM specification E-100. All sample temperatures were brought to 60˚F for a period of five (5) hours prior to hydrometer readings. Duplicates were performed every ten (10) samples. All duplicates were within 5% RSD.

All specific gravity readings were made at 60˚C as per ASTM D-1298. Highly viscous opaque samples presented problems in the accurate readings of the hydrometer. Air bubbles trapped in the more viscous samples may have had a minor influence on the reported results.

2.3.6 *Flash Point*

Flash point was determined by SW-846 Method 1010, which is similar to ASTM Method D-93, using a Pensky-Martens closed cup Flash Tester. The sample was heated at a slow constant rate with continual stirring. A small flame was directed into the cup at regular intervals with simultaneous interruption of stirring. The flash point was the lowest temperature at which application of the test flame ignited the vapor above the sample.

Duplicate determinations were made on each of the ten samples. All duplicates were within 2˚C of the original result. Gasoline flash points were below the range attainable by Pensky-Martens Method. These values were reported as less than 0˚C.

2.3.7 *Total Halogens*

EPA Method 325.3/PARR and ASTM Method D4929 were used to analyze the samples for total halogens. The sample was ignited in a PARR bomb as part of the determination of gross heat of combustion. After combustion of two previously weighed samples, the resulting inorganic residue solution was washed from the inside surfaces of the PARR bomb. The wash water was brought to a total volume of 10 milliliters and titrated per EPA Method 325.3. Bromine, chlorine, and iodine are all reported as total chloride. Fluorine does not react with the titrant of EPA Method 325.3 and is not included in the reported values.

In the PARR bomb combustion process, a weighed sample is placed in the PARR bomb under 35 atmospheres of oxygen, approximately 515 psi. Combustion is rapid and complete with no traces of organic material remaining in the bomb. In order to assure the conversion of organic halide to inorganic halogen ion, samples were spiked with known amounts of methylene chloride prior to combustion in the bomb. Recovery of spiked halogen was in the range of 87% to 92% for all gasoline and No. 2 fuel oil samples. For Nos. 4 and 6 fuel oil samples, recovery was in the range of 20% to 45%, which was unacceptable. It is probable that the higher nitrogen content of the Nos. 4 and 6 fuel oils resulted in the production of significant amounts of nitric acid during the PARR bomb combustion process. The nitric acid resulted in unacceptably high levels of iron from the reaction with the stainless steel PARR bomb. Iron is an interferant in the EPA Method 325.3 titration process.

In order to obtain reliable halogen values for the Nos. 4 and 6 fuel oils, these samples were analyzed by ASTM D4929, a method for determining the organic chloride content in crude oil. The method involves oxidation of a known weight sample in an oxygen stream at 800˚C. The oxygen stream was then led to a microcoulometric cell, where halide was reacted with coulometrically generated silver ion. The microequivalents of silver ion consumed in the titration was equal to the microequivalents of titratable halide ion in the sample after oxygen combustion. Bromine and iodine titrate as chloride equivalents. Fluorine does not respond and is not included.

In the oxygen combustion process, approximately 50% of the bromine and iodine form oxyhalides (HOBr and HOI) which do not react in the titration. Bromine and iodine, therefore, provide an approximate 50% response factor. Calibration curves, replicate analyses, and checks using 2,4,6 trichlorophenol were performed on the sample daily.

2.3.8 *Total Nitrogen*

ASTM Method D4629 was used to analyze the samples for total nitrogen. The sample of liquid petroleum hydrocarbon was injected into a stream of inert gas. The sample was vaporized and carried to a high temperature zone where oxygen was introduced and organic bound nitrogen was converted to nitric oxide (NO). The NO contacts ozone and, through a process of chemluminesence, emits light which was detected by a photomultiplier as a measure of the nitrogen contained in the sample.

The instrument was calibrated using nitrogen standards of pyridine or carbazole. Pyridine is used for samples with mid-range boiling points less than 430°F. Carbazole was used for samples of higher boiling ranges. Method blanks were performed using toluene for gasoline samples and cetane for the higher boiling diesel and fuel oil samples

Reproducibility values were within the range in Table One of Method D4629. All samples were run as replicate analyses. A calibration curve and a known check sample were run daily.

2.4 Method Detection Limit Study

As part of this program, a method detection limit study was performed to determine the MDL in each matrix, except No. 4 fuel oil, which will be considered to be the same as, or better than, No. 6 fuel oil. The MDL study for the target constituents was carried out using a modification of the procedures defined by EPA in 40 CFR, Part 136, Appendix B, *Definition and Procedure for the Determination of Method Detection Limits*, Revision 1.1. The samples were spiked with target analytes to 2-to-5 times the instrumental signal-to-noise ratio and then analyzed. The MDL will be determined using Equation 2-1:

$$MDL = t * \sigma \qquad (2-1)$$

where t is the student-t statistic for the 99% confidence limit for n-1 degrees of freedom and σ is the standard deviation in the replicate analyses. Student-t values are listed on Table 2-2. The standard deviation is calculated using Equation 2-2:

$$(2-2)$$

where σ is the standard deviation, and x_i is the analytical results from the sample aliquots. The results are divided and reported in four groups. Appendix C contains the tables for each of the groups, which are summarized as follows:

Metals

Procedure 3040 required dissolution in xylene. Thus, the MDL for metals was performed with xylene as the common matrix.

Mercury

The three separate charts show the MDL for gasoline and Nos. 2 and 6 fuel oils. the procedures defined by EPA in the Federal Register, *Definition and Procedure for the Determination of MDLs* were followed.

Volatile Organic Analytes (VOA)

The analysis was divided by fuel type (gasoline, No.2 and No. 6 fuel oils). Once again, EPA procedure was followed.

Semi-Volatile Organic Compounds (SVOC)

This analysis was also divided by fuel type.

In each study, seven aliquots of each sample were processed through the entire analytical method and used to calculate the MDL.

TABLE 2-2. STUDENT-T VALUES
AT THE 99% CONFIDENCE LEVEL

# OF REPLICATES	DEGREE OF FREEDOM (N-1)	T (N-1, .99)
7	6	3.143
8	7	2.998
9	8	2.896
10	9	2.821
11	10	2.764
16	15	2.602
21	20	2.528
26	25	2.485
31	30	2.457
61	60	2.390
00	0	2.326

3.0 RESULTS

Appendix A lists the results for the semi-volatile, volatile, metals, physical parameters, and total aromatic hydrocarbons, respectively. These results were submitted to EPA for statistical analysis. As stated in Section 2, the results for polynuclear aromatic hydrocarbons and total aromatic hydrocarbons are much lower than expected. The method used to generate these concentrations was to sum the results of the semi-volatile analysis. The constituents listed in 40 CFR, Part 261, Appendix VIII that could be quanitated only included a small number of the aromatic hydrocarbons which are normally in fossil fuels. As discussed in Section 2.3.2 this biased the number that was calculated low.

3.1 Statistical Analysis Results (SAIC)

This section presents the results from statistical analyses, performed by Science Applications International Corporation (SAIC), of chemical compound concentrations measured in comparable fuels. As discussed previously, the comparable fuels consist of four fuel types — gasoline and Nos. 2, 4, and 6 fuel oils. Statistical analyses also were conducted on two (2) combinations of these fuel types: a composite of the three (3) fuel oils (Composite 246); and a composite of all four (4) fuel types.

The available data contain chemical compound concentrations from eight (8) samples from gasoline, 11 samples from No. 2 fuel oil, one (1) sample from No. 4 fuel oil, and seven (7) samples from No. 6 fuel oil. Each sample was analyzed for more than 170 chemical compounds and physical properties. Only data from chemicals contained in the 40 CFR, Part 261, Appendix VIII list were statistically analyzed for this report. The list of chemicals in 40 CFR, Part 261, Appendix VIII was created in order to produce a universe of chemicals that could be used as a criteria to define a waste stream as hazardous. There are 151 chemical compounds in the available data that also are in the 40 CFR, Part 261, Appendix VIII list.

This statistical analyses estimated percentiles from the distribution of concentrations from each chemical compound within each fuel type. For each individual fuel type, the 90th percentile was estimated for each chemical compound. For the composite fuel types, estimates of the 50th and 90th

percentiles were calculated for each chemical compound. Section 3.1.1 of this report presents the statistical analysis of the individual fuel types. Section 3.1.2 documents the statistical methodology for estimating percentiles from the composite of Nos. 2, 4, and 6 fuel oils. The analysis of the composite of all four fuel types is presented in Section 3.1.3.

The results from the statistical analyses of these fuel types are presented in Appendix B in the following tables:

- Table 1: Estimated 90th percentiles from gasoline;
- Table 2: Estimated 90th percentiles from No. 2 fuel oil;
- Table 3: Estimated 90th percentiles from No. 4 fuel oil;
- Table 4: Estimated 90th percentiles from No. 6 fuel oil;
- Table 5: Estimated 50th percentiles from the composite of Nos. 2, 4, and 6 fuel oils;
- Table 6: Estimated 90th percentiles from the composite of Nos. 2, 4, and 6 fuel oils;
- Table 7: Estimated 50th percentiles from the composite of all four fuel types; and
- Table 8: Estimated 90th percentiles from the composite of all four fuel types.

Within each table, two (2) sets of estimates are presented. For chemicals in which at least one (1) sample was measured above the minimum level of detection, the estimated percentiles were based on the measured concentrations from the detected samples and on the quantitation limits from the non-detect samples. These estimates are presented in the tables under the column heading "Concentration Limit." For chemicals in which none of the samples were measured above the minimum level of detection, the estimated percentiles were based on the reported quantitation limits and are presented in the tables under the column heading "Maximum Detection Limit."

All chemical concentrations were originally reported in the database with units equal to mg/kg. For the chemicals with at least one (1) detected sample, these concentrations were converted to mg/J using the reported heating values (BTU/lb) and the following conversion formula:

$$\text{Concentration}\left[\frac{\text{mg}}{\text{J}}\right] = \frac{\text{Concentration}\left[\frac{\text{mg}}{\text{kg}}\right]}{2326.11\left[\frac{\text{lb}}{\text{kg}}\frac{\text{J}}{\text{BTU}}\right] * \text{Heating Value}\left[\frac{\text{BTU}}{\text{lb}}\right]}$$

The estimated percentiles were generated from the mg/J concentrations and were converted back to mg/kg, for presentation in the tables, based on a heating value of 10,000 BTU/lb. For the chemicals with no detected samples, the percentiles were calculated from reported quantitation limits in the original units of mg/kg. All results are presented with two (2) significant figures.

3.1.1 *Estimates for Each Individual Fuel*

Estimated percentiles for the chemical compounds from each individual fuel type (i.e., gasoline and Nos. 2, 4, and 6 fuel oils) are presented in Appendix B, Tables 1 through 4, respectively. Only the chemicals that are contained in the 40 CFR, Part 261, Appendix VIII list are presented in these tables. Each of these tables presents the estimated 90th percentile for chemicals with at least one (1) detected concentration and for the chemicals that were not detected above the quantitation limit. The percentile estimates from the detected chemicals are presented under the column heading "Concentration Limit," and the percentiles for the non-detected (non-detect) chemicals are presented under the column heading "Maximum Detection Limit." For the chemicals with at least one (1) detected sample, the percentile estimates were based on the measured value for the detected samples and on the reported quantitation limits for the non-detect samples. For the chemicals with no samples measured above the minimum level of detection, the percentile estimates were based on the reported quantitation limits.

In the analytical methods for calculating the quantitation limit for volatile organic compounds (VOCs) in gasoline, there are matrix interferences that cause the calculated quantitation limits to be unreliable. Therefore, for the VOCs that were not detected in any of the gasoline samples, the estimated 90th percentile is not presented in Appendix B, Table 1. For these chemicals, the 90th percentile estimate from the composite of the Nos. 2, 4, and 6 fuel oils is presented in Appendix B, Table 1 as a surrogate for the 90th percentile for gasoline.

The estimated percentiles presented in Appendix B, Tables 1 through 4 were generated nonparametrically. That is, the percentiles are based on the rank order statistics of the sample concentrations. Distributional assumptions were not used in the calculation of the percentile estimates because of the sparse sample sizes. For gasoline, at least one of the eight (8) samples was measured above the minimum level of detection for only nine (9) of the 151 chemical compounds found in 40 CFR Part 261 Appendix VIII. For No. 2 fuel oil, at least one (1) of the 11 samples was measured above the minimum level of detection for only 11 of the 151 chemicals. Only one (1) sample was

measured for each chemical compound from No. 4 fuel oil, and only 13 of the chemical compounds were measured above the minimum level of detection in this sample. For No. 6 fuel oil, at least one (1) of the seven (7) samples was measured above of the minimum level of detection for only 16 of the chemicals.

All of the chemicals originally were reported in units of mg/kg. The 90th percentile estimates for non-detect chemicals, under the column heading "Maximum Detection Limit," are presented in the original units of mg/kg. The percentile estimates for chemicals with at least one (1) detected sample, under the column heading "Concentration Limit," were calculated from concentrations that were converted from mg/kg to mg/J based on the report heating values (BTU/lb) for each sample. Then, the percentile estimates were converted from mg/J back to mg/kg based on 10,000 BTU/lb.

The nonparametric procedure for calculating the percentile estimates was based on standard procedures, namely PROC UNIVARIATE, in the SAS statistical software package. This standard nonparametric procedure is outlined in the following steps.

1. Let x_1, x_2, x_3, ..., x_n represent the chemical concentrations from the n-samples, ranked from lowest to highest, where n equals the total number of samples.

2. To calculate the 90th percentile, let 0.90*n = j + g, where j is the integer part of 0.90*n and g is the fractional part of 0.90*n.

3. The estimated 90th percentile is calculated as:

   $(xj + xj+1)/2$, if g=0; and $xj+1$, if g>0.

> **Example:** In No. 6 fuel oil, data were available from seven (7) samples. Therefore, n=7 and 0.90*n=6.3. The integer part (j) is equal to 6, and the fractional part (g) is equal to 3/10. Because the fractional part (g) is not equal to zero, the 90th percentile is equal to the average of the concentrations from the 6th and 7th samples. That is, the 90th percentile is the average of the largest concentration and the second largest concentration.

The estimated percentiles from this methodology are presented under the column heading "Concentration Limit" in Appendix B, Tables 1 through 4.

3.1.2 *Estimates from Composite 246*

In addition to the percentile estimates from each individual fuel type, percentile estimates are presented for a combination of Nos. 2, 4, and 6 fuel oils. This combination of fuel oils is labelled "Composite 246." The estimated percentiles presented under combination of fuel oils are weighted estimates from the chemical concentrations from the three (3) fuel oils. Estimates were generated from all reported samples of these fuel oils, using the measured concentrations from the detect samples and the reported quantitation limits from the non-detect samples.

Appendix B, Table 5 presents estimated 50th percentiles from the composite of Nos. 2, 4, and 6 fuel oils. Estimated 90th percentiles are presented in Appendix B, Table 6. For chemicals with at least one (1) detected concentration, the percentile estimates are presented under the heading "Concentration Limit". The percentile estimates for the chemicals with no detected concentrations are presented under the heading "Maximum Detection Limit."

The estimated percentiles were generated by weighting each sample according to the number of samples available from each fuel type. This adjustment provides equal contribution from each sample to the composite estimate. That is, each fuel type should represent one-third of the population. Therefore, each sample from No. 2 fuel oil, which contained 11 samples, was assigned a weight of 1/33; the sample from No. 4 fuel oil was assigned a weight of 1/3; and each sample from No. 6 fuel oil, which contained seven (7) samples, was assigned a weight of 1/21. The chemical concentrations were then ranked from lowest to highest and the weights were summed across samples until the total weight was equal to 0.50. The corresponding chemical concentration was used as the estimated 50th percentile. That is, the 50th percentile is the concentration corresponding to the ranked sample for which 50% of the weights were accounted. If the sum of the weights does not equal 0.50 exactly, then the 50th percentile is an average of the two (2) reported concentrations that surround the 50th percentile point. Similarly, the 90th percentile was estimated by the corresponding concentration when the sum of the weights was equal to 0.90.

As in the calculation of the percentiles for each individual fuel type, the percentiles for the detected chemicals are presented in units of mg/kg at 10,000 BTU/lb, and the percentiles for the non-detect chemicals are presented in the original units of mg/kg. All of the chemicals originally were reported in the database with units of mg/kg. The percentile estimates for chemicals with at least one (1) detected sample, under the column heading "Concentration Limit," were calculated from

concentrations converted from mg/kg to mg/J, based on the reported heating values (BTU/lb) for each sample. The percentile estimates then were converted from mg/J back to mg/kg based on 10,000 BTU/lb. For the chemicals with no samples measured above the minimum level of detection, the percentile estimates were based on the reported quantitation limits in the original units of mg/kg.

3.1.3 *Estimates from Composite of All Fuel Types*

Appendix B, Tables 7 and 8 present percentile estimates for a combination of all four (4) fuel types (i.e., gasoline and Nos. 2, 4, and 6 fuel oils), labelled "Composite All." The estimated percentiles presented under this combination of fuel types are weighted estimates from the chemical concentrations from the four fuel types. Estimates were generated from all reported samples of these fuel types, using the measured concentrations from the detect samples and the reported quantitation limits from the non-detect samples.

Appendix B, Table 7 presents estimated 50th percentiles from the composite of all fuel types. Estimated 90th percentiles are presented in Appendix B, Table 8. For chemicals with at least one (1) detected concentration, the percentile estimates are presented under the heading "Concentration Limit." The percentile estimates for the chemicals with no detected concentrations are presented under the heading "Maximum Detection Limit."

The estimated percentiles were generated by weighing each sample according to the number of samples available from each fuel type, so that each fuel type provided equal contribution to the estimated percentiles. That is, each fuel type should represent one-quarter of the population. Therefore, the samples from gasoline and Nos. 2, 4, and 6 fuel oils were assigned weights of 1/32, 1/44, 1/4, and 1/28, respectively, based on the number of samples from each fuel type. The chemical concentrations were then ranked from lowest to highest, and the weights were summed across samples until the total weight was equal to 0.50. The corresponding chemical concentration was used as the estimated 50th percentile. That is, the 50th percentile is the concentration corresponding to the ranked sample for which 50% of the weights were accounted. If the sum of the weights does not equal 0.50 exactly, then the 50th percentile is an average of the two (2) reported concentrations that surround the 50th percentile point. Similarly, the 90th percentile was estimated by the corresponding concentration when the sum of the weights was equal to 0.90.

In the analytical methods for calculating the quantitation limit for VOCs in gasoline, there are matrix interferences that cause the calculated quantitation limits to be unreliable. Therefore, for the VOCs not detected in any of the gasoline samples, the estimated percentiles for the composite of all fuel types, which includes gasoline, were not presented. For these chemicals, the estimates from the composite of the Nos. 2, 4, and 6 fuel oils (i.e., without gasoline) are presented in Appendix B, Tables 7 and 8 as surrogates for the percentile estimates from the composite of all four (4) fuel types.

The percentiles for the detected chemicals are presented in units of mg/kg at 10,000 BTU/lb and the percentiles for the non-detect chemicals are presented in the original units of mg/kg. All of the chemicals originally were reported in the database with units of mg/kg. The percentile estimates for chemicals with at least one (1) detected sample (i.e., concentration limit) were calculated from concentrations converted from mg/kg to mg/J, based on the reported heating values (BTU/lb) for each sample. The percentile estimates then were converted from mg/J back to mg/kg based on 10,000 BTU/lb. For the chemicals with no samples measured above the minimum level of detection, the percentile estimates were based on the reported quantitation limits in the original units of mg/kg.

3.2 Uncharacterized Constituents from 40 CFR, Part 261, Appendix VIII

Appendix E contains tables summarizing the CFR 40, Part 261, Appendix VIII compounds not analyzed in this initial study. Compounds are broken down into eight categories, as follows: [4] [5] [6]

Category 1 The constituent is reactive as unstable in the presence of air or trace amounts of water, such as may be found in fuels;

Category 2 The constituent can be analyzed by high purity liquid chromatography (HPLC) methods only. Such methods are either not validated or are inappropriate for fuel and waste stream samples;

---

4 Midwest Research Institute for EPA Office of Solid Waste. "Summary of OSW Analytical Feasibility Committee Meeting." December 11, 1986.

5 _____ "Summary of Public Comments on Specific Chemicals for RCRA Docket No. F-86-GWAP-FFFFF." For proposed Hazardous Waste Management System Ground-Water Monitoring 51 FR 26632. July 24, 1986.

6 SCS Engineers for EPA Office of Solid Waste, Land Disposal Branch. "Appendix VIII Short Term Guidance: Background Document." Draft. File No. 28286-19, LC 97. January 10, 1987.

Category 3 The constituent can be analyzed by existing standard methods or by variations thereto;

Category 4 The hazardous substance referenced cannot be analyzed as a specific entity because either it is a class of compounds or isomers or it is a metallic or organo-metallic compound. EPA's standard methods do not produce acceptable data for organo-metallics. In most cases, each class of compounds is represented by a separate Appendix VIII listing of some or all compounds in the class;

Category 5 Data available and analysis performed as part of the methods required for determination of Appendix IX analytes;

Category 6 No acceptable method is available for this analyte;

Category 7 Standards are not readily available for this hazardous constituent; and

Category 8 No gas chromatography (GC) or gas chromatography with mass spectrometer (GC/MS) method exists for this constituent.

Based on this categorization of the remaining compounds, compounds in Categories 2, 3, and 5 can be analyzed with varying degrees of effort. Category 5 compounds were not specifically calibrated for, however, peaks representing these compounds were found and tentatively identified. However, the method has not been validated for the specific constituents found and the study did not allow time to obtain the necessary standards to recalibrate the instruments and rerun the analyzes. Compounds in Categories 2 and 3 can be quanitated, however, the methods are not validated and would require some experimentation to optimize the extraction and analytical procedures. Category 4 compound can be summarized from the data on the constituents that compose those classes of compounds. There will be overlap between some categories.

APPENDIX A

Analytical Data

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-001	1,2,4,5-Tetrachlorobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1,2,4-Trichlorobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1,2-Dichlorobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1,3,5-Trinitrobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1,3-Dichlorobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1,4-Dichlorobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1,4-Naphthoquinone	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1-Naphthylamine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,3,4,6-Tetrachlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,4,5-Trichlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,4,6-Trichlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,4-Dichlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,4-Dimethylphenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,4-Dinitrophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,4-Dinitrotoluene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,6-Dichlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,6-Dinitrotoluene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Acetylaminofluorene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Chloronaphthalene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Chlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Methylphenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Naphthylamine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Nitroaniline	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Nitrophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Piccoline	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	3,3'-Dichlorobenzidine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	3-3'-Dimethylbenzidine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	3-Methylcholanthrene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4,6-Dinitro-2-methylphenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Aminobiphenyl	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Bromophenyl phenyl ether	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Chloro-3-methylphenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Chloroaniline	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Methylphenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Nitroaniline	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Nitrophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	5-Nitro-o-toluidine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	7,12-Dimethylbenz[a]anthracene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	a,a-Dimethylphenethylamine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Acetophenone	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Aniline	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Aramite	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-001	Benzidine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Benzo[a]anthracene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Benzo[a]pyrene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Benzo[b]fluoranthene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Benzo[k]fluoranthene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Bis(2-chloroisopropyl)ether	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Butylbenzylphthalate	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Chlorobenzilate	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Chrysene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Di-n-butylphthalate	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Di-n-octylphthalate	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Diallate	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Dibenzo[a,h]anthracene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Dibenz[a,j]acridine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Diethylphthalate	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Dimethoate	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Dimethylphthalate	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Dinoseb	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Diphenylamine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Disulfoton	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Ethylmethanesulfonate	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Famphur	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Fluoranthene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Fluorene	<270		U	26.7	<1200		U	116.8	<200	220		19.8	<99		U	9.90099
8835-001	Hexachlorobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Hexachlorobutadiene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Hexachlorocyclopentadiene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Hexachloroethane	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Hexachlorophene	<6700		U	26.7	<29000		U	116.8	<5000		U	19.8	<250		U	9.90099
8835-001	Hexachloropropene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Indeno(1,2,3-c,d)pyrene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Isodrin	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Isosafrole	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Kepone	<530		U	26.7	<2300		U	116.8	<400		U	19.8	<200		U	9.90099
8835-001	Methapyrilene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Methyl parathion	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Methylmethanesulfonate	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	N-Nitroso-di-n-butylamine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	N-Nitrosodi-n-propylamine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	N-Nitrosodiethylamine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	N-Nitrosomethylethylamine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	N-Nitrosomorpholine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-001	N-Nitrosopiperidine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	N-Nitrosopyrrolidine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Naphthalene	<270	2500		26.7	<1200	2000		116.8	<200	660		19.8	<99	170		9.90099
8835-001	Nitrobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	O,O,O-Triethylphosphorothioate	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	o-Toluidine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<200		U	9.90099
8835-001	p-Dimethylaminoazobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	p-Phenylenediamine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Parathion	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Pentachlorobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Pentachloronitrobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Pentachlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Phenacetin	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Phenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Phorate	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Pronamide	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Pyridine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Safrole	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Sulfotep	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Thionzin	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-002	1,2,4,5-Tetrachlorobenzene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	1,2,4-Trichlorobenzene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	1,2-Dichlorobenzene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	1,3,5-Trinitrobenzene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	1,3-Dichlorobenzene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	1,4-Dichlorobenzene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	1,4-Naphthoquinone	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	1-Naphthylamine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2,3,4,6-Tetrachlorophenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2,4,5-Trichlorophenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2,4,6-Trichlorophenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2,4-Dichlorophenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2,4-Dimethylphenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2,4-Dinitrophenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2,4-Dinitrotoluene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2,6-Dichlorophenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2,6-Dinitrotoluene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2-Acetylaminofluorene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2-Chloronaphthalene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2-Chlorophenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2-Methylphenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2-Naphthylamine	<270		U	26.6	<1200		U	116.7					<200		U	19.6

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-002	2-Nitroaniline	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2-Nitrophenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	2-Piccoline	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	3,3'-Dichlorobenzidine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	3-3'-Dimethylbenzidine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	3-Methylcholanthrene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	4,6-Dinitro-2-methylphenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	4-Aminobiphenyl	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	4-Bromophenyl phenyl ether	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	4-Chloro-3-methylphenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	4-Chloroaniline	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	4-Methylphenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	4-Nitroaniline	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	4-Nitrophenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	5-Nitro-o-toluidine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	7,12-Dimethylbenz[a]anthracene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	a,a-Dimethylphenethylamine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Acetophenone	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Aniline	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Aramite	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Benzidine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Benzo[a]anthracene	<270		U	26.6	<1200		U	116.7					<200	760		19.6
8835-002	Benzo[a]pyrene	<270		U	26.6	<1200		U	116.7					<200	450		19.6
8835-002	Benzo[b]fluoranthene	<270		U	26.6	<1200		U	116.7					<200	210		19.6
8835-002	Benzo[k]fluoranthene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Bis(2-chloroisopropyl)ether	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Butylbenzylphthalate	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Chlorobenzilate	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Chrysene	<270		U	26.6	<1200		U	116.7					<200	700		19.6
8835-002	Di-n-butylphthalate	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Di-n-octylphthalate	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Diallate	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Dibenzo[a,h]anthracene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Dibenz[a,j]acridine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Diethylphthalate	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Dimethoate	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Dimethylphthalate	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Dinoseb	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Diphenylamine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Disulfoton	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Ethylmethanesulfonate	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Famphur	<270		U	26.6	<1200		U	116.7					<200		U	19.6

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-002	Fluoranthene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Fluorene	<270		U	26.6	<1200		U	116.7					<200	220		19.6
8835-002	Hexachlorobenzene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Hexachlorobutadiene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Hexachlorocyclopentadiene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Hexachloroethane	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Hexachlorophene	<6600		U	26.6	<29000		U	116.7					<490(		U	19.6
8835-002	Hexachloropropene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Indeno(1,2,3-c,d)pyrene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Isodrin	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Isosafrole	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Kepone	<530		U	26.6	<2300		U	116.7					<390		U	19.6
8835-002	Methapyrilene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Methyl parathion	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Methylmethanesulfonate	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	N-Nitroso-di-n-butylamine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	N-Nitrosodi-n-propylamine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	N-Nitrosodiethylamine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	N-Nitrosomethylethylamine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	N-Nitrosomorpholine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	N-Nitrosopiperidine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	N-Nitrosopyrrolidine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Naphthalene	<270	2600		26.6	<1200	2300		116.7					<200	550		19.6
8835-002	Nitrobenzene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	O,O,O-Triethylphosphorothioate	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	o-Toluidine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	p-Dimethylaminoazobenzene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	p-Phenylenediamine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Parathion	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Pentachlorobenzene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Pentachloronitrobenzene	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Pentachlorophenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Phenacetin	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Phenol	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Phorate	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Pronamide	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Pyridine	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Safrole	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Sulfotep	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-002	Thionzin	<270		U	26.6	<1200		U	116.7					<200		U	19.6
8835-003	1,2,4,5-Tetrachlorobenzene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	1,2,4-Trichlorobenzene	<670		U	66.8	<590		U	59.4					<190		U	19.2

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-003	1,2-Dichlorobenzene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	1,3,5-Trinitrobenzene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	1,3-Dichlorobenzene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	1,4-Dichlorobenzene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	1,4-Naphthoquinone	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	1-Naphthylamine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2,3,4,6-Tetrachlorophenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2,4,5-Trichlorophenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2,4,6-Trichlorophenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2,4-Dichlorophenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2,4-Dimethylphenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2,4-Dinitrophenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2,4-Dinitrotoluene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2,6-Dichlorophenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2,6-Dinitrotoluene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2-Acetylaminofluorene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2-Chloronaphthalene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2-Chlorophenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2-Methylphenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2-Naphthylamine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2-Nitroaniline	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2-Nitrophenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	2-Piccoline	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	3,3'-Dichlorobenzidine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	3-3'-Dimethylbenzidine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	3-Methylcholanthrene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	4,6-Dinitro-2-methylphenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	4-Aminobiphenyl	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	4-Bromophenyl phenyl ether	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	4-Chloro-3-methylphenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	4-Chloroaniline	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	4-Methylphenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	4-Nitroaniline	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	4-Nitrophenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	5-Nitro-o-toluidine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	7,12-Dimethylbenz[a]anthracene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	a,a-Dimethylphenethylamine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Acetophenone	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Aniline	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Aramite	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Benzidine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Benzo[a]anthracene	<670		U	66.8	<590		U	59.4					<190	660		19.2

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-003	Benzo[a]pyrene	<670		U	66.8	<590		U	59.4					<190	450		19.2
8835-003	Benzo[b]fluoranthene	<670		U	66.8	<590		U	59.4					<190	220		19.2
8835-003	Benzo[k]fluoranthene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Bis(2-chloroisopropyl)ether	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Butylbenzylphthalate	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Chlorobenzilate	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Chrysene	<670		U	66.8	<590		U	59.4					<190	740		19.2
8835-003	Di-n-butylphthalate	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Di-n-octylphthalate	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Diallate	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Dibenzo[a,h]anthracene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Dibenz[a,j]acridine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Diethylphthalate	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Dimethoate	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Dimethylphthalate	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Dinoseb	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Diphenylamine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Disulfoton	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Ethylmethanesulfonate	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Famphur	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Fluoranthene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Fluorene	<670		U	66.8	<590		U	59.4					<190	210		19.2
8835-003	Hexachlorobenzene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Hexachlorobutadiene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Hexachlorocyclopentadiene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Hexachloroethane	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Hexachlorophene	<17000		U	66.8	<15000		U	59.4					<480		U	19.2
8835-003	Hexachloropropene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Indeno(1,2,3-c,d)pyrene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Isodrin	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Isosafrole	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Kepone	<1300		U	66.8	<1200		U	59.4					<380		U	19.2
8835-003	Methapyrilene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Methyl parathion	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Methylmethanesulfonate	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	N-Nitroso-di-n-butylamine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	N-Nitrosodi-n-propylamine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	N-Nitrosodiethylamine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	N-Nitrosomethylethylamine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	N-Nitrosomorpholine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	N-Nitrosopiperidine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	N-Nitrosopyrrolidine	<670		U	66.8	<590		U	59.4					<190		U	19.2

