PARSONS ENGINEERING SCIENCE, INC.

290 Elwood Davis Road, Suite 312 • Liverpool, New York 13088 • (315) 451-9560 • Fax (315) 451-9570

September 15, 1997

Ms. Susan Hugo
Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

LOP
3809

RE: Quarterly Status Report
Greyhound Terminal (Location No. 8934)
Oakland, California

Dear Ms. Hugo:

On behalf of Greyhound Lines, Inc. (Greyhound), Parsons Engineering Science, Inc. (Parsons ES) is pleased to present the July Quarterly Status Report for the Greyhound terminal in Oakland, California. The Quarterly Status Report provides the information specified in "Appendix A" of the "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites" (August 1990). Greyhound has reviewed and approved the enclosed report, and agrees with the conclusions and recommendations provided in the report.

Monitoring activities and groundwater sampling were conducted on July 15 and 16, 1997. Table 1 summarizes fluid levels and other pertinent information. Nine groundwater samples were collected and analyzed for MTBE, benzene, toluene, ethylbenzene, and xylene (MTBE/BTEX) (EPA Method 8020), total diesel petroleum hydrocarbons (TPH-D, Modified EPA Method 8015), total gasoline petroleum hydrocarbons (TPH-G, Modified EPA Method 8015), and total polynuclear aromatic hydrocarbons (PAHs, EPA Method 8310). Monitoring well locations are shown in Figure 1 of the Quarterly Status Report. Analytical results are summarized in Table 2. During the July site visit, no measurable free product was observed in any of the wells monitored.

The next groundwater sampling event will be conducted in October 1997. The next quarterly status report will be prepared and submitted to your department during November 1997. If you have any questions or require additional information, please call us at (315) 451-9560.

Sincerely,

PARSONS ENGINEERING SCIENCE, INC.

CR Torell
Christopher R. Torell
Project Manager

D. Chaffin
David L. Chaffin, R.G.
California Registered Geologist (No. 4885)

cc: L. Hernandez, GLI, Dallas, TX
Kevin Graves, Regional Water Quality Control Board

JULY 1997
QUARTERLY STATUS REPORT
GREYHOUND TERMINAL
OAKLAND, CALIFORNIA

- **Site Background:**

  A preliminary site investigation was completed by Engineering-Science, Inc. (ES) in January 1992. Five monitoring wells (ES-1 through ES-5 in Figure 1) were installed on site and sampled during the investigation. The Preliminary Site Investigation report was submitted to the Alameda County Department of Environmental Health (ACDEH) on January 27, 1992.

  Based on the results of the preliminary investigation, a groundwater monitoring program was initiated by Greyhound in June 1992 to assess the impact of former UST operations on groundwater. The program includes monthly groundwater level measurements, quarterly groundwater sampling, and reporting.

  Based on the presence of measurable thicknesses of free product discovered in four onsite monitoring wells, Greyhound subsequently proposed the installation of an automated free product recovery system. Upon ACDEH approval in October 1992, Greyhound obtained the required permits and installed a recovery system onsite during the week of November 9, 1992. A report detailing recovery system installation was submitted to ACDEH on December 18, 1992. The recovery system was placed in operation during the week of January 4, 1993 after discharge permit conditions were finalized with the East Bay Municipal Utility District (EBMUD).

  In a letter to Greyhound dated October 23, 1992, ACDEH requested that Greyhound provide documentation regarding the underground fuel storage tank system (UST) removal, including disposal documentation. Greyhound subsequently prepared a Tank Closure Documentation Report for the facility. The report was submitted to ACDEH on December 15, 1992.

  In July 1993, Greyhound implemented a Supplemental Site Assessment at the facility to define the full extent of contamination both on and offsite. Six monitoring wells (ES-6 through ES-11 in Figure 1) were installed and sampled during the investigation. Results of the Supplemental Site Assessment indicated that the residual soil and groundwater contamination is limited to the former tank pit area onsite. Greyhound presented these results to ACDEH in a meeting on September 1, 1993. At that time, ACDEH indicated that a risk assessment could be prepared to support "alternative points of compliance" or site-specific cleanup levels for this site. Greyhound submitted a Preliminary Risk Evaluation Report to ACDEH in October 1993. A Supplemental Site Assessment Report was submitted in November 1993.

  During October 1995, the scope of the quarterly groundwater sampling program was reduced to consist of collecting and analyzing samples from three monitoring wells (ES-3, ES-4, and ES-6) with annual sampling of ES-7, ES-8, and ES-11. The reduction was discussed during an October 13, 1995 meeting between Greyhound and ACDEH, and confirmed in an October 31, 1995 letter from Greyhound to ACDEH.

In late January, KA7 through verbal instruction and in a February 19, 1997 letter, ACDEH authorized deactivation of the free product recovery system and modified the groundwater monitoring program. The modified groundwater program consists of quarterly monitoring for the presence of free product, quarterly measurement of groundwater elevations, quarterly sampling of wells ES-1, ES-2, ES-3, ES-4, ES-5, ES-6, BC-1, BC-2, and BC-3; and annual sampling of wells ES-7, 8, and 11. Analysis of TPH-G, TPH-D, BTEX, MTBE, and PAHs (if TPH-D is detected) was specified. The free product recovery system was deactivated during the week of January 6, 1997.

- **Water level measurements from most recent sampling event:**

  Monitoring well data obtained on July 15 and 16, 1997 are presented in Table 1. Groundwater elevations determined from the water level measurements are shown in Figure 2. The elevations indicate that the groundwater flow direction across the site is generally to the southeast.

- **Water level measurements from previous monitoring visits:**

  Monitoring well data obtained during prior quarterly sampling events are presented in Attachment B. Free product thicknesses have been eliminated in the four onsite recovery wells (ES-1, ES-2, ES-5, and BC-1) since the product recovery system was activated in January 1993.

- **Analytical results from most recent sampling event:**

  Analytical results from the groundwater samples collected in July 1997 are summarized in Table 2. The samples were analyzed for MTBE, benzene, toluene, ethylbenzene, and xylene (MTBE/BTEX) by EPA Method 8020, for total diesel petroleum hydrocarbons (TPH-D) by Modified EPA Method 8015, and for total gasoline petroleum hydrocarbons (TPH-G) by Modified EPA Method 8015, and for polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8310. Laboratory reports including chain-of-custody documentation, are included in Attachment A.

  BTEX compounds, TPH-G, and PAHs were detected in five of the nine samples (ES-1, ES-2, ES-4, ES-5 and BC-1). TPH-D was detected in all of the samples collected. MTBE was detected in three of the nine samples (ES-2, ES-5 and BC-1).

- **Analytical results from previous sampling events:**

  A summary of the analytical results from previous groundwater sampling events is presented in Attachment C.

- **Site map delineating contamination contours for soil and groundwater based on recent data:**

  Figure 3 shows the analytical results from the most recent groundwater sampling event.

  Figure 4 shows the analytical results from soil samples collected during the preliminary site investigation (November 1991) and the supplemental site assessment (July 1993). The figure indicates that soil contamination is limited to the area near sample locations ES-1, ES-2, and ES-5.

- **Estimates of the quantity of contamination remaining in soil and groundwater, and time for completing remediation:**

  Greyhound has not prepared an estimate of the remaining volume of residual soil contamination, based on the recommendation presented in the Supplemental Site Assessment Report that no soil remediation be conducted at the site.

- **Method of cleanup proposed or implemented to date:**

  In October 1992, Greyhound proposed a free product recovery system to remove free product discovered in four on site wells. A hydrocarbon recovery system was installed in November 1992 after receiving approval from ACDEH. The recovery system was activated during the week of January 4, 1993. The system was deactivated during the week of January 6, 1997, as authorized by ACDEH in a February 19, 1997 letter.

- **Times and dates equipment was not operating, cause of shutdown, and a corrective action plan to insure similar shutdowns do not reoccur:**

  October 6 to October 21, 1993: System shutdown due to an air compressor malfunction.

  November and December 1995: System shutdown to monitor hydrocarbon thicknesses.

  March and April 1996 (4 weeks maximum): System shutdown due to an air compressor malfunction.

  June and July 1996 (4 weeks maximum): System shutdown due to an electrical power supply problem.

  The system was inspected quarterly during monitoring visits by Parsons ES personnel. The system was deactivated during the week of January 6, 1997, as authorized by ACDEH in a February 19, 1997 letter.

- **Method and location of disposal of the released hazardous substance and any contaminated soil, groundwater, or surface water:**

  To date, approximately 1,015 gallons of free product and contaminated groundwater have been recovered and properly disposed offsite by Safety Kleen, Inc. and Evergreen Vacuum Services, State of California-certified waste haulers. Product was last recovered during the September 1994 monitoring period. In addition, 82,610 gallons of groundwater have been carbon-treated in the recovery system onsite and discharged to the sanitary sewer under a permit issued by EBMUD.

- **Manifest required for transport of hazardous substances:**

  Previously received disposal/transport manifests for diesel fuel and contaminated groundwater recovered from the site were included in Appendix A of the January 1993 Quarterly Status Report. Future manifests will be included in future quarterly status reports.

- **Proposed continuing or next phase of investigation:**

  Greyhound is currently conducting the groundwater monitoring program specified in the February 19, 1997 letter from ACDEH.

  The next quarterly status report will be prepared and submitted to ACDEH on or before November 14, 1997.

- **Time schedules for the completion of the investigation of the site and remediation:**

  Greyhound proposes to continue the current groundwater monitoring program until January 1998. At that time, the data obtained during four consecutive quarterly monitoring and sampling events (April 1997, July 1997, October 1997, and January 1998) will be assessed with previously collected data to develop recommendations for additional remedial action, if warranted, or a no-further-action request.

- **Tank owner commitment letter:**

  The cover letter submitted with this report is intended to serve as the tank owner commitment letter.

TABLE 1

MONITORING WELL DATA SUMMARY
GREYHOUND TERMINAL, OAKLAND, CALIFORNIA
July 15 and 16, 1997

Well	Elevation of T.O.C.[1] (Ft.)	Depth to Groundwater (Ft.)	Groundwater Elevation[2] (Ft.)	Product Layer Thickness (Ft.)
ES-1[3]	96.64	18.44	78.20	0
ES-2[3]	96.44	18.97	77.47	0
ES-3	96.96	19.01	77.95	0
ES-4	95.70	18.05	77.65	0
ES-5[3]	95.85	18.29	77.56	0
ES-6	97.84	21.32	76.52	0
BC-1[3,4]	96.16	18.61	77.55	0
BC-2[4]	96.32	18.50	77.82	0
BC-3[4]	96.20	18.20	78.00	0

[1] T.O.C. = Top of PVC Casing. Elevations of T.O.C. measured with respect to on-site datum (97.50 feet, measured on steel grate for storm sewer near wash rack.

[2] Elevation of T.O.C. - depth to groundwater.

[3] Recovery Wells.

[4] Approximate elevation, well casings not vertical. Wells constructed by Brown and Caldwell, Inc., during earlier phases of investigation.

TABLE 2

GROUNDWATER ANALYTICAL RESULTS
GREYHOUND TERMINAL, OAKLAND, CALIFORNIA
July 15 and 16, 1997

Parameter	ES-1	ES-2	ES-3	ES-4	ES-5	ES-6	BC-1	BC-2	BC-3
MTBE [1]	ND	81	ND	ND	350	ND	100	ND	ND
BENZENE [1]	76	190	ND	110	810	ND	520	ND	ND
TOLUENE [1]	8.2	140	ND	11	1800	ND	130	ND	ND
ETHYLBENZENE [1]	11	73	ND	42	430	ND	170	ND	ND
XYLENES (TOTAL) [1]	25	250	ND	40	1800	ND	290	ND	ND
TPH-G [3]	960	3700	ND	920	27000	ND	11000	ND	ND
TPH-D [2]	1.2	16	0.17	0.37	15	0.06	95	0.68	0.49
Total PAH's [4]	13.6	194	ND	18.4	216	ND	203	ND	ND

ND - Parameter analyzed but not detected at or above the detection limit.

[1] Analyzed by EPA Method 8020, results reported in ug/L.

[2] Analyzed by DHS/LUFT Method Modified EPA 8015 for Diesel. Concentrations reported in mg/L.

[3] Analyzed by DHS/LUFT Method Modified EPA 8015 for Gasoline. Concentrations reported in ug/L.

[4] Analyzed by EPA Method 8310. Concentrations reporeted in ug/L.

TABLE 3

SOIL ANALYTICAL DATA SUMMARY
GREYHOUND TERMINAL, OAKLAND, CALIFORNIA

Location Sample Depth	Date	Benzene ug/kg	Toluene ug/kg	Ethylbenzene ug/kg	Xylene ug/kg	Total BTEX[1] ug/kg	TPH-D[2] mg/kg	TPH-G[3] mg/kg
ES-1 (16-18)	11/91	ND	3,000	3,400	22,000	28,400	ND	NA
ES-2 (16-18)	11/91	ND	27,000	28,000	150,000	205,000	ND	NA
ES-3 (18-19)	11/91	ND	ND	ND	ND	ND	ND	NA
ES-4 (16-16.5)	11/91	ND	ND	ND	ND	ND	ND	NA
ES-5 (15-17)	11/91	ND	80	65	330	475	160	NA
ES-6 (15-16.5)	7/93	ND	ND	ND	ND	ND	ND	ND
ES-7 (20-21.5)	7/93	ND	ND	ND	ND	ND	ND	ND
ES-8 (20-21.5)	7/93	ND	ND	ND	ND	ND	ND	ND
ES-9 (15-16.5)	7/93	ND	ND	ND	ND	ND	ND	ND
ES-10 (20-21.5)	7/93	ND	ND	ND	ND	ND	ND	ND
ES-11 (20-21.5)	7/93	ND	ND	ND	ND	ND	ND	ND

NA - Not analyzed.

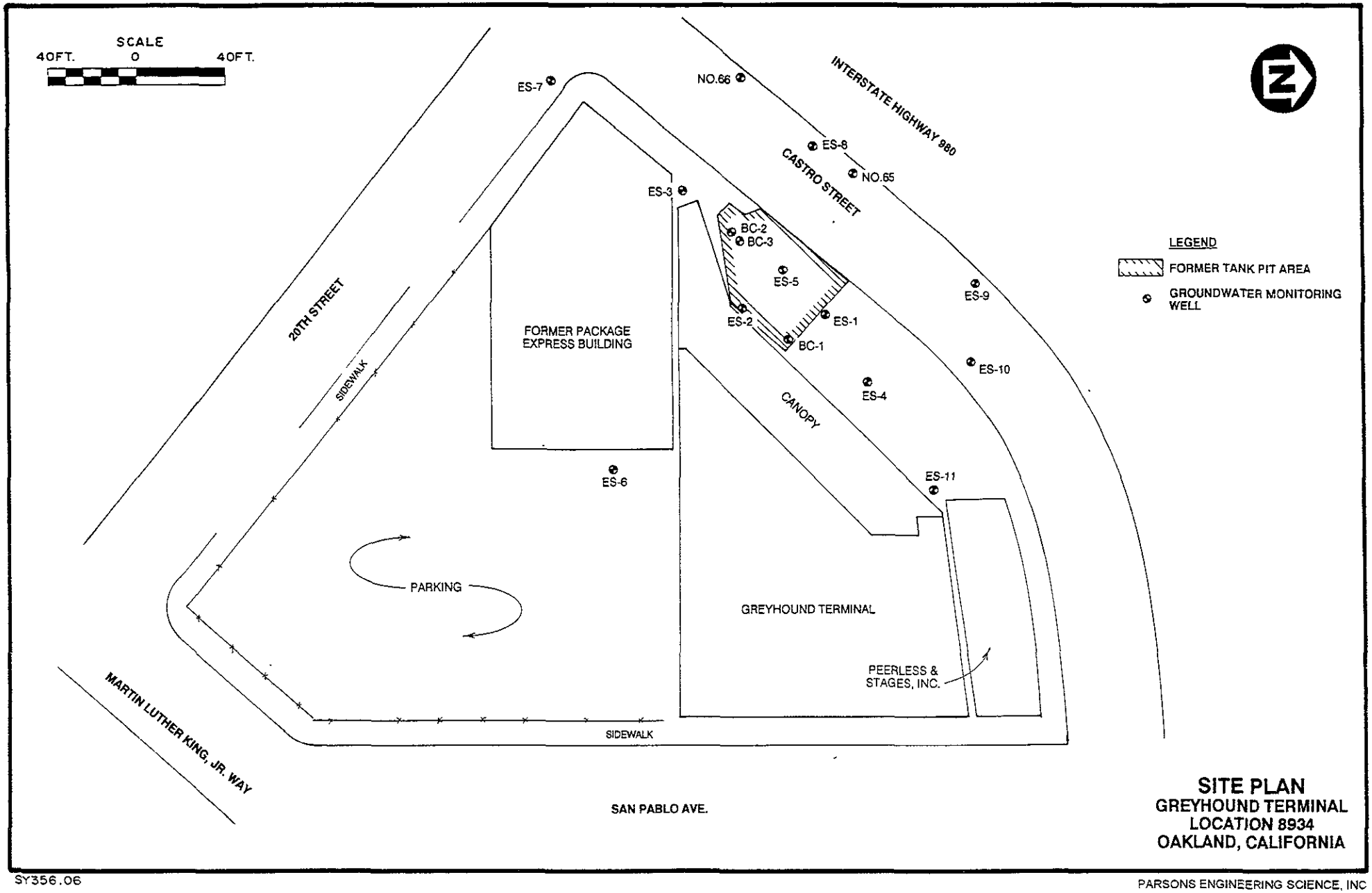
ND - Not-detected; concentration did not exceed Method Detection Limit.

[1] Total BTEX = analyzed by EPA Method 8020. Results reported in ug/kg. Refer to analytical laboratory reports for method detection limits.

[2] TPH-D = Total Petroleum Hydrocarbons (TPH) for Diesel by EPA Method 3510/8015. Results reported in mg/kg. Refer to analytical laboratory reports for method detection limits.

[3] TPH-G = Total Petroleum Hydrocarbons (TPH) for Gasoline by EPA Method 3510/8015. Results reported in mg/kg. Refer to analytical laboratory reports for method detection limits.