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-003	Naphthalene	<670	5400		66.8	<590	1300		59.4					<190	550		19.2
8835-003	Nitrobenzene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	O,O,O-Triethylphosphorothioate	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	o-Toluidine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	p-Dimethylaminoazobenzene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	p-Phenylenediamine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Parathion	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Pentachlorobenzene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Pentachloronitrobenzene	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Pentachlorophenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Phenacetin	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Phenol	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Phorate	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Pronamide	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Pyridine	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Safrole	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Sulfotep	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-003	Thionzin	<670		U	66.8	<590		U	59.4					<190		U	19.2
8835-004	1,2,4,5-Tetrachlorobenzene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	1,2,4-Trichlorobenzene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	1,2-Dichlorobenzene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	1,3,5-Trinitrobenzene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	1,3-Dichlorobenzene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	1,4-Dichlorobenzene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	1,4-Naphthoquinone	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	1-Naphthylamine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2,3,4,6-Tetrachlorophenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2,4,5-Trichlorophenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2,4,6-Trichlorophenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2,4-Dichlorophenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2,4-Dimethylphenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2,4-Dinitrophenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2,4-Dinitrotoluene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2,6-Dichlorophenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2,6-Dinitrotoluene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2-Acetylaminofluorene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2-Chloronaphthalene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2-Chlorophenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2-Methylphenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2-Naphthylamine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2-Nitroaniline	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	2-Nitrophenol	<670		U	66.7	<600		U	59.6					<500		U	50

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-004	2-Piccoline	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	3,3'-Dichlorobenzidine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	3-3'-Dimethylbenzidine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	3-Methylcholanthrene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	4,6-Dinitro-2-methylphenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	4-Aminobiphenyl	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	4-Bromophenyl phenyl ether	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	4-Chloro-3-methylphenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	4-Chloroaniline	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	4-Methylphenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	4-Nitroaniline	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	4-Nitrophenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	5-Nitro-o-toluidine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	7,12-Dimethylbenz[a]anthracene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	a,a-Dimethylphenethylamine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Acetophenone	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Aniline	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Aramite	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Benzidine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Benzo[a]anthracene	<670		U	66.7	<600		U	59.6					<500	1900		50
8835-004	Benzo[a]pyrene	<670		U	66.7	<600		U	59.6					<500	770		50
8835-004	Benzo[b]fluoranthene	<670		U	66.7	<600		U	59.6					<500	540		50
8835-004	Benzo[k]fluoranthene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Bis(2-chloroisopropyl)ether	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Butylbenzylphthalate	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Chlorobenzilate	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Chrysene	<670		U	66.7	<600		U	59.6					<500	2700		50
8835-004	Di-n-butylphthalate	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Di-n-octylphthalate	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Diallate	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Dibenzo[a,h]anthracene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Dibenz[a,j]acridine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Diethylphthalate	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Dimethoate	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Dimethylphthalate	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Dinoseb	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Diphenylamine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Disulfoton	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Ethylmethanesulfonate	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Famphur	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Fluoranthene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Fluorene	<670		U	66.7	<600		U	59.6					<500		U	50

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-004	Hexachlorobenzene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Hexachlorobutadiene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Hexachlorocyclopentadiene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Hexachloroethane	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Hexachlorophene	<17000		U	66.7	<15000		U	59.6					<120(		U	50
8835-004	Hexachloropropene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Indeno(1,2,3-c,d)pyrene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Isodrin	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Isosafrole	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Kepone	<1300		U	66.7	<1200		U	59.6					<100(		U	50
8835-004	Methapyrilene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Methyl parathion	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Methylmethanesulfonate	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	N-Nitroso-di-n-butylamine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	N-Nitrosodi-n-propylamine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	N-Nitrosodiethylamine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	N-Nitrosomethylethylamine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	N-Nitrosomorpholine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	N-Nitrosopiperidine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	N-Nitrosopyrrolidine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Naphthalene	<670	6200		66.7	<600	1700		59.6					<500		U	50
8835-004	Nitrobenzene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	O,O,O-Triethylphosphorothioate	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	o-Toluidine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	p-Dimethylaminoazobenzene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	p-Phenylenediamine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Parathion	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Pentachlorobenzene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Pentachloronitrobenzene	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Pentachlorophenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Phenacetin	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Phenol	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Phorate	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Pronamide	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Pyridine	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Safrole	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Sulfotep	<670		U	66.7	<600		U	59.6					<500		U	50
8835-004	Thionzin	<670		U	66.7	<600		U	59.6					<500		U	50
8835-005	1,2,4,5-Tetrachlorobenzene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	1,2,4-Trichlorobenzene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	1,2-Dichlorobenzene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	1,3,5-Trinitrobenzene	<130		U	13.4	<590		U	59.5					<200		U	19.8

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-005	1,3-Dichlorobenzene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	1,4-Dichlorobenzene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	1,4-Naphthoquinone	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	1-Naphthylamine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2,3,4,6-Tetrachlorophenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2,4,5-Trichlorophenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2,4,6-Trichlorophenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2,4-Dichlorophenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2,4-Dimethylphenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2,4-Dinitrophenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2,4-Dinitrotoluene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2,6-Dichlorophenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2,6-Dinitrotoluene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2-Acetylaminofluorene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2-Chloronaphthalene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2-Chlorophenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2-Methylphenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2-Naphthylamine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2-Nitroaniline	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2-Nitrophenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	2-Piccoline	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	3,3'-Dichlorobenzidine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	3-3'-Dimethylbenzidine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	3-Methylcholanthrene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	4,6-Dinitro-2-methylphenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	4-Aminobiphenyl	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	4-Bromophenyl phenyl ether	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	4-Chloro-3-methylphenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	4-Chloroaniline	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	4-Methylphenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	4-Nitroaniline	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	4-Nitrophenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	5-Nitro-o-toluidine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	7,12-Dimethylbenz[a]anthracene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	a,a-Dimethylphenethylamine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Acetophenone	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Aniline	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Aramite	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Benzidine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Benzo[a]anthracene	<130		U	13.4	<590		U	59.5					<200	1600		19.8
8835-005	Benzo[a]pyrene	<130		U	13.4	<590		U	59.5					<200	960		19.8
8835-005	Benzo[b]fluoranthene	<130		U	13.4	<590		U	59.5					<200	670		19.8

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-005	Benzo[k]fluoranthene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Bis(2-chloroisopropyl)ether	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Butylbenzylphthalate	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Chlorobenzilate	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Chrysene	<130		U	13.4	<590		U	59.5					<200	2200		19.8
8835-005	Di-n-butylphthalate	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Di-n-octylphthalate	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Diallate	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Dibenzo[a,h]anthracene	<130		U	13.4	<590		U	59.5					<200	250		19.8
8835-005	Dibenz[a,j]acridine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Diethylphthalate	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Dimethoate	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Dimethylphthalate	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Dinoseb	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Diphenylamine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Disulfoton	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Ethylmethanesulfonate	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Famphur	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Fluoranthene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Fluorene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Hexachlorobenzene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Hexachlorobutadiene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Hexachlorocyclopentadiene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Hexachloroethane	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Hexachlorophene	<3400		U	13.4	<15000		U	59.5					<500(		U	19.8
8835-005	Hexachloropropene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Indeno(1,2,3-c,d)pyrene	<130		U	13.4	<590		U	59.5					<200	290		19.8
8835-005	Isodrin	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Isosafrole	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Kepone	<270		U	13.4	<1200		U	59.5					<400		U	19.8
8835-005	Methapyrilene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Methyl parathion	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Methylmethanesulfonate	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	N-Nitroso-di-n-butylamine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	N-Nitrosodi-n-propylamine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	N-Nitrosodiethylamine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	N-Nitrosomethylethylamine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	N-Nitrosomorpholine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	N-Nitrosopiperidine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	N-Nitrosopyrrolidine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Naphthalene	<130	1300		13.4	<590	1700		59.5					<200	260		19.8
8835-005	Nitrobenzene	<130		U	13.4	<590		U	59.5					<200		U	19.8

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-005	O,O,O-Triethylphosphorothioate	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	o-Toluidine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	p-Dimethylaminoazobenzene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	p-Phenylenediamine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Parathion	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Pentachlorobenzene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Pentachloronitrobenzene	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Pentachlorophenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Phenacetin	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Phenol	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Phorate	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Pronamide	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Pyridine	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Safrole	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Sulfotep	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-005	Thionzin	<130		U	13.4	<590		U	59.5					<200		U	19.8
8835-006	1,2,4,5-Tetrachlorobenzene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	1,2,4-Trichlorobenzene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	1,2-Dichlorobenzene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	1,3,5-Trinitrobenzene	<140		U	14.1									<980.		U	98
8835-006	1,3-Dichlorobenzene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	1,4-Dichlorobenzene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	1,4-Naphthoquinone	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	1-Naphthylamine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2,3,4,6-Tetrachlorophenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2,4,5-Trichlorophenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2,4,6-Trichlorophenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2,4-Dichlorophenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2,4-Dimethylphenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2,4-Dinitrophenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2,4-Dinitrotoluene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2,6-Dichlorophenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2,6-Dinitrotoluene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2-Acetylaminofluorene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2-Chloronaphthalene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2-Chlorophenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2-Methylphenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2-Naphthylamine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2-Nitroaniline	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2-Nitrophenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	2-Piccoline	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	3,3'-Dichlorobenzidine	<140		U	14.1	<290		U	29.3					<980.		U	98

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-006	3-3'-Dimethylbenzidine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	3-Methylcholanthrene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	4,6-Dinitro-2-methylphenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	4-Aminobiphenyl	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	4-Bromophenyl phenyl ether	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	4-Chloro-3-methylphenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	4-Chloroaniline	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	4-Methylphenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	4-Nitroaniline	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	4-Nitrophenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	5-Nitro-o-toluidine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	7,12-Dimethylbenz[a]anthracene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	a,a-Dimethylphenethylamine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Acetophenone	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Aniline	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Aramite	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Benzidine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Benzo[a]anthracene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Benzo[a]pyrene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Benzo[b]fluoranthene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Benzo[k]fluoranthene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Bis(2-chloroisopropyl)ether	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Butylbenzylphthalate	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Chlorobenzilate	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Chrysene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Di-n-butylphthalate	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Di-n-octylphthalate	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Diallate	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Dibenzo[a,h]anthracene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Dibenz[a,j]acridine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Diethylphthalate	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Dimethoate	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Dimethylphthalate	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Dinoseb	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Diphenylamine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Disulfoton	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Ethylmethanesulfonate	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Famphur	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Fluoranthene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Fluorene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Hexachlorobenzene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Hexachlorobutadiene	<140		U	14.1	<290		U	29.3					<980.		U	98

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-006	Hexachlorocyclopentadiene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Hexachloroethane	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Hexachlorophene	<3500		U	14.1	<7300		U	29.3					<240(		U	98
8835-006	Hexachloropropene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Indeno(1,2,3-c,d)pyrene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Isodrin	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Isosafrole	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Kepone	<280		U	14.1	<580		U	29.3					<200(		U	98
8835-006	Methapyrilene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Methyl parathion	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Methylmethanesulfonate	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	N-Nitroso-di-n-butylamine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	N-Nitrosodi-n-propylamine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	N-Nitrosodiethylamine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	N-Nitrosomethylethylamine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	N-Nitrosomorpholine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	N-Nitrosopiperidine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	N-Nitrosopyrrolidine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Naphthalene	<140	1100		14.1	<290		U	29.3					<980.	1900		98
8835-006	Nitrobenzene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	O,O,O-Triethylphosphorothioate	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	o-Toluidine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	p-Dimethylaminoazobenzene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	p-Phenylenediamine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Parathion	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Pentachlorobenzene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Pentachloronitrobenzene	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Pentachlorophenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Phenacetin	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Phenol	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Phorate	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Pronamide	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Pyridine	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Safrole	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Sulfotep	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-006	Thionzin	<140		U	14.1	<290		U	29.3					<980.		U	98
8835-007	1,2,4,5-Tetrachlorobenzene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	1,2,4-Trichlorobenzene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	1,2-Dichlorobenzene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	1,3,5-Trinitrobenzene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	1,3-Dichlorobenzene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	1,4-Dichlorobenzene	<270		U	27.4	<2400		U	235.3					<200		U	19.6

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-007	1,4-Naphthoquinone	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	1-Naphthylamine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2,3,4,6-Tetrachlorophenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2,4,5-Trichlorophenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2,4,6-Trichlorophenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2,4-Dichlorophenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2,4-Dimethylphenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2,4-Dinitrophenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2,4-Dinitrotoluene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2,6-Dichlorophenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2,6-Dinitrotoluene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2-Acetylaminofluorene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2-Chloronaphthalene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2-Chlorophenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2-Methylphenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2-Naphthylamine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2-Nitroaniline	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2-Nitrophenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	2-Piccoline	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	3,3'-Dichlorobenzidine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	3-3'-Dimethylbenzidine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	3-Methylcholanthrene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	4,6-Dinitro-2-methylphenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	4-Aminobiphenyl	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	4-Bromophenyl phenyl ether	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	4-Chloro-3-methylphenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	4-Chloroaniline	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	4-Methylphenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	4-Nitroaniline	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	4-Nitrophenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	5-Nitro-o-toluidine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	7,12-Dimethylbenz[a]anthracene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	a,a-Dimethylphenethylamine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Acetophenone	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Aniline	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Aramite	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Benzidine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Benzo[a]anthracene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Benzo[a]pyrene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Benzo[b]fluoranthene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Benzo[k]fluoranthene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Bis(2-chloroisopropyl)ether	<270		U	27.4	<2400		U	235.3					<200		U	19.6

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-007	Butylbenzylphthalate	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Chlorobenzilate	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Chrysene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Di-n-butylphthalate	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Di-n-octylphthalate	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Diallate	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Dibenzo[a,h]anthracene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Dibenz[a,j]acridine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Diethylphthalate	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Dimethoate	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Dimethylphthalate	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Dinoseb	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Diphenylamine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Disulfoton	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Ethylmethanesulfonate	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Famphur	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Fluoranthene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Fluorene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Hexachlorobenzene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Hexachlorobutadiene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Hexachlorocyclopentadiene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Hexachloroethane	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Hexachlorophene	<6800		U	27.4	<59000.0		U	235.3					<490(		U	19.6
8835-007	Hexachloropropene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Indeno(1,2,3-c,d)pyrene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Isodrin	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Isosafrole	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Kepone	<550		U	27.4	<4700		U	235.3					<390		U	19.6
8835-007	Methapyrilene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Methyl parathion	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Methylmethanesulfonate	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	N-Nitroso-di-n-butylamine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	N-Nitrosodi-n-propylamine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	N-Nitrosodiethylamine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	N-Nitrosomethylethylamine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	N-Nitrosomorpholine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	N-Nitrosopiperidine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	N-Nitrosopyrrolidine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Naphthalene	<270	2300		27.4	<2400	3500		235.3					<200	690		19.6
8835-007	Nitrobenzene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	O,O,O-Triethylphosphorothioate	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	o-Toluidine	<270		U	27.4	<2400		U	235.3					<200		U	19.6

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-007	p-Dimethylaminoazobenzene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	p-Phenylenediamine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Parathion	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Pentachlorobenzene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Pentachloronitrobenzene	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Pentachlorophenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Phenacetin	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Phenol	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Phorate	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Pronamide	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Pyridine	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Safrole	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Sulfotep	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-007	Thionzin	<270		U	27.4	<2400		U	235.3					<200		U	19.6
8835-008	1,2,4,5-Tetrachlorobenzene	<280		U	27.7	<600		U	59.7								
8835-008	1,2,4-Trichlorobenzene	<280		U	27.7	<600		U	59.7								
8835-008	1,2-Dichlorobenzene	<280		U	27.7	<600		U	59.7								
8835-008	1,3,5-Trinitrobenzene	<280		U	27.7	<600		U	59.7								
8835-008	1,3-Dichlorobenzene	<280		U	27.7	<600		U	59.7								
8835-008	1,4-Dichlorobenzene	<280		U	27.7	<600		U	59.7								
8835-008	1,4-Naphthoquinone	<280		U	27.7	<600		U	59.7								
8835-008	1-Naphthylamine	<280		U	27.7	<600		U	59.7								
8835-008	2,3,4,6-Tetrachlorophenol	<280		U	27.7	<600		U	59.7								
8835-008	2,4,5-Trichlorophenol	<280		U	27.7	<600		U	59.7								
8835-008	2,4,6-Trichlorophenol	<280		U	27.7	<600		U	59.7								
8835-008	2,4-Dichlorophenol	<280		U	27.7	<600		U	59.7								
8835-008	2,4-Dimethylphenol	<280		U	27.7	<600		U	59.7								
8835-008	2,4-Dinitrophenol	<280		U	27.7	<600		U	59.7								
8835-008	2,4-Dinitrotoluene	<280		U	27.7	<600		U	59.7								
8835-008	2,6-Dichlorophenol	<280		U	27.7	<600		U	59.7								
8835-008	2,6-Dinitrotoluene	<280		U	27.7	<600		U	59.7								
8835-008	2-Acetylaminofluorene	<280		U	27.7	<600		U	59.7								
8835-008	2-Chloronaphthalene	<280		U	27.7	<600		U	59.7								
8835-008	2-Chlorophenol	<280		U	27.7	<600		U	59.7								
8835-008	2-Methylphenol	<280		U	27.7	<600		U	59.7								
8835-008	2-Naphthylamine	<280		U	27.7	<600		U	59.7								
8835-008	2-Nitroaniline	<280		U	27.7	<600		U	59.7								
8835-008	2-Nitrophenol	<280		U	27.7	<600		U	59.7								
8835-008	2-Piccoline	<280		U	27.7	<600		U	59.7								
8835-008	3,3'-Dichlorobenzidine	<280		U	27.7	<600		U	59.7								
8835-008	3-3'-Dimethylbenzidine	<280		U	27.7	<600		U	59.7								
8835-008	3-Methylcholanthrene	<280		U	27.7	<600		U	59.7								

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-008	4,6-Dinitro-2-methylphenol	<280		U	27.7	<600		U	59.7								
8835-008	4-Aminobiphenyl	<280		U	27.7	<600		U	59.7								
8835-008	4-Bromophenyl phenyl ether	<280		U	27.7	<600		U	59.7								
8835-008	4-Chloro-3-methylphenol	<280		U	27.7	<600		U	59.7								
8835-008	4-Chloroaniline	<280		U	27.7	<600		U	59.7								
8835-008	4-Methylphenol	<280		U	27.7	<600		U	59.7								
8835-008	4-Nitroaniline	<280		U	27.7	<600		U	59.7								
8835-008	4-Nitrophenol	<280		U	27.7	<600		U	59.7								
8835-008	5-Nitro-o-toluidine	<280		U	27.7	<600		U	59.7								
8835-008	7,12-Dimethylbenz[a]anthracene	<280		U	27.7	<600		U	59.7								
8835-008	a,a-Dimethylphenethylamine	<280		U	27.7	<600		U	59.7								
8835-008	Acetophenone	<280		U	27.7	<600		U	59.7								
8835-008	Aniline	<280		U	27.7	<600		U	59.7								
8835-008	Aramite	<280		U	27.7	<600		U	59.7								
8835-008	Benzidine	<280		U	27.7	<600		U	59.7								
8835-008	Benzo[a]anthracene	<280		U	27.7	<600		U	59.7								
8835-008	Benzo[a]pyrene	<280		U	27.7	<600		U	59.7								
8835-008	Benzo[b]fluoranthene	<280		U	27.7	<600		U	59.7								
8835-008	Benzo[k]fluoranthene	<280		U	27.7	<600		U	59.7								
8835-008	Bis(2-chloroisopropyl)ether	<280		U	27.7	<600		U	59.7								
8835-008	Butylbenzylphthalate	<280		U	27.7	<600		U	59.7								
8835-008	Chlorobenzilate	<280		U	27.7	<600		U	59.7								
8835-008	Chrysene	<280		U	27.7	<600		U	59.7								
8835-008	Di-n-butylphthalate	<280		U	27.7	<600		U	59.7								
8835-008	Di-n-octylphthalate	<280		U	27.7	<600		U	59.7								
8835-008	Diallate	<280		U	27.7	<600		U	59.7								
8835-008	Dibenzo[a,h]anthracene	<280		U	27.7	<600		U	59.7								
8835-008	Dibenz[a,j]acridine	<280		U	27.7	<600		U	59.7								
8835-008	Diethylphthalate	<280		U	27.7	<600		U	59.7								
8835-008	Dimethoate	<280		U	27.7	<600		U	59.7								
8835-008	Dimethylphthalate	<280		U	27.7	<600		U	59.7								
8835-008	Dinoseb	<280		U	27.7	<600		U	59.7								
8835-008	Diphenylamine	<280		U	27.7	<600		U	59.7								
8835-008	Disulfoton	<280		U	27.7	<600		U	59.7								
8835-008	Ethylmethanesulfonate	<280		U	27.7	<600		U	59.7								
8835-008	Famphur	<280		U	27.7	<600		U	59.7								
8835-008	Fluoranthene	<280		U	27.7	<600		U	59.7								
8835-008	Fluorene	<280		U	27.7	<600		U	59.7								
8835-008	Hexachlorobenzene	<280		U	27.7	<600		U	59.7								
8835-008	Hexachlorobutadiene	<280		U	27.7	<600		U	59.7								
8835-008	Hexachlorocyclopentadiene	<280		U	27.7	<600		U	59.7								
8835-008	Hexachloroethane	<280		U	27.7	<600		U	59.7								

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-008	Hexachlorophene	<6900		U	27.7	<15000		U	59.7								
8835-008	Hexachloropropene	<280		U	27.7	<600		U	59.7								
8835-008	Indeno(1,2,3-c,d)pyrene	<280		U	27.7	<600		U	59.7								
8835-008	Isodrin	<280		U	27.7	<600		U	59.7								
8835-008	Isosafrole	<280		U	27.7	<600		U	59.7								
8835-008	Kepone	<550		U	27.7	<1200		U	59.7								
8835-008	Methapyrilene	<280		U	27.7	<600		U	59.7								
8835-008	Methyl parathion	<280		U	27.7	<600		U	59.7								
8835-008	Methylmethanesulfonate	<280		U	27.7	<600		U	59.7								
8835-008	N-Nitroso-di-n-butylamine	<280		U	27.7	<600		U	59.7								
8835-008	N-Nitrosodi-n-propylamine	<280		U	27.7	<600		U	59.7								
8835-008	N-Nitrosodiethylamine	<280		U	27.7	<600		U	59.7								
8835-008	N-Nitrosomethylethylamine	<280		U	27.7	<600		U	59.7								
8835-008	N-Nitrosomorpholine	<280		U	27.7	<600		U	59.7								
8835-008	N-Nitrosopiperidine	<280		U	27.7	<600		U	59.7								
8835-008	N-Nitrosopyrrolidine	<280		U	27.7	<600		U	59.7								
8835-008	Naphthalene	<280	2100		27.7	<600	1800		59.7								
8835-008	Nitrobenzene	<280		U	27.7	<600		U	59.7								
8835-008	O,O,O-Triethylphosphorothioate	<280		U	27.7	<600		U	59.7								
8835-008	o-Toluidine	<280		U	27.7	<600		U	59.7								
8835-008	p-Dimethylaminoazobenzene	<280		U	27.7	<600		U	59.7								
8835-008	p-Phenylenediamine	<280		U	27.7	<600		U	59.7								
8835-008	Parathion	<280		U	27.7	<600		U	59.7								
8835-008	Pentachlorobenzene	<280		U	27.7	<600		U	59.7								
8835-008	Pentachloronitrobenzene	<280		U	27.7	<600		U	59.7								
8835-008	Pentachlorophenol	<280		U	27.7	<600		U	59.7								
8835-008	Phenacetin	<280		U	27.7	<600		U	59.7								
8835-008	Phenol	<280		U	27.7	<600		U	59.7								
8835-008	Phorate	<280		U	27.7	<600		U	59.7								
8835-008	Pronamide	<280		U	27.7	<600		U	59.7								
8835-008	Pyridine	<280		U	27.7	<600		U	59.7								
8835-008	Safrole	<280		U	27.7	<600		U	59.7								
8835-008	Sulfotep	<280		U	27.7	<600		U	59.7								
8835-008	Thionzin	<280		U	27.7	<600		U	59.7								
8835-009	1,2,4,5-Tetrachlorobenzene					<600		U	60.1								
8835-009	1,2,4-Trichlorobenzene					<600		U	60.1								
8835-009	1,2-Dichlorobenzene					<600		U	60.1								
8835-009	1,3,5-Trinitrobenzene					<600		U	60.1								
8835-009	1,3-Dichlorobenzene					<600		U	60.1								
8835-009	1,4-Dichlorobenzene					<600		U	60.1								
8835-009	1,4-Naphthoquinone					<600		U	60.1								
8835-009	1-Naphthylamine					<600		U	60.1								
8835-009	2,3,4,6-Tetrachlorophenol					<600		U	60.1								

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-009	2,4,5-Trichlorophenol					<600		U	60.1								
8835-009	2,4,6-Trichlorophenol					<600		U	60.1								
8835-009	2,4-Dichlorophenol					<600		U	60.1								
8835-009	2,4-Dimethylphenol					<600		U	60.1								
8835-009	2,4-Dinitrophenol					<600		U	60.1								
8835-009	2,4-Dinitrotoluene					<600		U	60.1								
8835-009	2,6-Dichlorophenol					<600		U	60.1								
8835-009	2,6-Dinitrotoluene					<600		U	60.1								
8835-009	2-Acetylaminofluorene					<600		U	60.1								
8835-009	2-Chloronaphthalene					<600		U	60.1								
8835-009	2-Chlorophenol					<600		U	60.1								
8835-009	2-Methylphenol					<600		U	60.1								
8835-009	2-Naphthylamine					<600		U	60.1								
8835-009	2-Nitroaniline					<600		U	60.1								
8835-009	2-Nitrophenol					<600		U	60.1								
8835-009	2-Piccoline					<600		U	60.1								
8835-009	3,3'-Dichlorobenzidine					<600		U	60.1								
8835-009	3-3'-Dimethylbenzidine					<600		U	60.1								
8835-009	3-Methylcholanthrene					<600		U	60.1								
8835-009	4,6-Dinitro-2-methylphenol					<600		U	60.1								
8835-009	4-Aminobiphenyl					<600		U	60.1								
8835-009	4-Bromophenyl phenyl ether					<600		U	60.1								
8835-009	4-Chloro-3-methylphenol					<600		U	60.1								
8835-009	4-Chloroaniline					<600		U	60.1								
8835-009	4-Methylphenol					<600		U	60.1								
8835-009	4-Nitroaniline					<600		U	60.1								
8835-009	4-Nitrophenol					<600		U	60.1								
8835-009	5-Nitro-o-toluidine					<600		U	60.1								
8835-009	7,12-Dimethylbenz[a]anthracene					<600		U	60.1								
8835-009	a,a-Dimethylphenethylamine					<600		U	60.1								
8835-009	Acetophenone					<600		U	60.1								
8835-009	Aniline					<600		U	60.1								
8835-009	Aramite					<600		U	60.1								
8835-009	Benzidine					<600		U	60.1								
8835-009	Benzo[a]anthracene					<600		U	60.1								
8835-009	Benzo[a]pyrene					<600		U	60.1								
8835-009	Benzo[b]fluoranthene					<600		U	60.1								
8835-009	Benzo[k]fluoranthene					<600		U	60.1								
8835-009	Bis(2-chloroisopropyl)ether					<600		U	60.1								
8835-009	Butylbenzylphthalate					<600		U	60.1								
8835-009	Chlorobenzilate					<600		U	60.1								
8835-009	Chrysene					<600		U	60.1								

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-009	Di-n-butylphthalate					<600		U	60.1								
8835-009	Di-n-octylphthalate					<600		U	60.1								
8835-009	Diallate					<600		U	60.1								
8835-009	Dibenzo[a,h]anthracene					<600		U	60.1								
8835-009	Dibenz[a,j]acridine					<600		U	60.1								
8835-009	Diethylphthalate					<600		U	60.1								
8835-009	Dimethoate					<600		U	60.1								
8835-009	Dimethylphthalate					<600		U	60.1								
8835-009	Dinoseb					<600		U	60.1								
8835-009	Diphenylamine					<600		U	60.1								
8835-009	Disulfoton					<600		U	60.1								
8835-009	Ethylmethanesulfonate					<600		U	60.1								
8835-009	Famphur					<600		U	60.1								
8835-009	Fluoranthene					<600		U	60.1								
8835-009	Fluorene					<600		U	60.1								
8835-009	Hexachlorobenzene					<600		U	60.1								
8835-009	Hexachlorobutadiene					<600		U	60.1								
8835-009	Hexachlorocyclopentadiene					<600		U	60.1								
8835-009	Hexachloroethane					<600		U	60.1								
8835-009	Hexachlorophene					<15000		U	60.1								
8835-009	Hexachloropropene					<600		U	60.1								
8835-009	Indeno(1,2,3-c,d)pyrene					<600		U	60.1								
8835-009	Isodrin					<600		U	60.1								
8835-009	Isosafrole					<600		U	60.1								
8835-009	Kepone					<1200		U	60.1								
8835-009	Methapyrilene					<600		U	60.1								
8835-009	Methyl parathion					<600		U	60.1								
8835-009	Methylmethanesulfonate					<600		U	60.1								
8835-009	N-Nitroso-di-n-butylamine					<600		U	60.1								
8835-009	N-Nitrosodi-n-propylamine					<600		U	60.1								
8835-009	N-Nitrosodiethylamine					<600		U	60.1								
8835-009	N-Nitrosomethylethylamine					<600		U	60.1								
8835-009	N-Nitrosomorpholine					<600		U	60.1								
8835-009	N-Nitrosopiperidine					<600		U	60.1								
8835-009	N-Nitrosopyrrolidine					<600		U	60.1								
8835-009	Naphthalene					<600	650		60.1								
8835-009	Nitrobenzene					<600		U	60.1								
8835-009	O,O,O-Triethylphosphorothioate					<600		U	60.1								
8835-009	o-Toluidine					<600		U	60.1								
8835-009	p-Dimethylaminoazobenzene					<600		U	60.1								
8835-009	p-Phenylenediamine					<600		U	60.1								
8835-009	Parathion					<600		U	60.1								