FIGURE 1

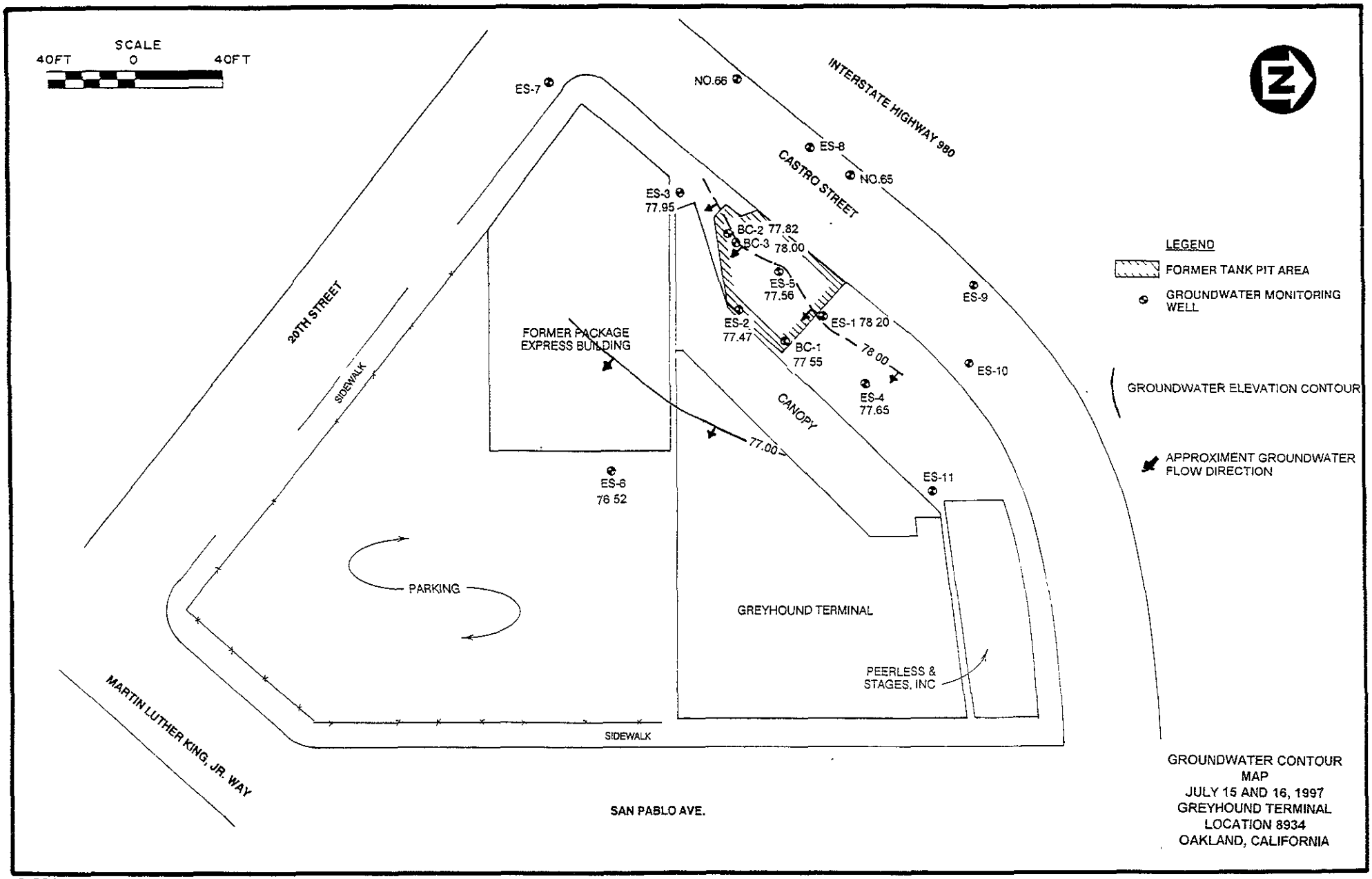


SITE PLAN
GREYHOUND TERMINAL
LOCATION 8934
OAKLAND, CALIFORNIA

SY356.06

PARSONS ENGINEERING SCIENCE, INC

FIGURE 2

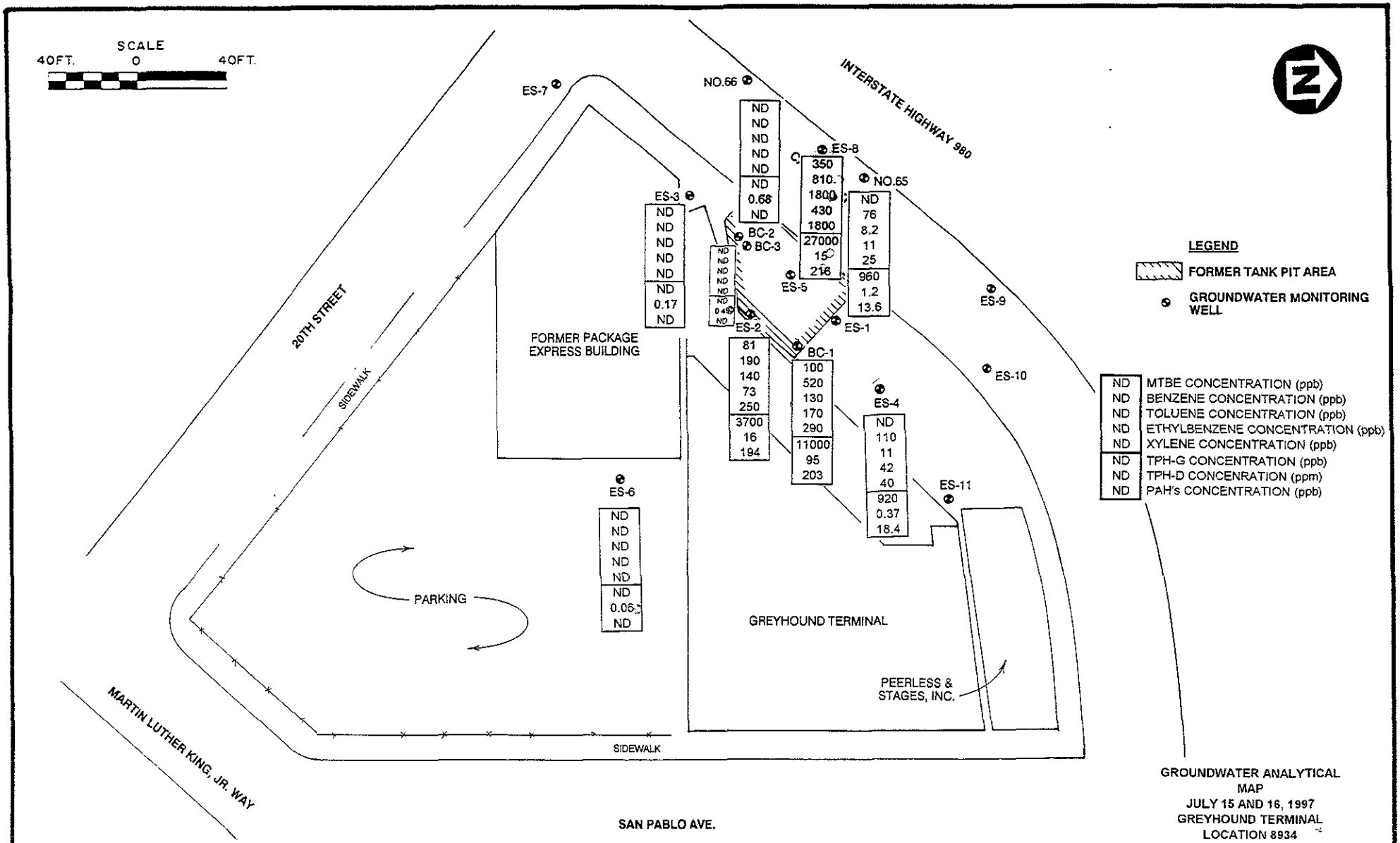


GROUNDWATER CONTOUR MAP
JULY 15 AND 16, 1997
GREYHOUND TERMINAL
LOCATION 8934
OAKLAND, CALIFORNIA

SY356 06

PARSONS ENGINEERING SCIENCE, INC

FIGURE 3

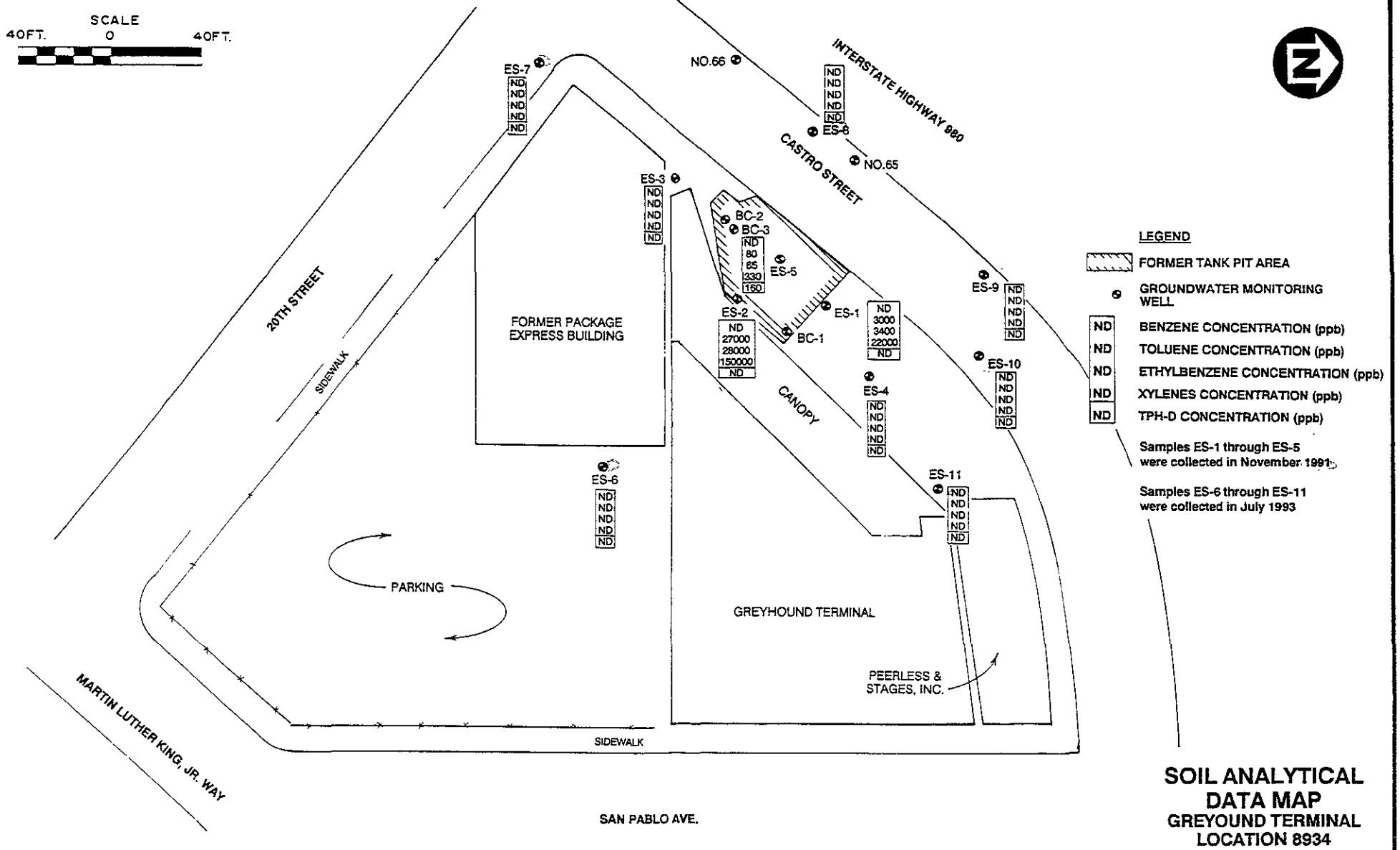


GROUNDWATER ANALYTICAL MAP
JULY 15 AND 16, 1997
GREYHOUND TERMINAL
LOCATION 8934
OAKLAND, CALIFORNIA

SY356 06

PARSONS ENGINEERING SCIENCE, INC

FIGURE 4



SOIL ANALYTICAL DATA MAP
GREYOUND TERMINAL
LOCATION 8934
OAKLAND, CALIFORNIA

SY356 06

PARSONS ENGINEERING SCIENCE, INC

ATTACHMENT A

LABORATORY REPORT

LAS Laboratories, Inc.

SOUTHERN PETROLEUM LABORATORIES

ANALYTICAL DATA REPORT

FOR

8015M EXTRACTABLE PETROLEUM HYDROCARBONS, 8020 AROMATIC VOLATILE ORGANICS/8015M PURGE AND TRAP GASOLINE, AND POLYNUCLEAR AROMATIC HYDROCARBONS

LOG-IN NUMBER	L9984
QUOTATION NUMBER	Q710656-MISC
DOCUMENT FILE NUMBER	0715772C

LAS LABORATORIES, INC. • 975 Kelly Johnson Drive • Las Vegas, Nevada 89119-3705
Telephone 702-361-0220 • Facsimile 702-361-8146

August 20, 1997

Southern Petroleum Laboratories
1501 E. Orangethorpe Ave., Suite 110
Fullerton, CA 92831

ATTN: DOCUMENT CONTROL

RE:

LOG-IN NO.	**L9984**
QUOTATION NO.	**Q710656-MISC**
DOCUMENT FILE NO.	**0715772C**

The attached data report contains the analytical results of samples that were submitted to Southern Petroleum Laboratories on 15 July 1997 and forwarded to LAS Laboratories, Inc. on 16 July 1997.

The temperatures of the two coolers upon receipt were 7 and 7°C. All sample containers coincided with the chain-of-custody documentation. All sample containers were received intact. Samples were received in time to meet the analytical holding time requirements. All discrepancies (if applicable) identified upon receipt of the samples have been forwarded to the client and are documented in the enclosed chain-of-custody records. (See attached Sample Receiving Checklist for details).

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

If you have any questions concerning the analysis or the data, please call Jenny Davis at (702) 361-3955, ext 213. If you are unable to contact the Client Services Representative, please call Dan Fischer, Client Services Manager, at extension 240.

Release of this data report has been authorized by the Laboratory Director or the Director's designee as evidenced by the following signature.

Sincerely,

Jenny L. Davis

Jenny L. Davis
Client Services Representative

cc: Client Services
Document Control

Organic Analytes - Case Narrative

General Introduction

The Case Narrative associated with the determination of organic analytes is separated into three (3) sections as follows:

SECTION 1

A brief word processed description of each method reported in this package. This is a general summary of the procedures used and quality control measures applied. It is not intended to include client-specific requirements. Results relating to initial calibration criteria and continuing calibration criteria are included in this section. This section will also describe any unusual events or important observations from the processing of the samples for each method. The initials of the reporting specialist compiling the Case Narrative with the date compiled will be at the end of this section.

SECTION 2

2. An *Exception Report* for each method printed from our data base that summarizes the results of all quality control (QC) measures. A separate *Exception Report* is included for each "QC Group" necessary for each method. At LAS, a QC Group is also called a "workgroup", or more descriptively, a "QC Batch". Each *Exception Report* includes:
   a. A table listing all the samples in the QC Group by LAS Sample ID and Client Sample ID with the date analyzed and Analytical Batch.
   b. Statement(s) relating to holding times for all samples in the QC Group.
   c. Statement(s) relating to the Method Blank (MB) for all samples in the QC Group.
   d. A list of all samples in the QC Group requiring reanalysis for dilution(s) or QC outliers.
   e. A list of all samples in the QC Group that failed surrogate recovery criteria with the recovery obtained and the Acceptance Limits.
   f. A list of all QC Samples that failed recovery criteria with the recovery obtained and the Acceptance Limits. The QC Samples are a laboratory control sample (LCS) and a matrix spike (MS)/matrix spike duplicate (MSD) pair. If insufficient sample exists for a MS/MSD pair, a laboratory control sample duplicate (LCSD) is included. Some methods call for a LCS/LCSD pair instead of a MS/MSD and some for MS/MSD and LCS/LCSD pairs.
   g. A list of all samples in the QC Group that failed internal standard criteria with the integrated areas of the internal standard(s) and their retention times. Note: Applicable to gas chromatography/mass spectrometry GC/MS methods only.

SECTION 3

A table describing all LAS default data qualifiers (flags) used to qualify the data reported on the result forms. Client-specific qualifiers may augment or replace these LAS default qualifiers.

Method 8015M Extractable Petroleum Hydrocarbons

This method quantifies extractable petroleum hydrocarbons using gas chromatography (GC) coupled with a flame ionization detector (FID). Target analytes are ranges of hydrocarbons not specific petroleum products. Examples are of target analytes are product range organics, like Diesel Range Organics or carbon number range organics, like C_{12} to C_{24} Range Organics. All FID-active substances, or practically speaking, all organic species, eluting within the specified range contribute to the reported value. Samples are extracted with an organic solvent to separate the target analytes from the sample matrix. The extract is then concentrated to a final volume. The hydrocarbon range organics in the extract are quantified using GC/FID. To establish the retention time range for the specific target analyte, n-alkanes are analyze to define the chromatographic range of interest. A "common baseline" is then drawn between the n-alkane markers. All peaks eluting within the established retention time range are integrated and the areas summed. Products whose constituents closely match the target range are used to generate a five-point calibration. For example diesel fuel standards are used to calibrate for Diesel Range Organics or C_{12} to C_{24}. Calibration standard chromatograms and sample chromatograms are integrated identically as described above.

Each time that samples are extracted a collection of quality control check samples are also extracted. A MB is extracted to verify that the laboratory procedures are not contaminating the samples. A LCS is extracted which contains the same product used for calibration in a matrix which does not interfere with the analytical procedure. Recoveries of the target analyte in the LCS are compared to control limits to verify that the analytical systems are operating properly. MS/MSD samples are also prepared with each extraction batch, when sufficient sample exists. The MS and MSD samples are portions of client samples that have been spiked identically to the LCS. Recoveries of the spiked products can be used to estimate the accuracy and precision of the measurements in a real client sample matrix, and they can be used to determine the effect of the sample matrix on the analytical procedures. In cases where there is not enough sample for an MS and MSD, a duplicate of the LCS, a LCSD, is prepared. Every sample, MB, MS, MSD, and LCS is spiked with a surrogate compound, n-octacosane, before extraction. Recoveries of the surrogate are used to verify performance of the analytical systems on a sample by sample basis. A group of samples extracted together is called an extraction batch or a QC Group. The procedure used for extraction depends on the sample matrix, so samples with different matrices (e.g. solids, aqueous liquids, solvent-miscible organic fluids, etc.) will be extracted in separate QC Groups.

Before extracts are analyzed the instrument must have an acceptable five-point initial calibration. Daily, a beginning continuing calibration verification is analyzed to determine if the initial calibration is still valid. Extracts are then run in groups of ten. After each ten extracts, another continuing calibration verification is analyzed. If a continuing calibration verification shows that either the absolute instrument response or the retention times have changed since the initial calibration, corrective actions are taken which may include reanalysis of the affected extracts. A group of extracts analyzed between continuing calibration verifications is called an Analytical Batch. The Exception Report(s) in the following section describe any quality control outliers or comments pertaining to each QC Group.

Results relating to initial and continuing calibration criteria are as follows:
All initial calibration criteria were met.
All continuing calibration criteria were met.

Unusual events or important observations from the processing of the samples are as follows: None

Method 8020 Aromatic Volatile Organics/Method 8015M Purge and Trap Gasoline

This combination of methods identifies and quantifies aromatic volatile organics and quantifies Gasoline Range Organics using gas chromatography (GC) coupled with a photoionization detector (PID) and a flame ionization detector (FID) in series. Aromatic volatile organics are determined on the PID and Gasoline Range Organics are determined on the FID. Samples are placed is a specially designed purging chamber and an inert gas is bubbled through the sample. Volatile compounds partition to the gas phase. The gas then passes through a trap where organic compounds are retained. After the purging cycle, the trap is heated which releases the retained compounds into a GC/PID/FID system. Aromatic volatiles are quantified based on the absolute response of the analytes compared to the initial calibration. If necessary, aromatic volatiles detected at reportable levels on the primary column are confirmed on a second column. Confirmation is necessary only when analyzing an unfamiliar matrix or a complex matrix producing GC/PID chromatograms that are difficult to interpret. Standards of the aromatic volatiles to be confirmed are analyzed on the second column to establish retention times and ensure the aromatic volatiles to be confirmed can be confirmed at the levels detected. Gas chromatography/mass spectrometry can also be used for confirmation. Aromatic volatiles that are not confirmed are reported as less than the reporting limit.

To establish the retention time range for Gasoline Range Organics, gasoline standards are analyzed. A "common baseline" is drawn between the ends of the gasoline range. All peaks eluting within the established retention time range are integrated and the areas summed. All FID-active substances, or practically speaking, all purgeable organic species, eluting within the specified range contribute to the reported value. Gasoline is not actually quantified or reported. However, gasoline standards are used to generate a five-point calibration and for spiking quality control samples. Calibration standard chromatograms and sample chromatograms are integrated identically as described above.