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-009	Pentachlorobenzene					<600		U	60.1								
8835-009	Pentachloronitrobenzene					<600		U	60.1								
8835-009	Pentachlorophenol					<600		U	60.1								
8835-009	Phenacetin					<600		U	60.1								
8835-009	Phenol					<600		U	60.1								
8835-009	Phorate					<600		U	60.1								
8835-009	Pronamide					<600		U	60.1								
8835-009	Pyridine					<600		U	60.1								
8835-009	Safrole					<600		U	60.1								
8835-009	Sulfotep					<600		U	60.1								
8835-009	Thionzin					<600		U	60.1								
8835-010	1,2,4,5-Tetrachlorobenzene					<600		U	59.8								
8835-010	1,2,4-Trichlorobenzene					<600		U	59.8								
8835-010	1,2-Dichlorobenzene					<600		U	59.8								
8835-010	1,3,5-Trinitrobenzene					<600		U	59.8								
8835-010	1,3-Dichlorobenzene					<600		U	59.8								
8835-010	1,4-Dichlorobenzene					<600		U	59.8								
8835-010	1,4-Naphthoquinone					<600		U	59.8								
8835-010	1-Naphthylamine					<600		U	59.8								
8835-010	2,3,4,6-Tetrachlorophenol					<600		U	59.8								
8835-010	2,4,5-Trichlorophenol					<600		U	59.8								
8835-010	2,4,6-Trichlorophenol					<600		U	59.8								
8835-010	2,4-Dichlorophenol					<600		U	59.8								
8835-010	2,4-Dimethylphenol					<600		U	59.8								
8835-010	2,4-Dinitrophenol					<600		U	59.8								
8835-010	2,4-Dinitrotoluene					<600		U	59.8								
8835-010	2,6-Dichlorophenol					<600		U	59.8								
8835-010	2,6-Dinitrotoluene					<600		U	59.8								
8835-010	2-Acetylaminofluorene					<600		U	59.8								
8835-010	2-Chloronaphthalene					<600		U	59.8								
8835-010	2-Chlorophenol					<600		U	59.8								
8835-010	2-Methylphenol					<600		U	59.8								
8835-010	2-Naphthylamine					<600		U	59.8								
8835-010	2-Nitroaniline					<600		U	59.8								
8835-010	2-Nitrophenol					<600		U	59.8								
8835-010	2-Piccoline					<600		U	59.8								
8835-010	3,3'-Dichlorobenzidine					<600		U	59.8								
8835-010	3-3'-Dimethylbenzidine					<600		U	59.8								
8835-010	3-Methylcholanthrene					<600		U	59.8								
8835-010	4,6-Dinitro-2-methylphenol					<600		U	59.8								
8835-010	4-Aminobiphenyl					<600		U	59.8								
8835-010	4-Bromophenyl phenyl ether					<600		U	59.8								

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-010	4-Chloro-3-methylphenol					<600		U	59.8								
8835-010	4-Chloroaniline					<600		U	59.8								
8835-010	4-Methylphenol					<600		U	59.8								
8835-010	4-Nitroaniline					<600		U	59.8								
8835-010	4-Nitrophenol					<600		U	59.8								
8835-010	5-Nitro-o-toluidine					<600		U	59.8								
8835-010	7,12-Dimethylbenz[a]anthracene					<600		U	59.8								
8835-010	a,a-Dimethylphenethylamine					<600		U	59.8								
8835-010	Acetophenone					<600		U	59.8								
8835-010	Aniline					<600		U	59.8								
8835-010	Aramite					<600		U	59.8								
8835-010	Benzidine					<600		U	59.8								
8835-010	Benzo[a]anthracene					<600		U	59.8								
8835-010	Benzo[a]pyrene					<600		U	59.8								
8835-010	Benzo[b]fluoranthene					<600		U	59.8								
8835-010	Benzo[k]fluoranthene					<600		U	59.8								
8835-010	Bis(2-chloroisopropyl)ether					<600		U	59.8								
8835-010	Butylbenzylphthalate					<600		U	59.8								
8835-010	Chlorobenzilate					<600		U	59.8								
8835-010	Chrysene					<600		U	59.8								
8835-010	Di-n-butylphthalate					<600		U	59.8								
8835-010	Di-n-octylphthalate					<600		U	59.8								
8835-010	Diallate					<600		U	59.8								
8835-010	Dibenzo[a,h]anthracene					<600		U	59.8								
8835-010	Dibenz[a,j]acridine					<600		U	59.8								
8835-010	Diethylphthalate					<600		U	59.8								
8835-010	Dimethoate					<600		U	59.8								
8835-010	Dimethylphthalate					<600		U	59.8								
8835-010	Dinoseb					<600		U	59.8								
8835-010	Diphenylamine					<600		U	59.8								
8835-010	Disulfoton					<600		U	59.8								
8835-010	Ethylmethanesulfonate					<600		U	59.8								
8835-010	Famphur					<600		U	59.8								
8835-010	Fluoranthene					<600		U	59.8								
8835-010	Fluorene					<600		U	59.8								
8835-010	Hexachlorobenzene					<600		U	59.8								
8835-010	Hexachlorobutadiene					<600		U	59.8								
8835-010	Hexachlorocyclopentadiene					<600		U	59.8								
8835-010	Hexachloroethane					<600		U	59.8								
8835-010	Hexachlorophene					<15000		U	59.8								
8835-010	Hexachloropropene					<600		U	59.8								
8835-010	Indeno(1,2,3-c,d)pyrene					<600		U	59.8								

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-010	Isodrin					<600		U	59.8								
8835-010	Isosafrole					<600		U	59.8								
8835-010	Kepone					<1200		U	59.8								
8835-010	Methapyrilene					<600		U	59.8								
8835-010	Methyl parathion					<600		U	59.8								
8835-010	Methylmethanesulfonate					<600		U	59.8								
8835-010	N-Nitroso-di-n-butylamine					<600		U	59.8								
8835-010	N-Nitrosodi-n-propylamine					<600		U	59.8								
8835-010	N-Nitrosodiethylamine					<600		U	59.8								
8835-010	N-Nitrosomethylethylamine					<600		U	59.8								
8835-010	N-Nitrosomorpholine					<600		U	59.8								
8835-010	N-Nitrosopiperidine					<600		U	59.8								
8835-010	N-Nitrosopyrrolidine					<600		U	59.8								
8835-010	Naphthalene					<600	710		59.8								
8835-010	Nitrobenzene					<600		U	59.8								
8835-010	O,O,O-Triethylphosphorothioate					<600		U	59.8								
8835-010	o-Toluidine					<600		U	59.8								
8835-010	p-Dimethylaminoazobenzene					<600		U	59.8								
8835-010	p-Phenylenediamine					<600		U	59.8								
8835-010	Parathion					<600		U	59.8								
8835-010	Pentachlorobenzene					<600		U	59.8								
8835-010	Pentachloronitrobenzene					<600		U	59.8								
8835-010	Pentachlorophenol					<600		U	59.8								
8835-010	Phenacetin					<600		U	59.8								
8835-010	Phenol					<600		U	59.8								
8835-010	Phorate					<600		U	59.8								
8835-010	Pronamide					<600		U	59.8								
8835-010	Pyridine					<600		U	59.8								
8835-010	Safrole					<600		U	59.8								
8835-010	Sulfotep					<600		U	59.8								
8835-010	Thionzin					<600		U	59.8								
8835-011	1,2,4,5-Tetrachlorobenzene					<580		U	58.3								
8835-011	1,2,4-Trichlorobenzene					<580		U	58.3								
8835-011	1,2-Dichlorobenzene					<580		U	58.3								
8835-011	1,3,5-Trinitrobenzene					<580		U	58.3								
8835-011	1,3-Dichlorobenzene					<580		U	58.3								
8835-011	1,4-Dichlorobenzene					<580		U	58.3								
8835-011	1,4-Naphthoquinone					<580		U	58.3								
8835-011	1-Naphthylamine					<580		U	58.3								
8835-011	2,3,4,6-Tetrachlorophenol					<580		U	58.3								
8835-011	2,4,5-Trichlorophenol					<580		U	58.3								
8835-011	2,4,6-Trichlorophenol					<580		U	58.3								

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-011	2,4-Dichlorophenol					<580		U	58.3								
8835-011	2,4-Dimethylphenol					<580		U	58.3								
8835-011	2,4-Dinitrophenol					<580		U	58.3								
8835-011	2,4-Dinitrotoluene					<580		U	58.3								
8835-011	2,6-Dichlorophenol					<580		U	58.3								
8835-011	2,6-Dinitrotoluene					<580		U	58.3								
8835-011	2-Acetylaminofluorene					<580		U	58.3								
8835-011	2-Chloronaphthalene					<580		U	58.3								
8835-011	2-Chlorophenol					<580		U	58.3								
8835-011	2-Methylphenol					<580		U	58.3								
8835-011	2-Naphthylamine					<580		U	58.3								
8835-011	2-Nitroaniline					<580		U	58.3								
8835-011	2-Nitrophenol					<580		U	58.3								
8835-011	2-Piccoline					<580		U	58.3								
8835-011	3,3'-Dichlorobenzidine					<580		U	58.3								
8835-011	3-3'-Dimethylbenzidine					<580		U	58.3								
8835-011	3-Methylcholanthrene					<580		U	58.3								
8835-011	4,6-Dinitro-2-methylphenol					<580		U	58.3								
8835-011	4-Aminobiphenyl					<580		U	58.3								
8835-011	4-Bromophenyl phenyl ether					<580		U	58.3								
8835-011	4-Chloro-3-methylphenol					<580		U	58.3								
8835-011	4-Chloroaniline					<580		U	58.3								
8835-011	4-Methylphenol					<580		U	58.3								
8835-011	4-Nitroaniline					<580		U	58.3								
8835-011	4-Nitrophenol					<580		U	58.3								
8835-011	5-Nitro-o-toluidine					<580		U	58.3								
8835-011	7,12-Dimethylbenz[a]anthracene					<580		U	58.3								
8835-011	a,a-Dimethylphenethylamine					<580		U	58.3								
8835-011	Acetophenone					<580		U	58.3								
8835-011	Aniline					<580		U	58.3								
8835-011	Aramite					<580		U	58.3								
8835-011	Benzidine					<580		U	58.3								
8835-011	Benzo[a]anthracene					<580		U	58.3								
8835-011	Benzo[a]pyrene					<580		U	58.3								
8835-011	Benzo[b]fluoranthene					<580		U	58.3								
8835-011	Benzo[k]fluoranthene					<580		U	58.3								
8835-011	Bis(2-chloroisopropyl)ether					<580		U	58.3								
8835-011	Butylbenzylphthalate					<580		U	58.3								
8835-011	Chlorobenzilate					<580		U	58.3								
8835-011	Chrysene					<580		U	58.3								
8835-011	Di-n-butylphthalate					<580		U	58.3								
8835-011	Di-n-octylphthalate					<580		U	58.3								

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-011	Diallate					<580		U	58.3								
8835-011	Dibenzo[a,h]anthracene					<580		U	58.3								
8835-011	Dibenz[a,j]acridine					<580		U	58.3								
8835-011	Diethylphthalate					<580		U	58.3								
8835-011	Dimethoate					<580		U	58.3								
8835-011	Dimethylphthalate					<580		U	58.3								
8835-011	Dinoseb					<580		U	58.3								
8835-011	Diphenylamine					<580		U	58.3								
8835-011	Disulfoton					<580		U	58.3								
8835-011	Ethylmethanesulfonate					<580		U	58.3								
8835-011	Famphur					<580		U	58.3								
8835-011	Fluoranthene					<580		U	58.3								
8835-011	Fluorene					<580		U	58.3								
8835-011	Hexachlorobenzene					<580		U	58.3								
8835-011	Hexachlorobutadiene					<580		U	58.3								
8835-011	Hexachlorocyclopentadiene					<580		U	58.3								
8835-011	Hexachloroethane					<580		U	58.3								
8835-011	Hexachlorophene					<14000		U	58.3								
8835-011	Hexachloropropene					<580		U	58.3								
8835-011	Indeno(1,2,3-c,d)pyrene					<580		U	58.3								
8835-011	Isodrin					<580		U	58.3								
8835-011	Isosafrole					<580		U	58.3								
8835-011	Kepone					<1200		U	58.3								
8835-011	Methapyrilene					<580		U	58.3								
8835-011	Methyl parathion					<580		U	58.3								
8835-011	Methylmethanesulfonate					<580		U	58.3								
8835-011	N-Nitroso-di-n-butylamine					<580		U	58.3								
8835-011	N-Nitrosodi-n-propylamine					<580		U	58.3								
8835-011	N-Nitrosodiethylamine					<580		U	58.3								
8835-011	N-Nitrosomethylethylamine					<580		U	58.3								
8835-011	N-Nitrosomorpholine					<580		U	58.3								
8835-011	N-Nitrosopiperidine					<580		U	58.3								
8835-011	N-Nitrosopyrrolidine					<580		U	58.3								
8835-011	Naphthalene					<580	810		58.3								
8835-011	Nitrobenzene					<580		U	58.3								
8835-011	O,O,O-Triethylphosphorothioate					<580		U	58.3								
8835-011	o-Toluidine					<580		U	58.3								
8835-011	p-Dimethylaminoazobenzene					<580		U	58.3								
8835-011	p-Phenylenediamine					<580		U	58.3								
8835-011	Parathion					<580		U	58.3								
8835-011	Pentachlorobenzene					<580		U	58.3								
8835-011	Pentachloronitrobenzene					<580		U	58.3								

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-011	Pentachlorophenol					<580		U	58.3								
8835-011	Phenacetin					<580		U	58.3								
8835-011	Phenol					<580		U	58.3								
8835-011	Phorate					<580		U	58.3								
8835-011	Pronamide					<580		U	58.3								
8835-011	Pyridine					<580		U	58.3								
8835-011	Safrole					<580		U	58.3								
8835-011	Sulfotep					<580		U	58.3								
8835-011	Thionzin					<580		U	58.3								

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-001	1,1,2,2-Tetrachloroethane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	1,1,2-Trichloroethane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	1,1-Dichloroethene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	1,2,3,-Trichloropropane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	1,2,4-Trichlorobenzene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	1,2-Dibromo-3-chloropropane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	1,2-Dibromoethane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	1,2-Dichlorobenzene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	1,3-Dichlorobenzene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	1,4-Dichlorobenzene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	2-Butanone	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	2-Chloroethylvinyl ether	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Acetonitrile	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Acrolein	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Acrylonitrile	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Allyl chloride	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Benzene	<3300	6400		333	<32	38		3.23	<17	42		1.72	<16		U	1.64
8835-001	Bromoform	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Bromomethane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Carbon disulfide	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Carbon tetrachloride	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Chlorobenzene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Chloroform	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Chloromethane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Chloroprene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	cis-1,2-Dichloroethene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	cis-1,3-Dichloropropene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	cis-1,4-Dichloro-2-butene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Dibromomethane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Dichlorodifluoromethane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Ethyl methacrylate	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Iodomethane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Isobutanol	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	m,p-Xylene	<6700	44000		333	<65	1200		3.23	<34	560		1.72	<33	60		1.64
8835-001	Methacrylonitrile	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Methyl methacrylate	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-001	Methylene chloride	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	o-Xylene	<3300	17000		333	<32	290		3.23	<17	130		1.72	<16		U	1.64
8835-001	p-Dioxane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Pentachloroethane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Propionitrile	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Tetrachloroethene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Toluene	<3300	50000		333	<32	280		3.23	<17	220		1.72	<16		U	1.64
8835-001	trans-1,2-Dichloroethene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	trans-1,4-Dichloro-2-butene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Trichloroethene	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Trichlorofluoromethane	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-001	Vinyl Chloride	<3300		U	333	<32		U	3.23	<17		U	1.72	<16		U	1.64
8835-002	1,1,2,2-Tetrachloroethane	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	1,1,2-Trichloroethane	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	1,1-Dichloroethene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	1,2,3,-Trichloropropane	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	1,2,4-Trichlorobenzene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	1,2-Dibromo-3-chloropropane	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	1,2-Dibromoethane	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	1,2-Dichlorobenzene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	1,3-Dichlorobenzene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	1,4-Dichlorobenzene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	2-Butanone	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	2-Chloroethylvinyl ether	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Acetonitrile	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Acrolein	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Acrylonitrile	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Allyl chloride	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Benzene	<3200	6200		325	<34	39		3.43					<17		U	1.66
8835-002	Bromoform	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Bromomethane	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Carbon disulfide	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Carbon tetrachloride	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Chlorobenzene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Chloroform	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Chloromethane	<3200		U	325	<34		U	3.43					<17		U	1.66

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-002	Chloroprene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	cis-1,2-Dichloroethene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	cis-1,3-Dichloropropene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	cis-1,4-Dichloro-2-butene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Dibromomethane	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Dichlorodifluoromethane	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Ethyl methacrylate	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Iodomethane	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Isobutanol	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	m,p-Xylene	<6500	43000		325	<69	1200		3.43					<33	320		1.66
8835-002	Methacrylonitrile	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Methyl methacrylate	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Methylene chloride	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	o-Xylene	<3200	17000		325	<34	300		3.43					<17	67		1.66
8835-002	p-Dioxane	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Pentachloroethane	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Propionitrile	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Tetrachloroethene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Toluene	<3200	49000		325	<34	290		3.43					<17	76		1.66
8835-002	trans-1,2-Dichloroethene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	trans-1,4-Dichloro-2-butene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Trichloroethene	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Trichlorofluoromethane	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-002	Vinyl Chloride	<3200		U	325	<34		U	3.43					<17		U	1.66
8835-003	1,1,2,2-Tetrachloroethane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	1,1,2-Trichloroethane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	1,1-Dichloroethene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	1,2,3,-Trichloropropane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	1,2,4-Trichlorobenzene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	1,2-Dibromo-3-chloropropane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	1,2-Dibromoethane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	1,2-Dichlorobenzene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	1,3-Dichlorobenzene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	1,4-Dichlorobenzene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	2-Butanone	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	2-Chloroethylvinyl ether	<3400		U	339	<33		U	3.29					<16		U	1.61

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-003	Acetonitrile	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Acrolein	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Acrylonitrile	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Allyl chloride	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Benzene	<3400	6600		339	<33		U	3.29					<16		U	1.61
8835-003	Bromoform	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Bromomethane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Carbon disulfide	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Carbon tetrachloride	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Chlorobenzene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Chloroform	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Chloromethane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Chloroprene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	cis-1,2-Dichloroethene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	cis-1,3-Dichloropropene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	cis-1,4-Dichloro-2-butene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Dibromomethane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Dichlorodifluoromethane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Ethyl methacrylate	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Iodomethane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Isobutanol	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	m,p-Xylene	<6800	36000		339	<66	500		3.29					<32	300		1.61
8835-003	Methacrylonitrile	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Methyl methacrylate	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Methylene chloride	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	o-Xylene	<3400	13000		339	<33	270		3.29					<16	63		1.61
8835-003	p-Dioxane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Pentachloroethane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Propionitrile	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Tetrachloroethene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Toluene	<3400	68000		339	<33	160		3.29					<16	76		1.61
8835-003	trans-1,2-Dichloroethene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	trans-1,4-Dichloro-2-butene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Trichloroethene	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Trichlorofluoromethane	<3400		U	339	<33		U	3.29					<16		U	1.61
8835-003	Vinyl Chloride	<3400		U	339	<33		U	3.29					<16		U	1.61

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-004	1,1,2,2-Tetrachloroethane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	1,1,2-Trichloroethane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	1,1-Dichloroethene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	1,2,3,-Trichloropropane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	1,2,4-Trichlorobenzene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	1,2-Dibromo-3-chloropropane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	1,2-Dibromoethane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	1,2-Dichlorobenzene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	1,3-Dichlorobenzene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	1,4-Dichlorobenzene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	2-Butanone	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	2-Chloroethylvinyl ether	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Acetonitrile	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Acrolein	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Acrylonitrile	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Allyl chloride	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Benzene	<3400	6600		337	<33		U	3.33					<16		U	1.62
8835-004	Bromoform	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Bromomethane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Carbon disulfide	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Carbon tetrachloride	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Chlorobenzene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Chloroform	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Chloromethane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Chloroprene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	cis-1,2-Dichloroethene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	cis-1,3-Dichloropropene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	cis-1,4-Dichloro-2-butene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Dibromomethane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Dichlorodifluoromethane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Ethyl methacrylate	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Iodomethane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Isobutanol	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	m,p-Xylene	<6700	36000		337	<66	1000		3.33					<32	34		1.62
8835-004	Methacrylonitrile	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Methyl methacrylate	<3400		U	337	<33		U	3.33					<16		U	1.62

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-004	Methylene chloride	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	o-Xylene	<3400	13000		337	<33	290		3.33					<16		U	1.62
8835-004	p-Dioxane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Pentachloroethane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Propionitrile	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Tetrachloroethene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Toluene	<3400	69000		337	<33	170		3.33					<16		U	1.62
8835-004	trans-1,2-Dichloroethene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	trans-1,4-Dichloro-2-butene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Trichloroethene	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Trichlorofluoromethane	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-004	Vinyl Chloride	<3400		U	337	<33		U	3.33					<16		U	1.62
8835-005	1,1,2,2-Tetrachloroethane	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	1,1,2-Trichloroethane	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	1,1-Dichloroethene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	1,2,3,-Trichloropropane	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	1,2,4-Trichlorobenzene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	1,2-Dibromo-3-chloropropane	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	1,2-Dibromoethane	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	1,2-Dichlorobenzene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	1,3-Dichlorobenzene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	1,4-Dichlorobenzene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	2-Butanone	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	2-Chloroethylvinyl ether	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Acetonitrile	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Acrolein	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Acrylonitrile	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Allyl chloride	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Benzene	<3200	5400		326	<32		U	3.25					<16		U	1.57
8835-005	Bromoform	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Bromomethane	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Carbon disulfide	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Carbon tetrachloride	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Chlorobenzene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Chloroform	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Chloromethane	<3200		U	326	<32		U	3.25					<16		U	1.57

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-005	Chloroprene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	cis-1,2-Dichloroethene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	cis-1,3-Dichloropropene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	cis-1,4-Dichloro-2-butene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Dibromomethane	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Dichlorodifluoromethane	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Ethyl methacrylate	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Iodomethane	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Isobutanol	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	m,p-Xylene	<6500	39000		326	<65	360		3.25					<31		U	1.57
8835-005	Methacrylonitrile	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Methyl methacrylate	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Methylene chloride	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	o-Xylene	<3200	14000		326	<32	170		3.25					<16		U	1.57
8835-005	p-Dioxane	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Pentachloroethane	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Propionitrile	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Tetrachloroethene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Toluene	<3200	42000		326	<32	130		3.25					<16		U	1.57
8835-005	trans-1,2-Dichloroethene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	trans-1,4-Dichloro-2-butene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Trichloroethene	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Trichlorofluoromethane	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-005	Vinyl Chloride	<3200		U	326	<32		U	3.25					<16		U	1.57
8835-006	1,1,2,2-Tetrachloroethane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	1,1,2-Trichloroethane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	1,1-Dichloroethene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	1,2,3,-Trichloropropane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	1,2,4-Trichlorobenzene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	1,2-Dibromo-3-chloropropane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	1,2-Dibromoethane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	1,2-Dichlorobenzene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	1,3-Dichlorobenzene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	1,4-Dichlorobenzene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	2-Butanone	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	2-Chloroethylvinyl ether	<1600		U	161	<34		U	3.44					<21		U	2.08

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-006	Acetonitrile	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Acrolein	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Acrylonitrile	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Allyl chloride	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Benzene	<1600	6200		161	<34		U	3.44					<21		U	2.08
8835-006	Bromoform	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Bromomethane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Carbon disulfide	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Carbon tetrachloride	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Chlorobenzene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Chloroform	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Chloromethane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Chloroprene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	cis-1,2-Dichloroethene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	cis-1,3-Dichloropropene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	cis-1,4-Dichloro-2-butene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Dibromomethane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Dichlorodifluoromethane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Ethyl methacrylate	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Iodomethane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Isobutanol	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	m,p-Xylene	<3200	22000		161	<69	130		3.44					<42	150		2.08
8835-006	Methacrylonitrile	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Methyl methacrylate	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Methylene chloride	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	o-Xylene	<1600	8300		161	<34	61		3.44					<21	70		2.08
8835-006	p-Dioxane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Pentachloroethane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Propionitrile	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Tetrachloroethene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Toluene	<1600	29000		161	<34	96		3.44					<21	60		2.08
8835-006	trans-1,2-Dichloroethene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	trans-1,4-Dichloro-2-butene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Trichloroethene	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Trichlorofluoromethane	<1600		U	161	<34		U	3.44					<21		U	2.08
8835-006	Vinyl Chloride	<1600		U	161	<34		U	3.44					<21		U	2.08

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-007	1,1,2,2-Tetrachloroethane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	1,1,2-Trichloroethane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	1,1-Dichloroethene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	1,2,3,-Trichloropropane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	1,2,4-Trichlorobenzene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	1,2-Dibromo-3-chloropropane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	1,2-Dibromoethane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	1,2-Dichlorobenzene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	1,3-Dichlorobenzene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	1,4-Dichlorobenzene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	2-Butanone	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	2-Chloroethylvinyl ether	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Acetonitrile	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Acrolein	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Acrylonitrile	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Allyl chloride	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Benzene	<1700	4500		169	<33		U	3.35					<20		U	1.95
8835-007	Bromoform	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Bromomethane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Carbon disulfide	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Carbon tetrachloride	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Chlorobenzene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Chloroform	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Chloromethane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Chloroprene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	cis-1,2-Dichloroethene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	cis-1,3-Dichloropropene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	cis-1,4-Dichloro-2-butene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Dibromomethane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Dichlorodifluoromethane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Ethyl methacrylate	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Iodomethane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Isobutanol	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	m,p-Xylene	<3400	56000		169	<67	670		3.35					<39	73		1.95
8835-007	Methacrylonitrile	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Methyl methacrylate	<1700		U	169	<33		U	3.35					<20		U	1.95

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-007	Methylene chloride	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	o-Xylene	<1700	12000		169	<33	320		3.35					<20	33		1.95
8835-007	p-Dioxane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Pentachloroethane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Propionitrile	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Tetrachloroethene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Toluene	<1700	32000		169	<33	240		3.35					<20	29		1.95
8835-007	trans-1,2-Dichloroethene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	trans-1,4-Dichloro-2-butene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Trichloroethene	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Trichlorofluoromethane	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-007	Vinyl chloride	<1700		U	169	<33		U	3.35					<20		U	1.95
8835-008	1,1,2,2-Tetrachloroethane	<1700		U	170	<33		U	3.35								
8835-008	1,1,2-Trichloroethane	<1700		U	170	<33		U	3.35								
8835-008	1,1-Dichloroethene	<1700		U	170	<33		U	3.35								
8835-008	1,2,3,-Trichloropropane	<1700		U	170	<33		U	3.35								
8835-008	1,2,4-Trichlorobenzene	<1700		U	170	<33		U	3.35								
8835-008	1,2-Dibromo-3-chloropropane	<1700		U	170	<33		U	3.35								
8835-008	1,2-Dibromoethane	<1700		U	170	<33		U	3.35								
8835-008	1,2-Dichlorobenzene	<1700		U	170	<33		U	3.35								
8835-008	1,3-Dichlorobenzene	<1700		U	170	<33		U	3.35								
8835-008	1,4-Dichlorobenzene	<1700		U	170	<33		U	3.35								
8835-008	2-Butanone	<1700		U	170	<33		U	3.35								
8835-008	2-Chloroethylvinyl ether	<1700		U	170	<33		U	3.35								
8835-008	Acetonitrile	<1700		U	170	<33		U	3.35								
8835-008	Acrolein	<1700		U	170	<33		U	3.35								
8835-008	Acrylonitrile	<1700		U	170	<33		U	3.35								
8835-008	Allyl chloride	<1700		U	170	<33		U	3.35								
8835-008	Benzene	<1700	8000		170	<33	42		3.35								
8835-008	Bromoform	<1700		U	170	<33		U	3.35								
8835-008	Bromomethane	<1700		U	170	<33		U	3.35								
8835-008	Carbon disulfide	<1700		U	170	<33		U	3.35								
8835-008	Carbon tetrachloride	<1700		U	170	<33		U	3.35								
8835-008	Chlorobenzene	<1700		U	170	<33		U	3.35								
8835-008	Chloroform	<1700		U	170	<33		U	3.35								
8835-008	Chloromethane	<1700		U	170	<33		U	3.35								

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-008	Chloroprene	<1700		U	170	<33		U	3.35								
8835-008	cis-1,2-Dichloroethene	<1700		U	170	<33		U	3.35								
8835-008	cis-1,3-Dichloropropene	<1700		U	170	<33		U	3.35								
8835-008	cis-1,4-Dichloro-2-butene	<1700		U	170	<33		U	3.35								
8835-008	Dibromomethane	<1700		U	170	<33		U	3.35								
8835-008	Dichlorodifluoromethane	<1700		U	170	<33		U	3.35								
8835-008	Ethyl methacrylate	<1700		U	170	<33		U	3.35								
8835-008	Iodomethane	<1700		U	170	<33		U	3.35								
8835-008	Isobutanol	<1700		U	170	<33		U	3.35								
8835-008	m,p-Xylene	<3400	28000		170	<67	630		3.35								
8835-008	Methacrylonitrile	<1700		U	170	<33		U	3.35								
8835-008	Methyl methacrylate	<1700		U	170	<33		U	3.35								
8835-008	Methylene chloride	<1700		U	170	<33		U	3.35								
8835-008	o-Xylene	<1700	10000		170	<33	280		3.35								
8835-008	p-Dioxane	<1700		U	170	<33		U	3.35								
8835-008	Pentachloroethane	<1700		U	170	<33		U	3.35								
8835-008	Propionitrile	<1700		U	170	<33		U	3.35								
8835-008	Tetrachloroethene	<1700		U	170	<33		U	3.35								
8835-008	Toluene	<1700	34000		170	<33	300		3.35								
8835-008	trans-1,2-Dichloroethene	<1700		U	170	<33		U	3.35								
8835-008	trans-1,4-Dichloro-2-butene	<1700		U	170	<33		U	3.35								
8835-008	Trichloroethene	<1700		U	170	<33		U	3.35								
8835-008	Trichlorofluoromethane	<1700		U	170	<33		U	3.35								
8835-008	Vinyl chloride	<1700		U	170	<33		U	3.35								
8835-009	1,1,2,2-Tetrachloroethane					<34		U	3.37								
8835-009	1,1,2-Trichloroethane					<34		U	3.37								
8835-009	1,1-Dichloroethene					<34		U	3.37								
8835-009	1,2,3,-Trichloropropane					<34		U	3.37								
8835-009	1,2,4-Trichlorobenzene					<34		U	3.37								
8835-009	1,2-Dibromo-3-chloropropane					<34		U	3.37								
8835-009	1,2-Dibromoethane					<34		U	3.37								
8835-009	1,2-Dichlorobenzene					<34		U	3.37								
8835-009	1,3-Dichlorobenzene					<34		U	3.37								
8835-009	1,4-Dichlorobenzene					<34		U	3.37								
8835-009	2-Butanone					<34		U	3.37								
8835-009	2-Chloroethylvinyl ether					<34		U	3.37								

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-009	Acetonitrile					<34		U	3.37								
8835-009	Acrolein					<34		U	3.37								
8835-009	Acrylonitrile					<34		U	3.37								
8835-009	Allyl chloride					<34		U	3.37								
8835-009	Benzene					<34		U	3.37								
8835-009	Bromoform					<34		U	3.37								
8835-009	Bromomethane					<34		U	3.37								
8835-009	Carbon disulfide					<34		U	3.37								
8835-009	Carbon tetrachloride					<34		U	3.37								
8835-009	Chlorobenzene					<34		U	3.37								
8835-009	Chloroform					<34		U	3.37								
8835-009	Chloromethane					<34		U	3.37								
8835-009	Chloroprene					<34		U	3.37								
8835-009	cis-1,2-Dichloroethene					<34		U	3.37								
8835-009	cis-1,3-Dichloropropene					<34		U	3.37								
8835-009	cis-1,4-Dichloro-2-butene					<34		U	3.37								
8835-009	Dibromomethane					<34		U	3.37								
8835-009	Dichlorodifluoromethane					<34		U	3.37								
8835-009	Ethyl methacrylate					<34		U	3.37								
8835-009	Iodomethane					<34		U	3.37								
8835-009	Isobutanol					<34		U	3.37								
8835-009	m,p-Xylene					<67	420		3.37								
8835-009	Methacrylonitrile					<34		U	3.37								
8835-009	Methyl methacrylate					<34		U	3.37								
8835-009	Methylene chloride					<34		U	3.37								
8835-009	o-Xylene					<34	180		3.37								
8835-009	p-Dioxane					<34		U	3.37								
8835-009	Pentachloroethane					<34		U	3.37								
8835-009	Propionitrile					<34		U	3.37								
8835-009	Tetrachloroethene					<34		U	3.37								
8835-009	Toluene					<34	220		3.37								
8835-009	trans-1,2-Dichloroethene					<34		U	3.37								
8835-009	trans-1,4-Dichloro-2-butene					<34		U	3.37								
8835-009	Trichloroethene					<34		U	3.37								
8835-009	Trichlorofluoromethane					<34		U	3.37								
8835-009	Vinyl Chloride					<34		U	3.37								