Each time that samples are purged quality control check samples are also analyzed. A MB is purged to verify that the system is not contaminating the samples. LCSs containing aromatic volatiles and gasoline in a matrix which does not interfere with the analytical procedure are also purged. Recoveries of the aromatic volatiles and Gasoline Range Organics in the LCSs are compared to control limits to verify that the analytical systems are operating properly. MS/MSDs are also analyzed for each group of twenty samples. The MS and MSD samples are portions of client samples that have been spiked identically to the LCSs. MS/MSD recoveries can be used to estimate the accuracy and precision of the measurements in a real client sample matrix, and they can be used to determine the effect of the sample matrix on the analytical procedures. Every sample, MB, MS, MSD, and LCS is spiked with surrogates before purging. Recoveries of the surrogates are used to verify performance of the analytical system on a sample by sample basis.

Before samples are analyzed the instrument must have an acceptable five-point initial calibration. Daily, a beginning continuing calibration verification is analyzed to determine if the initial calibration is still valid. Samples are then run in groups of ten. After each ten samples, another continuing calibration verification is analyzed. If a continuing calibration verification shows that either the absolute instrument response or the retention times have changed since the initial calibration, corrective actions are taken which may include reanalysis of the affected samples. A group of samples analyzed between continuing calibration verifications is called an Analytical Batch. A group of samples associated with a MS/MSD pair is called a QC Group.

Results relating to initial and continuing calibration criteria are as follows:
All initial calibration criteria were met.
All continuing calibration criteria were met.

Unusual events or important observations from the processing of the samples are as follows: None

Method 8310 Polynuclear Aromatic Hydrocarbons

This method identifies and quantifies polynuclear aromatic hydrocarbons (PAHs) using reverse phase High Performance Liquid Chromatography (HPLC) coupled with a ultraviolet (UV) detector and a fluorescence detector in series. The surrogate nitrobenzene-d_5 and the target analyte acenaphthylene are determined on the UV detector at 254 nm. All other surrogates and target analytes are determined on the fluorescence detector. Samples are extracted with an organic solvent to separate the target analytes from the sample matrix. The extract is then solvent exchanged to acetonitrile and concentrated to a final volume. The analytes in the extract are identified and quantified using HPLC/UV/Fluorescence. The fluorescence detector is programmed to switch excitation and emission wavelengths at various times during each run to maximize selectivity and sensitivity. However, extracts of matrices containing hydrocarbons usually must be diluted to obtain a valid chromatogram. Heavier hydrocarbons eluting near the end of the chromatogram pose the most difficulty. The heavier, more toxic PAHs elute in this region. This is an inherent limitation of the method. Analytes are quantified based on the absolute response of the analytes compared to the initial calibration.

Each time that samples are extracted a collection of quality control check samples are also extracted. A MB is extracted to verify that the laboratory procedures are not contaminating the samples. A LCS is extracted that contains most or all target analytes in a matrix which does not interfere with the analytical procedure. Recoveries of the target analytes in the LCS are compared to control limits to verify that the analytical systems are operating properly. MS/MSD samples are also prepared with each extraction batch, when sufficient sample exists. The MS and MSD samples are portions of client samples that have been spiked identically to the LCS. Recoveries of the spiked PAHs can be used to estimate the accuracy and precision of the measurements in a real client sample matrix, and they can be used to determine the effect of the sample matrix on the analytical procedures. In cases where there is not enough sample for an MS and MSD, a duplicate of the LCS, a LCSD, is prepared. Every sample, MB, MS, MSD, and LCS is spiked with surrogate compounds before extraction. Recoveries of the surrogate compounds are used to verify performance of the analytical systems on a sample by sample basis. A group of samples extracted together is called an extraction batch or a QC Group. The procedure used for extraction depends on the sample matrix, so samples with different matrices (e.g. solids, aqueous liquids, solvent-miscible organic fluids, etc.) will be extracted in separate QC Groups.

Before extracts are analyzed the instrument must have an acceptable five-point initial calibration. Daily, a beginning continuing calibration verification is analyzed to determine if the initial calibration is still valid. Extracts are then run in groups of ten. After each ten extracts, another continuing calibration verification is analyzed. If a continuing calibration verification shows that either the absolute instrument response or the retention times have changed since the initial calibration, corrective actions are taken which may include reanalysis of the affected extracts. A group of extracts analyzed between continuing calibration verifications is called an Analytical Batch. The Exception Report(s) in the following section describe any quality control outliers or comments pertaining to each QC Group.

Results relating to initial and continuing calibration criteria are as follows:
All initial calibration criteria were met.
All continuing calibration criteria were met.

Unusual events or important observations from the processing of the samples are as follows:
The samples were run multiple times due continuing calibration failure and instrumentation difficulties.

Prepared By
Jenny L. Davis

August 20, 1997

LAS LABORATORIES

POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
EXCEPTION REPORT
QC GROUP: 8310 PAH_51108

SAMPLE SUMMARY

LAS Sample ID	Client Sample ID	Date Analyzed	Analytical Batch
51108LCS	PMBS51108	31-JUL-97	073097-8310-HPLCB-2
51108LCSDUP	PMBSD51108	31-JUL-97	073097-8310-HPLCB-2
51108MB	PBLK51108	31-JUL-97	073097-8310-HPLCB-2
L9984-10	BC-3	31-JUL-97	073097-8310-HPLCB-2
L9984-11	ES-3	31-JUL-97	073097-8310-HPLCB-3
L9984-12	ES-4	31-JUL-97	073097-8310-HPLCB-2
L9984-13	ES-2	31-JUL-97	073097-8310-HPLCB-2
L9984-14	BC-1	31-JUL-97	073097-8310-HPLCB-2
L9984-8	ES-6	31-JUL-97	073097-8310-HPLCB-3
L9984-9	BC-2	31-JUL-97	073097-8310-HPLCB-2
L9993-3	ES-1	01-AUG-97	073097-8310-HPLCC-2
L9993-4	ES-5	01-AUG-97	073097-8310-HPLCC-2
L9993-4 1	ES-5	08-AUG-97	073197-8310-HPLCC-6

HOLDING TIMES
__X__ All holding times were met for samples in this QC group.
__X__ The extraction holding times were met.
__X__ The analytical holding times were met.

METHOD BLANK

__X__ No target analytes were detected in the method blank(s).

SAMPLE RESULTS

__X__ The following samples required reanalysis for either dilutions or QC outliers.

LAS Sample ID	Client Sample ID
L9993-4 1	ES-5

__X__ The following samples required a dilution.

LAS Sample ID	Client Sample ID	Dilution
L9984-13	ES-2	10
L9984-14	BC-1	10
L9993-4 1	ES-5	5

SURROGATE RECOVERIES

__X__ The following samples failed the recovery criteria for this QC group.

LAS Sample ID	Client Sample ID	Parameter	Recovery	Limits
L9984-13	ES-2	Nitrobenzene-d5	357%	20-110

POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
EXCEPTION REPORT
QC GROUP: 8310 PAH_51108

L9984-13		ES-2	2-Fluorobiphenyl	1390%	24-110
L9984-14		BC-1	Nitrobenzene-d5	165%	20-110
L9984-14		BC-1	2-Fluorobiphenyl	1560%	24-110
L9993-3		ES-1	Nitrobenzene-d5	142%	20-110
L9993-4		ES-5	Nitrobenzene-d5	214%	20-110
L9993-4		ES-5	2-Fluorobiphenyl	696%	24-110
L9993-4	1	ES-5	Nitrobenzene-d5	225%	20-110
L9993-4	1	ES-5	2-Fluorobiphenyl	598%	24-110

QC SAMPLE RESULTS

__X__ All QC samples met criteria for this QC group.

__X__ All associated CCV compounds met the percent deviation criteria.

LAS LABORATORIES

POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
CONTINUING CALIBRATION SUMMARY

LAS Sample ID:	R073097-HPLCB-4	Instrument ID:	HPLCB
Date Analyzed:	31-JUL-97 01:45	Analytical Batch ID:	073097-8310-HPLCB-2
File ID:	07309701.R19		

CONSTITUENT	CAS No.	RT	CONC (ug/ml)	NOMINAL CONC	%D
*2-Fluorobiphenyl	321-60-8	-0.610	539.5	500.0	7.9
Acenaphthene	83-32-9	-0.560	202.3	200.0	1.1
Acenaphthylene	208-96-8	-0.550	1981.	2000.	-0.94
Nitrobenzene-d5	4165-60-0	-0.540	532.2	500.0	6.4
Fluorene	86-73-7	-0.530	196.1	200.0	-1.9
Phenanthrene	85-01-8	-0.310	98.98	100.0	-1.0
Anthracene	120-12-7	-0.140	98.17	100.0	-1.8
Fluoranthene	206-44-0	-0.130	196.9	200.0	-1.6
Pyrene	129-00-0	-0.120	109.8	100.0	9.8
Naphthalene	91-20-3	0.000	1059.	1000.	5.9
Benzo(a)anthracen	56-55-3	0.100	99.55	100.0	-0.45
p-Terphenyl-d14	1718-51-0	0.100	523.7	500.0	4.7
Chrysene	218-01-9	0.190	99.28	100.0	-0.72
Benzo(a)pyrene	50-32-8	0.300	98.19	100.0	-1.8
Benzo(b)fluoranth	205-99-2	0.330	211.4	200.0	5.7
Benzo(k)fluoranth	207-08-9	0.390	97.81	100.0	-2.2
Benzo(ghi)perylen	191-24-2	0.420	200.5	200.0	0.26
Dibenzo(ah)anthra	53-70-3	0.430	184.3	200.0	-7.8
Indeno(123cd)pyre	193-39-5	0.470	191.4	200.0	-4.3

LAS LABORATORIES

POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
CONTINUING CALIBRATION SUMMARY

LAS Sample ID:	R073097-HPLCB-7	Instrument ID:	HPLCB
Date Analyzed:	31-JUL-97 12:43	Analytical Batch ID:	073097-8310-HPLCB-2
File ID:	07309711.R30		

CONSTITUENT	CAS No.	RT	CONC (ug/ml)	NOMINAL CONC	%D
Naphthalene	91-20-3	0.000	1040.	1000.	4.0
Benzo(a)pyrene	50-32-8	0.300	99.71	100.0	-0.30
p-Terphenyl-d14	1718-51-0	0.310	521.6	500.0	4.3
Benzo(b)fluoranth	205-99-2	0.330	207.3	200.0	3.7
Fluorene	86-73-7	0.350	192.4	200.0	-3.8
Pyrene	129-00-0	0.360	109.4	100.0	9.4
Acenaphthene	83-32-9	0.370	197.1	200.0	-1.4
Chrysene	218-01-9	0.370	98.70	100.0	-1.3
Benzo(a)anthracen	56-55-3	0.380	98.90	100.0	-1.1
Fluoranthene	206-44-0	0.380	196.6	200.0	-1.7
Benzo(k)fluoranth	207-08-9	0.390	97.95	100.0	-2.0
Anthracene	120-12-7	0.420	98.53	100.0	-1.5
Benzo(ghi)perylen	191-24-2	0.420	202.9	200.0	1.5
Dibenzo(ah)anthra	53-70-3	0.430	198.4	200.0	-0.80
Indeno(123cd)pyre	193-39-5	0.470	193.5	200.0	-3.3
Phenanthrene	85-01-8	0.470	99.03	100.0	-0.97
Acenaphthylene	208-96-8	0.550	1920.	2000.	-4.0
*2-Fluorobiphenyl	321-60-8	0.610	537.4	500.0	7.5
Nitrobenzene-d5	4165-60-0	1.08	528.9	500.0	5.8

LAS LABORATORIES

POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
CONTINUING CALIBRATION SUMMARY

LAS Sample ID:	R073097-HPLCB-1	Instrument ID:	HPLCB
Date Analyzed:	01-AUG-97 01:32	Analytical Batch ID:	073097-8310-HPLCB-3
File ID:	07309701.R52		

CONSTITUENT	CAS No.	RT	CONC (ug/mL)	NOMINAL CONC	%D
Acenaphthylene	208-96-8	-1.28	1997.	2000.	-0.17
Fluorene	86-73-7	-1.23	195.8	200.0	-2.1
Acenaphthene	83-32-9	-1.12	202.1	200.0	1.1
Nitrobenzene-d5	4165-60-0	-1.08	532.4	500.0	6.5
*2-Fluorobiphenyl	321-60-8	-1.02	543.4	500.0	8.7
Phenanthrene	85-01-8	-0.940	99.17	100.0	-0.83
Anthracene	120-12-7	-0.840	99.17	100.0	-0.83
Fluoranthene	206-44-0	-0.760	197.2	200.0	-1.4
Pyrene	129-00-0	-0.720	112.0	100.0	12.0
p-Terphenyl-d14	1718-51-0	-0.310	521.7	500.0	4.3
Benzo(a)anthracen	56-55-3	-0.190	99.96	100.0	-0.042
Chrysene	218-01-9	0.000	99.42	100.0	-0.58
Naphthalene	91-20-3	0.000	1049.	1000.	4.9
Benzo(b)fluoranth	205-99-2	0.170	208.4	200.0	4.2
Benzo(a)pyrene	50-32-8	0.230	103.2	100.0	3.2
Benzo(k)fluoranth	207-08-9	0.320	98.08	100.0	-1.9
Benzo(ghi)perylen	191-24-2	0.420	200.8	200.0	0.40
Indeno(123cd)pyre	193-39-5	0.470	190.3	200.0	-4.8
Dibenzo(ah)anthra	53-70-3	0.500	199.4	200.0	-0.29

LAS Laboratories, Inc.
DATA QUALIFIERS FOR ORGANIC ANALYSES

[Revised 02/28/97]

For Use On The Analytical Data Reporting Forms	
A	***For CLP analyses Only*** -- The TIC is a suspected aldol-condensation product.
B	Any constituent that was also detected in the associated blank whose concentration was greater than the practical or reporting detection limit (PQL or RDL), or method detection limit (MDL) for client samples that require "J" flags to be reported.
C	Constituent confirmed by GC/MS analysis. *[pesticide/PCB analyses only]*
D	Constituent detected in the diluted sample. It also indicates that an accurate quantitation is not possible due to surrogates being diluted out of the samples during the course of the analysis.
E	Constituent concentration exceeded the calibration range.
G	The quantitation is not gasoline or diesel but believed to be some other combination of hydrocarbons.
H	Sample analysis performed outside of method- or client-specified maximum holding time requirement.
J	*Estimated value* -- (1) constituent detected at a level less than the RDL or PQL and greater than or equal to the MDL; (2) estimated concentration for TICs ***(For CLP Reporting Only)***.
N	***For CLP Reporting Only*** -- Tentatively identified constituents (TICs) identified based on mass spectral library search.
NQ	Analyte detected, but Not Quantified; see result from subsequent analysis
P	***For CLP Reporting Only*** -- The percent difference between the concentrations detected on both GC columns was greater than 25 percent *[pesticide/PCB analyses only]*.
U	***For CLP Reporting Only*** -- Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
X, Y, or Z	Analyst-defined qualifier.
N/A (% Moisture)	N/A in the % moisture cell indicates that data are reported on an "*as received*" basis. A value in the % moisture cell indicates that data are reported based on a "*dry weight*" basis.
For Use On The QC Data Reporting Forms	
*	QC data (i.e., percent recovery data for matrix spike, matrix spike duplicate, laboratory control standard, or surrogates; and RPD for matrix spike duplicate or unspiked duplicate) exceeded acceptance limits.
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

[1] Used as footnote designations on the QC Summary Form.

SAMPLE RESULTS FORMS AND QC SUMMARIES

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Certificate of Analysis No. L9984

Client:	Parsons Engineering Science	**Report Date:**	7/28/97
Client Address:	290 Elwood Davis Road , #312	**Date(s) Received:**	7/16/97
	Liverpool, NY 13088	**Date(s) Sampled:**	7/15/97
Attention:	Martin Miller	**Date(s) Analyzed:**	7/24/97
Project Name:	Greyhound Lines	**Project Number:**	730844.89343
Site:	Oakland, CA	**Matrix:**	WATER

Method: 8015* **Units:** mg/L

Sample ID	Client ID	Diesel Range Organics
L9984-4	ES-3	0.17
L9984-5	ES-4	0.37
L9984-6	ES-2	16
L9984-7	BC-1	95

Results reported at Practical Quantitation Limits unless otherwise specified.

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water and Wastewater, 18th Edition
***Ref: Test Methods for Evaluating Solid Waste, EPA SW-846, 3rd Edition

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Certificate of Analysis No. L9984

Client:	Parsons Engineering Science	**Report Date:**	7/28/97
Client Address:	290 Elwood Davis Road , #312	**Date(s) Received:**	7/16/97
	Liverpool, NY 13088	**Date(s) Sampled:**	7/15/97
Attention:	Martin Miller	**Date(s) Analyzed:**	7/24/97
Project Name:	Greyhound Lines	**Project Number:**	730844.89343
Site:	Oakland, CA	**Matrix:**	WATER

Method: 8015** **Units:** mg/L

Sample ID	Client ID	Diesel Range Organics
L9984-1	ES-6	0.06
L9984-2	BC-2	0.68
L9984-3	BC-3	0.49

Results reported at Practical Quantitation Limits unless otherwise specified.

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water and Wastewater, 18th Edition
***Ref: Test Methods for Evaluating Solid Waste, EPA SW-846, 3rd Edition

LAS/SPL California License Number 1392

A Subsidiary of SPL Incorporated

Certificate of Analysis No. L9984

Client: Parsons Engineering Science
Client Address: 290 Elwood Davis Road , #312
Liverpool, NY 13088
Attention: Martin Miller
Project Name: Greyhound Lines
Site: Oakland, CA

Report Date: 7/22/97
Date(s) Received: 7/16/97
Date(s) Sampled: 7/15/97
Date(s) Analyzed: 7/18/97
Project Number: 730844.89343
Matrix: WATER

Method: 8015**
Batch No.: L071897GC1 A

Units: ug/L

LAS ID No.	Sample ID	Gasoline Range Organics
L9984-24	ES-3	ND<50
L9984-27	ES-4	920
L9984-30	ES-2	3700
L9984-33	BC-1	11000

Results reported at Practical Quantitation Limits unless otherwise specified.

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water and Wastewater, 18th Edition
***Ref: Test Methods for Evaluating Solid Waste, EPA SW-846, 3rd Edition

LAS/SPL California License Number 1392

A Subsidiary of SPL Incorporated

Certificate of Analysis No. L9984

Client: Parsons Engineering Science
Client Address: 290 Elwood Davis Road , #312
Liverpool, NY 13088
Attention: Martin Miller
Project Name: Greyhound Lines
Site: Oakland, CA

Report Date: 7/22/97
Date(s) Received: 7/16/97
Date(s) Sampled: 7/15/97
Date(s) Analyzed: 7/18/97
Project Number: 730844.89343
Matrix: WATER

Method: 8015**
Batch No.: L071897GC1 A

Units: ug/L

LAS ID No.	Sample ID	Gasoline Range Organics
L9984-15	ES-6	ND<50
L9984-18	BC-2	ND<50
L9984-21	BC-3	ND<50

Results reported at Practical Quantitation Limits unless otherwise specified.

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water and Wastewater, 18th Edition
***Ref: Test Methods for Evaluating Solid Waste, EPA SW-846, 3rd Edition

LAS/SPL California License Number 1392

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Certificate of Analysis No. L9984

Client: Parsons Engineering Science
Client Address: 290 Elwood Davis Road , #312
Liverpool, NY 13088
Attention: Martin Miller
Project Name: Greyhound Lines
Site: Oakland, CA

Report Date: 7/22/97
Date(s) Received: 7/16/97
Date(s) Sampled: 7/15/97
Date(s) Analyzed: 7/18/97
Project Number: 730844.89343
Matrix: WATER

Method: 8020**
Batch No.: L071897GC1 B

Units: ug/L

LAS ID No.	Sample ID	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
L9984-24	ES-3	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10
L9984-27	ES-4	110	11	42	40	ND<10
L9984-30	ES-2	190	140	73	250	81 J
L9984-33	BC-1	520	130	170	290	100

Results reported at Practical Quantitation Limits unless otherwise specified.

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water and Wastewater, 18th Edition
***Ref: Test Methods for Evaluating Solid Waste, EPA SW-846, 3rd Edition

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Certificate of Analysis No. L9984

Client: Parsons Engineering Science
Client Address: 290 Elwood Davis Road , #312
Liverpool, NY 13088
Attention: Martin Miller
Project Name: Greyhound Lines
Site: Oakland, CA

Report Date: 7/22/97
Date(s) Received: 7/16/97
Date(s) Sampled: 7/15/97
Date(s) Analyzed: 7/18/97
Project Number: 730844.89343
Matrix: WATER

Method: 8020**
Batch No.: L071897GC1 B

Units: ug/L

LAS ID No.	Sample ID	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
L9984-15	ES-6	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10
L9984-18	BC-2	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10
L9984-21	BC-3	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10

Results reported at Practical Quantitation Limits unless otherwise specified.

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water and Wastewater, 18th Edition
***Ref: Test Methods for Evaluating Solid Waste, EPA SW-846, 3rd Edition

LAS/SPL California License Number 1392

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Certificate of Analysis No. L9984

Client: Parson Engineering Science
Client Address: 290 Elwood Davis Road, #312
Liverpool, NY 13088
Attention: Martin Miller
Project Name: Greyhound Lines
Site: Oakland, CA

Report Date: 8/12/97
Date(s) Received: 7/16/97
Date(s) Sampled: 7/15/97
Date(s) Analyzed: 7/31/97
Project Number: 730844.89343
Matrix: WATER

Method: 8310, Polynuclear Aromatic Hydrocarbons

Units: µg/L

Analyte	ES-3	ES-4	ES-2	BC-1
Naphthalene	ND<1.0	3.4	80	86
Acenaphthylene	ND<2.0	15	110	110
Acenaphthene	ND<0.20	ND<0.20	ND<2.0	ND<2.0
Fluorene	ND<0.20	ND<0.20	ND<2.0	2.9
Phenanthrene	ND<0.10	ND<0.10	4.1	4.2
Anthracene	ND<0.10	ND<0.10	ND<1.0	ND<1.0
Fluoranthene	ND<0.20	ND<0.20	ND<2.0	ND<2.0
Pyrene	ND<0.10	ND<0.10	ND<1.0	ND<1.0
Benzo (a) anthracene	ND<0.10	ND<0.10	ND<1.0	ND<1.0
Chrysene	ND<0.10	ND<0.10	ND<1.0	ND<1.0
Benzo (b) fluoranthene	ND<0.20	ND<0.20	ND<2.0	ND<2.0
Benzo (k) fluoranthene	ND<0.10	ND<0.10	ND<1.0	ND<1.0
Benzo (a) pyrene	ND<0.10	ND<0.10	ND<1.0	ND<1.0
Dibenzo (a,h) anthracene	ND<0.20	ND<0.20	ND<2.0	ND<2.0
Benzo (g,h,i) perylene	ND<0.20	ND<0.20	ND<2.0	ND<2.0
Indeno (1,2,3-cd) pyrene	ND<0.20	ND<0.20	ND<2.0	ND<2.0

Results reported at Practical Quantitation Limits unless otherwise specified.

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd ed.

LAS-SPL California License Number 1392

A Subsidiary of SPL Incorporated

Certificate of Analysis No. L9984

Client: Parson Engineering Science
Client Address: 290 Elwood Davis Road, #312
Liverpool, NY 13088
Attention: Martin Miller
Project Name: Greyhound Lines
Site: Oakland, CA

Report Date: 8/12/97
Date(s) Received: 7/16/97
Date(s) Sampled: 7/15/97
Date(s) Analyzed: 7/31/97
Project Number: 730844.89343
Matrix: WATER

Method: 8310, Polynuclear Aromatic Hydrocarbons

Units: µg/L

Analyte	ES-6	BC-2	BC-3
Naphthalene	ND<1.0	ND<1.0	ND<1.0
Acenaphthylene	ND<2.0	ND<2.0	ND<2.0
Acenaphthene	ND<0.20	ND<0.20	ND<0.20
Fluorene	ND<0.20	ND<0.20	ND<0.20
Phenanthrene	ND<0.10	ND<0.10	ND<0.10
Anthracene	ND<0.10	ND<0.10	ND<0.10
Fluoranthene	ND<0.20	ND<0.20	ND<0.20
Pyrene	ND<0.10	ND<0.10	ND<0.10
Benzo (a) anthracene	ND<0.10	ND<0.10	ND<0.10
Chrysene	ND<0.10	ND<0.10	ND<0.10
Benzo (b) fluoranthene	ND<0.20	ND<0.20	ND<0.20
Benzo (k) fluoranthene	ND<0.10	ND<0.10	ND<0.10
Benzo (a) pyrene	ND<0.10	ND<0.10	ND<0.10
Dibenzo (a,h) anthracene	ND<0.20	ND<0.20	ND<0.20
Benzo (g,h,i) perylene	ND<0.20	ND<0.20	ND<0.20
Indeno (1,2,3-cd) pyrene	ND<0.20	ND<0.20	ND<0.20

Results reported at Practical Quantitation Limits unless otherwise specified.

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd ed.

LAS-SPL California License Number 1392

QUALITY CONTROL

DOCUMENTATION

A Subsidiary of SPL Incorporated

LAS BATCH QUALITY CONTROL REPORT
METHOD 8015/Diesel

Batch ID: 072297GC6
Matrix: WATER
Units: mg/L

LABORATORY CONTROL SAMPLE

Spike Compounds	Method Blank Result	Spike Added	Blank Spike		QC Limits (**) (Mandatory)
			Result	Rescovery	
	<2>	<3>	<1>	%	% Recovery Range
Diesel Range Organics	ND<0.05	3.1	2.4	77	43 - 145

MATRIX SPIKES

Spike Compounds	Sample Results	Spike Added	LCS Spike		LCS Spike Duplicate		LCS/LCSD Relative % Difference (RPD)	QC Limits (***) (Advisory)	
			Result	Recovery	Result	Recovery		RPD MAX	Recovery Range
	<2>	<3>	<1>	<4>	<1>	<5>			
Diesel Range Organics	N/A	3.1	2.4	77	2.4	77	0	20	43 - 145

Analyst: DA
Sequence Date: 7/22/97
LAS ID of Spiked Sample: N/A
QC Batch Id: 51057

* = Values Outside QC Range. << = Data Outside Method Specification Limits
NC = Not Calculated (Sample Exceeds Spike by a factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = | (<4> - <5>| / [(<4> + <5>) x 0.5] x 100
(**) = Source:
(***) = Source:

SAMPLES IN BATCH (LAS ID):

L9983-1,2,3,4,5,6,7,8,9,10,11
L9984-1,2,3,4,5,6,7
L9993-1,2

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LAS BATCH QUALITY CONTROL REPORT
METHOD 8015/Diesel

Batch ID: 072297GC6
Matrix: WATER
Units: mg/L

LABORATORY CONTROL SAMPLE

Spike Compounds	Method Blank Result	Spike Added	Blank Spike		QC Limits (**) (Mandatory)
			Result	Rescovery	
	<2>	<3>	<1>	%	% Recovery Range
Diesel Range Organics	ND<0.05	3.1	2.4	77	43 - 145

MATRIX SPIKES

Spike Compounds	Sample Results	Spike Added	LCS Spike		LCS Spike Duplicate		LCS/LCSD Relative % Difference (RPD)	QC Limits (***) (Advisory)	
			Result	Recovery	Result	Recovery		RPD MAX	Recovery Range
	<2>	<3>	<1>	<4>	<1>	<5>			
Diesel Range Organics	N/A	3.1	2.4	77	2.4	77	0	20	43 - 145

Analyst: DA
Sequence Date: 7/22/97
LAS ID of Spiked Sample: N/A
QC Batch Id: 51057

* = Values Outside QC Range. << = Data Outside Method Specification Limits
NC = Not Calculated (Sample Exceeds Spike by a factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = | (<4> - <5>| / [(<4> + <5>) x 0.5] x 100
(**) = Source:
(***) = Source:

SAMPLES IN BATCH (LAS ID):

L9983-1,2,3,4,5,6,7,8,9,10,11
L9984-1,2,3,4,5,6,7
L9993-1,2

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LAS BATCH QUALITY CONTROL REPORT
METHOD 8015/Gasoline

Batch ID: L071897GC1 A **DATE:** 7/18/97
Matrix: WATER
Units: ug/L

LABORATORY CONTROL SAMPLE

Spike Compounds	Method Blank Result	Spike Added	Blank Spike		QC Limits (**) (Mandatory)		
			Result	Recovery			
	<2>	<3>	<1>	%	% Recovery Range		
Gasoline Range Organics	ND<50	1000	1100	110	60	-	130

MATRIX SPIKES

Spike Compounds	Sample Results	Spike Added	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference (RPD)	QC Limits (***) (Advisory)	
			Result	Recovery	Result	Recovery		RPD MAX	Recovery Range
	<2>	<3>	<1>	<4>	<1>	<5>			
Gasoline Range Organics	ND<50	1000	1100	110	1100	110	0	25	60 - 130

Analyst: JKA/DA
Sequence Date: 7/15/97
LAS ID of Spiked Sample: L9984-15

* = Values Outside QC Range. << = Data Outside Method Specification Limits
NC = Not Calculated (Sample Exceeds Spike by a factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = | (<4> - <5>| / [(<4> + <5>) x 0.5] x 100
(**) = Source: Historical Limits
(***) = Source: Historical Limits

SAMPLES IN BATCH (LAS ID):

L9984-15,30,33,18,21,24,27
L9993-8,11,5
L10004-7,19,1,3,5,9,11,13,15,17

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LAS BATCH QUALITY CONTROL REPORT
METHOD 8020/602

Batch ID: L071897GC1 B **Date:** 7/18/97
Matrix: WATER
Units: ug/L

LABORATORY CONTROL SAMPLE

Spike Compounds	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits (**) (Mandatory) % Recovery Range
MTBE	ND<10	50	60	120	80 - 120
Benzene	ND<0.5	50	50	100	75 - 125
Toluene	ND<1.0	50	49	98	75 - 130
Ethylbenzene	ND<1.0	50	50	100	75 - 130
m,p-Xylene	ND<1.0	100	98	98	75 - 130
o- Xylene	ND<1.0	50	49	98	75 - 130

MATRIX SPIKES

Spike Compounds	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference (RPD)	QC Limits (***) (Advisory) RPD MAX	Recovery Range
Benzene	ND<0.5	50	53	106	53	106	0	20	75 - 125
Toluene	ND<1.0	50	52	104	52	104	0	25	75 - 130
Ethylbenzene	ND<1.0	50	54	108	54	108	0	25	75 - 130
m,p-Xylene	ND<1.0	100	110	110	110	110	0	25	75 - 130
o-Xylene	ND<1.0	50	52	104	52	104	0	25	75 - 130

Analyst: JKA/DA
Sequence Date: 7/15/97
LAS ID of Spiked Sample: L9984-15

* = Values Outside QC Range. << = Data Outside Method Specification Limits
NC = Not Calculated (Sample Exceeds Spike by a factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = | (<4> - <5>| / [(<4> + <5>) x 0.5] x 100
(**) = Source: Historical Limits
(***) = Source: Historical Limits

SAMPLES IN BATCH (LAS ID):

L9984-15,30,33,18,21,24,27
L9993-8,11,5
L10004-7,19,1,3,5,9,11,13,15,17

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LAS BATCH QUALITY CONTROL REPORT
METHOD 8015/Gasoline

Batch ID: L071897GC1 A **DATE:** 7/18/97
Matrix: WATER
Units: ug/L

LABORATORY CONTROL SAMPLE

Spike Compounds	Method Blank Result	Spike Added	Blank Spike		QC Limits (**) (Mandatory)		
			Result	Recovery			
	<2>	<3>	<1>	%	% Recovery Range		
Gasoline Range Organics	ND<50	1000	1100	110	60	-	130

MATRIX SPIKES

Spike Compounds	Sample Results	Spike Added	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference (RPD)	QC Limits (***) (Advisory)	
			Result	Recovery	Result	Recovery		RPD MAX	Recovery Range
	<2>	<3>	<1>	<4>	<1>	<5>			
Gasoline Range Organics	ND<50	1000	1100	110	1100	110	0	25	60 - 130

Analyst: JKA/DA
Sequence Date: 7/15/97
LAS ID of Spiked Sample: L9984-15

* = Values Outside QC Range. << = Data Outside Method Specification Limits
NC = Not Calculated (Sample Exceeds Spike by a factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = | (<4> - <5>| / [(<4> + <5>) x 0.5] x 100
(**) = Source: Historical Limits
(***) = Source: Historical Limits

SAMPLES IN BATCH (LAS ID):

L9984-15,30,33,18,21,24,27
L9993-8,11,5
L10004-7,19,1,3,5,9,11,13,15,17

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LAS BATCH QUALITY CONTROL REPORT
METHOD 8020/602

Batch ID: L071897GC1 B **Date:** 7/18/97
Matrix: WATER
Units: ug/L

LABORATORY CONTROL SAMPLE

Spike Compounds	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits (**) (Mandatory) % Recovery Range
MTBE	ND<10	50	60	120	80 - 120
Benzene	ND<0.5	50	50	100	75 - 125
Toluene	ND<1.0	50	49	98	75 - 130
Ethylbenzene	ND<1.0	50	50	100	75 - 130
m,p-Xylene	ND<1.0	100	98	98	75 - 130
o- Xylene	ND<1.0	50	49	98	75 - 130

MATRIX SPIKES

Spike Compounds	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference (RPD)	QC Limits (***) (Advisory) RPD MAX	QC Limits (***) (Advisory) Recovery Range
Benzene	ND<0.5	50	53	106	53	106	0	20	75 - 125
Toluene	ND<1.0	50	52	104	52	104	0	25	75 - 130
Ethylbenzene	ND<1.0	50	54	108	54	108	0	25	75 - 130
m,p-Xylene	ND<1.0	100	110	110	110	110	0	25	75 - 130
o-Xylene	ND<1.0	50	52	104	52	104	0	25	75 - 130

Analyst: JKA/DA
Sequence Date: 7/15/97
LAS ID of Spiked Sample: L9984-15

* = Values Outside QC Range. << = Data Outside Method Specification Limits
NC = Not Calculated (Sample Exceeds Spike by a factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = | (<4> - <5>| / [(<4> + <5>) x 0.5] x 100
(**) = Source: Historical Limits
(***) = Source: Historical Limits

SAMPLES IN BATCH (LAS ID):

L9984-15,30,33,18,21,24,27
L9993-8,11,5
L10004-7,19,1,3,5,9,11,13,15,17

LAS LABORATORIES

POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC

Client Sample ID:	PBLK51108	LAS Sample ID:	51108MB
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	31-JUL-97	Analytical Batch ID:	073097-8310-HPLCB-2
Date Extracted:	18-JUL-97	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8310 PAH_51108

SURROGATE	RECOVERY	QC Limits
Nitrobenzene-d5	86%	20-110
2-Fluorobiphenyl	82%	24-110
p-Terphenyl-d14	99%	22-167

CONSTITUENT	CAS NO.	RESULT ug/L	PQL ug/L	DATA QUALIFIER(S)
Naphthalene	91-20-3	<1.0	1.0	
Acenaphthylene	208-96-8	<2.0	2.0	
Acenaphthene	83-32-9	<0.20	0.20	
Fluorene	86-73-7	<0.20	0.20	
Phenanthrene	85-01-8	<0.10	0.10	
Anthracene	120-12-7	<0.10	0.10	
Fluoranthene	206-44-0	<0.20	0.20	
Pyrene	129-00-0	<0.10	0.10	
Benzo(a)anthracene	56-55-3	<0.10	0.10	
Chrysene	218-01-9	<0.10	0.10	
Benzo(b)fluoranthene	205-99-2	<0.20	0.20	
Benzo(k)fluoranthene	207-08-9	<0.10	0.10	
Benzo(a)pyrene	50-32-8	<0.10	0.10	
Dibenzo(a,h)anthracene	53-70-3	<0.20	0.20	
Benzo(ghi)perylene	191-24-2	<0.20	0.20	
Indeno(1,2,3-cd)pyrene	193-39-5	<0.20	0.20	

LAS LABORATORIES

SPIKED SAMPLE RESULT
POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC

Client Sample ID:	PMBS51108	LAS Sample ID:	51108LCS
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	31-JUL-97	Analytical Batch ID:	073097-8310-HPLCB-2
Date Extracted:	18-JUL-97	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8310 PAH_51108

SURROGATE	RECOVERY	QC Limits
Nitrobenzene-d5	88%	20-110
2-Fluorobiphenyl	88%	24-110
p-Terphenyl-d14	102%	22-167

CONSTITUENT	CAS NO.	RESULT ug/L	PQL ug/L	DATA QUALIFIER (S)
Naphthalene	91-20-3	2.5	1.0	
Acenaphthylene	208-96-8	5.0	2.0	
Acenaphthene	83-32-9	0.50	0.20	
Fluorene	86-73-7	0.51	0.20	
Phenanthrene	85-01-8	0.27	0.10	
Anthracene	120-12-7	0.24	0.10	
Fluoranthene	206-44-0	0.56	0.20	
Pyrene	129-00-0	0.31	0.10	
Benzo(a)anthracene	56-55-3	0.28	0.10	
Chrysene	218-01-9	0.29	0.10	
Benzo(b)fluoranthene	205-99-2	0.61	0.20	
Benzo(k)fluoranthene	207-08-9	0.29	0.10	
Benzo(a)pyrene	50-32-8	0.25	0.10	
Dibenzo(a,h)anthracene	53-70-3	0.57	0.20	
Benzo(ghi)perylene	191-24-2	0.59	0.20	
Indeno(1,2,3-cd)pyrene	193-39-5	0.55	0.20	

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SPIKED SAMPLE RESULT
POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC

Client Sample ID:	PMBSD51108	LAS Sample ID:	51108LCSDUP
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	31-JUL-97	Analytical Batch ID:	073097-8310-HPLCB-2
Date Extracted:	18-JUL-97	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8310 PAH_51108

SURROGATE	RECOVERY	QC Limits
Nitrobenzene-d5	92%	20-110
2-Fluorobiphenyl	92%	24-110
p-Terphenyl-d14	105%	22-167

CONSTITUENT	CAS NO.	RESULT ug/L	PQL ug/L	DATA QUALIFIER(S)
Naphthalene	91-20-3	2.7	1.0	
Acenaphthylene	208-96-8	4.8	2.0	
Acenaphthene	83-32-9	0.54	0.20	
Fluorene	86-73-7	0.54	0.20	
Phenanthrene	85-01-8	0.28	0.10	
Anthracene	120-12-7	0.26	0.10	
Fluoranthene	206-44-0	0.59	0.20	
Pyrene	129-00-0	0.33	0.10	
Benzo(a)anthracene	56-55-3	0.30	0.10	
Chrysene	218-01-9	0.30	0.10	
Benzo(b)fluoranthene	205-99-2	0.63	0.20	
Benzo(k)fluoranthene	207-08-9	0.30	0.10	
Benzo(a)pyrene	50-32-8	0.26	0.10	
Dibenzo(a,h)anthracene	53-70-3	0.60	0.20	
Benzo(ghi)perylene	191-24-2	0.61	0.20	
Indeno(1,2,3-cd)pyrene	193-39-5	0.57	0.20	