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-010	1,1,2,2-Tetrachloroethane					<32		U	3.23								
8835-010	1,1,2-Trichloroethane					<32		U	3.23								
8835-010	1,1-Dichloroethene					<32		U	3.23								
8835-010	1,2,3,-Trichloropropane					<32		U	3.23								
8835-010	1,2,4-Trichlorobenzene					<32		U	3.23								
8835-010	1,2-Dibromo-3-chloropropane					<32		U	3.23								
8835-010	1,2-Dibromoethane					<32		U	3.23								
8835-010	1,2-Dichlorobenzene					<32		U	3.23								
8835-010	1,3-Dichlorobenzene					<32		U	3.23								
8835-010	1,4-Dichlorobenzene					<32		U	3.23								
8835-010	2-Butanone					<32		U	3.23								
8835-010	2-Chloroethylvinyl ether					<32		U	3.23								
8835-010	Acetonitrile					<32		U	3.23								
8835-010	Acrolein					<32		U	3.23								
8835-010	Acrylonitrile					<32		U	3.23								
8835-010	Allyl chloride					<32		U	3.23								
8835-010	Benzene					<32		U	3.23								
8835-010	Bromoform					<32		U	3.23								
8835-010	Bromomethane					<32		U	3.23								
8835-010	Carbon disulfide					<32		U	3.23								
8835-010	Carbon tetrachloride					<32		U	3.23								
8835-010	Chlorobenzene					<32		U	3.23								
8835-010	Chloroform					<32		U	3.23								
8835-010	Chloromethane					<32		U	3.23								
8835-010	Chloroprene					<32		U	3.23								
8835-010	cis-1,2-Dichloroethene					<32		U	3.23								
8835-010	cis-1,3-Dichloropropene					<32		U	3.23								
8835-010	cis-1,4-Dichloro-2-butene					<32		U	3.23								
8835-010	Dibromomethane					<32		U	3.23								
8835-010	Dichlorodifluoromethane					<32		U	3.23								
8835-010	Ethyl methacrylate					<32		U	3.23								
8835-010	Iodomethane					<32		U	3.23								
8835-010	Isobutanol					<32		U	3.23								
8835-010	m,p-Xylene					<65	410		3.23								
8835-010	Methacrylonitrile					<32		U	3.23								
8835-010	Methyl methacrylate					<32		U	3.23								

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-010	Methylene chloride					<32		U	3.23								
8835-010	o-Xylene					<32	180		3.23								
8835-010	p-Dioxane					<32		U	3.23								
8835-010	Pentachloroethane					<32		U	3.23								
8835-010	Propionitrile					<32		U	3.23								
8835-010	Tetrachloroethene					<32		U	3.23								
8835-010	Toluene					<32	170		3.23								
8835-010	trans-1,2-Dichloroethene					<32		U	3.23								
8835-010	trans-1,4-Dichloro-2-butene					<32		U	3.23								
8835-010	Trichloroethene					<32		U	3.23								
8835-010	Trichlorofluoromethane					<32		U	3.23								
8835-010	Vinyl chloride					<32		U	3.23								
8835-011	1,1,2,2-Tetrachloroethane					<39		U	3.92								
8835-011	1,1,2-Trichloroethane					<39		U	3.92								
8835-011	1,1-Dichloroethene					<39		U	3.92								
8835-011	1,2,3,-Trichloropropane					<39		U	3.92								
8835-011	1,2,4-Trichlorobenzene					<39		U	3.92								
8835-011	1,2-Dibromo-3-chloropropane					<39		U	3.92								
8835-011	1,2-Dibromoethane					<39		U	3.92								
8835-011	1,2-Dichlorobenzene					<39		U	3.92								
8835-011	1,3-Dichlorobenzene					<39		U	3.92								
8835-011	1,4-Dichlorobenzene					<39		U	3.92								
8835-011	2-Butanone					<39		U	3.92								
8835-011	2-Chloroethylvinyl ether					<39		U	3.92								
8835-011	Acetonitrile					<39		U	3.92								
8835-011	Acrolein					<39		U	3.92								
8835-011	Acrylonitrile					<39		U	3.92								
8835-011	Allyl chloride					<39		U	3.92								
8835-011	Benzene					<39	75		3.92								
8835-011	Bromoform					<39		U	3.92								
8835-011	Bromomethane					<39		U	3.92								
8835-011	Carbon disulfide					<39		U	3.92								
8835-011	Carbon tetrachloride					<39		U	3.92								
8835-011	Chlorobenzene					<39		U	3.92								
8835-011	Chloroform					<39		U	3.92								
8835-011	Chloromethane					<39		U	3.92								

COMPARABLE FUELS RESULTS - VOC (mg/Kg)

		Fuel = Gasoline				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
Sample	**Analyte**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**	**Q.L.**	**Quant-itation**	**Code**	**D.F.**
8835-011	Chloroprene					<39		U	3.92								
8835-011	cis-1,2-Dichloroethene					<39		U	3.92								
8835-011	cis-1,3-Dichloropropene					<39		U	3.92								
8835-011	cis-1,4-Dichloro-2-butene					<39		U	3.92								
8835-011	Dibromomethane					<39		U	3.92								
8835-011	Dichlorodifluoromethane					<39		U	3.92								
8835-011	Ethyl methacrylate					<39		U	3.92								
8835-011	Iodomethane					<39		U	3.92								
8835-011	Isobutanol					<39		U	3.92								
8835-011	m,p-Xylene					<78	900		3.92								
8835-011	Methacrylonitrile					<39		U	3.92								
8835-011	Methyl methacrylate					<39		U	3.92								
8835-011	Methylene chloride					<39		U	3.92								
8835-011	o-Xylene					<39	460		3.92								
8835-011	p-Dioxane					<39		U	3.92								
8835-011	Pentachloroethane					<39		U	3.92								
8835-011	Propionitrile					<39		U	3.92								
8835-011	Tetrachloroethene					<39		U	3.92								
8835-011	Toluene					<39	380		3.92								
8835-011	trans-1,2-Dichloroethene					<39		U	3.92								
8835-011	trans-1,4-Dichloro-2-butene					<39		U	3.92								
8835-011	Trichloroethene					<39		U	3.92								
8835-011	Trichlorofluoromethane					<39		U	3.92								
8835-011	Vinyl Chloride					<39		U	3.92								

COMPARATIVE FUELS RESULTS - METALS (mg/L)

Sample	Method	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
			Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-001	7040	Antimony	<6.6755674	BQL	U	13.351	<5.8411214	BQL	U	11.682	<11.46788	BQL	U	22.936	<10.193679	BQL	U	20.387
8835-001	7060	Arsenic	<0.1335113	BQL	U	13.351	<0.1168224	BQL	U	11.682	<0.2293577	BQL	U	22.936	<0.2038735	BQL	U	20.387
8835-001	7080	Barium	<13.351134	BQL	U	13.351	<11.682242	BQL	U	11.682	<22.93577	BQL	U	22.936	<20.387359	BQL	U	20.387
8835-001	7090	Beryllium	<0.6675567	BQL	U	13.351	<0.5841121	BQL	U	11.682	<1.146788	BQL	U	22.936	<1.0193679	BQL	U	20.387
8835-001	7130	Cadmium	<0.6675567	BQL	U	13.351	<0.5841121	BQL	U	11.682	<1.146788	BQL	U	22.936	<1.0193679	BQL	U	20.387
8835-001	7190	Chromium	<1.3351134	BQL	U	13.351	<1.1682242	BQL	U	11.682	<2.293577	BQL	U	22.936	<2.0387359	BQL	U	20.387
8835-001	7420	Lead	<6.6755674	BQL	U	13.351	<5.8411214	13.1		11.682	<11.46788	19.2		22.936	<10.193679	31.4		20.387
8835-001	7460	Manganese	<0.6675567	BQL	U	13.351	<0.5841121	BQL	U	11.682	<1.146788	BQL	U	22.936	<1.0193679	BQL	U	20.387
8835-001	7470	Mercury	<0.1	BQL	U	1	<0.1	BQL	U	1	<0.18	BQL	U	1	<0.17	BQL	U	1
8835-001	7520	Nickel	<2.6702269	BQL	U	13.351	<2.3364485	BQL	U	11.682	<4.587155	31.9		22.936	<4.0774719	106		20.387
8835-001	7740	Selenium	<0.1335113	BQL	U	13.351	<0.1168224	BQL	U	11.682	<0.2293577	0.25		22.936	<0.2038735	0.28		20.387
8835-001	7760	Silver	<1.3351134	BQL	U	13.351	<1.1682242	BQL	U	11.682	<2.293577	BQL	U	22.936	<2.0387359	BQL	U	20.387
8835-001	7840	Thallium	<13.351134	BQL	U	13.351	<11.682242	BQL	U	11.682	<22.93577	BQL	U	22.936	<20.387359	BQL	U	20.387
8835-002	7040	Antimony	<6.65778961	BQL	U	13.316	<5.8343057	BQL	U	11.669					<10.141987	BQL	U	20.284
8835-002	7060	Arsenic	<0.1331557	BQL	U	13.316	<0.1166861	BQL	U	11.669					<0.2028397	BQL	U	20.284
8835-002	7080	Barium	<13.315579	BQL	U	13.316	<11.668611	BQL	U	11.669					<20.283975	BQL	U	20.284
8835-002	7090	Beryllium	<0.6657789	BQL	U	13.316	<0.583430	BQL	U	11.669					<1.0141987	BQL	U	20.284
8835-002	7130	Cadmium	<0.6657789	BQL	U	13.316	<0.583430	BQL	U	11.669					<1.0141987	BQL	U	20.284
8835-002	7190	Chromium	<1.3315579	BQL	U	13.316	<1.1668611	BQL	U	11.669					<2.0283975	BQL	U	20.284
8835-002	7420	Lead	<6.65778961	BQL	U	13.316	<5.8343057	10.4		11.669					<10.141987	40.4		20.284
8835-002	7460	Manganese	<0.6657789	BQL	U	13.316	<0.583430	BQL	U	11.669					<1.0141987	BQL	U	20.284
8835-002	7470	Mercury	<0.1	BQL	U	1	<0.1	BQL	U	1					<0.17	BQL	U	1
8835-002	7520	Nickel	<2.6631158	BQL	U	13.316	<2.3337222	BQL	U	11.669					<4.0567951	6.8		20.284
8835-002	7740	Selenium	<0.1331557	BQL	U	13.316	<0.1166861	0.18		11.669					<0.2028397	BQL	U	20.284
8835-002	7760	Silver	<1.3315579	BQL	U	13.316	<1.1668611	BQL	U	11.669					<2.0283975	BQL	U	20.284
8835-002	7840	Thallium	<13.315579	BQL	U	13.316	<11.668611	BQL	U	11.669					<20.283975	BQL	U	20.284
8835-003	7040	Antimony	<6.6755674	BQL	U	13.351	<5.9382422	BQL	U	11.876					<10.101010	BQL	U	20.202
8835-003	7060	Arsenic	<0.1335113	BQL	U	13.351	<0.118764	BQL	U	11.876					<0.2020202	BQL	U	20.202
8835-003	7080	Barium	<13.351134	BQL	U	13.351	<11.876484	BQL	U	11.876					<20.202020	BQL	U	20.202
8835-003	7090	Beryllium	<0.6675567	BQL	U	13.351	<0.593824	BQL	U	11.876					<1.0101010	BQL	U	20.202
8835-003	7130	Cadmium	<0.6675567	BQL	U	13.351	<0.593824	BQL	U	11.876					<1.0101010	BQL	U	20.202
8835-003	7190	Chromium	<1.3351134	BQL	U	13.351	<1.1876484	BQL	U	11.876					<2.0202020	BQL	U	20.202
8835-003	7420	Lead	<6.6755674	BQL	U	13.351	<5.9382422	9.26		11.876					<10.101010	40.5		20.202
8835-003	7460	Manganese	<0.6675567	BQL	U	13.351	<0.593824	BQL	U	11.876					<1.0101010	BQL	U	20.202
8835-003	7470	Mercury	<0.1	BQL	U	1	<0.11	BQL	U	1					<0.17	BQL	U	1
8835-003	7520	Nickel	<2.6702269	BQL	U	13.351	<2.3752969	BQL	U	11.876					<4.0404040	6.81		20.202
8835-003	7740	Selenium	<0.1335113	BQL	U	13.351	<0.118764	BQL	U	11.876					<0.2020202	BQL	U	20.202
8835-003	7760	Silver	<1.3351134	BQL	U	13.351	<1.1876484	BQL	U	11.876					<2.0202020	BQL	U	20.202
8835-003	7840	Thallium	<13.351134	BQL	U	13.351	<11.876484	BQL	U	11.876					<20.202020	BQL	U	20.202
8835-004	7040	Antimony	<6.6666666	BQL	U	13.333	<5.9594755	BQL	U	11.919					<10.111223	BQL	U	20.222
8835-004	7060	Arsenic	<0.1333333	BQL	U	13.333	<0.119189	BQL	U	11.919					<0.2022244	BQL	U	20.222
8835-004	7080	Barium	<13.333333	BQL	U	13.333	<11.918951	BQL	U	11.919					<20.222446	BQL	U	20.222
8835-004	7090	Beryllium	<0.6666666	BQL	U	13.333	<0.595947	BQL	U	11.919					<1.0111223	BQL	U	20.222
8835-004	7130	Cadmium	<0.6666666	BQL	U	13.333	<0.595947	BQL	U	11.919					<1.0111223	BQL	U	20.222
8835-004	7190	Chromium	<1.3333333	BQL	U	13.333	<1.1918951	BQL	U	11.919					<2.0222446	BQL	U	20.222
8835-004	7420	Lead	<6.6666666	BQL	U	13.333	<5.9594755	6.73		11.919					<10.111223	54.2		20.222

COMPARATIVE FUELS RESULTS - METALS (mg/L)

Sample	Method	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
			Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-004	7460	Manganese	<0.6666666	BQL	U	13.333	<0.5959475	BQL	U	11.919					<1.0111223	BQL	U	20.222
8835-004	7470	Mercury	<0.1	BQL	U	1	<0.1	BQL	U	1					<0.14	BQL	U	1
8835-004	7520	Nickel	<2.6666666	BQL	U	13.333	<2.3837902	BQL	U	11.919					<4.0444893	5.86		20.222
8835-004	7740	Selenium	<0.1333333	BQL	U	13.333	<0.119189	BQL	U	11.919					<0.2022244	BQL	U	20.222
8835-004	7760	Silver	<1.3333333	BQL	U	13.333	<1.1918951	BQL	U	11.919					<2.0222446	BQL	U	20.222
8835-004	7840	Thallium	<13.333333	BQL	U	13.333	<11.918951	BQL	U	11.919					<20.222446	BQL	U	20.222
8835-005	7040	Antimony	<6.7114093	BQL	U	13.423	<5.9453032	BQL	U	11.891					<10.060362	15.7		20.121
8835-005	7060	Arsenic	<0.1342281	BQL	U	13.423	<0.118906	BQL	U	11.891					<0.2012072	BQL	U	20.121
8835-005	7080	Barium	<13.422818	BQL	U	13.423	<11.89060	BQL	U	11.891					<20.120724	BQL	U	20.121
8835-005	7090	Beryllium	<0.6711409	BQL	U	13.423	<0.594530	BQL	U	11.891					<1.0060362	BQL	U	20.121
8835-005	7130	Cadmium	<0.6711409	BQL	U	13.423	<0.594530	BQL	U	11.891					<1.0060362	BQL	U	20.121
8835-005	7190	Chromium	<1.3422818	BQL	U	13.423	<1.189060	BQL	U	11.891					<2.0120724	BQL	U	20.121
8835-005	7420	Lead	<6.7114093	BQL	U	13.423	<5.9453032	10.1		11.891					<10.060362	56.8		20.121
8835-005	7460	Manganese	<0.6711409	BQL	U	13.423	<0.594530	BQL	U	11.891					<1.0060362	BQL	U	20.121
8835-005	7470	Mercury	<0.1	BQL	U	1	<0.09	BQL	U	1					<0.2	BQL	U	1
8835-005	7520	Nickel	<2.6845637	BQL	U	13.423	<2.3781212	BQL	U	11.891					<4.0241448	6.1		20.121
8835-005	7740	Selenium	<0.1342281	BQL	U	13.423	<1.189060	BQL	U	11.891					<2.0120724	BQL	U	20.121
8835-005	7760	Silver	<1.3422818	BQL	U	13.423	<0.118906	BQL	U	11.891					<0.2012072	BQL	U	20.121
8835-005	7840	Thallium	<13.422818	BQL	U	13.423	<11.89060	BQL	U	11.891					<20.120724	BQL	U	20.121
8835-006	7040	Antimony	<7.0521861	BQL	U	14.104	<5.854800	BQL	U	11.71					<10.204081	BQL	U	20.408
8835-006	7060	Arsenic	<0.1410437	BQL	U	14.104	<0.117096	BQL	U	11.71					<0.2040816	BQL	U	20.408
8835-006	7080	Barium	<14.104372	BQL	U	14.104	<11.709601	BQL	U	11.71					<20.408163	BQL	U	20.408
8835-006	7090	Beryllium	<0.7052186	BQL	U	14.104	<0.585480	BQL	U	11.71					<1.0204081	BQL	U	20.408
8835-006	7130	Cadmium	<0.7052186	BQL	U	14.104	<0.585480	BQL	U	11.71					<1.0204081	BQL	U	20.408
8835-006	7190	Chromium	<1.4104372	BQL	U	14.104	<1.1709601	BQL	U	11.71					<2.0408163	BQL	U	20.408
8835-006	7420	Lead	<7.0521861	BQL	U	14.104	<5.854800	8.47		11.71					<10.204081	35.4		20.408
8835-006	7460	Manganese	<0.7052186	BQL	U	14.104	<0.585480	BQL	U	11.71					<1.0204081	BQL	U	20.408
8835-006	7470	Mercury	<0.1	BQL	U	1	<0.1	BQL	U	1					<0.25	BQL	U	1
8835-006	7520	Nickel	<2.8208744	BQL	U	14.104	<2.3419203	BQL	U	11.71					<4.0816326	50.2		20.408
8835-006	7740	Selenium	<0.1410437	BQL	U	14.104	<0.117096	0.15		11.71					<0.204081	BQL	U	20.408
8835-006	7760	Silver	<1.4104372	BQL	U	14.104	<1.1709601	BQL	U	11.71					<2.0408163	BQL	U	20.408
8835-006	7840	Thallium	<14.104372	BQL	U	14.104	<11.709601	BQL	U	11.71					<20.408163	BQL	U	20.408
8835-007	7040	Antimony	<6.8399452	BQL	U	13.68	<0.0509164	BQL	U	0.1018					<10.111223	BQL	U	20.222
8835-007	7060	Arsenic	<0.1367989	BQL	U	13.68	<0.117647	BQL	U	11.765					<0.2022244	BQL	U	20.222
8835-007	7080	Barium	<13.679890	BQL	U	13.68	<0.101832	BQL	U	0.1018					<20.222446	BQL	U	20.222
8835-007	7090	Beryllium	<0.6839945	BQL	U	13.68	<0.005091	BQL	U	0.1018					<1.0111223	BQL	U	20.222
8835-007	7130	Cadmium	<0.6839945	BQL	U	13.68	<0.005091	BQL	U	0.1018					<1.0111223	BQL	U	20.222
8835-007	7190	Chromium	<1.3679890	BQL	U	13.68	<0.010183	BQL	U	0.1018					<2.0222446	BQL	U	20.222
8835-007	7420	Lead	<6.8399452	BQL	U	13.68	<0.0509164	0.1		0.1018					<10.111223	36.1		20.222
8835-007	7460	Manganese	<0.6839945	BQL	U	13.68	<0.005091	BQL	U	0.1018					<1.0111223	BQL	U	20.222
8835-007	7470	Mercury	<0.1	BQL	U	1	<0.1	BQL	U	1					<0.13	BQL	U	1
8835-007	7520	Nickel	<2.73597811	BQL	U	13.68	<0.020366	BQL	U	0.1018					<4.0444893	49.5		20.222
8835-007	7740	Selenium	<0.1367989	BQL	U	13.68	<0.117647	BQL	U	11.765					<0.2022244	BQL	U	20.222
8835-007	7760	Silver	<1.3679890	BQL	U	13.68	<0.010183	BQL	U	0.1018					<2.0222446	BQL	U	20.222
8835-007	7840	Thallium	<13.679890	BQL	U	13.68	<0.101832	BQL	U	0.1018					<20.222446	BQL	U	20.222
8835-008	7040	Antimony	<6.9252077	BQL	U	13.85	<5.973715	BQL	U	11.947								

COMPARATIVE FUELS RESULTS - METALS (mg/L)

Sample	Method	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
			Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-008	7060	Arsenic	<0.1385041	BQL	U	13.85	<0.1194743	BQL	U	11.947								
8835-008	7080	Barium	<13.850415	BQL	U	13.85	<11.947431	BQL	U	11.947								
8835-008	7090	Beryllium	<0.6925207	BQL	U	13.85	<0.5973715	BQL	U	11.947								
8835-008	7130	Cadmium	<0.6925207	BQL	U	13.85	<0.5973715	BQL	U	11.947								
8835-008	7190	Chromium	<1.3850415	BQL	U	13.85	<1.1947431	BQL	U	11.947								
8835-008	7420	Lead	<6.9252077	BQL	U	13.85	<5.9737156	8.12		11.947								
8835-008	7460	Manganese	<0.6925207	BQL	U	13.85	<0.5973715	BQL	U	11.947								
8835-008	7470	Mercury	<0.1	BQL	U	1	<0.1	BQL	U	1								
8835-008	7520	Nickel	<2.7700831	BQL	U	13.85	<2.3894862	BQL	U	11.947								
8835-008	7740	Selenium	<0.1385041	BQL	U	13.85	<0.1194743	BQL	U	11.947								
8835-008	7760	Silver	<1.3850415	BQL	U	13.85	<1.1947431	BQL	U	11.947								
8835-008	7840	Thallium	<13.850415	BQL	U	13.85	<11.947431	BQL	U	11.947								
8835-009	7040	Antimony					<6.0096153	BQL	U	12.019								
8835-009	7060	Arsenic					<0.1201923	BQL	U	12.019								
8835-009	7080	Barium					<12.01923(	BQL	U	12.019								
8835-009	7090	Beryllium					<0.6009615	BQL	U	12.019								
8835-009	7130	Cadmium					<0.6009615	BQL	U	12.019								
8835-009	7190	Chromium					<1.201923(	BQL	U	12.019								
8835-009	7420	Lead					<6.0096153	7.6		12.019								
8835-009	7460	Manganese					<0.6009615	BQL	U	12.019								
8835-009	7470	Mercury					<0.11	BQL	U	1								
8835-009	7520	Nickel					<2.4038461	BQL	U	12.019								
8835-009	7740	Selenium					<0.1201923	BQL	U	12.019								
8835-009	7760	Silver					<1.201923(	BQL	U	12.019								
8835-009	7840	Thallium					<12.01923(	BQL	U	12.019								
8835-010	7040	Antimony					<5.9808612	BQL	U	11.962								
8835-010	7060	Arsenic					<0.1196172	BQL	U	11.962								
8835-010	7080	Barium					<11.961722	BQL	U	11.962								
8835-010	7090	Beryllium					<0.5980861	BQL	U	11.962								
8835-010	7130	Cadmium					<0.5980861	BQL	U	11.962								
8835-010	7190	Chromium					<1.1961722	BQL	U	11.962								
8835-010	7420	Lead					<5.9808612	7.79		11.962								
8835-010	7460	Manganese					<0.5980861	BQL	U	11.962								
8835-010	7470	Mercury					<0.1	BQL	U	1								
8835-010	7520	Nickel					<2.3923444	BQL	U	11.962								
8835-010	7740	Selenium					<0.1196172	BQL	U	11.962								
8835-010	7760	Silver					<1.1961722	BQL	U	11.962								
8835-010	7840	Thallium					<11.961722	BQL	U	11.962								
8835-011	7040	Antimony					<11.668611	BQL	U	23.337								
8835-011	7060	Arsenic					<0.1166861	BQL	U	11.669								
8835-011	7080	Barium					<23.337222	BQL	U	23.337								
8835-011	7090	Beryllium					<1.1668611	BQL	U	23.337								
8835-011	7130	Cadmium					<1.1668611	BQL	U	23.337								
8835-011	7190	Chromium					<2.3337222	BQL	U	23.337								
8835-011	7420	Lead					<11.668611	19.7		23.337								
8835-011	7460	Manganese					<1.1668611	BQL	U	23.337								

COMPARATIVE FUELS RESULTS - METALS (mg/L)

Sample	Method	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
			Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-011	7470	Mercury					<0.1	BQL	U	1								
8835-011	7520	Nickel					<4.6674445	BQL	U	23.337								
8835-011	7740	Selenium					<0.1166861	BQL	U	11.669								
8835-011	7760	Silver					<2.3337222	BQL	U	23.337								
8835-011	7840	Thallium					<23.337222	BQL	U	23.337								

COMPARATIVE FUELS RESULTS - PHYSICAL PARAMETERS

			Fuel = Gasoline		*Fuel = No.2*		*Fuel = No.4*		*Fuel = No.6*	
Sample	**Method**	**Analyte**	**Quant-itation**	**D.F.**	**Quant-itation**	**D.F.**	**Quant-itation**	**D.F.**	**Quant-itation**	**D.F.**
8835-001	EPA 325.3/Parr	Total Halogens as Cl- (ppmw)	< 25	1	< 25	1	< 10	1	< 10	1
8835-001	ASTM D240	Heating Value* (BTU/lb)	19506	1	19583	1	19425	1	18354	1
8835-001	ASTM D1298	Specific Gravity (@ 60 F)	0.759	1	0.864	1	0.892	1	0.988	1
8835-001	ASTM D4629	Total Nitrogen as N (wt %)	8	1	203	1	2930	1	8950	1
8835-001	SW-846 1010	Flash Point (F)	< 0	1	54	1	66	1	81	1
8835-001	ASTM D445	Kinematic Viscosity (cSt @ 100 F)			2.91	1	6.4	1	531	1
8835-002	EPA 325.3/Parr	Total Halogens as Cl- (ppmw)	< 25	1	< 25	1			< 10	1
8835-002	ASTM D240	Heating Value* (BTU/lb)	19394	1	19610	1			18715	1
8835-002	ASTM D1298	Specific Gravity (@ 60 F)	0.761	1	0.864	1			0.995	1
8835-002	ASTM D4629	Total Nitrogen as N (wt %)	8	1	213	1			1860	1
8835-002	SW-846 1010	Flash Point (F)	< 0	1	53.5	1			68.5	1
8835-002	ASTM D445	Kinematic Viscosity (cSt @ 100 F)			2.87	1			98	1
8835-003	EPA 325.3/Parr	Total Halogens as Cl- (ppmw)	< 25	1	< 25	1			< 10	1
8835-003	ASTM D240	Heating Value* (BTU/lb)	19682	1	19823	1			18410	1
8835-003	ASTM D1298	Specific Gravity (@ 60 F)	0.761	1	0.85	1			0.995	1
8835-003	ASTM D4629	Total Nitrogen as N (wt %)	6	1	110	1			1820	1
8835-003	SW-846 1010	Flash Point (F)	< 0	1	48	1			73	1
8835-003	ASTM D445	Kinematic Viscosity (cSt @ 100 F)			2.66	1			98	1
8835-004	EPA 325.3/Parr	Total Halogens as Cl- (ppmw)	< 25	1	< 25	1			< 10	1
8835-004	ASTM D240	Heating Value* (BTU/lb)	19420	1	19755	1			18219	1
8835-004	ASTM D1298	Specific Gravity (@ 60 F)	0.762	1	0.85	1			1.04	1
8835-004	ASTM D4629	Total Nitrogen as N (wt %)	6	1	104	1			2210	1
8835-004	SW-846 1010	Flash Point (F)	< 0	1	44.5	1			117	1
8835-004	ASTM D445	Kinematic Viscosity (cSt @ 100 F)			2.73	1			322	1
8835-005	EPA 325.3/Parr	Total Halogens as Cl- (ppmw)	< 25	1	< 25	1			< 10	1
8835-005	ASTM D240	Heating Value* (BTU/lb)	19189	1	19763	1			18138	1
8835-005	ASTM D1298	Specific Gravity (@ 60 F)	0.758	1	0.851	1			1.04	1
8835-005	ASTM D4629	Total Nitrogen as N (wt %)	22	1	186	1			2150	1
8835-005	SW-846 1010	Flash Point (F)	< 0	1	47.5	1			112	1
8835-005	ASTM D445	Kinematic Viscosity (cSt @ 100 F)			3.5	1			331	1
8835-006	EPA 325.3/Parr	Total Halogens as Cl- (ppmw)	< 25	1	< 25	1			< 10	1
8835-006	ASTM D240	Specific Gravity (@ 60 F)	19924	1	19891	1			18622	1
8835-006	ASTM D1298	Specific Gravity (@ 60 F)	0.721	1	0.862	1			0.991	1
8835-006	ASTM D4629	Total Nitrogen as N (wt %)	11	1	341	1			5260	1
8835-006	SW-846 1010	Flash Point (F)	< 0	1	77	1			82	1
8835-006	ASTM D445	Kinematic Viscosity (cSt @ 100 F)			4.36	1			656	1

COMPARATIVE FUELS RESULTS - PHYSICAL PARAMETERS

			Fuel = Gasoline		*Fuel = No.2*		*Fuel = No.4*		*Fuel = No.6*	
Sample	**Method**	**Analyte**	**Quant-itation**	**D.F.**	**Quant-itation**	**D.F.**	**Quant-itation**	**D.F.**	**Quant-itation**	**D.F.**
8835-007	EPA 325.3/Parr	Total Halogens as Cl- (ppmw)	< 25	1	< 25	1			< 10	1
8835-007	ASTM D240	Heating Value* (BTU/lb)	19373	1	19570	1			18559	1
8835-007	ASTM D1298	Specific Gravity (@ 60 F)	0.744	1	0.859	1			0.99	1
8835-007	ASTM D4629	Total Nitrogen as N (wt %)	12	1	165	1			5310	1
8835-007	SW-846 1010	Flash Point (F)	< 0	1	60	1			92.5	1
8835-007	ASTM D445	Kinematic Viscosity (cSt @ 100 F)			2.34	1			668	1
8835-008	EPA 325.3/Parr	Total Halogens as Cl- (ppmw)	< 25	1	< 25	1				
8835-008	ASTM D240	Heating Value* (BTU/lb)	19552	1	19865	1				
8835-008	ASTM D1298	Specific Gravity (@ 60 F)	0.733	1	0.846	1				
8835-008	ASTM D4629	Total Nitrogen as N (wt %)	17	1	98	1				
8835-008	SW-846 1010	Flash Point (F)	< 0	1	61.5	1				
8835-008	ASTM D445	Kinematic Viscosity (cSt @ 100 F)			2.6	1				
8835-009	EPA 325.3/Parr	Total Halogens as Cl- (ppmw)			< 25	1				
8835-009	ASTM D240	Heating Value* (BTU/lb)			19942	1				
8835-009	ASTM D1298	Specific Gravity (@ 60 F)			0.851	1				
8835-009	ASTM D4629	Total Nitrogen as N (wt %)			43	1				
8835-009	SW-846 1010	Flash Point (F)			72	1				
8835-009	ASTM D445	Kinematic Viscosity (cSt @ 100 F)			3.49	1				
8835-010	EPA 325.3/Parr	Total Halogens as Cl- (ppmw)			< 25	1				
8835-010	ASTM D240	Heating Value* (BTU/lb)			20000	1				
8835-010	ASTM D1298	Specific Gravity (@ 60 F)			0.853	1				
8835-010	ASTM D4629	Total Nitrogen as N (wt %)			42	1				
8835-010	SW-846 1010	Flash Point (F)			71	1				
8835-010	ASTM D445	Kinematic Viscosity (cSt @ 100 F)			3.71	1				
8835-011	EPA 325.3/Parr	Total Halogens as Cl- (ppmw)			< 25	1				
8835-011	ASTM D240	Heating Value* (BTU/lb)			19745	1				
8835-011	ASTM D1298	Specific Gravity (@ 60 F)			0.86	1				
8835-011	ASTM D4629	Total Nitrogen as N (wt %)			219	1				
8835-011	SW-846 1010	Flash Point (F)			58	1				
8835-011	ASTM D445	Kinematic Viscosity (cSt @ 100 F)			2.87	1				