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LCS DATA SUMMARY
POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC

Client Sample ID:	PMBS51108	LAS Sample ID:	51108LCS
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	31-JUL-97	Analytical Batch ID:	073097-8310-HPLCB-2
Date Extracted:	18-JUL-97	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8310 PAH_51108

SURROGATE	RECOVERY	QC Limits
Nitrobenzene-d5	88%	20-110
2-Fluorobiphenyl	88%	24-110
p-Terphenyl-d14	102%	22-167

Constituent	Spike Added ug/L	LCS Concentration ug/L	LCS % Recovery	QC Limits
Naphthalene	2.50	2.47	99	33-135
Phenanthrene	0.250	0.270	108	42-139
Pyrene	0.250	0.311	124	45-135
Benzo(a)pyrene	0.250	0.253	101	42-135
Benzo(ghi)perylene	0.500	0.588	118	43-135

LAS LABORATORIES

LCS DUPLICATE DATA SUMMARY
POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC

Client Sample ID:	PMBSD51108	LAS Sample ID:	51108LCSDUP
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	31-JUL-97	Analytical Batch ID:	073097-8310-HPLCB-2
Date Extracted:	18-JUL-97	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8310 PAH_51108

SURROGATE	RECOVERY	QC Limits
Nitrobenzene-d5	92%	20-110
2-Fluorobiphenyl	92%	24-110
p-Terphenyl-d14	105%	22-167

Constituent	Spike Added ug/L	LCS DUP Concentration ug/L	% Recovery	RPD	QC Limits RPD	QC Limits % Recovery
Naphthalene	2.50	2.69	108	9	50	33-135
Phenanthrene	0.250	0.284	114	5	50	42-139
Pyrene	0.250	0.325	130	4	50	45-135
Benzo(a)pyrene	0.250	0.257	103	2	50	42-135
Benzo(ghi)perylene	0.500	0.607	121	3	50	43-135

RUN LOGS/EXTRACTION SHEETS

Analyst	Date and Time	Sample Name	Description/ Solution	Matrix/ Dil.	Raw Data File	Method File	Reported	ReAnalyzed	Comments/ ALS No. (VOA Only)
KA / GF	7/30/97 15:47	5R		1	HPLCB\8310\073097\07309701.d01	8310\073097.MET			
KA / GF	7/30/97 16:19	IB		1	HPLCB\8310\073097\07309701.d02	8310\073097.MET			
KA / GF	7/30/97 16:53	AUTOCAL1R	0605-67-1	1	HPLCB\8310\073097\07309701.d03	8310\073097.MET			
KA / GF	7/30/97 17:26	AUTOCAL2R	0605-67-2	1	HPLCB\8310\073097\07309701.d04	8310\073097.MET			
KA / GF	7/30/97 17:59	AUTOCAL3R	0605-67-3	1	HPLCB\8310\073097\07309701.d05	8310\073097.MET			
KA / GF	7/30/97 18:32	AUTOCAL4R	0605-67-4	1	HPLCB\8310\073097\07309701.d06	8310\073097.MET			
KA / GF	7/30/97 19:06	AUTOCAL5R	0605-67-5	1	HPLCB\8310\073097\07309701.d07	8310\073097.MET			
KA / GF	7/30/97 19:39	IB		1	HPLCB\8310\073097\07309701.d08	8310\073097.MET			
KA / GF	7/30/97 20:12	L9771-9 1:400		66.2471	HPLCB\8310\073097\07309701.d09	8310\073097.MET			
KA / GF	7/30/97 20:45	L9771-9 1:200		33.1236	HPLCB\8310\073097\07309701.d10	8310\073097.MET			
KA / GF	7/30/97 21:18	L9771-7 1:2		0.3333	HPLCB\8310\073097\07309701.d11	8310\073097.MET			
KA / GF	7/30/97 21:52	L9754-9 1:4		0.6605	HPLCB\8310\073097\07309701.d12	8310\073097.MET			
KA / GF	7/30/97 22:25	L9848-2 1:3		0.5	HPLCB\8310\073097\07309701.d13	8310\073097.MET			
KA / GF	7/30/97 22:59	L9848-2 1:10		1.666	HPLCB\8310\073097\07309701.d14	8310\073097.MET			
KA / GF	7/30/97 23:32	L9754-1 1:4		0.6645	HPLCB\8310\073097\07309701.d15	8310\073097.MET			
KA / GF	7/31/97 0:05	L9984-13 1:10		0.05	HPLCB\8310\073097\07309701.d16	8310\073097.MET			
KA / GF	7/31/97 0:38	L9984-13 1:20		0.1	HPLCB\8310\073097\07309701.d17	8310\073097.MET			
KA / GF	7/31/97 1:11	IB		1	HPLCB\8310\073097\07309701.d18	8310\073097.MET			
KA / GF	7/31/97 1:45	CCV4	0605-67-4	1	HPLCB\8310\073097\07309701.d19	8310\073097.MET			
KA / GF	7/31/97 2:18	IB		1	HPLCB\8310\073097\07309701.d20	8310\073097.MET			
KA / GF	7/31/97 2:51	L9984-14 1:10		0.05	HPLCB\8310\073097\07309701.d21	8310\073097.MET			
KA / GF	7/31/97 3:24	L9984-14 1:20		0.1	HPLCB\8310\073097\07309701.d22	8310\073097.MET			
KA / GF	7/31/97 3:57	IB		1	HPLCB\8310\073097\07309701.d23	8310\073097.MET			
KA / GF	7/31/97 4:31	51108MB		0.005	HPLCB\8310\073097\07309701.d24	8310\073097.MET			
KA / GF	7/31/97 5:04	511108LCS		0.005	HPLCB\8310\073097\07309701.d25	8310\073097.MET			
KA / GF	7/31/97 5:37	51108LCSDUP		0.005	HPLCB\8310\073097\07309701.d26	8310\073097.MET			
KA / GF	7/31/97 6:10	L9984-12		0.005	HPLCB\8310\073097\07309701.d27	8310\073097.MET			
KA / GF	7/31/97 6:43	L9984-9		0.005	HPLCB\8310\073097\07309701.d28	8310\073097.MET			
KA / GF	7/31/97 7:16	L9984-10		0.005	HPLCB\8310\073097\07309701.d29	8310\073097.MET			
KA / GF	7/31/97 12:43	CCV4	0605-67-4	1	HPLCB\8310\073097\07309711.d30	8310\073097.MET			
KA / GF	7/31/97 13:17	L9984-11		0.005	HPLCB\8310\073097\07309711.d31	8310\073097.MET			
KA / GF	7/31/97 13:50	L9984-8		0.005	HPLCB\8310\073097\07309701.d32	8310\073097.MET			
KA / GF	7/31/97 14:23	L9972-37		0.0053	HPLCB\8310\073097\07309701.d33	8310\073097.MET			
KA / GF	7/31/97 14:56	IB		1	HPLCB\8310\073097\07309701.d34	8310\073097.MET			
KA / GF	7/31/97 16:08	51063MB		0.1666	HPLCB\8310\073097\07309701.d35	8310\073097.MET			
KA / GF	7/31/97 16:43	51063LCS		0.1666	HPLCB\8310\073097\07309711.d36	8310\073097.MET			
KA / GF	7/31/97 17:14	51063MS		0.227	HPLCB\8310\073097\07309701.d37	8310\073097.MET			
KA / GF	7/31/97 17:48	51063MSD		0.225	HPLCB\8310\073097\07309701.d38	8310\073097.MET			
KA / GF	7/31/97 18:21	51209MB		0.1666	HPLCB\8310\073097\07309701.d39	8310\073097.MET			
KA / GF	7/31/97 18:54	51209LCS		0.1666	HPLCB\8310\073097\07309701.d40	8310\073097.MET			
KA / GF	7/31/97 19:27	51209MS		0.1666	HPLCB\8310\073097\07309701.d41	8310\073097.MET			
KA / GF	7/31/97 20:00	51209MSD		0.1666	HPLCB\8310\073097\07309701.d42	8310\073097.MET			
KA / GF	7/31/97 20:34	9771-9 1:1000		165.618	HPLCB\8310\073097\07309701.d43	8310\073097.MET			
KA / GF	7/31/97 21:07	L9944-20 1:10		1.739	HPLCB\8310\073097\07309701.d44	8310\073097.MET			
KA / GF	7/31/97 21:40	L9944-1		0.2105	HPLCB\8310\073097\07309701.d45	8310\073097.MET			
KA / GF	7/31/97 22:13	L9944-3		0.221	HPLCB\8310\073097\07309701.d46	8310\073097.MET			
KA / GF	7/31/97 22:46	L9944-5		0.227	HPLCB\8310\073097\07309701.d47	8310\073097.MET			
KA / GF	7/31/97 23:19	L9944-7		0.223	HPLCB\8310\073097\07309701.d48	8310\073097.MET			
KA / GF	7/31/97 23:53	L9944-9		0.181	HPLCB\8310\073097\07309701.d49	8310\073097.MET			
KA / GF	8/1/97 0:26	L9944-10 1:10		1.8155	HPLCB\8310\073097\07309701.d50	8310\073097.MET			
KA / GF	8/1/97 0:59	IB		1	HPLCB\8310\073097\07309701.d51	8310\073097.MET			

Analyst	Date and Time	Sample Name	Description/ Solution	Matrix/ Dil.	Raw Data File	Method File	Reported	ReAnalyzed	Comments/ ALS No. (VOA Only)
KA / GF	8/1/97 1:32	CCV4	0605-67-4	1	HPLCB\8310\073097\07309701.d52	8310\073097.MET			
KA / GF	8/1/97 2:06	L9944-12		0.175	HPLCB\8310\073097\07309701.d53	8310\073097.MET			
KA / GF	8/1/97 2:38	L9944-14		0.177	HPLCB\8310\073097\07309701.d54	8310\073097.MET			
KA / GF	8/1/97 3:12	L9944-16 1:20		3.68	HPLCB\8310\073097\07309701.d55	8310\073097.MET			
KA / GF	8/1/97 3:45	L9944-18		0.178	HPLCB\8310\073097\07309701.d56	8310\073097.MET			
KA / GF	8/1/97 4:18	L9944-22 1:5		0.89	HPLCB\8310\073097\07309701.d57	8310\073097.MET			
KA / GF	8/1/97 4:51	L10013-30 1:20		0.1	HPLCB\8310\073097\07309701.d58	8310\073097.MET			
KA / GF	8/1/97 5:24	L9985-6		0.2196	HPLCB\8310\073097\07309701.d59	8310\073097.MET			
KA / GF	8/1/97 5:57	L9985-7		0.244	HPLCB\8310\073097\07309701.d60	8310\073097.MET			
KA / GF	8/1/97 6:31	L9985-8		0.215	HPLCB\8310\073097\07309701.d61	8310\073097.MET			
KA / GF	8/1/97 7:04	L9985-9		0.188	HPLCB\8310\073097\07309701.d62	8310\073097.MET			
KA / GF	8/1/97 7:37	IB		1	HPLCB\8310\073097\07309701.d63	8310\073097.MET			
KA / GF	8/1/97 8:10	CCV4	0605-67-4	1	HPLCB\8310\073097\07309701.d64	8310\073097.MET			
KA / GF	8/1/97 8:43	L9985-10		0.202	HPLCB\8310\073097\07309701.d65	8310\073097.MET			
KA / GF	8/1/97 9:17	L9956-3 1:5		0.9975	HPLCB\8310\073097\07309701.d66	8310\073097.MET			
KA / GF	8/1/97 9:50	L10013-40		0.005	HPLCB\8310\073097\07309701.d67	8310\073097.MET			
KA / GF	8/1/97 10:23	L10018-9		0.005	HPLCB\8310\073097\07309701.d68	8310\073097.MET			
KA / GF	8/1/97 10:56	L10018-11 1:10		0.05	HPLCB\8310\073097\07309701.d69	8310\073097.MET			
KA / GF	8/1/97 12:23	L10018-12		0.005	HPLCB\8310\073097\07309701.d70	8310\073097.MET			
KA / GF	8/1/97 12:56	51224MB		0.005	HPLCB\8310\073097\07309701.d71	8310\073097.MET			
KA / GF	8/1/97 13:30	51224LCS		0.005	HPLCB\8310\073097\07309701.d72	8310\073097.MET			
KA / GF	8/1/97 14:03	51224LCSD		0.005	HPLCB\8310\073097\07309701.d73	8310\073097.MET			
KA / GF	8/1/97 14:35	51109MB		0.005	HPLCB\8310\073097\07309701.d74	8310\073097.MET			
KA / GF	8/1/97 15:09	51109LCS		0.005	HPLCB\8310\073097\07309701.d75	8310\073097.MET			
KA / GF	8/1/97 15:42	51109LCSD		0.005	HPLCB\8310\073097\07309701.d76	8310\073097.MET			
KA / GF	8/1/97 16:15	L10018-8		0.005	HPLCB\8310\073097\07309701.d77	8310\073097.MET			
KA / GF	8/1/97 16:49	CCV4	0605-67-4	1	HPLCB\8310\073097\07309701.d78	8310\073097.MET			

LAS LABORATORIES

TRACKING SHEET DATA REPORT (bs16 PAH)

EXTRACTION SHEET FOR: 8310 PAH Extraction

WORKSHEET NUMBER: 8310 PAH_51108

FB

HT- 07/21
DIE 07/22

LAL #	QC TYPE	CLIENT ID	DATE COLLECTED	DATE RECEIVED / CREATED	VOL/WT EXTR	WATER SAMPLE pH	SURR ML	MS ML	BROUGHT TO FINAL VOLUME OF	AMT GIVEN TO ANALYST
					7-18-97				7-20-97	
L9972-38		BA 243	14-JUL-97	15-JUL-97	930ml	7	1.0		5.0 ml	~4 ml
L9972-37 ✓		BA 233	14-JUL-97	15-JUL-97	940ml					
L9985-25		BA 250	15-JUL-97	16-JUL-97	990ml					
L9985-27		BA 261	15-JUL-97	16-JUL-97	980ml					
L9985-29		BA 260	15-JUL-97	16-JUL-97	970ml					
L9993-3		ES-1	16-JUL-97	16-JUL-97	1000ml					
L9993-4		ES-5	16-JUL-97	16-JUL-97	1000ml					
L9984-8 ✓		ES-6	15-JUL-97	15-JUL-97	1000ml					
L9984-9 ✓		BC-2	15-JUL-97	15-JUL-97	1000ml					
L9984-10 ✓		BC-3	15-JUL-97	15-JUL-97	1000ml					
L9984-11 ✓		ES-3	15-JUL-97	15-JUL-97	1000ml					
L9984-12 ✓		ES-4	15-JUL-97	15-JUL-97	1000ml					
L9984-13 ✓ @ 5X		ES-2	15-JUL-97	15-JUL-97	1000ml					

EXTRACTION METHOD: Continuous - 3520B

DATE STARTED: 7-18-97 DATE COMPLETED: 7-20-97 1:55 PM

CONTINUOUS DATE & TIME STARTED: 7-18-97 @ 10:00 pm DATE & TIME COMPLETED: 7-19-97 @ 2:30 pm

QC BATCH# : 8310 PAH_51108

LOT #'S

SURR ID # : 1037-14-1 CONC: 5 ug/ml MECL2: 37156 NA2SO4 : N/A

MS ID # : 0359-89-1 CONC: 0.25-5.00 ug/ml AGN : BN599 ACETONE: N/A

SIGNED:

SIGNED:

SPIKE WITNESS: none available

NARRATIVE

REVIEWED BY: Judith Bruno 07-20-97

EXTRACT COC: RECIEVED BY: 8 30 AM DATE: 7-20-9

R19097

LAS LABORATORIES

TRACKING SHEET DATA REPORT (bs16 PAH)

EXTRACTION SHEET FOR: 8310 PAH Extraction

WORKSHEET NUMBER: 8310 PAH_51108

LAL #	QC TYPE	CLIENT ID	DATE COLLECTED	DATE RECEIVED/ CREATED	VOL/WT EXTR	WATER SAMPLE pH	SURR ML	MS ML	BROUGHT TO FINAL VOLUME OF	AMT GIVEN TO ANALYST
L9984-14 ✓ @ 5X		BC-1	15-JUL-97	15-JUL-97	1000 ml	7	1.0		5.0 ml	≈ 4 ml
L9999-5		BA 264	16-JUL-97	17-JUL-97	1000 ml	↓	↓		↓	↓
51108MB ✓	MB	PBLK51108		18-JUL-97	1000 ml					
51108LCS ✓	LCS	PMBS51108		18-JUL-97	1000 ml			1.0		
51108LCSDUP ✓	LCSD	PMBSD51108		18-JUL-97	1000 ml	↓	↓	1.0	↓	↓
~~SPIKELOT51108~~	~~SPIKELOT~~	~~Spike Lot Sample~~		~~18-JUL-97~~						

WB 07-18-97

EXTRACTION METHOD: _____

DATE STARTED: _____ DATE COMPLETED: _____ SIGNED: _____

CONTINUOUS DATE & TIME STARTED: _____ DATE & TIME COMPLETED: _____ SIGNED: _____

QC BATCH# : 8310 PAH_51108 LOT #'S SPIKE WITNESS: _____

SURR ID # : _____ CONC: _____ MECL2: _____ NA2SO4 : _____

MS ID # : _____ CONC: _____ ACN : _____ ACETONE: _____

REVIEWED BY: _____

NARRATIVE EXTRACT COC: RECIEVED BY: _____ DATE: _____

SAMPLE RECEIPT LOG-IN
AND
CHAIN OF CUSTODY

L9984

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No: C- 03917

page 1 of ___

Client Name:	Greyhound
Address/Phone:	GLI, Houston TX
Client Contact:	Chris Torell (315) 451-9560
Project Name:	Greyhound
Project Number:	730844.89343
Project Location:	Oakland
Invoice To:	GLI

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil SL=sludge O=other:)	bottle (P=plastic A=amber glass G=glass V=vial)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz)	pres. (1=HCl 2=HNO3 3=H2SO4 O=other:)	Number of Containers	Requested Analysis: BTEX	MtBE	TPHg	TPHd	PAH EPA 610
ES-3	7/15/97	1150			W	AGV	1,40	3,0,1	5	X	X	X	X	X
ES-4		1240								X	X	X	X	X
ES-2		1445								X	X	X	X	X
BC-1		1530								X	X	X	X	X

Client/Consultant Remarks:

Laboratory remarks:

Intact? ☐ Y ☐ N

Temp:

Requested TAT

24hr ☐ 72hr ☐

48hr ☐ Standard ☒

Other ☐ _____

Special Reporting Requirements: Standard QC ☒ Fax Results ☐ Level 3 QC ☐ Raw Data ☐ Level 4 QC ☐

Special Detection Limits (specify): TPHd 50 ppb

PM review (initial):

	date	time		date	time
1. Relinquished by Sampler:	7/15/97	1545	2. Received by: FedEx		
3. Relinquished by:	date	time	4. Received by:		
5. Relinquished by:	7/16/97	0950	6. Received by Laboratory:		

☐ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901

☐ 459 Hughes Drive, Traverse City, MI 49684 (616) 947-5777

☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (318) 237-4775

☒ 1511 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 447-6868

→ LV. (LM)

L 9984

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No: C-03918

page 1 of 1

Client Name:	Greyhound
Address/Phone:	GLI, Houston TX
Client Contact:	Chris Torell (315)451-9560
Project Name:	Greyhound
Project Number:	730844.89343
Project Location:	Greyhound Oakland
Invoice To:	GLI

matrix: W=water S=soil SL=sludge O=other:
bottle: P=plastic A=amber glass G=glass V=vial
size: 1=1 liter 4=4oz 40=vial 8=8oz 16=16oz
pres.: 1=HCl 2=HNO3 3=H2SO4 O=other:

SAMPLE ID	DATE	TIME	comp	grab	matrix	bottle	size	pres.	Number of Containers	Requested Analysis: BTEX	MtBE	TPHg	TPHd	PAH EPA 610
ES-6	7/15/97	1015			W	A,V	1,40	3,1	5	X	X	X	X	X
BC-2	↓	1050			↓	↓	↓	↓	↓	X	X	X	X	X
BC-3	↓	1110			↓	↓	↓	↓	↓	X	X	X	X	X

Client/Consultant Remarks:

Laboratory remarks:

Intact? ☐ Y ☐ N

Temp:

Requested TAT

24hr ☐ 72hr ☐

48hr ☐ Standard ☑

Other ☐ _____

Special Reporting Requirements: Standard QC ☑ Fax Results ☐ Level 3 QC ☐ Raw Data ☐ Level 4 QC ☐

Special Detection Limits (specify): TPH d 50 ppb

PM review (initial):

1. Relinquished by Sampler:	date 7/15/97	time 1545	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 7/16/97	time 0930	6. Received by Laboratory:

☐ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901

☐ 459 Hughes Drive, Traverse City, MI 49684 (616) 947-5777

☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (318) 237-4775

☑ 1511 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 447-6868

(LAN)

LAS
A Subsidiary of SPL Laboratories

Sample Login
Login Review Checklist

Lot Number L9984

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensure that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checklist should be affixed to each login package prior to distribution.