TABLE 3-5. SVOC - TOTAL AROMATIC HYDROCARBONS

				Fuel = Gasoline		*Fuel = No.2*		*Fuel = No.4*		*Fuel = No.6*	
Sample	**Method**	**Catagory**	**Analyte**	**Quant-itation**	**DF**	**Quant-itation**	**DF**	**Quant-itation**	**DF**	**Quant-itation**	**DF**
8835-001	SW-846	SVOC	Total Aromatic Hydrocarbons (Weight Percent)	15.6	1	2.78	1	0.97	1	0.37	1
8835-002	SW-846	SVOC	Total Aromatic Hydrocarbons (Weight Percent)	15.5	1	2.95	1			1.4	1
8835-003	SW-846	SVOC	Total Aromatic Hydrocarbons (Weight Percent)	16.9	1	1.53	1			1.42	1
8835-004	SW-846	SVOC	Total Aromatic Hydrocarbons (Weight Percent)	17.2	1	2.06	1			0.36	1
8835-005	SW-846	SVOC	Total Aromatic Hydrocarbons (Weight Percent)	12.6	1	2.19	1			0.41	1
8835-006	SW-846	SVOC	Total Aromatic Hydrocarbons (Weight Percent)	8.1	1	0.66	1			2.99	1
8835-007	SW-846	SVOC	Total Aromatic Hydrocarbons (Weight Percent)	12.9	1	5.24	1			0.85	1
8835-008	SW-846	SVOC	Total Aromatic Hydrocarbons (Weight Percent)	10.5	1	1.36	1				
8835-009	SW-846	SVOC	Total Aromatic Hydrocarbons (Weight Percent)			1.29	1				
8835-010	SW-846	SVOC	Total Aromatic Hydrocarbons (Weight Percent)			1.42	1				
8835-011	SW-846	SVOC	Total Aromatic Hydrocarbons (Weight Percent)			1.22	1				
8835-001	SW-846	SVOC	Total Polynuclear Aromatic Hydrocarbons (Weight Percent)	0.7	1	2.9	1	1	1	0.39	1
8835-002	SW-846	SVOC	Total Polynuclear Aromatic Hydrocarbons (Weight Percent)	0.7	1	3.09	1			1.5	1
8835-003	SW-846	SVOC	Total Polynuclear Aromatic Hydrocarbons (Weight Percent)	0.8	1	1.52	1			1.52	1
8835-004	SW-846	SVOC	Total Polynuclear Aromatic Hydrocarbons (Weight Percent)	0.9	1	2.08	1			0.42	1
8835-005	SW-846	SVOC	Total Polynuclear Aromatic Hydrocarbons (Weight Percent)	0.3	1	2.35	1			0.49	1
8835-006	SW-846	SVOC	Total Polynuclear Aromatic Hydrocarbons (Weight Percent)	0.3	1	0.7	1			3.15	1
8835-007	SW-846	SVOC	Total Polynuclear Aromatic Hydrocarbons (Weight Percent)	0.6	1	5.47	1			0.89	1
8835-008	SW-846	SVOC	Total Polynuclear Aromatic Hydrocarbons (Weight Percent)	0.6	1	1.41	1				
8835-009	SW-846	SVOC	Total Polynuclear Aromatic Hydrocarbons (Weight Percent)			1.36	1				
8835-010	SW-846	SVOC	Total Polynuclear Aromatic Hydrocarbons (Weight Percent)			1.5	1				
8835-011	SW-846	SVOC	Total Polynuclear Aromatic Hydrocarbons (Weight Percent)			1.22	1				

APPENDIX B

SAIC Statistical Analysis Results

Table 1.
Gasoline - Combined Results
(VOC non-detects from Composite 246)

Chemical Name	Concentration Limit (mg/kg at 10,000 BTU/lb)	Maximum Detection Limit (mg/kg)
Total Nitrogen as N	9.3	-
Total Halogens as Cl-	non-detect	25
Antimony	non-detect	7.0
Arsenic	non-detect	0.14
Barium	non-detect	14
Beryllium	non-detect	0.70
Cadmium	non-detect	0.70
Chromium	non-detect	1.4
Cobalt	non-detect	2.8
Lead	non-detect	7.0
Manganese	non-detect	0.70
Mercury	non-detect	0.10
Nickel	non-detect	2.8
Selenium	non-detect	0.14
Silver	non-detect	1.4
Thallium	non-detect	14
_,_-Dimethylphenethylamine	non-detect	670
_-Naphthylamine	non-detect	670
ß-Naphthylamine	non-detect	670
1,1,2,2-Tetrachloroethane	non-detect	34
1,1,2-Trichloroethane	non-detect	34
1,1-Dichloroethylene	non-detect	34
1,2,3,-Trichloropropane	non-detect	34
1,2,4,5-Tetrachlorobenzene	non-detect	670
1,2,4-Trichlorobenzene(SVOCs)	non-detect	670
1,2,4-Trichlorobenzene(VOCs)	non-detect	340
1,2-Dibromo-3-chloropropane	non-detect	34
1,2-Dichloroethylene (cis- or trans-)	non-detect	17
1,3,5-Trinitrobenzene	non-detect	670
1,4-Dichloro-2-butene (cis- or trans-)	non-detect	17
1,4-Naphthoquinone	non-detect	670
2,3,4,6-Tetrachlorophenol	non-detect	670
2,4,5-Trichlorophenol	non-detect	670
2,4,6-Trichlorophenol	non-detect	670
2,4-Dichlorophenol	non-detect	670
2,4-Dimethylphenol	non-detect	670
2,4-Dinitrophenol	non-detect	670
2,4-Dinitrotoluene	non-detect	670
2,6-Dichlorophenol	non-detect	670
2,6-Dinitrotoluene	non-detect	670
2-Acetylaminofluorene	non-detect	670
2-Chloroethyl vinyl ether	non-detect	34
2-Chloronaphthalene	non-detect	670
2-Chlorophenol	non-detect	670
2-Piccoline	non-detect	670
3,3'-Dichlorobenzidine	non-detect	670

Table 1. (Continued)
Gasoline - Combined Results
(VOC non-detects from Composite 246)

3-3'-Dimethylbenzidine	non-detect	670	
3-Methylcholanthrene	non-detect	670	
4,6-Dinitro-o-cresol	non-detect	670	
4-Aminobiphenyl	non-detect	670	
4-Bromophenyl phenyl ether	non-detect	670	
5-Nitro-o-toluidine	non-detect	670	
7,12-Dimethylbenz[a]anthracene	non-detect	670	
Acetonitrile	non-detect	34	
Acetophenone	non-detect	670	
Acrolein	non-detect	34	
Acrylonitrile	non-detect	34	
Allyl chloride	non-detect	34	
Aniline	non-detect	670	
Aramite	non-detect	670	
Benzene	3500		-
Benzidine	non-detect	670	
Benzo[a]anthracene	340		-
Benzo[a]pyrene	340		-
Benzo[b]fluoranthene	non-detect	670	
Benzo[k]fluoranthene	non-detect	670	
Bromoform	non-detect	34	
Butyl benzyl phthalate	non-detect	670	
Carbon disulfide	non-detect	34	
Carbon tetrachloride	non-detect	34	
Chlorobenzene	non-detect	34	
Chlorobenzilate	non-detect	670	
Chloroform	non-detect	34	
Chloroprene	non-detect	34	
Chrysene	340		-
cis-1,3-Dichloropropene	non-detect	34	
Cresol (o-, m-, or p-)	non-detect	670	
Di-n-butyl phthalate	non-detect	670	
Di-n-octylphthalate	340		-
Diallate	non-detect	670	
Dibenz[a,j]acridine	non-detect	670	
Dibenzo[a,h]anthracene	340		-
Dichlorodifluoromethane	non-detect	34	
Diethyl phthalate	non-detect	670	
Dimethoate	non-detect	670	
Dimethyl phthalate	non-detect	670	
Dinoseb	non-detect	670	
Diphenylamine	non-detect	670	
Disulfoton	non-detect	670	
Ethyl methacrylate	non-detect	34	
Ethyl methanesulfonate	non-detect	670	
Famphur	non-detect	670	
Fluoranthene	non-detect	670	
Fluorene	non-detect	670	
Hexachlorobenzene	non-detect	670	
Hexachlorobutadiene	non-detect	670	
Hexachlorocyclopentadiene	non-detect	670	

Table 1. (Continued)
Gasoline - Combined Results
(VOC non-detects from Composite 246)

Hexachloroethane	non-detect	670
Hexachlorophene	non-detect	17000
Hexachloropropene	non-detect	670
Indeno(1,2,3-cd)pyrene	non-detect	670
Isobutyl alcohol	non-detect	34
Isodrin	non-detect	670
Isosafrole	non-detect	670
Kepone	non-detect	1300
m-Dichlorobenzene(SVOCs)	non-detect	670
m-Dichlorobenzene(VOCs)	non-detect	34
Methacrylonitrile	non-detect	34
Methapyrilene	non-detect	670
Methyl bromide	non-detect	34
Methyl chloride	non-detect	34
Methyl ethyl ketone	non-detect	34
Methyl iodide	non-detect	34
Methyl methacrylate	non-detect	34
Methyl methanesulfonate	non-detect	670
Methyl parathion	non-detect	670
Methylene chloride	non-detect	34
N-Nitrosodi-n-butylamine	non-detect	670
N-Nitrosodiethylamine	non-detect	670
N-Nitrosomethylethylamine	non-detect	670
N-Nitrosomorpholine	non-detect	670
N-Nitrosopiperidine	non-detect	670
N-Nitrosopyrrolidine	non-detect	670
Naphthalene	2800	-
Nitrobenzene	non-detect	670
o-Dichlorobenzene(SVOCs)	non-detect	670
o-Dichlorobenzene(VOCs)	non-detect	34
o-Toluidine	non-detect	670
O,O,O-Triethyl phosphorothionate	non-detect	670
O,O-Diethyl O-pyrazinyl phosphothioate	non-detect	670
p-(Dimethylamino)azobenzene	non-detect	670
p-Chloro-m-cresol	non-detect	670
p-Chloroaniline	non-detect	670
p-Dichlorobenzene(SVOCs)	non-detect	670
p-Dichlorobenzene(VOCs)	non-detect	34
p-Nitroaniline	non-detect	670
p-Nitrophenol	non-detect	670
p-Phenylenediamine	non-detect	670
Parathion	non-detect	670
Pentachlorobenzene	non-detect	670
Pentachloroethane	non-detect	34
Pentachloronitrobenzene	non-detect	670
Pentachlorophenol	non-detect	670
Phenacetin	non-detect	670
Phenol	non-detect	670
Phorate	non-detect	670
Pronamide	non-detect	670

Table 1. (Continued)
Gasoline - Combined Results
(VOC non-detects from Composite 246)

Pyridine	non-detect	670
Safrole	non-detect	670
Tetrachloroethylene	non-detect	34
Tetraethyldithiopyrophosphate	non-detect	670
Toluene	35000	-
Trichloroethylene	non-detect	34
Trichlorofluoromethane	non-detect	34
Vinyl Chloride	non-detect	34

Table 2.
No.2 Fuel Oil - Combined Results

Chemical Name	Concentration Limit (mg/kg at 10,000 BTU/lb)	Maximum Detection Limit (mg/kg)
Total Nitrogen as N	110	-
Total Halogens as Cl-	non-detect	25
Antimony	non-detect	6.0
Arsenic	non-detect	0.12
Barium	non-detect	12
Beryllium	non-detect	0.60
Cadmium	non-detect	0.60
Chromium	non-detect	1.2
Cobalt	non-detect	2.4
Lead	6.6	-
Manganese	non-detect	0.60
Mercury	non-detect	0.11
Nickel	non-detect	2.4
Selenium	0.070	-
Silver	non-detect	1.2
Thallium	non-detect	12
_,_-Dimethylphenethylamine	non-detect	1200
_-Naphthylamine	non-detect	1200
ß-Naphthylamine	non-detect	1200
1,1,2,2-Tetrachloroethane	non-detect	34
1,1,2-Trichloroethane	non-detect	34
1,1-Dichloroethylene	non-detect	34
1,2,3,-Trichloropropane	non-detect	34
1,2,4,5-Tetrachlorobenzene	non-detect	1200
1,2,4-Trichlorobenzene(SVOCs)	non-detect	1200
1,2,4-Trichlorobenzene(VOCs)	non-detect	34
1,2-Dibromo-3-chloropropane	non-detect	34
1,2-Dichloroethylene (cis- or trans-)	non-detect	34
1,3,5-Trinitrobenzene	non-detect	1200
1,4-Dichloro-2-butene (cis- or trans-)	non-detect	34
1,4-Naphthoquinone	non-detect	1200
2,3,4,6-Tetrachlorophenol	non-detect	1200
2,4,5-Trichlorophenol	non-detect	1200
2,4,6-Trichlorophenol	non-detect	1200
2,4-Dichlorophenol	non-detect	1200
2,4-Dimethylphenol	non-detect	1200
2,4-Dinitrophenol	non-detect	1200
2,4-Dinitrotoluene	non-detect	1200
2,6-Dichlorophenol	non-detect	1200
2,6-Dinitrotoluene	non-detect	1200
2-Acetylaminofluorene	non-detect	1200
2-Chloroethyl vinyl ether	non-detect	34
2-Chloronaphthalene	non-detect	1200
2-Chlorophenol	non-detect	1200
2-Piccoline	non-detect	1200
3,3'-Dichlorobenzidine	non-detect	1200

Table 2. (Continued)
No.2 Fuel Oil - Combined Results

3-3'-Dimethylbenzidine	non-detect	1200	
3-Methylcholanthrene	non-detect	1200	
4,6-Dinitro-o-cresol	non-detect	1200	
4-Aminobiphenyl	non-detect	1200	
4-Bromophenyl phenyl ether	non-detect	1200	
5-Nitro-o-toluidine	non-detect	1200	
7,12-Dimethylbenz[a]anthracene	non-detect	1200	
Acetonitrile	non-detect	34	
Acetophenone	non-detect	1200	
Acrolein	non-detect	34	
Acrylonitrile	non-detect	34	
Allyl chloride	non-detect	34	
Aniline	non-detect	1200	
Aramite	non-detect	1200	
Benzene	21		-
Benzidine	non-detect	1200	
Benzo[a]anthracene	610		-
Benzo[a]pyrene	610		-
Benzo[b]fluoranthene	non-detect	1200	
Benzo[k]fluoranthene	non-detect	1200	
Bromoform	non-detect	34	
Butyl benzyl phthalate	non-detect	1200	
Carbon disulfide	non-detect	34	
Carbon tetrachloride	non-detect	34	
Chlorobenzene	non-detect	34	
Chlorobenzilate	non-detect	1200	
Chloroform	non-detect	34	
Chloroprene	non-detect	34	
Chrysene	610		-
cis-1,3-Dichloropropene	non-detect	34	
Cresol (o-, m-, or p-)	non-detect	1200	
Di-n-butyl phthalate	non-detect	1200	
Di-n-octylphthalate	610		-
Diallate	non-detect	1200	
Dibenz[a,j]acridine	non-detect	1200	
Dibenzo[a,h]anthracene	610		-
Dichlorodifluoromethane	non-detect	34	
Diethyl phthalate	non-detect	1200	
Dimethoate	non-detect	1200	
Dimethyl phthalate	non-detect	1200	
Dinoseb	non-detect	1200	
Diphenylamine	non-detect	1200	
Disulfoton	non-detect	1200	
Ethyl methacrylate	non-detect	34	
Ethyl methanesulfonate	non-detect	1200	
Famphur	non-detect	1200	
Fluoranthene	non-detect	1200	
Fluorene	non-detect	1200	
Hexachlorobenzene	non-detect	1200	
Hexachlorobutadiene	non-detect	1200	
Hexachlorocyclopentadiene	non-detect	1200	
Hexachloroethane	non-detect	1200	

Table 2. (Continued)
No.2 Fuel Oil - Combined Results

Hexachlorophene	non-detect	29000
Hexachloropropene	non-detect	1200
Indeno(1,2,3-cd)pyrene	non-detect	1200
Isobutyl alcohol	non-detect	34
Isodrin	non-detect	1200
Isosafrole	non-detect	1200
Kepone	non-detect	2300
m-Dichlorobenzene(SVOCs)	non-detect	1200
m-Dichlorobenzene(VOCs)	non-detect	34
Methacrylonitrile	non-detect	34
Methapyrilene	non-detect	1200
Methyl bromide	non-detect	34
Methyl chloride	non-detect	34
Methyl ethyl ketone	non-detect	34
Methyl iodide	non-detect	34
Methyl methacrylate	non-detect	34
Methyl methanesulfonate	non-detect	1200
Methyl parathion	non-detect	1200
Methylene chloride	non-detect	34
N-Nitrosodi-n-butylamine	non-detect	1200
N-Nitrosodiethylamine	non-detect	1200
N-Nitrosomethylethylamine	non-detect	1200
N-Nitrosomorpholine	non-detect	1200
N-Nitrosopiperidine	non-detect	1200
N-Nitrosopyrrolidine	non-detect	1200
Naphthalene	1200	-
Nitrobenzene	non-detect	1200
o-Dichlorobenzene(SVOCs)	non-detect	1200
o-Dichlorobenzene(VOCs)	non-detect	34
o-Toluidine	non-detect	1200
O,O,O-Triethyl phosphorothionate	non-detect	1200
O,O-Diethyl O-pyrazinyl phosphothioate	non-detect	1200
p-(Dimethylamino)azobenzene	non-detect	1200
p-Chloro-m-cresol	non-detect	1200
p-Chloroaniline	non-detect	1200
p-Dichlorobenzene(SVOCs)	non-detect	1200
p-Dichlorobenzene(VOCs)	non-detect	34
p-Nitroaniline	non-detect	1200
p-Nitrophenol	non-detect	1200
p-Phenylenediamine	non-detect	1200
Parathion	non-detect	1200
Pentachlorobenzene	non-detect	1200
Pentachloroethane	non-detect	34
Pentachloronitrobenzene	non-detect	1200
Pentachlorophenol	non-detect	1200
Phenacetin	non-detect	1200
Phenol	non-detect	1200
Phorate	non-detect	1200
Pronamide	non-detect	1200
Pyridine	non-detect	1200
Safrole	non-detect	1200

Table 2. (Continued)
No.2 Fuel Oil - Combined Results

Tetrachloroethylene	non-detect	34
Tetraethyldithiopyrophosphate	non-detect	1200
Toluene	150	-
Trichloroethylene	non-detect	34
Trichlorofluoromethane	non-detect	34
Vinyl Chloride	non-detect	34

Table 3.
No.4 Fuel Oil - Combined Results

Chemical Name	Concentration Limit (mg/kg at 10,000 BTU/lb)	Maximum Detection Limit (mg/kg)
Total Nitrogen as N	1500	-
Total Halogens as Cl-	non-detect	10
Antimony	non-detect	11
Arsenic	non-detect	0.23
Barium	non-detect	23
Beryllium	non-detect	1.2
Cadmium	non-detect	1.2
Chromium	non-detect	2.3
Cobalt	non-detect	4.6
Lead	9.9	-
Manganese	non-detect	1.2
Mercury	non-detect	0.18
Nickel	16	-
Selenium	0.13	-
Silver	non-detect	2.3
Thallium	non-detect	23
_,_-Dimethylphenethylamine	non-detect	200
_-Naphthylamine	non-detect	200
ß-Naphthylamine	non-detect	200
1,1,2,2-Tetrachloroethane	non-detect	17
1,1,2-Trichloroethane	non-detect	17
1,1-Dichloroethylene	non-detect	17
1,2,3,-Trichloropropane	non-detect	17
1,2,4,5-Tetrachlorobenzene	non-detect	200
1,2,4-Trichlorobenzene(SVOCs)	non-detect	200
1,2,4-Trichlorobenzene(VOCs)	non-detect	17
1,2-Dibromo-3-chloropropane	non-detect	17
1,2-Dichloroethylene (cis- or trans-)	non-detect	17
1,3,5-Trinitrobenzene	non-detect	200
1,4-Dichloro-2-butene (cis- or trans-)	non-detect	17
1,4-Naphthoquinone	non-detect	200
2,3,4,6-Tetrachlorophenol	non-detect	200
2,4,5-Trichlorophenol	non-detect	200
2,4,6-Trichlorophenol	non-detect	200
2,4-Dichlorophenol	non-detect	200
2,4-Dimethylphenol	non-detect	200
2,4-Dinitrophenol	non-detect	200
2,4-Dinitrotoluene	non-detect	200
2,6-Dichlorophenol	non-detect	200
2,6-Dinitrotoluene	non-detect	200
2-Acetylaminofluorene	non-detect	200
2-Chloroethyl vinyl ether	non-detect	17
2-Chloronaphthalene	non-detect	200
2-Chlorophenol	non-detect	200
2-Piccoline	non-detect	200
3,3'-Dichlorobenzidine	non-detect	200

Table 3. (Continued)
No.4 Fuel Oil - Combined Results

3-3'-Dimethylbenzidine	non-detect	200	
3-Methylcholanthrene	non-detect	200	
4,6-Dinitro-o-cresol	non-detect	200	
4-Aminobiphenyl	non-detect	200	
4-Bromophenyl phenyl ether	non-detect	200	
5-Nitro-o-toluidine	non-detect	200	
7,12-Dimethylbenz[a]anthracene	non-detect	200	
Acetonitrile	non-detect	17	
Acetophenone	non-detect	200	
Acrolein	non-detect	17	
Acrylonitrile	non-detect	17	
Allyl chloride	non-detect	17	
Aniline	non-detect	200	
Aramite	non-detect	200	
Benzene	22		-
Benzidine	non-detect	200	
Benzo[a]anthracene	100		-
Benzo[a]pyrene	100		-
Benzo[b]fluoranthene	non-detect	200	
Benzo[k]fluoranthene	non-detect	200	
Bromoform	non-detect	17	
Butyl benzyl phthalate	non-detect	200	
Carbon disulfide	non-detect	17	
Carbon tetrachloride	non-detect	17	
Chlorobenzene	non-detect	17	
Chlorobenzilate	non-detect	200	
Chloroform	non-detect	17	
Chloroprene	non-detect	17	
Chrysene	100		-
cis-1,3-Dichloropropene	non-detect	17	
Cresol (o-, m-, or p-)	non-detect	200	
Di-n-butyl phthalate	non-detect	200	
Di-n-octylphthalate	100		-
Diallate	non-detect	200	
Dibenz[a,j]acridine	non-detect	200	
Dibenzo[a,h]anthracene	100		-
Dichlorodifluoromethane	non-detect	17	
Diethyl phthalate	non-detect	200	
Dimethoate	non-detect	200	
Dimethyl phthalate	non-detect	200	
Dinoseb	non-detect	200	
Diphenylamine	non-detect	200	
Disulfoton	non-detect	200	
Ethyl methacrylate	non-detect	17	
Ethyl methanesulfonate	non-detect	200	
Famphur	non-detect	200	
Fluoranthene	non-detect	200	
Fluorene	110		-
Hexachlorobenzene	non-detect	200	
Hexachlorobutadiene	non-detect	200	
Hexachlorocyclopentadiene	non-detect	200	
Hexachloroethane	non-detect	200	

Table 3. (Continued)
No.4 Fuel Oil - Combined Results

Hexachlorophene	non-detect	5000
Hexachloropropene	non-detect	200
Indeno(1,2,3-cd)pyrene	non-detect	200
Isobutyl alcohol	non-detect	17
Isodrin	non-detect	200
Isosafrole	non-detect	200
Kepone	non-detect	400
m-Dichlorobenzene(SVOCs)	non-detect	200
m-Dichlorobenzene(VOCs)	non-detect	17
Methacrylonitrile	non-detect	17
Methapyrilene	non-detect	200
Methyl bromide	non-detect	17
Methyl chloride	non-detect	17
Methyl ethyl ketone	non-detect	17
Methyl iodide	non-detect	17
Methyl methacrylate	non-detect	17
Methyl methanesulfonate	non-detect	200
Methyl parathion	non-detect	200
Methylene chloride	non-detect	17
N-Nitrosodi-n-butylamine	non-detect	200
N-Nitrosodiethylamine	non-detect	200
N-Nitrosomethylethylamine	non-detect	200
N-Nitrosomorpholine	non-detect	200
N-Nitrosopiperidine	non-detect	200
N-Nitrosopyrrolidine	non-detect	200
Naphthalene	340	-
Nitrobenzene	non-detect	200
o-Dichlorobenzene(SVOCs)	non-detect	200
o-Dichlorobenzene(VOCs)	non-detect	17
o-Toluidine	non-detect	200
O,O,O-Triethyl phosphorothionate	non-detect	200
O,O-Diethyl O-pyrazinyl phosphothioate	non-detect	200
p-(Dimethylamino)azobenzene	non-detect	200
p-Chloro-m-cresol	non-detect	200
p-Chloroaniline	non-detect	200
p-Dichlorobenzene(SVOCs)	non-detect	200
p-Dichlorobenzene(VOCs)	non-detect	17
p-Nitroaniline	non-detect	200
p-Nitrophenol	non-detect	200
p-Phenylenediamine	non-detect	200
Parathion	non-detect	200
Pentachlorobenzene	non-detect	200
Pentachloroethane	non-detect	17
Pentachloronitrobenzene	non-detect	200
Pentachlorophenol	non-detect	200
Phenacetin	non-detect	200
Phenol	non-detect	200
Phorate	non-detect	200
Pronamide	non-detect	200
Pyridine	non-detect	200
Safrole	non-detect	200

Table 3. (Continued)
No.4 Fuel Oil - Combined Results

Tetrachloroethylene	non-detect	17
Tetraethyldithiopyrophosphate	non-detect	200
Toluene	110	-
Trichloroethylene	non-detect	17
Trichlorofluoromethane	non-detect	17
Vinyl Chloride	non-detect	17

Table 4.
No.6 Fuel Oil - Combined Results

Chemical Name	Concentration Limit (mg/kg at 10,000 BTU/lb)	Maximum Detection Limit (mg/kg)
Total Nitrogen as N	3500	-
Total Halogens as Cl-	non-detect	10
Antimony	6.5	-
Arsenic	non-detect	0.20
Barium	non-detect	20
Beryllium	non-detect	1.0
Cadmium	non-detect	1.0
Chromium	non-detect	2.0
Cobalt	non-detect	4.1
Lead	30	-
Manganese	non-detect	1.0
Mercury	non-detect	0.22
Nickel	36	-
Selenium	0.12	-
Silver	non-detect	2.0
Thallium	non-detect	20
_,_-Dimethylphenethylamine	non-detect	640
_-Naphthylamine	non-detect	640
ß-Naphthylamine	non-detect	640
1,1,2,2-Tetrachloroethane	non-detect	20
1,1,2-Trichloroethane	non-detect	20
1,1-Dichloroethylene	non-detect	20
1,2,3,-Trichloropropane	non-detect	20
1,2,4,5-Tetrachlorobenzene	non-detect	640
1,2,4-Trichlorobenzene(SVOCs)	non-detect	640
1,2,4-Trichlorobenzene(VOCs)	non-detect	20
1,2-Dibromo-3-chloropropane	non-detect	20
1,2-Dichloroethylene (cis- or trans-)	non-detect	21
1,3,5-Trinitrobenzene	non-detect	640
1,4-Dichloro-2-butene (cis- or trans-)	non-detect	21
1,4-Naphthoquinone	non-detect	640
2,3,4,6-Tetrachlorophenol	non-detect	640
2,4,5-Trichlorophenol	non-detect	640
2,4,6-Trichlorophenol	non-detect	640
2,4-Dichlorophenol	non-detect	640
2,4-Dimethylphenol	non-detect	640
2,4-Dinitrophenol	non-detect	640
2,4-Dinitrotoluene	non-detect	640
2,6-Dichlorophenol	non-detect	640
2,6-Dinitrotoluene	non-detect	640
2-Acetylaminofluorene	non-detect	640
2-Chloroethyl vinyl ether	non-detect	20
2-Chloronaphthalene	non-detect	640
2-Chlorophenol	non-detect	640
2-Piccoline	non-detect	640
3,3'-Dichlorobenzidine	non-detect	640

Table 4. (Continued)
No.6 Fuel Oil - Combined Results

3-3'-Dimethylbenzidine	non-detect	640	
3-Methylcholanthrene	non-detect	640	
4,6-Dinitro-o-cresol	non-detect	640	
4-Aminobiphenyl	non-detect	640	
4-Bromophenyl phenyl ether	non-detect	640	
5-Nitro-o-toluidine	non-detect	640	
7,12-Dimethylbenz[a]anthracene	non-detect	640	
Acetonitrile	non-detect	20	
Acetophenone	non-detect	640	
Acrolein	non-detect	20	
Acrylonitrile	non-detect	20	
Allyl chloride	non-detect	20	
Aniline	non-detect	640	
Aramite	non-detect	640	
Benzene	11		-
Benzidine	non-detect	640	
Benzo[a]anthracene	930		-
Benzo[a]pyrene	530		-
Benzo[b]fluoranthene	420		-
Benzo[k]fluoranthene	non-detect	640	
Bromoform	non-detect	20	
Butyl benzyl phthalate	non-detect	640	
Carbon disulfide	non-detect	20	
Carbon tetrachloride	non-detect	20	
Chlorobenzene	non-detect	20	
Chlorobenzilate	non-detect	640	
Chloroform	non-detect	20	
Chloroprene	non-detect	20	
Chrysene	1300		-
cis-1,3-Dichloropropene	non-detect	20	
Cresol (o-, m-, or p-)	non-detect	790	
Di-n-butyl phthalate	non-detect	640	
Di-n-octylphthalate	350		-
Diallate	non-detect	640	
Dibenz[a,j]acridine	non-detect	640	
Dibenzo[a,h]anthracene	350		-
Dichlorodifluoromethane	non-detect	20	
Diethyl phthalate	non-detect	640	
Dimethoate	non-detect	640	
Dimethyl phthalate	non-detect	640	
Dinoseb	non-detect	640	
Diphenylamine	non-detect	640	
Disulfoton	non-detect	640	
Ethyl methacrylate	non-detect	20	
Ethyl methanesulfonate	non-detect	640	
Famphur	non-detect	640	
Fluoranthene	non-detect	640	
Fluorene	350		-
Hexachlorobenzene	non-detect	640	
Hexachlorobutadiene	non-detect	640	
Hexachlorocyclopentadiene	non-detect	640	
Hexachloroethane	non-detect	640	

Table 4. (Continued)
No.6 Fuel Oil - Combined Results

Hexachlorophene	non-detect	16000
Hexachloropropene	non-detect	640
Indeno(1,2,3-cd)pyrene	350	-
Isobutyl alcohol	non-detect	20
Isodrin	non-detect	640
Isosafrole	non-detect	640
Kepone	non-detect	1300
m-Dichlorobenzene(SVOCs)	non-detect	640
m-Dichlorobenzene(VOCs)	non-detect	20
Methacrylonitrile	non-detect	20
Methapyrilene	non-detect	640
Methyl bromide	non-detect	20
Methyl chloride	non-detect	20
Methyl ethyl ketone	non-detect	20
Methyl iodide	non-detect	20
Methyl methacrylate	non-detect	20
Methyl methanesulfonate	non-detect	640
Methyl parathion	non-detect	640
Methylene chloride	non-detect	20
N-Nitrosodi-n-butylamine	non-detect	640
N-Nitrosodiethylamine	non-detect	640
N-Nitrosomethylethylamine	non-detect	640
N-Nitrosomorpholine	non-detect	640
N-Nitrosopiperidine	non-detect	640
N-Nitrosopyrrolidine	non-detect	640
Naphthalene	570	-
Nitrobenzene	non-detect	640
o-Dichlorobenzene(SVOCs)	non-detect	640
o-Dichlorobenzene(VOCs)	non-detect	20
o-Toluidine	non-detect	1300
O,O,O-Triethyl phosphorothionate	non-detect	640
O,O-Diethyl O-pyrazinyl phosphothioate	non-detect	640
p-(Dimethylamino)azobenzene	non-detect	640
p-Chloro-m-cresol	non-detect	640
p-Chloroaniline	non-detect	640
p-Dichlorobenzene(SVOCs)	non-detect	640
p-Dichlorobenzene(VOCs)	non-detect	20
p-Nitroaniline	non-detect	640
p-Nitrophenol	non-detect	640
p-Phenylenediamine	non-detect	640
Parathion	non-detect	640
Pentachlorobenzene	non-detect	640
Pentachloroethane	non-detect	20
Pentachloronitrobenzene	non-detect	640
Pentachlorophenol	non-detect	640
Phenacetin	non-detect	640
Phenol	non-detect	640
Phorate	non-detect	640
Pronamide	non-detect	640
Pyridine	non-detect	640
Safrole	non-detect	640

Table 4. (Continued)
No.6 Fuel Oil - Combined Results

Tetrachloroethylene	non-detect	20
Tetraethyldithiopyrophosphate	non-detect	640
Toluene	41	-
Trichloroethylene	non-detect	20
Trichlorofluoromethane	non-detect	20
Vinyl Chloride	non-detect	20

Table 5.
Composite 246 50th Percentile - Combined Results

Chemical Name	Concentration Limit (mg/kg at 10,000 BTU/lb)	Maximum Detection Limit (mg/kg)
Total Nitrogen as N	1200	-
Total Halogens as Cl-	non-detect	10
Antimony	5.5	-
Arsenic	non-detect	0.20
Barium	non-detect	20
Beryllium	non-detect	1.0
Cadmium	non-detect	1.0
Chromium	non-detect	2.0
Cobalt	non-detect	4.1
Lead	8.6	-
Manganese	non-detect	1.0
Mercury	non-detect	0.17
Nickel	3.7	-
Selenium	0.11	-
Silver	non-detect	2.0
Thallium	non-detect	20
_,_-Dimethylphenethylamine	non-detect	200
_-Naphthylamine	non-detect	200
3-Naphthylamine	non-detect	200
1,1,2,2-Tetrachloroethane	non-detect	17
1,1,2-Trichloroethane	non-detect	17
1,1-Dichloroethylene	non-detect	17
1,2,3,-Trichloropropane	non-detect	17
1,2,4,5-Tetrachlorobenzene	non-detect	200
1,2,4-Trichlorobenzene(SVOCs)	non-detect	200
1,2,4-Trichlorobenzene(VOCs)	non-detect	17
1,2-Dibromo-3-chloropropane	non-detect	17
1,2-Dichloroethylene (cis- or trans-)	non-detect	16
1,3,5-Trinitrobenzene	non-detect	200
1,4-Dichloro-2-butene (cis- or trans-)	non-detect	16
1,4-Naphthoquinone	non-detect	200
2,3,4,6-Tetrachlorophenol	non-detect	200
2,4,5-Trichlorophenol	non-detect	200
2,4,6-Trichlorophenol	non-detect	200
2,4-Dichlorophenol	non-detect	200
2,4-Dimethylphenol	non-detect	200
2,4-Dinitrophenol	non-detect	200
2,4-Dinitrotoluene	non-detect	200
2,6-Dichlorophenol	non-detect	200
2,6-Dinitrotoluene	non-detect	200
2-Acetylaminofluorene	non-detect	200
2-Chloroethyl vinyl ether	non-detect	17
2-Chloronaphthalene	non-detect	200
2-Chlorophenol	non-detect	200
2-Piccoline	non-detect	200
3,3'-Dichlorobenzidine	non-detect	200

Table 5. (Continued)
Composite 246 50th Percentile - Combined Results

3-3'-Dimethylbenzidine	non-detect	200	
3-Methylcholanthrene	non-detect	200	
4,6-Dinitro-o-cresol	non-detect	200	
4-Aminobiphenyl	non-detect	200	
4-Bromophenyl phenyl ether	non-detect	200	
5-Nitro-o-toluidine	non-detect	200	
7,12-Dimethylbenz[a]anthracene	non-detect	200	
Acetonitrile	non-detect	17	
Acetophenone	non-detect	200	
Acrolein	non-detect	17	
Acrylonitrile	non-detect	17	
Allyl chloride	non-detect	17	
Aniline	non-detect	200	
Aramite	non-detect	200	
Benzene	17		-
Benzidine	non-detect	200	
Benzo[a]anthracene	300		-
Benzo[a]pyrene	230		-
Benzo[b]fluoranthene	120		-
Benzo[k]fluoranthene	non-detect	200	
Bromoform	non-detect	17	
Butyl benzyl phthalate	non-detect	200	
Carbon disulfide	non-detect	17	
Carbon tetrachloride	non-detect	17	
Chlorobenzene	non-detect	17	
Chlorobenzilate	non-detect	200	
Chloroform	non-detect	17	
Chloroprene	non-detect	17	
Chrysene	300		-
cis-1,3-Dichloropropene	non-detect	17	
Cresol (o-, m-, or p-)	non-detect	200	
Di-n-butyl phthalate	non-detect	200	
Di-n-octylphthalate	110		-
Diallate	non-detect	200	
Dibenz[a,j]acridine	non-detect	200	
Dibenzo[a,h]anthracene	110		-
Dichlorodifluoromethane	non-detect	17	
Diethyl phthalate	non-detect	200	
Dimethoate	non-detect	200	
Dimethyl phthalate	non-detect	200	
Dinoseb	non-detect	200	
Diphenylamine	non-detect	200	
Disulfoton	non-detect	200	
Ethyl methacrylate	non-detect	17	
Ethyl methanesulfonate	non-detect	200	
Famphur	non-detect	200	
Fluoranthene	non-detect	200	
Fluorene	110		-
Hexachlorobenzene	non-detect	200	
Hexachlorobutadiene	non-detect	200	
Hexachlorocyclopentadiene	non-detect	200	
Hexachloroethane	non-detect	200	

Table 5. (Continued)
Composite 246 50th Percentile - Combined Results

Hexachlorophene	non-detect	5000
Hexachloropropene	non-detect	200
Indeno(1,2,3-cd)pyrene	110	-
Isobutyl alcohol	non-detect	17
Isodrin	non-detect	200
Isosafrole	non-detect	200
Kepone	non-detect	400
m-Dichlorobenzene(SVOCs)	non-detect	200
m-Dichlorobenzene(VOCs)	non-detect	17
Methacrylonitrile	non-detect	17
Methapyrilene	non-detect	200
Methyl bromide	non-detect	17
Methyl chloride	non-detect	17
Methyl ethyl ketone	non-detect	17
Methyl iodide	non-detect	17
Methyl methacrylate	non-detect	17
Methyl methanesulfonate	non-detect	200
Methyl parathion	non-detect	200
Methylene chloride	non-detect	17
N-Nitrosodi-n-butylamine	non-detect	200
N-Nitrosodiethylamine	non-detect	200
N-Nitrosomethylethylamine	non-detect	200
N-Nitrosomorpholine	non-detect	200
N-Nitrosopiperidine	non-detect	200
N-Nitrosopyrrolidine	non-detect	200
Naphthalene	330	-
Nitrobenzene	non-detect	200
o-Dichlorobenzene(SVOCs)	non-detect	200
o-Dichlorobenzene(VOCs)	non-detect	17
o-Toluidine	non-detect	200
O,O,O-Triethyl phosphorothionate	non-detect	200
O,O-Diethyl O-pyrazinyl phosphothioate	non-detect	200
p-(Dimethylamino)azobenzene	non-detect	200
p-Chloro-m-cresol	non-detect	200
p-Chloroaniline	non-detect	200
p-Dichlorobenzene(SVOCs)	non-detect	200
p-Dichlorobenzene(VOCs)	non-detect	17
p-Nitroaniline	non-detect	200
p-Nitrophenol	non-detect	200
p-Phenylenediamine	non-detect	200
Parathion	non-detect	200
Pentachlorobenzene	non-detect	200
Pentachloroethane	non-detect	17
Pentachloronitrobenzene	non-detect	200
Pentachlorophenol	non-detect	200
Phenacetin	non-detect	200
Phenol	non-detect	200
Phorate	non-detect	200
Pronamide	non-detect	200
Pyridine	non-detect	200
Safrole	non-detect	200

Table 5. (Continued)
Composite 246 50th Percentile - Combined Results

Tetrachloroethylene	non-detect	17
Tetraethyldithiopyrophosphate	non-detect	200
Toluene	98	-
Trichloroethylene	non-detect	17
Trichlorofluoromethane	non-detect	17
Vinyl Chloride	non-detect	17

Table 6.
Composite 246 90th Percentile - Combined Results

Chemical Name	Concentration Limit (mg/kg at 10,000 BTU/lb)	Maximum Detection Limit (mg/kg)
Total Nitrogen as N	2700	-
Total Halogens as Cl-	non-detect	25
Antimony	5.90	-
Arsenic	non-detect	0.22
Barium	non-detect	22
Beryllium	non-detect	1.10
Cadmium	non-detect	1.10
Chromium	non-detect	2.20
Cobalt	non-detect	4.50
Lead	22	-
Manganese	non-detect	1.10
Mercury	non-detect	0.18
Nickel	26	-
Selenium	0.12	-
Silver	non-detect	2.20
Thallium	non-detect	22
_,_-Dimethylphenethylamine	non-detect	910
_-Naphthylamine	non-detect	910
ß-Naphthylamine	non-detect	910
1,1,2,2-Tetrachloroethane	non-detect	34
1,1,2-Trichloroethane	non-detect	34
1,1-Dichloroethylene	non-detect	34
1,2,3,-Trichloropropane	non-detect	34
1,2,4,5-Tetrachlorobenzene	non-detect	910
1,2,4-Trichlorobenzene(SVOCs)	non-detect	910
1,2,4-Trichlorobenzene(VOCs)	non-detect	34
1,2-Dibromo-3-chloropropane	non-detect	34
1,2-Dichloroethylene (cis- or trans-)	non-detect	17
1,3,5-Trinitrobenzene	non-detect	1100
1,4-Dichloro-2-butene (cis- or trans-)	non-detect	17
1,4-Naphthoquinone	non-detect	910
2,3,4,6-Tetrachlorophenol	non-detect	910
2,4,5-Trichlorophenol	non-detect	910
2,4,6-Trichlorophenol	non-detect	910
2,4-Dichlorophenol	non-detect	910
2,4-Dimethylphenol	non-detect	910
2,4-Dinitrophenol	non-detect	910
2,4-Dinitrotoluene	non-detect	910
2,6-Dichlorophenol	non-detect	910
2,6-Dinitrotoluene	non-detect	910
2-Acetylaminofluorene	non-detect	910
2-Chloroethyl vinyl ether	non-detect	34
2-Chloronaphthalene	non-detect	910
2-Chlorophenol	non-detect	910
2-Piccoline	non-detect	910

Table 6. (Continued)
Composite 246 90th Percentile - Combined Results

3,3'-Dichlorobenzidine	non-detect	910	
3-3'-Dimethylbenzidine	non-detect	910	
3-Methylcholanthrene	non-detect	910	
4,6-Dinitro-o-cresol	non-detect	910	
4-Aminobiphenyl	non-detect	910	
4-Bromophenyl phenyl ether	non-detect	910	
5-Nitro-o-toluidine	non-detect	910	
7,12-Dimethylbenz[a]anthracene	non-detect	910	
Acetonitrile	non-detect	34	
Acetophenone	non-detect	910	
Acrolein	non-detect	34	
Acrylonitrile	non-detect	34	
Allyl chloride	non-detect	34	
Aniline	non-detect	910	
Aramite	non-detect	910	
Benzene	22		-
Benzidine	non-detect	910	
Benzo[a]anthracene	760		-
Benzo[a]pyrene	530		-
Benzo[b]fluoranthene	500		-
Benzo[k]fluoranthene	non-detect	910	
Bromoform	non-detect	34	
Butyl benzyl phthalate	non-detect	910	
Carbon disulfide	non-detect	34	
Carbon tetrachloride	non-detect	34	
Chlorobenzene	non-detect	34	
Chlorobenzilate	non-detect	910	
Chloroform	non-detect	34	
Chloroprene	non-detect	34	
Chrysene	930		-
cis-1,3-Dichloropropene	non-detect	34	
Cresol (o-, m-, or p-)	non-detect	200	
Di-n-butyl phthalate	non-detect	910	
Di-n-octylphthalate	480		-
Diallate	non-detect	910	
Dibenz[a,j]acridine	non-detect	910	
Dibenzo[a,h]anthracene	480		-
Dichlorodifluoromethane	non-detect	34	
Diethyl phthalate	non-detect	910	
Dimethoate	non-detect	910	
Dimethyl phthalate	non-detect	910	
Dinoseb	non-detect	910	
Diphenylamine	non-detect	910	
Disulfoton	non-detect	910	
Ethyl methacrylate	non-detect	34	
Ethyl methanesulfonate	non-detect	910	
Famphur	non-detect	910	
Fluoranthene	non-detect	910	
Fluorene	480		-
Hexachlorobenzene	non-detect	910	
Hexachlorobutadiene	non-detect	910	
Hexachlorocyclopentadiene	non-detect	910	

Table 6. (Continued)
Composite 246 90th Percentile - Combined Results

Hexachloroethane	non-detect	910
Hexachlorophene	non-detect	22000
Hexachloropropene	non-detect	910
Indeno(1,2,3-cd)pyrene	480	-
Isobutyl alcohol	non-detect	34
Isodrin	non-detect	910
Isosafrole	non-detect	910
Kepone	non-detect	1800
m-Dichlorobenzene(SVOCs)	non-detect	910
m-Dichlorobenzene(VOCs)	non-detect	34
Methacrylonitrile	non-detect	34
Methapyrilene	non-detect	910
Methyl bromide	non-detect	34
Methyl chloride	non-detect	34
Methyl ethyl ketone	non-detect	34
Methyl iodide	non-detect	34
Methyl methacrylate	non-detect	34
Methyl methanesulfonate	non-detect	910
Methyl parathion	non-detect	910
Methylene chloride	non-detect	34
N-Nitrosodi-n-butylamine	non-detect	910
N-Nitrosodiethylamine	non-detect	910
N-Nitrosomethylethylamine	non-detect	910
N-Nitrosomorpholine	non-detect	910
N-Nitrosopiperidine	non-detect	910
N-Nitrosopyrrolidine	non-detect	910
Naphthalene	1000	-
Nitrobenzene	non-detect	910
o-Dichlorobenzene(SVOCs)	non-detect	910
o-Dichlorobenzene(VOCs)	non-detect	34
o-Toluidine	non-detect	1200
O,O,O-Triethyl phosphorothionate	non-detect	910
O,O-Diethyl O-pyrazinyl phosphothioate	non-detect	910
p-(Dimethylamino)azobenzene	non-detect	910
p-Chloro-m-cresol	non-detect	910
p-Chloroaniline	non-detect	910
p-Dichlorobenzene(SVOCs)	non-detect	910
p-Dichlorobenzene(VOCs)	non-detect	34
p-Nitroaniline	non-detect	910
p-Nitrophenol	non-detect	910
p-Phenylenediamine	non-detect	910
Parathion	non-detect	910
Pentachlorobenzene	non-detect	910
Pentachloroethane	non-detect	34
Pentachloronitrobenzene	non-detect	910
Pentachlorophenol	non-detect	910
Phenacetin	non-detect	910
Phenol	non-detect	910
Phorate	non-detect	910
Pronamide	non-detect	910
Pyridine	non-detect	910

Table 6. (Continued)
Composite 246 90th Percentile - Combined Results

Safrole	non-detect	910
Tetrachloroethylene	non-detect	34
Tetraethyldithiopyrophosphate	non-detect	910
Toluene	140	-
Trichloroethylene	non-detect	34
Trichlorofluoromethane	non-detect	34
Vinyl Chloride	non-detect	34

Table 7.
Composite All 50th Percentile - Combined Results
(VOC non-detects from Composite 246)

Chemical Name	Concentration Limit (mg/kg at 10,000 BTU/lb)	Maximum Detection Limit (mg/kg)
Total Nitrogen as N	170	-
Total Halogens as Cl-	non-detect	10
Antimony	4.7	-
Arsenic	non-detect	0.14
Barium	non-detect	18
Beryllium	non-detect	0.90
Cadmium	non-detect	0.90
Chromium	non-detect	1.8
Cobalt	non-detect	3.6
Lead	7.0	-
Manganese	non-detect	0.90
Mercury	non-detect	0.11
Nickel	2.4	-
Selenium	0.090	-
Silver	non-detect	1.8
Thallium	non-detect	18
_,_-Dimethylphenethylamine	non-detect	220
_-Naphthylamine	non-detect	220
ß-Naphthylamine	non-detect	220
1,1,2,2-Tetrachloroethane	non-detect	17
1,1,2-Trichloroethane	non-detect	17
1,1-Dichloroethylene	non-detect	17
1,2,3,-Trichloropropane	non-detect	17
1,2,4,5-Tetrachlorobenzene	non-detect	220
1,2,4-Trichlorobenzene(SVOCs)	non-detect	220
1,2,4-Trichlorobenzene(VOCs)	non-detect	17
1,2-Dibromo-3-chloropropane	non-detect	17
1,2-Dichloroethylene (cis- or trans-)	non-detect	16
1,3,5-Trinitrobenzene	non-detect	220
1,4-Dichloro-2-butene (cis- or trans-)	non-detect	16
1,4-Naphthoquinone	non-detect	220
2,3,4,6-Tetrachlorophenol	non-detect	220
2,4,5-Trichlorophenol	non-detect	220
2,4,6-Trichlorophenol	non-detect	220
2,4-Dichlorophenol	non-detect	220
2,4-Dimethylphenol	non-detect	220
2,4-Dinitrophenol	non-detect	220
2,4-Dinitrotoluene	non-detect	220
2,6-Dichlorophenol	non-detect	220
2,6-Dinitrotoluene	non-detect	220
2-Acetylaminofluorene	non-detect	220
2-Chloroethyl vinyl ether	non-detect	17
2-Chloronaphthalene	non-detect	220
2-Chlorophenol	non-detect	220
2-Piccoline	non-detect	220

Table 7. (Continued)
Composite All 50th Percentile - Combined Results
(VOC non-detects from Composite 246)

3,3'-Dichlorobenzidine	non-detect	220	
3-3'-Dimethylbenzidine	non-detect	220	
3-Methylcholanthrene	non-detect	220	
4,6-Dinitro-o-cresol	non-detect	220	
4-Aminobiphenyl	non-detect	220	
4-Bromophenyl phenyl ether	non-detect	220	
5-Nitro-o-toluidine	non-detect	220	
7,12-Dimethylbenz[a]anthracene	non-detect	220	
Acetonitrile	non-detect	17	
Acetophenone	non-detect	220	
Acrolein	non-detect	17	
Acrylonitrile	non-detect	17	
Allyl chloride	non-detect	17	
Aniline	non-detect	220	
Aramite	non-detect	220	
Benzene	21		-
Benzidine	non-detect	220	
Benzo[a]anthracene	140		-
Benzo[a]pyrene	140		-
Benzo[b]fluoranthene	140		-
Benzo[k]fluoranthene	non-detect	220	
Bromoform	non-detect	17	
Butyl benzyl phthalate	non-detect	220	
Carbon disulfide	non-detect	17	
Carbon tetrachloride	non-detect	17	
Chlorobenzene	non-detect	17	
Chlorobenzilate	non-detect	220	
Chloroform	non-detect	17	
Chloroprene	non-detect	17	
Chrysene	140		-
cis-1,3-Dichloropropene	non-detect	17	
Cresol (o-, m-, or p-)	non-detect	200	
Di-n-butyl phthalate	non-detect	220	
Di-n-octylphthalate	120		-
Diallate	non-detect	220	
Dibenz[a,j]acridine	non-detect	220	
Dibenzo[a,h]anthracene	140		-
Dichlorodifluoromethane	non-detect	17	
Diethyl phthalate	non-detect	220	
Dimethoate	non-detect	220	
Dimethyl phthalate	non-detect	220	
Dinoseb	non-detect	220	
Diphenylamine	non-detect	220	
Disulfoton	non-detect	220	
Ethyl methacrylate	non-detect	17	
Ethyl methanesulfonate	non-detect	220	
Famphur	non-detect	220	
Fluoranthene	non-detect	220	
Fluorene	120		-
Hexachlorobenzene	non-detect	220	
Hexachlorobutadiene	non-detect	220	

Table 7. (Continued)
Composite All 50th Percentile - Combined Results
(VOC non-detects from Composite 246)

Hexachlorocyclopentadiene	non-detect	220
Hexachloroethane	non-detect	220
Hexachlorophene	non-detect	5500
Hexachloropropene	non-detect	220
Indeno(1,2,3-cd)pyrene	140	-
Isobutyl alcohol	non-detect	17
Isodrin	non-detect	220
Isosafrole	non-detect	220
Kepone	non-detect	440
m-Dichlorobenzene(SVOCs)	non-detect	220
m-Dichlorobenzene(VOCs)	non-detect	17
Methacrylonitrile	non-detect	17
Methapyrilene	non-detect	220
Methyl bromide	non-detect	17
Methyl chloride	non-detect	17
Methyl ethyl ketone	non-detect	17
Methyl iodide	non-detect	17
Methyl methacrylate	non-detect	17
Methyl methanesulfonate	non-detect	220
Methyl parathion	non-detect	220
Methylene chloride	non-detect	17
N-Nitrosodi-n-butylamine	non-detect	220
N-Nitrosodiethylamine	non-detect	220
N-Nitrosomethylethylamine	non-detect	220
N-Nitrosomorpholine	non-detect	220
N-Nitrosopiperidine	non-detect	220
N-Nitrosopyrrolidine	non-detect	220
Naphthalene	360	-
Nitrobenzene	non-detect	220
o-Dichlorobenzene(SVOCs)	non-detect	220
o-Dichlorobenzene(VOCs)	non-detect	17
o-Toluidine	non-detect	270
O,O,O-Triethyl phosphorothionate	non-detect	220
O,O-Diethyl O-pyrazinyl phosphothioate	non-detect	220
p-(Dimethylamino)azobenzene	non-detect	220
p-Chloro-m-cresol	non-detect	220
p-Chloroaniline	non-detect	220
p-Dichlorobenzene(SVOCs)	non-detect	220
p-Dichlorobenzene(VOCs)	non-detect	17
p-Nitroaniline	non-detect	220
p-Nitrophenol	non-detect	220
p-Phenylenediamine	non-detect	220
Parathion	non-detect	220
Pentachlorobenzene	non-detect	220
Pentachloroethane	non-detect	17
Pentachloronitrobenzene	non-detect	220
Pentachlorophenol	non-detect	220
Phenacetin	non-detect	220
Phenol	non-detect	220
Phorate	non-detect	220

Table 7. (Continued)
Composite All 50th Percentile - Combined Results
(VOC non-detects from Composite 246)

Pronamide	non-detect	220
Pyridine	non-detect	220
Safrole	non-detect	220
Tetrachloroethylene	non-detect	17
Tetraethyldithiopyrophosphate	non-detect	220
Toluene	110	-
Trichloroethylene	non-detect	17
Trichlorofluoromethane	non-detect	17
Vinyl Chloride	non-detect	17

Table 8.
Composite All 90th Percentile - Combined Results
(VOC non-detects from Composite 246)

Chemical Name	Concentration Limit (mg/kg at 10,000 BTU/lb)	Maximum Detection Limit (mg/kg)
Total Nitrogen as N	1800	-
Total Halogens as Cl-	non-detect	25
Antimony	5.9	-
Arsenic	non-detect	0.22
Barium	non-detect	22
Beryllium	non-detect	1.1
Cadmium	non-detect	1.1
Chromium	non-detect	2.2
Cobalt	non-detect	4.4
Lead	22	-
Manganese	non-detect	1.1
Mercury	non-detect	0.18
Nickel	18	-
Selenium	0.12	-
Silver	non-detect	2.2
Thallium	non-detect	22
_,_-Dimethylphenethylamine	non-detect	700
_-Naphthylamine	non-detect	700
ß-Naphthylamine	non-detect	700
1,1,2,2-Tetrachloroethane	non-detect	34
1,1,2-Trichloroethane	non-detect	34
1,1-Dichloroethylene	non-detect	34
1,2,3,-Trichloropropane	non-detect	34
1,2,4,5-Tetrachlorobenzene	non-detect	700
1,2,4-Trichlorobenzene(SVOCs)	non-detect	700
1,2,4-Trichlorobenzene(VOCs)	non-detect	34
1,2-Dibromo-3-chloropropane	non-detect	34
1,2-Dichloroethylene (cis- or trans-)	non-detect	17
1,3,5-Trinitrobenzene	non-detect	900
1,4-Dichloro-2-butene (cis- or trans-)	non-detect	17
1,4-Naphthoquinone	non-detect	700
2,3,4,6-Tetrachlorophenol	non-detect	700
2,4,5-Trichlorophenol	non-detect	700
2,4,6-Trichlorophenol	non-detect	700
2,4-Dichlorophenol	non-detect	700
2,4-Dimethylphenol	non-detect	700
2,4-Dinitrophenol	non-detect	700
2,4-Dinitrotoluene	non-detect	700
2,6-Dichlorophenol	non-detect	700
2,6-Dinitrotoluene	non-detect	700
2-Acetylaminofluorene	non-detect	700
2-Chloroethyl vinyl ether	non-detect	34
2-Chloronaphthalene	non-detect	700
2-Chlorophenol	non-detect	700

Table 8. (Continued)
Composite All 90th Percentile - Combined Results
(VOC non-detects from Composite 246)

2-Piccoline	non-detect	700	
3,3'-Dichlorobenzidine	non-detect	700	
3-3'-Dimethylbenzidine	non-detect	700	
3-Methylcholanthrene	non-detect	700	
4,6-Dinitro-o-cresol	non-detect	700	
4-Aminobiphenyl	non-detect	700	
4-Bromophenyl phenyl ether	non-detect	700	
5-Nitro-o-toluidine	non-detect	700	
7,12-Dimethylbenz[a]anthracene	non-detect	700	
Acetonitrile	non-detect	34	
Acetophenone	non-detect	700	
Acrolein	non-detect	34	
Acrylonitrile	non-detect	34	
Allyl chloride	non-detect	34	
Aniline	non-detect	700	
Aramite	non-detect	700	
Benzene	3300		-
Benzidine	non-detect	700	
Benzo[a]anthracene	610		-
Benzo[a]pyrene	530		-
Benzo[b]fluoranthene	390		-
Benzo[k]fluoranthene	non-detect	700	
Bromoform	non-detect	34	
Butyl benzyl phthalate	non-detect	700	
Carbon disulfide	non-detect	34	
Carbon tetrachloride	non-detect	34	
Chlorobenzene	non-detect	34	
Chlorobenzilate	non-detect	700	
Chloroform	non-detect	34	
Chloroprene	non-detect	34	
Chrysene	610		-
cis-1,3-Dichloropropene	non-detect	34	
Cresol (o-, m-, or p-)	non-detect	200	
Di-n-butyl phthalate	non-detect	700	
Di-n-octylphthalate	360		-
Diallate	non-detect	700	
Dibenz[a,j]acridine	non-detect	700	
Dibenzo[a,h]anthracene	360		-
Dichlorodifluoromethane	non-detect	34	
Diethyl phthalate	non-detect	700	
Dimethoate	non-detect	700	
Dimethyl phthalate	non-detect	700	
Dinoseb	non-detect	700	
Diphenylamine	non-detect	700	
Disulfoton	non-detect	700	
Ethyl methacrylate	non-detect	34	
Ethyl methanesulfonate	non-detect	700	
Famphur	non-detect	700	
Fluoranthene	non-detect	700	
Fluorene	360		-
Hexachlorobenzene	non-detect	700	

Table 8. (Continued)
Composite All 90th Percentile - Combined Results
(VOC non-detects from Composite 246)

Hexachlorobutadiene	non-detect	700
Hexachlorocyclopentadiene	non-detect	700
Hexachloroethane	non-detect	700
Hexachlorophene	non-detect	18000
Hexachloropropene	non-detect	700
Indeno(1,2,3-cd)pyrene	360	-
Isobutyl alcohol	non-detect	34
Isodrin	non-detect	700
Isosafrole	non-detect	700
Kepone	non-detect	1400
m-Dichlorobenzene(SVOCs)	non-detect	700
m-Dichlorobenzene(VOCs)	non-detect	34
Methacrylonitrile	non-detect	34
Methapyrilene	non-detect	700
Methyl bromide	non-detect	34
Methyl chloride	non-detect	34
Methyl ethyl ketone	non-detect	34
Methyl iodide	non-detect	34
Methyl methacrylate	non-detect	34
Methyl methanesulfonate	non-detect	700
Methyl parathion	non-detect	700
Methylene chloride	non-detect	34
N-Nitrosodi-n-butylamine	non-detect	700
N-Nitrosodiethylamine	non-detect	700
N-Nitrosomethylethylamine	non-detect	700
N-Nitrosomorpholine	non-detect	700
N-Nitrosopiperidine	non-detect	700
N-Nitrosopyrrolidine	non-detect	700
Naphthalene	1300	-
Nitrobenzene	non-detect	700
o-Dichlorobenzene(SVOCs)	non-detect	700
o-Dichlorobenzene(VOCs)	non-detect	34
o-Toluidine	non-detect	1000
O,O,O-Triethyl phosphorothionate	non-detect	700
O,O-Diethyl O-pyrazinyl phosphothioate	non-detect	700
p-(Dimethylamino)azobenzene	non-detect	700
p-Chloro-m-cresol	non-detect	700
p-Chloroaniline	non-detect	700
p-Dichlorobenzene(SVOCs)	non-detect	700
p-Dichlorobenzene(VOCs)	non-detect	34
p-Nitroaniline	non-detect	700
p-Nitrophenol	non-detect	700
p-Phenylenediamine	non-detect	700
Parathion	non-detect	700
Pentachlorobenzene	non-detect	700
Pentachloroethane	non-detect	34
Pentachloronitrobenzene	non-detect	700
Pentachlorophenol	non-detect	700
Phenacetin	non-detect	700
Phenol	non-detect	700

Table 8. (Continued)
Composite All 90th Percentile - Combined Results
(VOC non-detects from Composite 246)

Phorate	non-detect	700
Pronamide	non-detect	700
Pyridine	non-detect	700
Safrole	non-detect	700
Tetrachloroethylene	non-detect	34
Tetraethyldithiopyrophosphate	non-detect	700
Toluene	25000	-
Trichloroethylene	non-detect	34
Trichlorofluoromethane	non-detect	34
Vinyl Chloride	non-detect	34

APPENDIX C

Method Detection Limit Data

METHOD DETECTION LIMIT STUDY
RESULTS BY GCMS 8240 - VOA (CONT.)