For effective login review, at a minimum, five reports form the login process are required. These are the COC (or equivalent), the login COC report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning review, ensure that these five components are available. Jobs with single component samples, the sample summary report may be omitted.

SAMPLE SUMMARY REPORT	YES	NO	N/A	Comment
1. Are all sample ID's correct?	+			
2. Are all samples present?	+			
3. Are all matrices indicated correctly?	+			
4. Are all analyses on the COC logged in for the appropriate samples?	+			
5. Are all analyses logged in for the correct container?	+			
6. Are samples logged in according to LAS batching procedures?	+			

LOGIN CHAIN OF CUSTODY	YES	NO	N/A	Comment
1. Are the collect, receive, and due dates correct for every sample?	+			
2. Have all appropriate comments been indicated in the comment section?	+			

SAMPLE RECEIVING CHECKLIST	YES	NO	N/A	Comment
1. Are all discrepancies between the COC and the login noted (if applicable)?			/	

Mark Ackerman 7/16/97
primary review signature — date

PM Jenny Davis 7/17/97
secondary review signature — date

071577e

LAS LABORATORIES, INC.

Page ___ of ___

Sample Receiving Checklist

Client Name: SPL Job No: L9984 Cooler ID:

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: 7°C

temperature of temp. blank upon receipt:

	yes	no	n/a	*Comments/Discrepancies
custody seals present	✓			
custody seals intact	✓			
chain of custody present	✓			
blue ice(or equiv.)present		✓		
blue ice(or equiv.)frozen			✓	
rad survey completed	✓			

SAMPLE CONDITION UPON RECEIPT

	yes	no	n/a	*Comments/Discrepancies
all bottles labeled	✓			
bottle custody seal present		✓		
bottle custody seal intact			✓	
samples intact	✓			
proper container used for sample	✓			
sample volume sufficient for analysis	✓			
proper pres. indicated on the COC	✓			
VOA's contain headspace			✓	
are samples bi-phasic(if so, indicate sample ID's):			✓	

MISCELLANEOUS ITEMS

	yes	no	n/a	*Comments/Discrepancies
samples with short holding times			✓	
samples to subcontract			✓	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: [signature] 7/16/97

sent to the client (date/initials): ** Client's signature upon receipt:

*Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt*

*** = please review this information and return via facsimile to the appropriate CSR (702)361-8146*

VERSION 3.0(03-03-97)

CALSLO

LAS LABORATORIES, INC. Page ___ of ___

Sample Receiving Checklist

Client Name: SPL **Job No:** L9984 **Cooler ID:**

COOLER CONDITION UPON RECEIPT				
Temperature of cooler upon receipt: 7°C				
temperature of temp. blank upon receipt:				
	yes	**no**	**n/a**	***Comments/Discrepancies**
custody seals present	✓			
custody seals intact	✓			
chain of custody present	✓			
blue ice(or equiv.)present		✓		
blue ice(or equiv.)frozen			✓	
rad survey completed	✓			

SAMPLE CONDITION UPON RECEIPT				
	yes	**no**	**n/a**	***Comments/Discrepancies**
all bottles labeled	✓			
bottle custody seal present		✓		
bottle custody seal intact			✓	
samples intact	✓			
proper container used for sample	✓			
sample volume sufficient for analysis	✓			
proper pres. indicated on the COC	✓			
VOA's contain headspace		✓		
are samples bi-phasic(if so, indicate sample ID's):			✓	

MISCELLANEOUS ITEMS				
	yes	**no**	**n/a**	***Comments/Discrepancies**
samples with short holding times			✓	
samples to subcontract			✓	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: [signature] 7/16/97

sent to the client (date/initials): ** Client's signature upon receipt:

*Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt*

*** = please review this information and return via facsimile to the appropriate CSR (702)361-8146*

VERSION 3.0(03-03-97)

7/16/97

LAS Laboratories, Inc.

SOUTHERN PETROLEUM LABORATORIES

ANALYTICAL DATA REPORT

FOR

8015M EXTRACTABLE PETROLEUM HYDROCARBONS, 8020 AROMATIC VOLATILE ORGANICS/8015M PURGE AND TRAP GASOLINE, AND POLYNUCLEAR AROMATIC HYDROCARBONS

LOG-IN NUMBER	L9993
QUOTATION NUMBER	Q710656-MISC
DOCUMENT FILE NUMBER	0716772

LAS LABORATORIES, INC. • 975 Kelly Johnson Drive • Las Vegas, Nevada 89119-3705
Telephone 702-361-0220 • Facsimile 702-361-8146

August 20, 1997

Southern Petroleum Laboratories
1501 E. Orangethorpe Ave., Suite 110
Fullerton, CA 92831

ATTN: **DOCUMENT CONTROL**

RE:

LOG-IN NO.	**L9993**
QUOTATION NO.	**Q710656-MISC**
DOCUMENT FILE NO.	**0716772**

The attached data report contains the analytical results of samples that were submitted to Southern Petroleum Laboratories on 16 July 1997 and forwarded to LAS Laboratories, Inc. on 17 July 1997.

The temperature of the cooler upon receipt was 5°C. All sample containers did not coincide with the chain-of-custody documentation. We received one tripblank that was not listed on the chain-of-custody. All sample containers were received intact. Samples were received in time to meet the analytical holding time requirements. All discrepancies (if applicable) identified upon receipt of the samples have been forwarded to the client and are documented in the enclosed chain-of-custody records. (See attached Sample Receiving Checklist for details).

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

If you have any questions concerning the analysis or the data, please call Jenny Davis at (702) 361-3955, ext 213. If you are unable to contact the Client Services Representative, please call Dan Fischer, Client Services Manager, at extension 240.

Release of this data report has been authorized by the Laboratory Director or the Director's designee as evidenced by the following signature.

Sincerely,

Jenny L. Davis

Jenny L. Davis
Client Services Representative

cc: Client Services
Document Control

Organic Analytes - Case Narrative

General Introduction

The Case Narrative associated with the determination of organic analytes is separated into three (3) sections as follows:

SECTION 1

A brief word processed description of each method reported in this package. This is a general summary of the procedures used and quality control measures applied. It is not intended to include client-specific requirements. Results relating to initial calibration criteria and continuing calibration criteria are included in this section. This section will also describe any unusual events or important observations from the processing of the samples for each method. The initials of the reporting specialist compiling the Case Narrative with the date compiled will be at the end of this section.

SECTION 2

2. An *Exception Report* for each method printed from our data base that summarizes the results of all quality control (QC) measures. A separate *Exception Report* is included for each "QC Group" necessary for each method. At LAS, a QC Group is also called a "workgroup", or more descriptively, a "QC Batch". Each *Exception Report* includes:
   a. A table listing all the samples in the QC Group by LAS Sample ID and Client Sample ID with the date analyzed and Analytical Batch.
   b. Statement(s) relating to holding times for all samples in the QC Group.
   c. Statement(s) relating to the Method Blank (MB) for all samples in the QC Group.
   d. A list of all samples in the QC Group requiring reanalysis for dilution(s) or QC outliers.
   e. A list of all samples in the QC Group that failed surrogate recovery criteria with the recovery obtained and the Acceptance Limits.
   f. A list of all QC Samples that failed recovery criteria with the recovery obtained and the Acceptance Limits. The QC Samples are a laboratory control sample (LCS) and a matrix spike (MS)/matrix spike duplicate (MSD) pair. If insufficient sample exists for a MS/MSD pair, a laboratory control sample duplicate (LCSD) is included. Some methods call for a LCS/LCSD pair instead of a MS/MSD and some for MS/MSD and LCS/LCSD pairs.
   g. A list of all samples in the QC Group that failed internal standard criteria with the integrated areas of the internal standard(s) and their retention times. Note: Applicable to gas chromatography/mass spectrometry GC/MS methods only.

SECTION 3

A table describing all LAS default data qualifiers (flags) used to qualify the data reported on the result forms. Client-specific qualifiers may augment or replace these LAS default qualifiers.

Method 8015M Extractable Petroleum Hydrocarbons

This method quantifies extractable petroleum hydrocarbons using gas chromatography (GC) coupled with a flame ionization detector (FID). Target analytes are ranges of hydrocarbons not specific petroleum products. Examples are of target analytes are product range organics, like Diesel Range Organics or carbon number range organics, like C_{12} to C_{24} Range Organics. All FID-active substances, or practically speaking, all organic species, eluting within the specified range contribute to the reported value. Samples are extracted with an organic solvent to separate the target analytes from the sample matrix. The extract is then concentrated to a final volume. The hydrocarbon range organics in the extract are quantified using GC/FID. To establish the retention time range for the specific target analyte, n-alkanes are analyze to define the chromatographic range of interest. A "common baseline" is then drawn between the n-alkane markers. All peaks eluting within the established retention time range are integrated and the areas summed. Products whose constituents closely match the target range are used to generate a five-point calibration. For example diesel fuel standards are used to calibrate for Diesel Range Organics or C_{12} to C_{24}. Calibration standard chromatograms and sample chromatograms are integrated identically as described above.

Each time that samples are extracted a collection of quality control check samples are also extracted. A MB is extracted to verify that the laboratory procedures are not contaminating the samples. A LCS is extracted which contains the same product used for calibration in a matrix which does not interfere with the analytical procedure. Recoveries of the target analyte in the LCS are compared to control limits to verify that the analytical systems are operating properly. MS/MSD samples are also prepared with each extraction batch, when sufficient sample exists. The MS and MSD samples are portions of client samples that have been spiked identically to the LCS. Recoveries of the spiked products can be used to estimate the accuracy and precision of the measurements in a real client sample matrix, and they can be used to determine the effect of the sample matrix on the analytical procedures. In cases where there is not enough sample for an MS and MSD, a duplicate of the LCS, a LCSD, is prepared. Every sample, MB, MS, MSD, and LCS is spiked with a surrogate compound, n-octacosane, before extraction. Recoveries of the surrogate are used to verify performance of the analytical systems on a sample by sample basis. A group of samples extracted together is called an extraction batch or a QC Group. The procedure used for extraction depends on the sample matrix, so samples with different matrices (e.g. solids, aqueous liquids, solvent-miscible organic fluids, etc.) will be extracted in separate QC Groups.

Before extracts are analyzed the instrument must have an acceptable five-point initial calibration. Daily, a beginning continuing calibration verification is analyzed to determine if the initial calibration is still valid. Extracts are then run in groups of ten. After each ten extracts, another continuing calibration verification is analyzed. If a continuing calibration verification shows that either the absolute instrument response or the retention times have changed since the initial calibration, corrective actions are taken which may include reanalysis of the affected extracts. A group of extracts analyzed between continuing calibration verifications is called an Analytical Batch. The Exception Report(s) in the following section describe any quality control outliers or comments pertaining to each QC Group.

Results relating to initial and continuing calibration criteria are as follows:
All initial calibration criteria were met.
All continuing calibration criteria were met.

Unusual events or important observations from the processing of the samples are as follows: None

Method 8020 Aromatic Volatile Organics/Method 8015M Purge and Trap Gasoline

This combination of methods identifies and quantifies aromatic volatile organics and quantifies Gasoline Range Organics using gas chromatography (GC) coupled with a photoionization detector (PID) and a flame ionization detector (FID) in series. Aromatic volatile organics are determined on the PID and Gasoline Range Organics are determined on the FID. Samples are placed is a specially designed purging chamber and an inert gas is bubbled through the sample. Volatile compounds partition to the gas phase. The gas then passes through a trap where organic compounds are retained. After the purging cycle, the trap is heated which releases the retained compounds into a GC/PID/FID system. Aromatic volatiles are quantified based on the absolute response of the analytes compared to the initial calibration. If necessary, aromatic volatiles detected at reportable levels on the primary column are confirmed on a second column. Confirmation is necessary only when analyzing an unfamiliar matrix or a complex matrix producing GC/PID chromatograms that are difficult to interpret. Standards of the aromatic volatiles to be confirmed are analyzed on the second column to establish retention times and ensure the aromatic volatiles to be confirmed can be confirmed at the levels detected. Gas chromatography/mass spectrometry can also be used for confirmation. Aromatic volatiles that are not confirmed are reported as less than the reporting limit.

To establish the retention time range for Gasoline Range Organics, gasoline standards are analyzed. A "common baseline" is drawn between the ends of the gasoline range. All peaks eluting within the established retention time range are integrated and the areas summed. All FID-active substances, or practically speaking, all purgeable organic species, eluting within the specified range contribute to the reported value. Gasoline is not actually quantified or reported. However, gasoline standards are used to generate a five-point calibration and for spiking quality control samples. Calibration standard chromatograms and sample chromatograms are integrated identically as described above.

Each time that samples are purged quality control check samples are also analyzed. A MB is purged to verify that the system is not contaminating the samples. LCSs containing aromatic volatiles and gasoline in a matrix which does not interfere with the analytical procedure are also purged. Recoveries of the aromatic volatiles and Gasoline Range Organics in the LCSs are compared to control limits to verify that the analytical systems are operating properly. MS/MSDs are also analyzed for each group of twenty samples. The MS and MSD samples are portions of client samples that have been spiked identically to the LCSs. MS/MSD recoveries can be used to estimate the accuracy and precision of the measurements in a real client sample matrix, and they can be used to determine the effect of the sample matrix on the analytical procedures. Every sample, MB, MS, MSD, and LCS is spiked with surrogates before purging. Recoveries of the surrogates are used to verify performance of the analytical system on a sample by sample basis.

Before samples are analyzed the instrument must have an acceptable five-point initial calibration. Daily, a beginning continuing calibration verification is analyzed to determine if the initial calibration is still valid. Samples are then run in groups of ten. After each ten samples, another continuing calibration verification is analyzed. If a continuing calibration verification shows that either the absolute instrument response or the retention times have changed since the initial calibration, corrective actions are taken which may include reanalysis of the affected samples. A group of samples analyzed between continuing calibration verifications is called an Analytical Batch. A group of samples associated with a MS/MSD pair is called a QC Group.

Results relating to initial and continuing calibration criteria are as follows:
All initial calibration criteria were met.
All continuing calibration criteria were met.

Unusual events or important observations from the processing of the samples are as follows: None

Method 8310 Polynuclear Aromatic Hydrocarbons

This method identifies and quantifies polynuclear aromatic hydrocarbons (PAHs) using reverse phase High Performance Liquid Chromatography (HPLC) coupled with a ultraviolet (UV) detector and a fluorescence detector in series. The surrogate nitrobenzene-d_6 and the target analyte acenaphthylene are determined on the UV detector at 254 nm. All other surrogates and target analytes are determined on the fluorescence detector. Samples are extracted with an organic solvent to separate the target analytes from the sample matrix. The extract is then solvent exchanged to acetonitrile and concentrated to a final volume. The analytes in the extract are identified and quantified using HPLC/UV/Fluorescence. The fluorescence detector is programmed to switch excitation and emission wavelengths at various times during each run to maximize selectivity and sensitivity. However, extracts of matrices containing hydrocarbons usually must be diluted to obtain a valid chromatogram. Heavier hydrocarbons eluting near the end of the chromatogram pose the most difficulty. The heavier, more toxic PAHs elute in this region. This is an inherent limitation of the method. Analytes are quantified based on the absolute response of the analytes compared to the initial calibration.

Each time that samples are extracted a collection of quality control check samples are also extracted. A MB is extracted to verify that the laboratory procedures are not contaminating the samples. A LCS is extracted that contains most or all target analytes in a matrix which does not interfere with the analytical procedure. Recoveries of the target analytes in the LCS are compared to control limits to verify that the analytical systems are operating properly. MS/MSD samples are also prepared with each extraction batch, when sufficient sample exists. The MS and MSD samples are portions of client samples that have been spiked identically to the LCS. Recoveries of the spiked PAHs can be used to estimate the accuracy and precision of the measurements in a real client sample matrix, and they can be used to determine the effect of the sample matrix on the analytical procedures. In cases where there is not enough sample for an MS and MSD, a duplicate of the LCS, a LCSD, is prepared. Every sample, MB, MS, MSD, and LCS is spiked with surrogate compounds before extraction. Recoveries of the surrogate compounds are used to verify performance of the analytical systems on a sample by sample basis. A group of samples extracted together is called an extraction batch or a QC Group. The procedure used for extraction depends on the sample matrix, so samples with different matrices (e.g. solids, aqueous liquids, solvent-miscible organic fluids, etc.) will be extracted in separate QC Groups.

Before extracts are analyzed the instrument must have an acceptable five-point initial calibration. Daily, a beginning continuing calibration verification is analyzed to determine if the initial calibration is still valid. Extracts are then run in groups of ten. After each ten extracts, another continuing calibration verification is analyzed. If a continuing calibration verification shows that either the absolute instrument response or the retention times have changed since the initial calibration, corrective actions are taken which may include reanalysis of the affected extracts. A group of extracts analyzed between continuing calibration verifications is called an Analytical Batch. The Exception Report(s) in the following section describe any quality control outliers or comments pertaining to each QC Group.

Results relating to initial and continuing calibration criteria are as follows:
All initial calibration criteria were met.
All continuing calibration criteria were met.

Unusual events or important observations from the processing of the samples are as follows:
The samples were run multiple times due continuing calibration failure and instrumentation difficulties.

Prepared By
Jenny L. Davis

August 20, 1997

LAS LABORATORIES

POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
EXCEPTION REPORT
QC GROUP: 8310 PAH_51108

SAMPLE SUMMARY

LAS Sample ID	Client Sample ID	Date Analyzed	Analytical Batch
51108LCS	PMBS51108	31-JUL-97	073097-8310-HPLCB-2
51108LCSDUP	PMBSD51108	31-JUL-97	073097-8310-HPLCB-2
51108MB	PBLK51108	31-JUL-97	073097-8310-HPLCB-2
L9984-10	BC-3	31-JUL-97	073097-8310-HPLCB-2
L9984-11	ES-3	31-JUL-97	073097-8310-HPLCB-3
L9984-12	ES-4	31-JUL-97	073097-8310-HPLCB-2
L9984-13	ES-2	31-JUL-97	073097-8310-HPLCB-2
L9984-14	BC-1	31-JUL-97	073097-8310-HPLCB-2
L9984-8	ES-6	31-JUL-97	073097-8310-HPLCB-3
L9984-9	BC-2	31-JUL-97	073097-8310-HPLCB-2
L9993-3	ES-1	01-AUG-97	073097-8310-HPLCC-2
L9993-4	ES-5	01-AUG-97	073097-8310-HPLCC-2
L9993-4 1	ES-5	08-AUG-97	073197-8310-HPLCC-6

HOLDING TIMES
__X__ All holding times were met for samples in this QC group.
__X__ The extraction holding times were met.
__X__ The analytical holding times were met.