	Fuel = Gasoline								
Compound	**Rep.1**	**Rep.2**	**Rep.3**	**Rep.4**	**Rep.5**	**Rep.6**	**Rep.7**	**MDL**	**Rep.1**
Dichlorodifluoromethane	40	38	35	41	41	38	37	7	29
Chloromethane	57	57	54	60	60	56	57	7	42
Vinyl Chloride	56	57	54	59	59	54	56	6	41
Bromomethane	56	63	70	65	72	66	64	16	46
Chloroethane	54	59	55	57	60	53	55	9	44
Trichlorofluoromethane	50	52	116	52	58	74	52	76	127
1,1-Dichloroethene	53	53	51	53	53	52	53	3	44
Acetone	68	65	62	64	61	59	59	10	60
Iodomethane	54	55	53	55	54	54	54	2	45
Carbon disulfide	78	80	76	80	81	76	77	6	64
Allyl chloride	53	54	52	55	53	54	53	3	45
Methylene chloride	56	50	50	53	51	49	52	7	44
trans-1,2-Dichloroethene	53	55	53	55	54	54	53	2	49
1,1-Dichloroethane	46	47	48	48	47	48	47	2	43
cis-1,2-Dichloroethene	54	53	54	53	53	54	53	2	49
2-Butanone	54	50	49	50	47	50	47	7	50
Methacrylonitrile	49	42	44	43	43	44	43	7	49
Chloroform	46	45	46	47	45	47	45	2	46
1,2-Dichloroethane	47	46	47	48	47	48	46	2	50
Vinyl acetate	45	45	45	45	46	44	45	1	41
1,1,1-Trichloroethane	48	49	49	49	49	48	49	1	44
Carbon tetrachloride	50	51	50	52	51	50	50	2	45
Benzene	81	82	81	83	83	81	81	2	120
Trichloroethene	53	52	52	53	53	52	52	2	50
1,2-Dichloropropane	47	47	47	47	47	46	47	1	47
Dibromomethane	49	48	48	48	48	48	48	2	49
Methyl methacrylate	51	51	51	50	51	51	51	1	60
Bromodichloromethane	47	45	46	46	46	45	45	2	45
2-Chloroethylvinyl ether	26	25	26	24	25	24	25	2	25
cis-1,3-Dichloropropene	48	46	47	46	46	46	46	2	48
trans-1,3-Dichloropropene	45	44	44	44	44	44	44	2	47
Ethyl methacrylate	45	43	44	44	44	44	44	2	50
1,1,2-Trichloroethane	43	41	42	41	42	42	41	2	45
Dibromochloromethane	44	41	42	41	42	42	42	3	43
Bromoform	45	42	42	42	41	43	43	4	40
1,1,2,2-Tetrachloroethane	44	43	43	42	42	44	44	2	53
Acrolein	405	431	353	415	395	381	406	79	450
Acetonitrile	66	70	66	68	67	67	69	5	48
Acrylonitrile	56	46	43	47	45	44	49	14	34
Propionitrile	47	46	44	45	44	46	46	3	37
Isobutanol	111	46	46	43	44	44	47	79	111
p-Dioxane	49	47	46	46	47	47	48	4	44
cis-1,4-Dichloro-2-butene	45	41	41	42	41	42	42	4	42
trans-1,4-Dichloro-2-butene	46	45	45	44	44	46	45	3	43
4-Methyl-2-pentanone	48	47	47	48	48	47	47	1	49
Toluene	257	266	262	266	264	262	260	10	419
Tetrachloroethene	56	56	55	56	56	54	54	3	52
2-Hexanone	49	46	46	45	45	46	45	4	46
1,2-Dibromoethane	50	49	49	49	49	49	50	2	46
Chlorobenzene	49	49	48	48	49	49	48	1	49
Ethylbenzene	94	94	94	94	95	94	94	1	170
m,p-Xylene	132	133	130	132	132	132	131	2	247
o-Xylene	111	112	110	110	111	112	111	2	211
Styrene	50	49	48	48	48	49	49	1	52
1,2,3,-Trichloropropane	53	51	52	51	51	52	43	10	42
Pentachloraethane	44	43	44	43	43	44	44	2	42
1,3-Dichlorobenzene	45	44	44	44	44	45	44	1	45
1,4-Dichlorobenzene	44	43	43	43	43	44	44	2	44
1,2-Dichlorobenzene	44	43	44	42	43	43	43	2	43
1,2-Dibromo-3-chloropropane	45	43	43	42	44	43	43	3	44
1,2,4-Trichlorobenzene	43	42	42	42	43	43	43	1	43

Comments:

1) All values are in mg/Kg

2) Spiked amount = 50mg/Kg

3) MDL = t x sd

t=student-t

sd=standard deviation

ME
RESU

	Fuel = No.2								
Compound	**Rep.2**	**Rep.3**	**Rep.4**	**Rep.5**	**Rep.6**	**Rep.7**	**MDL**	**Rep.1**	**Rep.2**
Dichlorodifluoromethane	32	37	38	36	37	37	10	48	44
Chloromethane	44	44	46	42	43	44	4	54	52
Vinyl Chloride	43	43	45	42	43	44	4	53	51
Bromomethane	49	54	52	48	58	45	15	53	64
Chloroethane	52	49	48	48	49	50	8	50	53
Trichlorofluoromethane	134	137	136	130	137	140	14	52	52
1,1-Dichloroethene	45	44	46	43	45	46	3	51	50
Acetone	59	58	57	60	57	57	4	49	51
Iodomethane	47	47	47	45	47	48	3	51	50
Carbon disulfide	67	67	67	63	67	68	6	52	52
Allyl chloride	46	46	45	46	46	47	3	51	51
Methylene chloride	46	45	45	44	45	46	2	50	50
trans-1,2-Dichloroethene	51	50	50	49	50	51	3	50	49
1,1-Dichloroethane	45	44	44	44	43	44	2	50	50
cis-1,2-Dichloroethene	50	49	49	50	49	49	1	47	46
2-Butanone	49	50	51	53	49	48	5	49	50
Methacrylonitrile	45	45	46	47	43	44	6	47	48
Chloroform	46	47	46	47	45	46	2	50	50
1,2-Dichloroethane	51	50	50	50	48	50	2	49	50
Vinyl acetate	42	41	40	39	41	41	3	50	50
1,1,1-Trichloroethane	45	46	45	44	45	45	2	48	50
Carbon tetrachloride	46	47	46	45	47	46	2	49	49
Benzene	124	124	121	120	123	122	6	51	51
Trichloroethene	50	51	49	50	50	49	2	50	50
1,2-Dichloropropane	48	48	47	48	47	47	1	51	51
Dibromomethane	48	49	48	50	50	48	2	47	47
Methyl methacrylate	60	61	60	61	59	59	2	49	49
Bromodichloromethane	46	46	45	47	45	47	2	49	50
2-Chloroethylvinyl ether	25	25	24	25	25	24	2	54	54
cis-1,3-Dichloropropene	48	48	47	48	47	46	2	51	50
trans-1,3-Dichloropropene	47	47	47	48	47	46	2	50	51
Ethyl methacrylate	50	49	48	51	48	48	4	48	49
1,1,2-Trichloroethane	48	47	47	46	47	46	3	49	49
Dibromochloromethane	45	45	45	46	45	45	3	49	49
Bromoform	42	42	42	42	42	42	2	46	46
1,1,2,2-Tetrachloroethane	55	53	54	53	54	52	2	49	50
Acrolein	470	438	438	403	483	453	80	37	55
Acetonitrile	53	50	50	46	53	51	8	46	47
Acrylonitrile	34	32	31	31	33	33	3	48	48
Propionitrile	39	38	37	38	38	38	2	44	45
Isobutanol	122	119	118	109	125	123	19	47	47
p-Dioxane	45	43	42	42	44	44	3	47	46
cis-1,4-Dichloro-2-butene	43	43	43	44	45	43	3	48	46
trans-1,4-Dichloro-2-butene	53	43	50	42	52	44	15	44	45
4-Methyl-2-pentanone	49	50	50	49	50	50	1	50	50
Toluene	427	426	422	416	425	426	13	52	53
Tetrachloroethene	54	54	54	53	54	55	3	48	49
2-Hexanone	46	48	47	48	46	46	2	50	51
1,2-Dibromoethane	47	48	48	47	47	47	1	47	48
Chlorobenzene	49	49	49	49	49	49	1	49	49
Ethylbenzene	170	173	172	171	172	173	4	50	50
m,p-Xylene	245	249	249	248	246	248	4	53	54
o-Xylene	211	212	214	212	212	213	3	51	51
Styrene	52	53	53	53	52	53	1	49	49
1,2,3,-Trichloropropane	41	42	42	42	42	42	1	57	59
Pentachloraethane	40	42	42	41	41	41	2	46	49
1,3-Dichlorobenzene	45	46	46	46	45	46	1	50	51
1,4-Dichlorobenzene	45	45	45	45	45	45	1	49	50
1,2-Dichlorobenzene	43	44	44	44	43	44	2	48	49
1,2-Dibromo-3-chloropropane	46	47	45	44	43	47	5	46	47
1,2,4-Trichlorobenzene	46	53	46	44	44	44	11	46	47

Comments:

1) All values are in mg/Kg

2) Spiked amount = 50mg/Kg

3) MDL = t x sd
   t=student-t
   sd=standard deviation

ME
RESU

	Fuel = No.6					
Compound	**Rep.3**	**Rep.4**	**Rep.5**	**Rep.6**	**Rep.7**	**MDL**
Dichlorodifluoromethane	38	49	50	44	44	13
Chloromethane	42	53	51	49	48	12
Vinyl Chloride	43	53	52	49	49	11
Bromomethane	47	73	52	52	63	29
Chloroethane	48	52	56	50	49	8
Trichlorofluoromethane	45	53	51	52	50	8
1,1-Dichloroethene	46	51	50	51	51	5
Acetone	50	49	52	51	50	3
Iodomethane	48	51	50	50	51	3
Carbon disulfide	46	52	50	51	50	7
Allyl chloride	48	51	49	51	51	3
Methylene chloride	50	51	49	51	51	3
trans-1,2-Dichloroethene	49	49	48	50	50	2
1,1-Dichloroethane	51	51	50	51	51	2
cis-1,2-Dichloroethene	47	47	47	47	47	2
2-Butanone	48	49	51	47	47	5
Methacrylonitrile	47	48	48	48	46	2
Chloroform	49	50	50	51	50	2
1,2-Dichloroethane	49	50	50	50	49	2
Vinyl acetate	50	51	51	51	51	1
1,1,1-Trichloroethane	50	50	49	50	50	2
Carbon tetrachloride	50	49	49	49	51	2
Benzene	51	51	51	51	52	2
Trichloroethene	50	50	50	51	50	1
1,2-Dichloropropane	51	51	52	50	51	2
Dibromomethane	47	47	48	47	48	2
Methyl methacrylate	48	48	49	47	48	3
Bromodichloromethane	49	50	51	49	49	2
2-Chloroethylvinyl ether	51	53	54	52	52	4
cis-1,3-Dichloropropene	49	50	51	49	50	2
trans-1,3-Dichloropropene	49	50	51	48	49	4
Ethyl methacrylate	46	48	50	47	47	4
1,1,2-Trichloroethane	47	49	51	48	48	4
Dibromochloromethane	47	49	50	49	47	3
Bromoform	45	45	46	45	43	4
1,1,2,2-Tetrachloroethane	48	48	50	48	47	3
Acrolein	50	32	51	62	48	32
Acetonitrile	47	46	43	46	47	4
Acrylonitrile	49	47	48	49	49	2
Propionitrile	46	44	45	45	44	2
Isobutanol	44	45	45	45	43	5
p-Dioxane	46	45	46	45	45	2
cis-1,4-Dichloro-2-butene	46	45	47	45	44	4
trans-1,4-Dichloro-2-butene	44	43	45	43	43	2
4-Methyl-2-pentanone	49	49	50	49	49	1
Toluene	54	53	53	54	54	3
Tetrachloroethene	51	50	49	50	51	3
2-Hexanone	50	51	50	51	50	2
1,2-Dibromoethane	47	48	47	48	47	1
Chlorobenzene	49	49	49	50	49	1
Ethylbenzene	50	51	49	51	49	2
m,p-Xylene	53	54	53	53	53	1
o-Xylene	52	51	52	51	51	1
Styrene	49	49	49	49	48	1
1,2,3,-Trichloropropane	46	49	49	48	56	16
Pentachloraethane	46	48	48	48	46	4
1,3-Dichlorobenzene	48	50	50	49	48	3
1,4-Dichlorobenzene	48	49	50	49	48	3
1,2-Dichlorobenzene	47	48	49	47	46	4
1,2-Dibromo-3-chloropropane	44	45	46	46	44	3
1,2,4-Trichlorobenzene	44	46	45	45	44	4

Comments:

1) All values are in mg/Kg

2) Spiked amount = 50mg/Kg

3) MDL = t x sd
   t=student-t
   sd=standard deviation

RESULTS FOR METHOD DETECTION LIMIT STUDY BY GCMS 8270 - SVOC (CONT.)

	Fuel = Gasoline								*Fuel = No.2*								*Fuel = No.6*							
Compound	**Rep.1**	**Rep.2**	**Rep.3**	**Rep.4**	**Rep.5**	**Rep.6**	**Rep.7**	**MDL**	**Rep.1**	**Rep.2**	**Rep.3**	**Rep.4**	**Rep.5**	**Rep.6**	**Rep.7**	**MDL**	**Rep.1**	**Rep.2**	**Rep.3**	**Rep.4**	**Rep.5**	**Rep.6**	**Rep.7**	**MDL**
Acenaphthene	24	25	25	24	25	23	25	2	149	134	143	143	137	145	147	17	105	105	120	115	116	120	121	22
Acenaphthylene	21	21	22	20	21	20	21	1	131	125	131	126	134	129	125	11	112	110	116	119	116	121	124	16
Acetophenone	17	18	20	13	19	18	18	7	68	78	68	64	71	65	64	15	94	97	116	117	119	117	117	34
2-Acetylaminofluorene	15	17	18	17	16	18	16	3	114	108	109	111	115	111	113	8	116	113	122	120	107	104	104	24
4-Aminobiphenyl	19	20	20	19	20	20	20	1	117	119	111	119	117	117	121	10	104	108	106	118	80	81	74	53
Aniline	27	21	27	21	17	15	21	14	102	113	111	100	104	104	99	17	110	113	134	134	133	132	132	33
Anthracene	25	24	24	24	24	24	24	1	101	106	103	108	108	100	100	11	100	86	100	90	94	97	88	17
Aramite	15	14	17	16	15	16	15	3	114	108	110	120	117	115	114	13	123	125	151	141	144	131	140	32
Benzidine	16	17	19	18	15	19	16	5	94	97	97	92	98	98	97	7	94	98	113	107	104	96	108	22
Benzo[a]anthracene	19	19	19	19	19	19	19	0.3	111	107	108	111	112	112	112	7	169	179	205	189	181	189	203	40
Benzo[a]pyrene	19	19	18	19	18	19	18	0.4	102	103	103	102	103	102	102	2	170	161	210	122	175	200	178	90
Benzo[b]fluoranthene	16	17	16	17	17	15	17	2	111	98	105	108	105	106	101	13	138	135	150	166	168	156	153	40
Benzo[g,h,i]perylene	14	15	19	18	15	20	15	7	132	140	133	125	140	141	141	19	101	101	177	158	169	172	148	102
Benzo[k]fluoranthene	23	21	21	21	22	21	21	2	91	102	103	91	91	87	96	19	64	87	119	101	75	108	105	61
Benzyl Alcohol	19	19	18	18	19	18	19	2	94	98	99	93	87	88	88	16	98	96	115	112	114	112	112	25
Bis(2-chloroethoxy)methane	17	17	18	17	16	18	16	2	110	87	109	112	112	113	105	29	96	97	105	104	100	101	102	11
Bis(2-chloroethyl)ether	12	11	18	15	11	9	26	18	91	101	96	93	85	94	96	16	87	97	95	95	99	104	104	18
Bis(2-chloroisopropyl)ether	6	6	6	6	7	6	6	1	62	66	69	65	64	64	64	7	88	90	108	105	107	106	106	26
Bis(2-ethylhexyl)phthalate	15	15	17	16	15	16	15	2	110	106	105	120	107	110	108	16	135	134	146	145	138	131	150	23
4-Bromophenyl phenyl ether	23	23	24	23	23	23	23	2	120	118	122	123	118	115	120	8	108	108	115	116	110	109	110	10
Butylbenzylphthalate	16	17	18	17	17	17	17	1	111	102	105	116	108	109	106	14	134	128	164	161	138	145	165	48
Di-n-butylphthalate	20	19	20	19	20	19	19	1	131	132	134	132	128	131	126	8	113	115	118	118	115	114	116	7
4-Chloroaniline	27	29	30	29	29	28	30	4	119	111	114	115	113	117	114	9	84	77	92	94	96	97	96	23
Chlorobenzilate	17	17	19	18	17	18	17	2	119	112	116	124	116	118	114	12	147	136	185	160	156	163	179	53
4-Chloro-3-methylphenol	23	24	23	22	23	24	24	2	71	64	75	68	71	66	71	12	101	104	111	112	113	112	108	15
2-Chloronaphthalene	19	20	21	20	20	21	20	2	127	131	129	135	127	127	128	10	92	103	122	133	109	132	140	56
2-Chlorophenol	13	12	11	12	12	11	13	2	66	71	69	67	68	70	67	6	88	90	100	100	100	100	100	16
4-Chlorophenyl phenyl ether	19	19	20	19	20	19	20	1	110	100	111	107	110	106	99	15	107	107	117	115	113	118	119	15
Chrysene	20	20	19	20	20	20	20	1	115	111	113	115	115	115	114	5	314	374	436	322	292	309	339	156
Diallate	19	19	21	19	19	20	19	2	108	109	113	111	107	119	111	12	67	73	80	74	79	76	74	14
Dibenz[a,j]acridine	15	15	19	18	14	19	15	7	110	115	109	103	114	113	116	15	91	84	148	126	134	93	103	77
Dibenzo[a,h]anthracene	15	15	18	17	14	19	14	6	108	115	113	107	119	119	117	16	111	102	142	131	136	137	111	50
Dibenzofuran	19	20	20	19	20	20	20	1	121	108	114	117	116	129	111	22	101	100	110	105	106	109	98	14
1,2-Dichlorobenzene	14	14	13	13	14	13	14	1	101	108	107	102	100	99	98	13	92	94	103	103	104	103	103	16
1,3-Dichlorobenzene	17	18	18	16	18	17	17	2	82	118	106	95	103	104	102	35	102	107	113	110	109	107	120	18
1,4-Dichlorobenzene	18	17	17	18	18	18	18	2	114	92	101	98	73	86	87	40	86	86	98	103	102	104	92	25
3,3'-Dichlorobenzidine	18	18	19	19	18	18	18	1	105	100	101	102	103	104	107	8	96	109	106	118	94	95	98	28
2,4-Dichlorophenol	29	30	29	29	29	28	30	2	105	103	108	110	105	114	110	11	109	111	128	127	124	129	129	26
2,6-Dichlorophenol	26	27	27	27	26	27	27	1	103	98	109	102	107	100	103	12	101	103	110	112	111	113	112	15
Diethylphthalate	19	19	19	18	19	18	19	2	80	76	81	80	77	83	82	8	113	113	132	127	121	130	129	24
Dimethoate	15	16	18	17	15	18	15	5	102	107	106	105	108	102	110	9	52	36	63	61	63	54	60	30
p-Dimethylaminoazobenzene	17	17	19	18	17	18	17	2	127	117	120	134	126	126	123	17	58	60	114	78	53	55	52	71
7,12-Dimethylbenz[a]anthrace	20	20	18	19	20	18	20	3	98	94	101	104	97	95	97	11	75	64	75	73	79	69	63	19
3-3'-Dimethylbenzidine	15	15	16	16	15	16	15	2	115	113	113	107	112	112	108	8	104	101	123	113	92	96	98	34
a,a-Dimethylphenethylamine	0	0	0	0	0	0	0	ND	0	0	0	0	0	0	0	ND	71	71	66	73	67	66	66	9
2,4-Dimethylphenol	21	19	21	21	20	21	20	2	117	102	111	114	117	121	117	20	111	114	140	136	137	137	144	41
Dimethylphthalate	19	19	20	18	19	18	19	2	88	87	86	86	88	90	88	5	111	111	122	115	116	119	120	13
m-Dinitrobenzene	19	20	21	19	21	20	21	3	78	72	77	81	76	75	79	9	0	0	0	0	0	0	0	ND
4,6-Dinitro-2-methylphenol	14	15	16	16	16	17	17	3	97	103	100	100	106	109	100	13	0	0	0	0	0	0	0	ND
2,4-Dinitrophenol	11	13	14	13	14	14	15	4	93	92	88	88	92	90	91	6	63	58	85	79	81	71	68	31
2,4-Dinitrotoluene	18	19	19	18	19	19	20	2	82	80	80	77	86	80	80	9	0	0	0	0	0	0	0	0
2,6-Dinitrotoluene	17	18	18	17	19	17	19	2	101	106	106	107	106	98	104	10	81	81	81	72	92	122	91	51
Dinoseb	13	15	16	15	16	16	16	3	118	129	121	122	120	117	119	12	84	53	106	76	87	84	68	52
Diphenylamine	25	26	26	25	25	25	25	1	118	112	119	116	122	115	115	10	108	103	124	114	110	114	116	21
Disulfoton	18	19	20	19	19	19	19	2	132	137	136	134	129	130	132	10	103	100	128	122	115	116	118	31
Ethylmethanesulfonate	27	29	25	28	28	8	30	24	106	114	107	106	100	102	107	13	107	109	121	124	116	119	116	19
Famphur	16	15	23	23	15	23	15	13	207	161	190	154	209	216	212	80	0	0	0	0	0	0	0	ND
Fluoranthene	22	22	21	21	22	20	22	3	138	141	137	143	139	135	132	11	109	104	91	86	86	94	82	31
Fluorene	23	23	23	23	23	22	23	1	149	116	136	149	148	147	144	38	111	110	119	116	116	126	124	19
Hexachlorobenzene	23	23	24	23	23	24	23	2	142	147	141	145	140	138	134	13	94	110	104	93	99	103	93	21
Hexachlorobutadiene	24	24	25	24	24	26	24	2	148	147	156	144	150	147	141	15	108	109	118	117	116	118	118	14
Hexachlorocyclopentadiene	13	13	16	15	14	15	14	4	53	50	60	52	60	57	65	17	35	29	53	45	38	38	41	24
Hexachloroethane	54	191	23	29	27	16	28	195	89	104	93	86	90	93	87	19	75	70	86	88	90	85	84	24
Hexachlorophene	0	0	0	0	0	0	0	ND	0	0	0	0	0	0	0	ND	0	0	0	0	0	0	0	ND
Hexachloropropene	19	20	21	21	20	23	21	4	139	140	138	136	139	143	136	8	85	85	106	106	102	102	104	30
Indeno(1,2,3-c,d)pyrene	18	18	22	21	17	23	18	8	102	106	100	97	107	109	103	14	90	86	151	162	147	144	147	97

RESULTS FOR METHOD DETECTION LIMIT STUDY BY GCMS 8270 - SVOC (CONT.)

	Fuel = Gasoline								*Fuel = No.2*								*Fuel = No.6*							
Compound	**Rep.1**	**Rep.2**	**Rep.3**	**Rep.4**	**Rep.5**	**Rep.6**	**Rep.7**	**MDL**	**Rep.1**	**Rep.2**	**Rep.3**	**Rep.4**	**Rep.5**	**Rep.6**	**Rep.7**	**MDL**	**Rep.1**	**Rep.2**	**Rep.3**	**Rep.4**	**Rep.5**	**Rep.6**	**Rep.7**	**MDL**
Isodrin	20	20	20	19	20	20	20	1	155	160	163	152	155	153	151	13	147	139	101	111	151	106	112	66
Isophorone	16	20	17	16	20	20	17	6	138	158	135	139	135	132	142	28	109	109	131	133	126	130	130	33
Isosafrole	13	13	24	25	19	27	26	19	141	136	132	129	137	138	138	13	111	112	120	121	120	127	127	20
Kepone	26	25	29	30	24	29	24	8	50	59	36	33	10	26	24	51	0	0	0	0	0	0	0	ND
Methapyrilene	18	18	19	19	18	18	17	2	120	127	120	121	119	115	114	13	80	73	92	97	89	83	91	26
Methyl parathion	16	15	19	17	15	18	16	5	158	159	150	155	152	153	158	11	56	50	65	67	69	57	64	21
3-Methylcholanthrene	18	18	18	18	18	18	18	1	109	110	112	105	113	113	114	10	122	119	137	125	123	132	108	29
Methylmethanesulfonate	28	26	26	28	27	27	31	6	166	180	171	171	166	158	161	23	155	154	200	191	190	189	192	60
2-Methylnaphthalene	256	249	272	264	248	285	252	44	276	284	281	268	278	271	289	22	145	152	158	155	155	155	160	15
2-Methylphenol	24	27	25	27	27	22	28	7	70	79	73	73	77	75	73	9	96	98	116	114	115	115	115	28
4-Methylphenol	19	18	18	17	18	18	18	2	88	94	84	83	90	91	89	12	120	118	89	91	92	90	90	44
Naphthalene	207	201	232	210	207	240	190	55	199	197	197	196	198	206	194	12	115	115	123	132	130	131	132	25
1,4-Naphthoquinone	15	14	15	15	15	14	16	2	0	0	0	0	0	0	0	ND	0	0	0	0	0	0	0	ND
1-Naphthylamine	22	22	23	21	22	20	22	3	79	81	80	79	78	78	76	5	76	75	84	57	82	62	57	37
2-Naphthylamine	23	24	23	22	24	22	23	2	97	95	96	95	94	98	97	5	61	54	63	55	65	65	65	14
2-Nitroaniline	17	17	17	17	18	16	18	2	73	74	72	72	76	77	77	7	95	101	124	118	106	116	120	34
3-Nitroaniline	22	23	21	21	23	21	23	2	68	69	67	69	68	64	66	5	75	73	116	110	81	97	88	53
4-Nitroaniline	26	26	24	24	25	22	26	5	100	91	96	101	105	102	99	14	81	78	86	78	84	87	82	11
Nitrobenzene	22	56	17	14	19	21	26	44	83	76	80	82	84	81	82	8	104	96	114	104	105	101	102	17
2-Nitrophenol	19	20	21	20	21	21	21	2	96	107	102	94	96	96	98	15	105	113	126	125	126	124	127	27
4-Nitrophenol	31	13	14	19	11	13	21	21	59	67	64	59	60	61	58	10	79	75	116	102	111	121	113	58
4-Nitroquinoline-1-oxide	6	7	10	9	7	10	7	5	24	22	25	24	28	26	25	6	0	0	0	0	0	0	0	ND
N-Nitroso-di-n-butylamine	22	23	24	22	22	23	22	2	0	0	0	0	0	0	0	ND	118	108	129	123	134	124	125	26
N-Nitrosodiethylamine	20	20	14	19	16	17	17	7	123	128	121	116	117	112	114	17	102	102	121	117	115	116	116	24
N-Nitrosodiphenylamine	21	20	21	20	20	20	20	2	94	90	95	99	98	97	92	10	103	103	123	126	120	122	120	30
N-Nitrosodi-n-propylamine	39	29	25	26	13	14	21	28	79	73	83	83	74	83	82	14	91	94	87	121	121	112	126	51
N-Nitrosomethylethylamine	9	11	12	12	12	12	13	3	146	157	145	145	139	133	133	26	138	137	115	112	107	111	111	41
N-Nitrosomorpholine	70	70	34	19	19	16	32	74	55	56	54	56	58	55	56	4	41	41	41	45	47	41	40	8
N-Nitrosopiperidine	20	20	19	21	21	21	22	3	130	109	130	122	136	134	123	29	108	108	137	135	134	135	138	43
N-Nitrosopyrrolidine	14	14	13	14	13	13	14	2	73	73	79	77	71	69	72	11	91	96	116	162	105	105	108	75
5-Nitro-o-toluidine	22	22	22	21	23	20	23	3	94	91	96	93	97	96	98	8	98	102	101	95	102	107	104	12
Di-n-octylphthalate	16	16	15	16	16	15	16	1	115	101	102	133	99	94	97	43	113	107	119	116	109	108	106	16
Parathion	18	18	19	19	18	19	19	2	156	163	151	161	149	148	155	17	110	95	124	128	100	94	93	46
Pentachlorobenzene	20	20	21	20	20	20	21	1	114	101	107	106	116	109	95	23	111	111	117	112	110	118	115	11
Pentachloronitrobenzene	22	22	23	22	22	22	22	1	103	110	107	113	108	106	110	10	16	29	27	31	25	24	79	66
Pentachlorophenol	18	18	18	18	18	18	18	1	122	132	122	129	118	121	122	15	122	118	134	127	122	115	111	24
Phenacetin	20	20	20	20	20	19	20	1	157	163	151	156	152	152	154	13	103	100	106	94	104	104	99	13
Phenanthrene	20	21	21	20	21	20	21	1	102	98	109	104	102	108	108	13	165	152	170	166	164	173	169	22
Phenol	18	16	15	15	17	13	17	5	91	96	97	91	89	88	88	12	93	94	106	105	106	107	106	19
p-Phenylenediamine	14	15	15	15	14	15	14	2	0	0	0	0	0	0	0	ND	0	0	0	0	0	0	0	ND
Phorate	15	15	16	15	15	15	15	1	84	86	86	86	84	83	82	5	71	71	104	107	67	73	106	59
2-Piccoline	8	14	15	19	21	18	20	14	174	187	189	172	176	172	170	24	149	149	177	173	170	168	170	35
Pronamide	19	19	20	19	19	19	19	1	105	104	108	112	106	104	105	9	84	74	97	81	84	86	81	22
Pyrene	20	20	21	21	20	20	20	1	127	120	123	133	129	131	122	15	252	229	311	282	255	266	294	87
Pyridine	8	7	9	11	8	9	9	4	108	82	101	105	99	97	84	32	38	43	44	43	43	45	48	9
Safrole	17	17	18	17	18	19	18	2	72	85	75	70	72	76	78	15	80	82	143	85	97	87	100	69
Sulfotep	20	20	22	21	20	21	20	3	162	165	158	166	158	156	161	12	121	123	139	136	129	127	133	21
1,2,4,5-Tetrachlorobenzene	20	20	20	19	20	21	20	1	108	98	98	99	110	104	91	21	102	102	114	107	106	112	115	18
2,3,4,6-Tetrachlorophenol	23	23	22	22	23	22	24	2	114	109	112	115	114	108	104	12	90	74	94	82	89	96	87	23
Thionzin	19	20	21	20	20	20	20	2	96	94	95	97	82	89	98	18	105	87	120	107	104	117	108	34
o-Toluidine	28	21	24	21	26	18	27	12	106	111	104	112	109	109	102	11	81	81	90	91	94	92	92	17
1,2,4-Trichlorobenzene	23	23	23	23	23	24	23	1	114	109	116	108	119	117	112	13	100	101	107	107	106	108	108	10
2,4,5-Trichlorophenol	16	17	19	16	17	18	17	3	104	104	92	95	108	105	100	18	135	142	160	144	130	151	155	34
2,4,6-Trichlorophenol	24	25	24	24	25	23	25	2	98	100	100	100	100	95	99	6	78	73	91	89	87	98	104	34
O,O,O-Triethylphosphorothioa	18	18	19	18	18	18	17	2	145	116	146	144	148	147	142	35	116	116	124	124	122	123	125	12
1,3,5-Trinitrobenzene	12	14	14	14	14	14	15	4	101	103	104	103	100	102	113	14	0	0	0	0	0	0	0	ND

Comments:

1) All values in mg/Kg
2) Spiked amount = 100mg/Kg
3) ND = Not detected
4) MDL = t x sd
Where t is the student-t statistic for the 99% confidence limit for n-1 degrees of freedom
and sd is the standard deviation in the seven replicate analyses

COMPARABLE FUELS RESULTS - SVOC (mg/Kg)

Sample	Analyte	*Fuel = Gasoline*				*Fuel = No.2*				*Fuel = No.4*				*Fuel = No.6*			
		Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.	Q.L.	Quant-itation	Code	D.F.
8835-001	1,2,4,5-Tetrachlorobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1,2,4-Trichlorobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1,2-Dichlorobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1,3,5-Trinitrobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1,3-Dichlorobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1,4-Dichlorobenzene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1,4-Naphthoquinone	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	1-Naphthylamine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,3,4,6-Tetrachlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,4,5-Trichlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,4,6-Trichlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,4-Dichlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,4-Dimethylphenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,4-Dinitrophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,4-Dinitrotoluene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,6-Dichlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2,6-Dinitrotoluene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Acetylaminofluorene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Chloronaphthalene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Chlorophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Methylphenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Naphthylamine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Nitroaniline	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Nitrophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	2-Piccoline	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	3,3'-Dichlorobenzidine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	3-3'-Dimethylbenzidine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	3-Methylcholanthrene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4,6-Dinitro-2-methylphenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Aminobiphenyl	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Bromophenyl phenyl ether	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Chloro-3-methylphenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Chloroaniline	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Methylphenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Nitroaniline	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	4-Nitrophenol	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	5-Nitro-o-toluidine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	7,12-Dimethylbenz[a]anthracene	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	a,a-Dimethylphenethylamine	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Acetophenone	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Aniline	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099
8835-001	Aramite	<270		U	26.7	<1200		U	116.8	<200		U	19.8	<99		U	9.90099

RESULTS FOR METHOD DETECTION LIMIT STUDY - MERCURY

	Fuel = Gasoline							
Metal	**Rep.1**	**Rep.2**	**Rep.3**	**Rep.4**	**Rep.5**	**Rep.6**	**Rep.7**	**MDL**
Mercury	0.03	0.02	0.02	0.02	0.02	0.02	0.02	**0.012**

	Fuel = No.2							
Metal	**Rep.1**	**Rep.2**	**Rep.3**	**Rep.4**	**Rep.5**	**Rep.6**	**Rep.7**	**MDL**
Mercury	0.03	0.04	0.04	0.04	0.04	0.05	0.04	**0.018**

	Fuel = No.6							
Metal	**Rep.1**	**Rep.2**	**Rep.3**	**Rep.4**	**Rep.5**	**Rep.6**	**Rep.7**	**MDL**
Mercury	0.04	0.03	0.03	0.03	0.04	0.03	0.04	**0.017**

Comments:
1) Units = mg Total
2) True Value of Spike = 0.100 mg
3) MDL = t x sd
Where t is the student-t statistic for the 99% confidence limit for n-1 degrees of freedom and sd is the standard deviation in the seven replicate analyses

RESULTS FOR METHOD DETECTION LIMIT STUDY - METALS

Metal	Rep.1	Rep.2	Rep.3	Rep.4	Rep.5	Rep.6	Rep.7	MDL	Units	True Value
Antimony	0.57	0.47	0.62	0.38	0.50	0.34	0.23	**0.43**	mg/L	0.5
Arsenic	9.81	8.58	8.47	9.51	6.63	7.07	9.95	**4.13**	ug/L	10
Barium	1.02	1.07	0.91	0.82	0.96	0.80	0.71	**0.53**	mg/L	1
Beryllium	0.109	0.109	0.109	0.110	0.110	0.111	0.110	**0.002**	mg/L	0.1
Cadmium	0.112	0.108	0.121	0.117	0.117	0.116	0.121	**0.015**	mg/L	0.1
Chromium	0.415	0.447	0.450	0.472	0.440	0.428	0.471	**0.066**	mg/L	0.5
Cobalt	0.284	0.282	0.264	0.283	0.296	0.270	0.288	**0.034**	mg/L	0.2
Lead	0.780	0.787	0.810	0.802	0.821	0.843	0.852	**0.085**	mg/L	1
Manganese	0.041	0.044	0.041	0.042	0.042	0.040	0.042	**0.0039**	mg/L	0.05
Nickel	0.217	0.216	0.222	0.218	0.220	0.217	0.222	**0.008**	mg/L	0.2
Selenium	13.50	11.39	13.61	14.24	13.06	10.52	13.13	**4.17**	ug/L	10
Silver	0.175	0.178	0.180	0.179	0.171	0.167	0.163	**0.020**	mg/L	0.2
Thallium	0.77	0.77	0.65	0.74	0.67	0.66	0.60	**0.21**	mg/L	1

Comments:

1) Since the procedure used for these metals was 3040 Dissolution in Xylene, the above MDL was performed in xylene as the common matrix.

2) MDL = t x sd

Where t is the student-t statistic for the 99% confidence limit for n-1 degrees of freedom and sd is the standard deviation in the seven replicate analyses

APPENDIX D

Quality Assurance Results

SEMI-VOLATILE SURROGATE RECOVERY DATA IN PERCENT RECOVERED.

SAMPLE ID	2-FLUROPHENOL	PHENOL-D6	NITROBENZENE	2-FLUOROBIPHENYL	2,4,6-TRIBROMOPHENOL	4-TERPHENYL-d14
2011	14.2	50.6	63.8	86	29.4	73
2012	24.4	79.8	64	80.2	35.2	72.2
2013	D	D	D	D	D	D
2014	D	D	D	D	D	D
2015	9.1	48.2	45	77	63.4	77.1
2016	13.9	74.5	48	78.8	66	74.1
2017	16.8	48.8	56.6	90.2	27.4	92.4
2018	22.6	92.6	65.6	94.2	51.8	88.4
2019	93.7	76.3	134	118	103	103
2020	114	96.5	150	123	110	113
2021	106	102	154	114	138	107
2022	100	121	128	125	109	113
2023	114	102	134	108	148	111
2024	100	101	145	94.5	86.2	101
2025	106	83.8	112	117	98.6	112
2026	119	107	165	102	108	103
2027	101	90.5	114	109	127	103
2028	113	101	141	96.4	113	107
2029	104	108	109	111	114	105
2030	84.3	89.6	98.9	99.6	93.4	110
2031	88.5	89.8	99.6	103	94.3	109
2032	101	100	96.1	101	100	120
2033	99.4	75.5	27.7	94.8	79.3	100
2034	125	113	60.9	91.7	131	116
2230	75.4	72.8	78.9	87.4	62.1	87.1
2231	88.8	77.1	92.3	104	92.8	111
2232	112	106	76.3	93.18	90.9	94.7

D = Surrogate diluted out. Sample diluted due to high target compounds

VOLATILE SURROGATE RECOVERY DATA IN PERCENT RECOVERED

SAMPLE ID	1,2-DICHLOROETHANE	TOLUENE D-8	BROMOFLUROBENZENE
2011	95	114	90
2012	95	115	91
2013	100	105	98
2014	100	111	92
2015	100	111	92
2016	103	95	102
2017	106	100	106
2018	106	97	102
2019	94	101	95
2020	94	102	95
2021	108	101	108
2022	101	97	99
2023	112	95	108
2024	110	96	104
2025	104	101	103
2026	106	95	105
2027	101	103	101
2028	125	79	110
2029	88	93	86
2030	95	101	94
2031	96	97	94
2032	91	101	90
2033	97	102	98
2034	93	95	91
2230	108	96	112
2231	102	105	102
2232	101	106	99

METALS QC SUMMARY (CONT)

SAMPLE ID	METAL	ORIGINAL SAMPLE		SPIKED SAMPLE
		1ST INJECT	DUPLICATE	% RECOVERED
2018	Cobalt	BQL	BQL	97
2028	Cobalt	0.49	0.58	106
2029	Cobalt	BQL	BQL	105
2034	Cobalt	BQL	BQL	101
2018	Beryllium	BQL	BQL	81.2
2028	Beryllium	BQL	BQL	100
2029	Beryllium	BQL	BQL	102
2034	Beryllium	BQL	BQL	104
2018	Silver	BQL	BQL	110
2028	Silver	BQL	BQL	132
2029	Silver	BQL	BQL	135
2034	Silver	BQL	BQL	126
2018	Cadmium	BQL	BQL	102
2028	Cadmium	BQL	BQL	107
2029	Cadmium	BQL	BQL	110
2034	Cadmium	BQL	BQL	106
2018	Manganese	BQL	BQL	99.2
2028	Manganese	BQL	BQL	998
2029	Manganese	BQL	BQL	102
2034	Manganese	BQL	BQL	98.8
2018	Selenium	BQL	BQL	94.4
2028	Selenium	BQL	BQL	116
2029	Selenium	11	17	76.3
2034	Selenium	BQL	BQL	85.7
2018	Arsenic	BQL	BQL	76.3
2028	Arsenic	BQL	BQL	102
2029	Arsenic	BQL	BQL	70.2
2034	Arsenic	BQL	BQL	96.9
2018	Nickel	BQL	BQL	104
2028	Nickel	BQL	BQL	95.9
2029	Nickel	1.39	1.39	116
2034	Nickel	0.3	0.28	96.9
2018	Lead	BQL	BQL	120
2028	Lead	0.651	0.669	93
2029	Lead	0.839	0.85	100
2034	Lead	2.8	2.7	84

METALS QC SUMMARY (CONT)

SAMPLE ID	METAL	ORIGINAL SAMPLE		SPIKED SAMPLE
		1ST INJECT	DUPLICATE	% RECOVERED
2018	Antimony	BQL	BQL	96
2028	Antimony	BQL	BQL	92
2029	Antimony	BQL	BQL	92
2034	Antimony	0.78	1.1	109
2018	Chromium	BQL	BQL	120
2028	Chromium	BQL	BQL	104
2029	Chromium	BQL	BQL	107
2034	Chromium	BQL	BQL	97
2018	Thallium	BQL	BQL	128
2028	Thallium	BQL	BQL	126
2029	Thallium	BQL	BQL	128
2034	Thallium	BQL	BQL	124
2018	Barium	BQL	BQL	85
2028	Barium	BQL	BQL	80
2029	Barium	BQL	BQL	75
2034	Barium	BQL	BQL	72
2018	Mercury	BQL	BQL	47
2028	Mercury	BQL	BQL	45
2029	Mercury	BQL	BQL	36
2034	Mercury	BQL	BQL	38

Units in mg/L
BQL = Below quantitative limits

APPENDIX E

Analysis Potential for
Remaining Constituents from
40 CFR, Part 261, Appendix VIII

COMPOUND LISTS CATEGORY 1 *

Appendix VIII	Appendix IX	Chemical Abstract Numbers	Comments
2-Acetylaminofluorene	2-Acetylaminofluorene	53-96-3	
Acetyl chloride		75-36-5	p. 5, R2 (2-1)
Benzidine		92-87-5	Table 1, p. 4, R1
Benzotrichloride		98-07-7	p. 6, R2 (2-4)
Carbon oxyfluoride		353-50-4	p. 25 - 32, R4
3-Chloropropionitrile		542-76-7	Table 1, p. 4, R1
Diethylstilbesterol		56-53-1	Table 2, p. 10, 1
Diisopropylfluorophosphate		55-91-4	p. 7, R2 (2-9)
Dimethylcarbamoyl chloride		79-44-7	p. 7, R2 (2-9)
1,2-Diphenylhydrazine		122-66-7	Table 1, p. 6, R1
Ethylene oxide		75-21-8	p. 8, R2 (2-11)
Malononitrile		109-77-3	Table 1, p. 7, R1/p. 9, R2 (2-15)
Methyl chlorocarbonate		79-22-1	p. 9, R2 (2-16)
Methyl ethyl ketone peroxide		1338-23-4	p. 9, R2 (2-16)
Methyl isocyanate		624-83-9	p. 9, R2 (2-16)
Nitric Oxide		10102-43-9	p. 9, R2 (2-16)
Nitrogen Dioxide		10102-44-0	p.9, R2 (2-16)
Nitrogen Mustard		51-75-2	
Paraldhyde		123-63-7	Table 1, p. 7, R1/p. 10, R2 (2-19)
Phosgene		75-44-5	p. 10, R2 (2-21)
Phthalic anhydride		85-44-9	Table 1, p. 7, R1
Ressorcinol		108-46-3	Table 1, p. 8, R1/p. 11, R2 (2-22)

R1 Midwest Research Institute. "Summary of OSW Analytical Feasibility Committee Meeting." December 11, 1986.

R2 Midwest Research Institute. "Summary of Public Comments on Specific Chemicals for RCRA Docket No. F-86-GWAP-FFFFF." June 12, 1987

R4 SCS Engineers. Appendix VIII, "Short Term Guidance: Background Document." Docket No. F-86-GWAP-S0003. Jan. 10, 1986.

* Category 1 — The constituent is reactive or unstable in the presence of air or trace amounts of water, such as may be found in fuels or waste stream products used as fuels.

COMPOUND LISTS CATEGORY 2 *

Appendix VIII	Appendix IX	Chemical Abstract Numbers	Comments
Azaserine		115-02-6	
1,4-DIethyleneoxide		123-91-1	
Diethyl-p-nitrophenyl phosphate		311-45-5	
3,3'-Dimethoxybenzidine		119-90-4	
Dimethyl sulfate		77-78-1	p. 7, R2 (2-9)
Endothall		145-73-3	
Epichlorohydrin		106-89-8	
Epinephrine		51-43-4	
Ethylenebisdithiocarbamic acid		111-54-6	
Ethylenethiourea		96-45-7	
Ethylidiene dichloride		75-34-3	
Fluoroacetamide		640-19-7	
Methyl hydrazine		60-34-4	
2-Methyllactonitrile		75-86-5	
Methylthiouracil		56-04-2	
Mitomycin C		50-07-7	
MNNG		70-25-7	
alpha-Naphthylthiourea		86-88-4	
Nitroglycerin		55-63-0	
Nitrosamine, NOS		35576-91-1D	
N-Nitroso-N-ethylurea		759-73-9	
N-Nitroso-N-methylurea		684-93-5	
Phenylthiourea		103-85-5	
1,3-Propane sultone		1120-71-4	
Propargyl alcohol		107-19-7	p. 11, R2 (2-22)
1,2-Propylenimine		75-55-8	
Propylthiouracil		51-52-5	
Reserpine		50-55-5	
Selenourea		630-10-4	
Streptozotocin		1883-66-4	
Strychinne		57-24-9	
Strychinne Salts		—	
Tetramethyl dithiopyrophosphate	Tetramethyl dithiopyrophosphate	3689-24-5	
Tetraethyl pyrophosphate		107-49-3	
Thioacetamide		62-55-5	
Thiofanox		39196-18-4	
Thiomethanol		74-93-1	
Thiophenol		108-98-5	
Thiosemicarbazide		79-79-6	
Toluenediamine		25376-45-8	
Toluene-2,4-diamine		95-80-7	
Toluene-2,6-diamine		823-40-5	
Toluene-3,4-diamine		496-72-0	
Trypan blue		72-57-1	
Warfin		81-81-2	

R2 Midwest Research Institute, Summary of Public Comments on Specific Chemicals Fro RCRA Docket No. F-86-GWAP-FFFFF. June 12, 19

* Category 2 — The constituent can be analyzed by HPLC methods only.
Such methods are either not validated or are inappropriate for fuels and waste stream samples.

COMPOUND LISTS CATEGORY 3

Appendix VIII	Appendix IX	Chemical Abstract Numbers	Comments
Aldicarb		116-06-3	
Allyl alcohol		107-18-6	
4-Aminopyridine		504-24-5	
Benzal chloride		98-87-3	
Benzyl chloride		100-44-7	
Chloroacetaldehyde		107-20-0	
2-Chloroethyl vinyl ether		110-75-8	
Chloromethyl methyl ether		107-30-2	
Cyanogen		460-19-5	
Dichloroethyl ether		111-44-4	
Dichloroisopropyl ether		108-60-1	
Dichloromethoxy ethane		111-91-1	
dichloromethyl ether		542-88-1	
Dichloropropane, NOS		26638-19-7	
Dichloropropanol,NOS		26545-73-3	
Dichloropropene,NOS		26952-23-8	
1,3-Dichloropropene	cis-1,3-Dichloropropene	542-75-6	
Diethylhexyl phthalate		117-81-7	
Dinitrobenzene N.O.S.		25154-54-5	
D-n-propylnitrosamine		621-64-7	
Dithiobiuret		541-53-7	
Endosulfan		115-29-7	
Endrin metabolites		—	
Ethyl carbamate (urethane)		51-79-6	
Ethylene glycol monoethyl ether		110-80-5	
Formic acid		64-18-6	
Halomethanes		—	
Heptachlor isomers		—	
Heptachlorodibenzofurans		—	
Heptachlorodibenzo-p-dioxins		—	
Hexachlorodibenzofurans		—	
Hexachlorodibenzo-p-dioxins		—	
Hexachlorophene	Hexachlorophene	70-30-4	
Lindane		58-89-9	
Maleic Anhydride		108-31-6	p. 8, R2
Methapyrilene	Methapyrilene	91-80-5	
Methomyl		16752-77-5	
Methyl Chloroform		71-55-6	
4,4'-Methylenebis(2-chloroaniline)		101-14-4	
	2-Methylnaphthalene	91-57-6	
2-Nitropropane		79-46-9	

COMPOUND LISTS CATEGORY 3

Appendix VIII	Appendix IX	Chemical Abstract Numbers	Comments
Parathion	Parathion	56-38-2	
PCBs	PCBs	—	
Pentachlorodibenzo-p-dioxins		—	
Pentachlorodibenzofurans		—	
Propylene dichloride		78-87-5	
Silvex	Silvex	93-72-1	
Tetrachlorodibenzo-p-dioxins		—	
Tetrachlorodibenzofurans		—	
Tetranitromethane		509-14-8	
Thiourea		62-56-6	
p-Toluidine		106-49-0	

R2 MRI. "Summary of Public Comments on Specific Chemicals for RCRA Docket No. F-86-GWAP-FFFFF." June 12, 198

* The constituent can be analyzed by existing standard methods or by variations thereto.

COMPOUND LISTS CATEGORY 4 * (CONT.)

Appendix VIII	Appendix IX	Chemical Abstract Numbers	Comments
Ammonium vanadate		7803-55-6	
Antimony compounds		—	
Arsenic compounds		—	
Arsenic acid		778-39-4	
Arsenic pentoxide		1303-28-2	
Arsenic trioxide		1327-53-3	
Barium	Barium	7440-39-3	
Barium compounds		—	
Barium cyanide		542-62-1	
Benzenarsonic acid		56-55-3	
Beryilium compounds		—	
Cadmium compounds		—	
Calcium chromate		13765-19-0	
Calcium cyanide		592-01-8	
Chlordane (alpha and gama isomers)		—	
Chlorinated benzenes		—	p. 25 - 33, R4
Chlorinated ethane		—	p. 25 - 33, R4
Chlorinated fluorocarbons		—	p. 25 - 33, R4
Chlorinated naphthalene		—	p. 25 - 33, R4
Chlorinated phenol		—	p. 25 - 33, R4
Chloroalkyl ethers		—	
Chromium compounds		—	
Coal tar cresote		8007-45-2	p. 25 - 34, R4
Copper cyanide		544-92-3	
Cresote		—	p. 25 - 34, R4
Cresol		1319-77-3	p. 25 - 34, R4
Cyanides (soluable salts and esters)		-	p. 25 - 35, R4
Cyanogen bromide		506-68-3	
Cyanogen chloride		506-77-4	
2,4-D salts and esters		—	
Dichlorobenzene NOS		25321-22-6	p. 25 - 36, R4
Dichloroethylene NOS		25323-30-2	
1,2-Dichloroethylene		156-60-5	
4,6-Dinitro-o-cresol salts		—	
Ethylenebisdithiocarbamic acid, salts, esters		—	
Hydrogen Cyanide		74-90-8	
Hydrogen Fluoride		7664-39-3	
Hydrogen Sulfide		7783-06-4	
Lead Compounds		—	
Lead Acetate		301-04-2	
Lead Phosphate		7446-27-7	
Lead Subacetate		1335-32-6	
Mercury Compounds		—	
Nickel Compounds		—	
Nickel Carbonyl		13463-39-3	

COMPOUND LISTS CATEGORY 4 * (CONT.)

Appendix VIII	Appendix IX	Chemical Abstract Numbers	Comments
Nickel Cyanide		557-19-7	
Nicotine		54-11-5	
Nicotine Salts		—	
Nitrogen Mustard, hydrochloride Salt		—	
Osmium tetroxide		20816-12-0	p. 10, R2 (2-18)
Phenylmercury acetate		62-38-4	(G-2)
Phthalic acid esters		—	
Polychlorinated biphenyls		—	
Potassium Cyanide		151-50-8	(G-1)
Potassium Silver Cyanide		506-61-6	(G-3)
Selenium Compounds		—	
Selenium dioxides		7783-00-8	
Selenium Sulfide		7488-56-4	
Silver Compounds		—	
Silver cyanide		506-64-9	
Sodium Cyanide		143-33-9	
Tetraethyl lead		78-00-2	
Thallium compounds		—	
Thallium oxide		1314-32-5	
Thallium(I) acetate		563-68-8	
Thallium(I) carbonate		6533-73-9	
Thallium(I) chloride		7791-12-0	
Thallium(I) nitrate		10102-45-1	
Thallium selenite		12039-52-0	
Thallium(I) sulfate		7446-18-6	
Vanadium Pentoxide		1314-62-1	
Warfin Salts (<0.3%)		—	p. 25 - 29, R4
Warfin Salts (>0.3%)		—	p. 25 - 29, R4
Zinc Cyanide		557-21-1	
Zinc phosphide (<10%)		1314-84-7	
Zinc phosphide (>10%)		1314-84-7	

R4 SCS Engineers. "Appendix VIII Short Term Guidance: Background Document." Draft. Docket F-86-GWAP-S0003. Jan. 10, 1986.

Category 4 The hazardous substance referenced cannot be analyzed as a specific entity because it is a class of compounds or isomers,or is a metallic or organo-metallic compound. EPA's standard methods do not produce acceptable data for organo-metallics. In most cases, each class of compound is represented by separate Appendix VIII listing of some or all compounds in the class.

COMPOUND LISTS CATEGORIES 5 AND 6 *

Appendix VIII	Appendix IX	Chemical Abstract Numbers	Category	Comments
Ethylene dibromide		106-93-4	5	
Ethylene dichloride		107-06-2	5	
p-Benzoquinone		106-51-4	6	p. 6, R2 (2-3)
Bromoacetone		598-31-2	6	p. 25 - 32, R4
Dibenzo[a,e]pyrene		192-65-4	6	App. D, p. 13, 1
Maleic Hydrazine		123-33-1	6	p. 9, R2 (2-14)
Tetrachloroethane		25322-20-7	6	
Trichloromethanethiol		75-70-7	6	App. D, p. 13, R1/p. 12, R2 (2-23)
Tris(2,3-dibromopropyl)phosphate		126-72-7	6	App. D, p. 13, R1/p. 12, R2 (2-25)

R1 MRI. "Summary of OSW Analytical Feasibility Committee Meeting." December 11, 1986.
R2 MRI. "Summary of Public Comments on Specific Chemicals for RCRA Docket No. F-86-GWAP-FFFFF. June 12, 1987
* Category 5 — Data available and analysis performed as part of the methods required for determination of Appendix IX analytes.
Category 6 — No acceptable method is available for this analyte.

COMPOUND LISTS CATEGORY 7 *

Appendix VIII	Appendix IX	Chemical Abstract Numbers	Comments
Auramine		492-80-8	p. 5, R2 (2-2)/p. 24 - 20 R3
Benz[c]acridine		225-51-4	p. 24 - 20, R3
Benzo[j]fluoranthene		205-82-3	p. 24 - 20, R3
Chloronaphazin		494-03-1	p. 24 - 20, R3
Citrus red No. 2		6358-53-8	p. 24 - 20, R3
2-cyclohexyl-4,6-dinitrophenol		131-89-5	p. 24 - 20, R3
Dibenz[a,h]acridine		226-36-8	p. 24 - 20, R3
Dibenz[a,j]acridine		224-42-0	p. 24 - 20, R3
7H-Dibenzo[c,g]carbazole		194-59-2	p. 24 - 20, R3
Diethylarsine		692-42-2	p. 24 - 20, R3
N,N'-Diethylhydrazine		1615-80-1	p. 24 - 20, R3
O,O-Diethyl S-methyl dithiophosphate		3288-58-2	p. 24 - 20, R3
Dihydrosafrole		94-58-6	Tab. 1, p. 5, R1/p. 7, R2 (2-8)/p. 24 - 20, R3
Hexaethyl tetraphosphate		757-58-4	p. 24 - 20, R3
Lasiocarpine		303-34-1	p. 24 - 20, R3
Nitrogen mustard N-oxide		126-85-2	p. 24 - 20, R3
Nitrogen mustard N-oxide, hydro chloride salt		—	p. 24 - 20, R3
N-Nitrosomethylvinylamine		4549-40-0	p. 24 - 20, R3
N-Nitrososarcosine		13256-22-9	p. 24 - 20, R3
Octamethylpyrophosphoramide		152-16-9	p. 24 - 20, R3
O,O,O-Triethyl phosphorothionate	O,O,O-Triethyl phosphorothionate	126-68-1	p. 24 - 20, R3
Uracil Mustard		66-75-1	p. 24 - 20, R3

R1 MRI. "Summary of OSW Analytical Feasibility Committee Meeting." December 11, 1986.
R2 MRI. "Summary of Public Comments on Specific Chemicals for RCRA Docket No. F-86-GWAP-FFFFF." June 12, 1987.
R3 SCS Engineers. Appendix VIII Short Term Guidance: Background Document," Draft. January 10, 1986.
* Category 7 — Standards are not readily available for this hazardous constituent.

COMPOUND LISTS CATEGORY 8 *

Appendix VIII	Appendix IX	Chemical Abstract Numbers	Comments
Chloral		75-87-6	p. 24 - 21, R3
1,2:3,4-Diepoxybutane		1464-53-5	p. 24 - 21, R3
1,1-Dimethylhydrazine		57-14-7	p. 24 - 21, R3
1,2-Dimethylhydrazine		540-73-8	p. 24 - 21, R3
Fluoroacetic acid, sodium salt		62-74-8	p. 24 - 21, R3
Formaldehyde		50-00-0	p. 24 - 21, R3
Glycidylaldehyde		765-34-4	p. 24 - 21, R3
Hydrazine		302-01-2	p. 24 - 21, R3
Melphalan		148-82-3	p. 24 - 21, R3
Mustard Gas		505-60-2	p. 24 - 21, R3
Nitrosdiethanolamine		1116-54-7	p. 24 - 21, R3
N-Nitroso-N-methylurethane		615-53-2	p. 24 - 21, R3
n-propylamine		107-10-8	p. 24 - 21, R3
Saccharin		81-07-2	p. 24 - 21, R3
Saccharin Salts		—	p. 24 - 21, R3
Thiram		137-26-8	p. 24 - 21, R3
o-Toluidine hydrochloride		636-21-5	p. 24 - 21, R3
1,3,5-Trinitrobenzene	sym-Trinitrobenzene	99-35-4	p. 24 - 21, R3

R3 SCS Engineers. "Appendix VIII Short Term Guidance: Background Document." Draft. January 10, 1986.
* No GC or GCMS method exists for this constituent.

COMPOUND LISTS MULTIPLE CATEGORIES *

Appendix VIII	Appendix IX	Chemical Abstract Numbers	Category	Comments
Aluminum phosphide		20859-73-8	1,4	
Ethyleneimine		151-56-4	1,7	p. 8, R2 (2-10)/p. 24 - 20, R3
Tris(1-aziridinyl)phosphine sulfide		52-24-4	1,7	p. 12, R2 (2-24)/p. 24 - 20, R3
Crotonaldehyde		4170-30-3	1,8	Table 1, p.4, R1/p. 24 - 21, R3
Fluorine	Fluorine	7782-41-4	1,8	p. 8, R2 (2-12)/p. 24 - 21, R3
Phosphine		7803-51-2	1,8	p. 10, R2 (2-21)/p. 24 - 10, R3
Dichlorophenylarsine		696-28-6	2,7	p. 7, R2 (2-7)/p. 24 - 20, R3
1-Acetyl-2-thiourea		591-08-2	2,8	p. 25 - 29, R4
Acrylamide		79-06-1	2,8	p. 25 - 29, R4
Aflatoxins		1402-68-2	2,8	p. 25 - 29, R4
5-(Aminomethyl)-3-isoxazolol		2763-96-4	2,8	p. 25 - 30, R4
Amitrol		61-82-5	2,8	p. 25 - 30, R4
Brucine		357-57-3	2,8	p. 25 - 32, R4
Chlorambucil		305-03-3	2,8	p. 25 - 33, R4
Cycasin		14901-08-7	2,8	p. 25 - 35, R4
Cyclophosphamide		50-18-0	2,8	p. 25 - 35, R4
Daunomycin		20830-81-3	2,8	p. 25 - 35, R4
1-(o-chlorophenyl)thiourea		5344-82-1	6,7	p. 6, R2 (2-5) p. 24 - 20, R3
Dibenzo[a,h]pyrene		189-64-0	6,7	App. D, p. 13, R1/p. 5, R1/p. 7, R2
Dibenzo[a,i]pyrene		189-55-9	6,7	App. D, p. 13, R1/p. 5, R1/p. 7, R2
N-Nitrosonornicotine		16543-55-8	6,7	p. 10, R2 (2-17)/p. 24 - 20, R3
Mercury Fulminate		628-86-4	7,4	p. 24 - 20, R3

R2 MRI. "Summary of Public Comments on Specific Chemicals for RCRA Docket No. F-86-GWAP-FFFFF." June 12, 1987.
R3 SCS Engineers. "Appendix VIII Short Term Guidance: Background Document." Draft. Jan. 10, 1986.
R4 SCS Engineers. "Appendix VIII Short Term Guidance: Background Document." Draft. Docket F-86-GWAP-S0003. Jan. 10, 198

Category 1 The constituent is reactive or unstable in the presence of air or trace amounts of water, such as may be found in fuels or waste stream products used as fuels.
Category 2 Constituent can be analyzed by HPLC methods only, which are either not validated or inappropriate for fuel/wastestream samples.
Category 4 The hazardous substance referenced cannot be analyzed as a specific entity because it is a class of compounds or isomers, or is a metallic or organo-metallic compound. EPA's standard methods do not produce acceptable data for organo-metallics. In most cases, each class of compound is represented by separate Appendix VIII listing of some or all compounds in the class.
Category 6 No acceptable method is available for this analyte.
Category 7 Standards are not readily available for this hazardous constituent.
Category 8 No GC or GCMS method exists for this constituent.