METHOD BLANK

__X__ No target analytes were detected in the method blank(s).

SAMPLE RESULTS

__X__ The following samples required reanalysis for either dilutions or QC outliers.

LAS Sample ID	Client Sample ID
L9993-4 1	ES-5

__X__ The following samples required a dilution.

LAS Sample ID	Client Sample ID	Dilution
L9984-13	ES-2	10
L9984-14	BC-1	10
L9993-4 1	ES-5	5

SURROGATE RECOVERIES

__X__ The following samples failed the recovery criteria for this QC group.

LAS Sample ID	Client Sample ID	Parameter	Recovery	Limits
L9984-13	ES-2	Nitrobenzene-d5	357%	20-110

LAS LABORATORIES

POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
EXCEPTION REPORT
QC GROUP: 8310 PAH_51108

L9984-13		ES-2	2-Fluorobiphenyl	1390%	24-110
L9984-14		BC-1	Nitrobenzene-d5	165%	20-110
L9984-14		BC-1	2-Fluorobiphenyl	1560%	24-110
L9993-3		ES-1	Nitrobenzene-d5	142%	20-110
L9993-4		ES-5	Nitrobenzene-d5	214%	20-110
L9993-4		ES-5	2-Fluorobiphenyl	696%	24-110
L9993-4	1	ES-5	Nitrobenzene-d5	225%	20-110
L9993-4	1	ES-5	2-Fluorobiphenyl	598%	24-110

QC SAMPLE RESULTS

__X__ All QC samples met criteria for this QC group.

__X__ All associated CCV compounds met the percent deviation criteria.

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POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
CONTINUING CALIBRATION SUMMARY

LAS Sample ID:	R073097-HPLCB-4	Instrument ID:	HPLCB
Date Analyzed:	31-JUL-97 01:45	Analytical Batch ID:	073097-8310-HPLCB-2
File ID:	07309701.R19		

CONSTITUENT	CAS No.	RT	CONC (ug/ml)	NOMINAL CONC	%D
*2-Fluorobiphenyl	321-60-8	-0.610	539.5	500.0	7.9
Acenaphthene	83-32-9	-0.560	202.3	200.0	1.1
Acenaphthylene	208-96-8	-0.550	1981.	2000.	-0.94
Nitrobenzene-d5	4165-60-0	-0.540	532.2	500.0	6.4
Fluorene	86-73-7	-0.530	196.1	200.0	-1.9
Phenanthrene	85-01-8	-0.310	98.98	100.0	-1.0
Anthracene	120-12-7	-0.140	98.17	100.0	-1.8
Fluoranthene	206-44-0	-0.130	196.9	200.0	-1.6
Pyrene	129-00-0	-0.120	109.8	100.0	9.8
Naphthalene	91-20-3	0.000	1059.	1000.	5.9
Benzo(a)anthracen	56-55-3	0.100	99.55	100.0	-0.45
p-Terphenyl-d14	1718-51-0	0.100	523.7	500.0	4.7
Chrysene	218-01-9	0.190	99.28	100.0	-0.72
Benzo(a)pyrene	50-32-8	0.300	98.19	100.0	-1.8
Benzo(b)fluoranth	205-99-2	0.330	211.4	200.0	5.7
Benzo(k)fluoranth	207-08-9	0.390	97.81	100.0	-2.2
Benzo(ghi)perylen	191-24-2	0.420	200.5	200.0	0.26
Dibenzo(ah)anthra	53-70-3	0.430	184.3	200.0	-7.8
Indeno(123cd)pyre	193-39-5	0.470	191.4	200.0	-4.3

LAS LABORATORIES

POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
CONTINUING CALIBRATION SUMMARY

LAS Sample ID:	R073097-HPLCB-7	Instrument ID:	HPLCB
Date Analyzed:	31-JUL-97 12:43	Analytical Batch ID:	073097-8310-HPLCB-2
File ID:	07309711.R30		

CONSTITUENT	CAS No.	RT	CONC (ug/ml)	NOMINAL CONC	%D
Naphthalene	91-20-3	0.000	1040.	1000.	4.0
Benzo(a)pyrene	50-32-8	0.300	99.71	100.0	-0.30
p-Terphenyl-d14	1718-51-0	0.310	521.6	500.0	4.3
Benzo(b)fluoranth	205-99-2	0.330	207.3	200.0	3.7
Fluorene	86-73-7	0.350	192.4	200.0	-3.8
Pyrene	129-00-0	0.360	109.4	100.0	9.4
Acenaphthene	83-32-9	0.370	197.1	200.0	-1.4
Chrysene	218-01-9	0.370	98.70	100.0	-1.3
Benzo(a)anthracen	56-55-3	0.380	98.90	100.0	-1.1
Fluoranthene	206-44-0	0.380	196.6	200.0	-1.7
Benzo(k)fluoranth	207-08-9	0.390	97.95	100.0	-2.0
Anthracene	120-12-7	0.420	98.53	100.0	-1.5
Benzo(ghi)perylen	191-24-2	0.420	202.9	200.0	1.5
Dibenzo(ah)anthra	53-70-3	0.430	198.4	200.0	-0.80
Indeno(123cd)pyre	193-39-5	0.470	193.5	200.0	-3.3
Phenanthrene	85-01-8	0.470	99.03	100.0	-0.97
Acenaphthylene	208-96-8	0.550	1920.	2000.	-4.0
*2-Fluorobiphenyl	321-60-8	0.610	537.4	500.0	7.5
Nitrobenzene-d5	4165-60-0	1.08	528.9	500.0	5.8

LAS LABORATORIES

POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
CONTINUING CALIBRATION SUMMARY

LAS Sample ID:	R073097-HPLCC-4	Instrument ID:	HPLCC
Date Analyzed:	01-AUG-97 16:08	Analytical Batch ID:	073097-8310-HPLCC-2
File ID:	07309701.R16		

CONSTITUENT	CAS No.	RT	CONC (ug/ml)	NOMINAL CONC	%D
Benzo(k)fluoranth	207-08-9	-0.770	99.40	100.0	-0.60
Benzo(a)pyrene	50-32-8	-0.740	100.6	100.0	0.63
Benzo(b)fluoranth	205-99-2	-0.640	197.4	200.0	-1.3
p-Terphenyl-d14	1718-51-0	-0.590	529.3	500.0	5.9
Benzo(a)anthracen	56-55-3	-0.560	98.10	100.0	-1.9
Chrysene	218-01-9	-0.540	98.90	100.0	-1.1
Pyrene	129-00-0	-0.340	102.9	100.0	2.9
Fluoranthene	206-44-0	-0.240	194.9	200.0	-2.5
Benzo(ghi)perylen	191-24-2	-0.190	201.5	200.0	0.77
Fluorene	86-73-7	-0.170	198.1	200.0	-0.97
Phenanthrene	85-01-8	-0.150	100.6	100.0	0.64
Anthracene	120-12-7	-0.130	99.20	100.0	-0.81
Indeno(123cd)pyre	193-39-5	-0.120	198.4	200.0	-0.82
Dibenzo(ah)anthra	53-70-3	-0.110	194.7	200.0	-2.6
Acenaphthene	83-32-9	0.000	200.8	200.0	0.42
Nitrobenzene-d5	4165-60-0	0.000	539.7	500.0	7.9
Naphthalene	91-20-3	0.000	1022.	1000.	2.2
Acenaphthylene	208-96-8	0.000	2013.	2000.	0.67
*2-Fluorobiphenyl	321-60-8	0.190	519.2	500.0	3.8

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POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
CONTINUING CALIBRATION SUMMARY

LAS Sample ID:	R073097-HPLCC-8	Instrument ID:	HPLCC
Date Analyzed:	01-AUG-97 22:10	Analytical Batch ID:	073097-8310-HPLCC-2
File ID:	07309701.R26		

CONSTITUENT	CAS No.	RT	CONC (ug/ml)	NOMINAL CONC	%D
Naphthalene	91-20-3	0.000	998.3	1000.	-0.17
*2-Fluorobiphenyl	321-60-8	0.0400	510.2	500.0	2.0
Acenaphthene	83-32-9	0.0400	195.5	200.0	-2.2
Acenaphthylene	208-96-8	0.170	1952.	2000.	-2.4
Fluorene	86-73-7	0.200	190.2	200.0	-4.9
Phenanthrene	85-01-8	0.270	98.01	100.0	-2.0
Anthracene	120-12-7	0.380	96.30	100.0	-3.7
Pyrene	129-00-0	0.430	101.1	100.0	1.1
Nitrobenzene-d5	4165-60-0	0.450	523.8	500.0	4.8
Fluoranthene	206-44-0	0.490	188.6	200.0	-5.7
Benzo(a)anthracen	56-55-3	0.580	95.94	100.0	-4.1
p-Terphenyl-d14	1718-51-0	0.620	510.4	500.0	2.1
Chrysene	218-01-9	0.630	96.72	100.0	-3.3
Benzo(b)fluoranth	205-99-2	0.650	192.2	200.0	-3.9
Benzo(a)pyrene	50-32-8	0.740	97.79	100.0	-2.2
Benzo(k)fluoranth	207-08-9	0.790	96.43	100.0	-3.6
Benzo(ghi)perylen	191-24-2	0.870	200.0	200.0	0.0090
Dibenzo(ah)anthra	53-70-3	0.900	193.1	200.0	-3.5
Indeno(123cd)pyre	193-39-5	1.04	180.3	200.0	-9.8

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POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
CONTINUING CALIBRATION SUMMARY

LAS Sample ID:	R073197-HPLCC-1	Instrument ID:	HPLCC
Date Analyzed:	07-AUG-97 11:10	Analytical Batch ID:	073197-8310-HPLCC-6
File ID:	07319701.R60		

CONSTITUENT	CAS No.	RT	CONC (ug/ml)	NOMINAL CONC	%D
Anthracene	120-12-7	-0.0300	98.85	100.0	-1.2
Phenanthrene	85-01-8	-0.0300	100.7	100.0	0.70
Pyrene	129-00-0	-0.0200	104.0	100.0	4.0
Benzo(ghi)perylen	191-24-2	-0.0100	208.9	200.0	4.4
Indeno(123cd)pyre	193-39-5	-0.0100	198.7	200.0	-0.65
Dibenzo(ah)anthra	53-70-3	-0.0100	207.5	200.0	3.8
Acenaphthylene	208-96-8	0.000	2046.	2000.	2.3
Benzo(b)fluoranth	205-99-2	0.000	201.8	200.0	0.90
Benzo(a)pyrene	50-32-8	0.000	103.0	100.0	3.0
Fluoranthene	206-44-0	0.000	193.1	200.0	-3.4
Nitrobenzene-d5	4165-60-0	0.000	542.4	500.0	8.5
Naphthalene	91-20-3	0.000	1036.	1000.	3.6
Chrysene	218-01-9	0.000	98.93	100.0	-1.1
Benzo(a)anthracen	56-55-3	0.0200	98.23	100.0	-1.8
Benzo(k)fluoranth	207-08-9	0.0200	101.5	100.0	1.5
p-Terphenyl-d14	1718-51-0	0.0200	533.9	500.0	6.8
Fluorene	86-73-7	0.0300	189.9	200.0	-5.0
*2-Fluorobiphenyl	321-60-8	0.0400	519.1	500.0	3.8
Acenaphthene	83-32-9	0.0400	199.8	200.0	-0.10

LAS LABORATORIES

POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC
CONTINUING CALIBRATION SUMMARY

LAS Sample ID:	R073197-HPLCC-2	Instrument ID:	HPLCC
Date Analyzed:	08-AUG-97 18:39	Analytical Batch ID:	073197-8310-HPLCC-6
File ID:	07319701.R72		

CONSTITUENT	CAS No.	RT	CONC (ug/ml)	NOMINAL CONC	%D
Naphthalene	91-20-3	0.000	1020.	1000.	2.0
*2-Fluorobiphenyl	321-60-8	0.420	534.9	500.0	7.0
Nitrobenzene-d5	4165-60-0	0.450	517.8	500.0	3.6
Benzo(b)fluoranth	205-99-2	0.490	197.0	200.0	-1.5
Acenaphthylene	208-96-8	0.510	1966.	2000.	-1.7
Fluorene	86-73-7	0.530	178.4	200.0	-10.8
Acenaphthene	83-32-9	0.560	199.2	200.0	-0.38
Phenanthrene	85-01-8	0.560	99.04	100.0	-0.96
p-Terphenyl-d14	1718-51-0	0.620	518.4	500.0	3.7
Benzo(k)fluoranth	207-08-9	0.630	100.1	100.0	0.081
Chrysene	218-01-9	0.630	97.02	100.0	-3.0
Anthracene	120-12-7	0.640	97.14	100.0	-2.9
Pyrene	129-00-0	0.660	103.3	100.0	3.3
Benzo(a)anthracen	56-55-3	0.670	97.09	100.0	-2.9
Benzo(a)pyrene	50-32-8	0.670	100.3	100.0	0.29
Fluoranthene	206-44-0	0.730	188.4	200.0	-5.8
Dibenzo(ah)anthra	53-70-3	0.760	216.9	200.0	8.5
Benzo(ghi)perylen	191-24-2	0.870	207.3	200.0	3.6
Indeno(123cd)pyre	193-39-5	1.04	195.3	200.0	-2.4

LAS Laboratories, Inc.
DATA QUALIFIERS FOR ORGANIC ANALYSES

[Revised 02/28/97]

For Use On The Analytical Data Reporting Forms	
A	***For CLP analyses Only*** -- The TIC is a suspected aldol-condensation product.
B	Any constituent that was also detected in the associated blank whose concentration was greater than the practical or reporting detection limit (PQL or RDL), or method detection limit (MDL) for client samples that require "J" flags to be reported.
C	Constituent confirmed by GC/MS analysis. *[pesticide/PCB analyses only]*
D	Constituent detected in the diluted sample. It also indicates that an accurate quantitation is not possible due to surrogates being diluted out of the samples during the course of the analysis.
E	Constituent concentration exceeded the calibration range.
G	The quantitation is not gasoline or diesel but believed to be some other combination of hydrocarbons.
H	Sample analysis performed outside of method- or client-specified maximum holding time requirement.
J	*Estimated value* -- (1) constituent detected at a level less than the RDL or PQL and greater than or equal to the MDL; (2) estimated concentration for TICs ***(For CLP Reporting Only)***.
N	***For CLP Reporting Only*** -- Tentatively identified constituents (TICs) identified based on mass spectral library search.
NQ	Analyte detected, but Not Quantified; see result from subsequent analysis
P	***For CLP Reporting Only*** -- The percent difference between the concentrations detected on both GC columns was greater than 25 percent *[pesticide/PCB analyses only]*.
U	***For CLP Reporting Only*** -- Constituent was analyzed for but not detected (sample quantitation must be corrected for dilution and percent moisture).
X, Y, or Z	Analyst-defined qualifier.
N/A (% Moisture)	N/A in the % moisture cell indicates that data are reported on an "*as received*" basis. A value in the % moisture cell indicates that data are reported based on a "*dry weight*" basis.
For Use On The QC Data Reporting Forms	
*****	QC data (i.e., percent recovery data for matrix spike, matrix spike duplicate, laboratory control standard, or surrogates; and RPD for matrix spike duplicate or unspiked duplicate) exceeded acceptance limits.
a[1]	The spike recovery and/or RPD for matrix spike and matrix spike duplicates cannot be evaluated due to insufficient spiking level compared to the elevated sample analyte concentration.
b[1]	The RPD cannot be computed because the sample and/or duplicate concentration was below the RDL.

[1] Used as footnote designations on the QC Summary Form.

SAMPLE RESULTS FORMS AND QC SUMMARIES

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Certificate of Analysis No. L9993

Client: Parsons Engineering Science
Client Address: 290 Elwood Davis Road , #312
Liverpool, NY 13088
Attention: Martin Miller
Project Name: Greyhound Lines
Site: Oakland, CA

Report Date: 7/22/97
Date(s) Received: 7/117/97
Date(s) Sampled: 7/16/97
Date(s) Analyzed: 7/18/97
Project Number: 730844.89343
Matrix: WATER

Method: 8015**
Batch No.: L071897GC1 A

Units: ug/L

LAS ID No.	Sample ID	Gasoline Range Organics
L9993-5	ES-1	960
L9993-8	ES-5	27000
L9993-11	TRIP BLANK	ND<50

Results reported at Practical Quantitation Limits unless otherwise specified.

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water and Wastewater, 18th Edition
***Ref: Test Methods for Evaluating Solid Waste, EPA SW-846, 3rd Edition

LAS/SPL California License Number 1392

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Certificate of Analysis No. L9993

Client: Parsons Engineering Science
Client Address: 290 Elwood Davis Road , #312
Liverpool, NY 13088
Attention: Martin Miller
Project Name: Greyhound Lines
Site: Oakland, CA

Report Date: 7/28/97
Date(s) Received: 7/17/97
Date(s) Sampled: 7/16/97
Date(s) Analyzed: 7/24/97
Project Number: 730844.89343
Matrix: WATER

Method: 8015***

Units: mg/L

Sample ID	Client ID	Diesel Range Organics
L9993-1	ES-1	1.2
L9993-2	ES-5	15

Results reported at Practical Quantitation Limits unless otherwise specified.

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water and Wastewater, 18th Edition
***Ref: Test Methods for Evaluating Solid Waste, EPA SW-846, 3rd Edition

LAS/SPL California License Number 1392

A Subsidiary of SPL Incorporated

Certificate of Analysis No. L9993

Client: Parsons Engineering Science
Client Address: 290 Elwood Davis Road , #312
Liverpool, NY 13088
Attention: Martin Miller
Project Name: Greyhound Lines
Site: Oakland, CA

Report Date: 7/22/97
Date(s) Received: 7/17/97
Date(s) Sampled: 7/16/97
Date(s) Analyzed: 7/18/97
Project Number: 730844.89343
Matrix: WATER

Method: 8020**
Batch No.: L071897GC1 B

Units: ug/L

LAS ID No.	Sample ID	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
L9993-5	ES-1	76	8.2	11	25	ND<10
L9993-8	ES-5	810	1800	430	1800	350
L9993-11	TRIP BLANK	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10

Results reported at Practical Quantitation Limits unless otherwise specified.

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water and Wastewater, 18th Edition
***Ref: Test Methods for Evaluating Solid Waste, EPA SW-846, 3rd Edition

LAS/SPL California License Number 1392

A Subsidiary of SPL Incorporated

Certificate of Analysis No. L9993

Client: Parson Engineering Science
Client Address: 290 Elwood Davis Road, #312
Liverpool, NY 13088
Attention: Martin Miller
Project Name: Greyhound Lines
Site: Oakland, CA

Report Date: 8/12/97
Date(s) Received: 7/17/97
Date(s) Sampled: 7/16/97
Date(s) Analyzed: 8/1/97
Project Number: 730844.89343
Matrix: WATER

Method: 8310, Polynuclear Aromatic Hydrocarbons

Units: µg/L

Analyte	ES-1	ES-5
Naphthalene	3.3	110
Acenaphthylene	9.8	100
Acenaphthene	ND<0.20	ND<0.20
Fluorene	0.25	4.0
Phenanthrene	0.14	1.6
Anthracene	ND<0.10	ND<0.10
Fluoranthene	ND<0.20	ND<0.20
Pyrene	ND<0.10	ND<0.10
Benzo (a) anthracene	0.15	ND<0.10
Chrysene	ND<0.10	ND<0.10
Benzo (b) fluoranthene	ND<0.20	ND<0.20
Benzo (k) fluoranthene	ND<0.10	ND<0.10
Benzo (a) pyrene	ND<0.10	ND<0.10
Dibenzo (a,h) anthracene	ND<0.20	ND<0.20
Benzo (g,h,i) perylene	ND<0.20	ND<0.20
Indeno (1,2,3-cd) pyrene	ND<0.20	ND<0.20

Results reported at Practical Quantitation Limits unless otherwise specified.

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd ed.

LAS-SPL California License Number 1392

SAMPLE RECEIPT LOG-IN
AND
CHAIN OF CUSTODY

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No: F9707056

C- 03917

page 1 of 1

Client Name: Greyhound

Address/Phone: GLI, Houston TX.

Client Contact: Chris Torell (315) 457-9560

Project Name: Greyhound

Project Number: 730844.89343

Project Location: Oakland

Invoice To: GLI

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil SL=sludge O=other:)	bottle (P=plastic A=amber glass G=glass V=vial)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz)	pres. (1=HCl 2=HNO3 3=H2SO4 O=other:)	Number of Containers	Requested Analysis: BTEX	MtBE	TPHg	TPHd	PAH EPA 610 by 8310. Changed to Anthracene by GLI, Chris Torell, 7/17/97 ~1104 (BJ)			
CS-3	7/15/97	1150			W	AG	1,40	3,01	5	X	X	X	X	X			
CS-4		1240								X	X	X	X	X			
CS-2		1445								X	X	X	X	X			
BC-1		1530								X	X	X	X	X			

Post-it™ Fax Note 7671 | Date 7/16 | # of pages ▶ 4

To Rob Mike | From Jenny

Co./Dept. | Co.

Phone # | Phone #

Fax # | Fax #

Client/Consultant Remarks:

Intact? ☐ Y ☐ N

Temp:

Requested TAT

24hr ☐ 72hr ☐

48hr ☐ Standard ☒

Other ☐ _____

Special Reporting Requirements: Standard QC ☒ Fax Results ☐ Level 3 QC ☐ Raw Data ☐ Level 4 QC ☐

Special Detection Limits (specify): TPHd 50 ppb

PM review (initial):

	date	time	
1. Relinquished by Sampler:	7/15/97	1545	2. Received by: FedEx
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 7/16/97	time 0950	6. Received by Laboratory:

☐ 8880 Interchange Drive, Houston, TX 77054 (713) 660-0901

☐ 459 Hughes Drive, Traverse City, MI 49684 (616) 947-5777

☐ 500 Ambassador Caffery Parkway, Scott, LA 70583 (318) 237-4775

☒ 1511 E. Orangethorpe Avenue, Fullerton, CA 92631 (714) 447-6868

LAS
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Sample Login
Login Review Checklist

Lot Number L9993

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensure that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checklist should be affixed to each login package prior to distribution.

For effective login review, at a minimum, five reports form the login process are required. These are the COC (or equivalent), the login COC report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning review, ensure that these five components are available. Jobs with single component samples, the sample summary report may be omitted.

SAMPLE SUMMARY REPORT	YES	NO	N/A	Comment
1. Are all sample ID's correct?	+			
2. Are all samples present?	+			
3. Are all matrices indicated correctly?	+			
4. Are all analyses on the COC logged in for the appropriate samples?	+			
5. Are all analyses logged in for the correct container?	+			
6. Are samples logged in according to LAS batching procedures?	+			

LOGIN CHAIN OF CUSTODY	YES	NO	N/A	Comment
1. Are the collect, receive, and due dates correct for every sample?	+			
2. Have all appropriate comments been indicated in the comment section?	+			

SAMPLE RECEIVING CHECKLIST	YES	NO	N/A	Comment
1. Are all discrepancies between the COC and the login noted (if applicable)?	+			See sample receiving checklist

Jenny L. Davis 7/18/97

Gail Heffernan — primary review signature — 7/17/97 — date

secondary review signature — 7/17/97 — date

07/6772

LAS LABORATORIES, INC.

Page ___of___

Sample Receiving Checklist

Client Name: SRL - Fullerton Job No: L9993 Cooler ID:

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: 5°C

temperature of temp. blank upon receipt:

	yes	no	n/a	*Comments/Discrepancies
custody seals present	✓			
custody seals intact	✓			
chain of custody present	✓			
blue ice(or equiv.)present	✓			
blue ice(or equiv.)frozen	✓			
rad survey completed	✓			

SAMPLE CONDITION UPON RECEIPT

	yes	no	n/a	*Comments/Discrepancies
all bottles labeled	✓			
bottle custody seal present		✓		
bottle custody seal intact		✓		
samples intact	✓			
proper container used for sample	✓			
sample volume sufficient for analysis	✓			
proper pres. indicated on the COC	✓			
VOA's contain headspace		✓		
are samples bi-phasic(if so, indicate sample ID's):		✓		

MISCELLANEOUS ITEMS

	yes	no	n/a	*Comments/Discrepancies
samples with short holding times		✓		
samples to subcontract		✓		

ADDITIONAL COMMENTS/DISCREPANCIES Received one trip blank, not listed on COC - logged in (KK)

Completed by / date: [signature] 7/17/97

sent to the client (date/initials): ** Client's signature upon receipt:

Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt

** = please review this information and return via facsimile to the appropriate CSR (702)361-8146

VERSION 3.0(03-03-97)

PLL0116

QUALITY CONTROL

DOCUMENTATION

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LAS BATCH QUALITY CONTROL REPORT
METHOD 8015/Diesel

Batch ID: 072297GC6
Matrix: WATER
Units: mg/L

LABORATORY CONTROL SAMPLE

Spike Compounds	Method Blank Result	Spike Added	Blank Spike		QC Limits (**) (Mandatory)
			Result	Rescovery	
	<2>	<3>	<1>	%	% Recovery Range
Diesel Range Organics	ND<0.05	3.1	2.4	77	43 - 145

MATRIX SPIKES

Spike Compounds	Sample Results	Spike Added	LCS Spike		LCS Spike Duplicate		LCS/LCSD Relative % Difference (RPD)	QC Limits (***) (Advisory)	
			Result	Recovery	Result	Recovery		RPD MAX	Recovery Range
	<2>	<3>	<1>	<4>	<1>	<5>			
Diesel Range Organics	N/A	3.1	2.4	77	2.4	77	0	20	43 - 145

Analyst: DA
Sequence Date: 7/22/97
LAS ID of Spiked Sample: N/A
QC Batch Id: 51057

* = Values Outside QC Range. << = Data Outside Method Specification Limits
NC = Not Calculated (Sample Exceeds Spike by a factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = | (<4> - <5>| / [(<4> + <5>) x 0.5] x 100
(**) = Source:
(***) = Source:

SAMPLES IN BATCH (LAS ID):

L9983-1,2,3,4,5,6,7,8,9,10,11
L9984-1,2,3,4,5,6,7
L9993-1,2

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LAS BATCH QUALITY CONTROL REPORT
METHOD 8020/602

Batch ID: L071897GC1 B **Date:** 7/18/97
Matrix: WATER
Units: ug/L

LABORATORY CONTROL SAMPLE

Spike Compounds	Method Blank Result	Spike Added	Blank Spike		QC Limits (**) (Mandatory)		
			Result	Recovery			
	<2>	<3>	<1>	%	% Recovery Range		
MTBE	ND<10	50	60	120	80	-	120
Benzene	ND<0.5	50	50	100	75	-	125
Toluene	ND<1.0	50	49	98	75	-	130
Ethylbenzene	ND<1.0	50	50	100	75	-	130
m,p-Xylene	ND<1.0	100	98	98	75	-	130
o- Xylene	ND<1.0	50	49	98	75	-	130

MATRIX SPIKES

Spike Compounds	Sample Results	Spike Added	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative %	QC Limits (***) (Advisory)			
			Result	Recovery	Result	Recovery	Difference	RPD			
	<2>	<3>	<1>	<4>	<1>	<5>	(RPD)	MAX	Recovery Range		
Benzene	ND<0.5	50	53	106	53	106	0	20	75	-	125
Toluene	ND<1.0	50	52	104	52	104	0	25	75	-	130
Ethylbenzene	ND<1.0	50	54	108	54	108	0	25	75	-	130
m,p-Xylene	ND<1.0	100	110	110	110	110	0	25	75	-	130
o-Xylene	ND<1.0	50	52	104	52	104	0	25	75	-	130

Analyst: JKA/DA
Sequence Date: 7/15/97
LAS ID of Spiked Sample: L9984-15

* = Values Outside QC Range. << = Data Outside Method Specification Limits
NC = Not Calculated (Sample Exceeds Spike by a factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = | (<4> - <5>| / [(<4> + <5>) x 0.5] x 100
(**) = Source: Historical Limits
(***) = Source: Historical Limits

SAMPLES IN BATCH (LAS ID):

L9984-15,30,33,18,21,24,27
L9993-8,11,5
L10004-7,19,1,3,5,9,11,13,15,17

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Telephone 702-361-0220 • Facsimile 702-361-8146

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LAS BATCH QUALITY CONTROL REPORT
METHOD 8015/Gasoline

Batch ID: L071897GC1 A **DATE:** 7/18/97
Matrix: WATER
Units: ug/L

LABORATORY CONTROL SAMPLE

Spike Compounds	Method Blank Result	Spike Added	Blank Spike		QC Limits (**) (Mandatory)		
			Result	Recovery			
	<2>	<3>	<1>	%	% Recovery Range		
Gasoline Range Organics	ND<50	1000	1100	110	60	-	130

MATRIX SPIKES

Spike Compounds	Sample Results	Spike Added	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference (RPD)	QC Limits (***) (Advisory)	
			Result	Recovery	Result	Recovery		RPD MAX	Recovery Range
	<2>	<3>	<1>	<4>	<1>	<5>			
Gasoline Range Organics	ND<50	1000	1100	110	1100	110	0	25	60 - 130

Analyst: JKA/DA
Sequence Date: 7/15/97
LAS ID of Spiked Sample: L9984-15

* = Values Outside QC Range. << = Data Outside Method Specification Limits
NC = Not Calculated (Sample Exceeds Spike by a factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = | (<4> - <5>| / [(<4> + <5>) x 0.5] x 100
(**) = Source: Historical Limits
(***) = Source: Historical Limits

SAMPLES IN BATCH (LAS ID):

L9984-15,30,33,18,21,24,27
L9993-8,11,5
L10004-7,19,1,3,5,9,11,13,15,17

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POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC

Client Sample ID:	PBLK51108	LAS Sample ID:	51108MB
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	31-JUL-97	Analytical Batch ID:	073097-8310-HPLCB-2
Date Extracted:	18-JUL-97	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8310 PAH_51108

SURROGATE	RECOVERY	QC Limits
Nitrobenzene-d5	86%	20-110
2-Fluorobiphenyl	82%	24-110
p-Terphenyl-d14	99%	22-167

CONSTITUENT	CAS NO.	RESULT ug/L	PQL ug/L	DATA QUALIFIER(S)
Naphthalene	91-20-3	<1.0	1.0	
Acenaphthylene	208-96-8	<2.0	2.0	
Acenaphthene	83-32-9	<0.20	0.20	
Fluorene	86-73-7	<0.20	0.20	
Phenanthrene	85-01-8	<0.10	0.10	
Anthracene	120-12-7	<0.10	0.10	
Fluoranthene	206-44-0	<0.20	0.20	
Pyrene	129-00-0	<0.10	0.10	
Benzo(a)anthracene	56-55-3	<0.10	0.10	
Chrysene	218-01-9	<0.10	0.10	
Benzo(b)fluoranthene	205-99-2	<0.20	0.20	
Benzo(k)fluoranthene	207-08-9	<0.10	0.10	
Benzo(a)pyrene	50-32-8	<0.10	0.10	
Dibenzo(a,h)anthracene	53-70-3	<0.20	0.20	
Benzo(ghi)perylene	191-24-2	<0.20	0.20	
Indeno(1,2,3-cd)pyrene	193-39-5	<0.20	0.20	

LAS LABORATORIES

SPIKED SAMPLE RESULT
POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC

Client Sample ID:	PMBS51108	LAS Sample ID:	51108LCS
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	31-JUL-97	Analytical Batch ID:	073097-8310-HPLCB-2
Date Extracted:	18-JUL-97	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8310 PAH_51108

SURROGATE	RECOVERY	QC Limits
Nitrobenzene-d5	88%	20-110
2-Fluorobiphenyl	88%	24-110
p-Terphenyl-d14	102%	22-167

CONSTITUENT	CAS NO.	RESULT ug/L	PQL ug/L	DATA QUALIFIER(S)
Naphthalene	91-20-3	2.5	1.0	
Acenaphthylene	208-96-8	5.0	2.0	
Acenaphthene	83-32-9	0.50	0.20	
Fluorene	86-73-7	0.51	0.20	
Phenanthrene	85-01-8	0.27	0.10	
Anthracene	120-12-7	0.24	0.10	
Fluoranthene	206-44-0	0.56	0.20	
Pyrene	129-00-0	0.31	0.10	
Benzo(a)anthracene	56-55-3	0.28	0.10	
Chrysene	218-01-9	0.29	0.10	
Benzo(b)fluoranthene	205-99-2	0.61	0.20	
Benzo(k)fluoranthene	207-08-9	0.29	0.10	
Benzo(a)pyrene	50-32-8	0.25	0.10	
Dibenzo(a,h)anthracene	53-70-3	0.57	0.20	
Benzo(ghi)perylene	191-24-2	0.59	0.20	
Indeno(1,2,3-cd)pyrene	193-39-5	0.55	0.20	

LAS LABORATORIES

SPIKED SAMPLE RESULT
POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC

Client Sample ID:	PMBSD51108	LAS Sample ID:	51108LCSDUP
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	31-JUL-97	Analytical Batch ID:	073097-8310-HPLCB-2
Date Extracted:	18-JUL-97	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8310 PAH_51108

SURROGATE	RECOVERY	QC Limits
Nitrobenzene-d5	92%	20-110
2-Fluorobiphenyl	92%	24-110
p-Terphenyl-d14	105%	22-167

CONSTITUENT	CAS NO.	RESULT ug/L	PQL ug/L	DATA QUALIFIER(S)
Naphthalene	91-20-3	2.7	1.0	
Acenaphthylene	208-96-8	4.8	2.0	
Acenaphthene	83-32-9	0.54	0.20	
Fluorene	86-73-7	0.54	0.20	
Phenanthrene	85-01-8	0.28	0.10	
Anthracene	120-12-7	0.26	0.10	
Fluoranthene	206-44-0	0.59	0.20	
Pyrene	129-00-0	0.33	0.10	
Benzo(a)anthracene	56-55-3	0.30	0.10	
Chrysene	218-01-9	0.30	0.10	
Benzo(b)fluoranthene	205-99-2	0.63	0.20	
Benzo(k)fluoranthene	207-08-9	0.30	0.10	
Benzo(a)pyrene	50-32-8	0.26	0.10	
Dibenzo(a,h)anthracene	53-70-3	0.60	0.20	
Benzo(ghi)perylene	191-24-2	0.61	0.20	
Indeno(1,2,3-cd)pyrene	193-39-5	0.57	0.20	

LAS LABORATORIES

LCS DATA SUMMARY
POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC

Client Sample ID:	PMBS51108	LAS Sample ID:	51108LCS
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	31-JUL-97	Analytical Batch ID:	073097-8310-HPLCB-2
Date Extracted:	18-JUL-97	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8310 PAH_51108

SURROGATE	RECOVERY	QC Limits
Nitrobenzene-d5	88%	20-110
2-Fluorobiphenyl	88%	24-110
p-Terphenyl-d14	102%	22-167

Constituent	Spike Added ug/L	LCS Concentration ug/L	LCS % Recovery	QC Limits
Naphthalene	2.50	2.47	99	33-135
Phenanthrene	0.250	0.270	108	42-139
Pyrene	0.250	0.311	124	45-135
Benzo(a)pyrene	0.250	0.253	101	42-135
Benzo(ghi)perylene	0.500	0.588	118	43-135

LAS LABORATORIES

LCS DUPLICATE DATA SUMMARY
POLYNUCLEAR AROMATIC HYDROCARBONS-HPLC

Client Sample ID:	PMBSD51108	LAS Sample ID:	51108LCSDUP
Date Collected:	N/A	Date Received:	N/A
Date Analyzed:	31-JUL-97	Analytical Batch ID:	073097-8310-HPLCB-2
Date Extracted:	18-JUL-97	Analytical Dilution:	1
		Preparation Dilution:	1.0
		QC Group:	8310 PAH_51108

SURROGATE	RECOVERY	QC Limits
Nitrobenzene-d5	92%	20-110
2-Fluorobiphenyl	92%	24-110
p-Terphenyl-d14	105%	22-167

Constituent	Spike Added ug/L	LCS DUP Concentration ug/L	% Recovery	RPD	QC Limits RPD	QC Limits % Recovery
Naphthalene	2.50	2.69	108	9	50	33-135
Phenanthrene	0.250	0.284	114	5	50	42-139
Pyrene	0.250	0.325	130	4	50	45-135
Benzo(a)pyrene	0.250	0.257	103	2	50	42-135
Benzo(ghi)perylene	0.500	0.607	121	3	50	43-135

RUN LOGS/EXTRACTION SHEETS

Analyst	Date and Time	Sample Name	Description/ Solution	Matrix/ Dil.	Raw Data File	Method File	Reported	ReAnalyzed	Comments/ ALS No. (VOA Only)
KA / GF	7/30/97 15:47	5R		1	HPLCB\8310\073097\07309701.d01	8310\073097.MET			
KA / GF	7/30/97 16:19	IB		1	HPLCB\8310\073097\07309701.d02	8310\073097.MET			
KA / GF	7/30/97 16:53	AUTOCAL1R	0605-67-1	1	HPLCB\8310\073097\07309701.d03	8310\073097.MET			
KA / GF	7/30/97 17:26	AUTOCAL2R	0605-67-2	1	HPLCB\8310\073097\07309701.d04	8310\073097.MET			
KA / GF	7/30/97 17:59	AUTOCAL3R	0605-67-3	1	HPLCB\8310\073097\07309701.d05	8310\073097.MET			
KA / GF	7/30/97 18:32	AUTOCAL4R	0605-67-4	1	HPLCB\8310\073097\07309701.d06	8310\073097.MET			
KA / GF	7/30/97 19:06	AUTOCAL5R	0605-67-5	1	HPLCB\8310\073097\07309701.d07	8310\073097.MET			
KA / GF	7/30/97 19:39	IB		1	HPLCB\8310\073097\07309701.d08	8310\073097.MET			
KA / GF	7/30/97 20:12	L9771-9 1:400		66.2471	HPLCB\8310\073097\07309701.d09	8310\073097.MET			
KA / GF	7/30/97 20:45	L9771-9 1:200		33.1236	HPLCB\8310\073097\07309701.d10	8310\073097.MET			
KA / GF	7/30/97 21:18	L9771-7 1:2		0.3333	HPLCB\8310\073097\07309701.d11	8310\073097.MET			
KA / GF	7/30/97 21:52	L9754-9 1:4		0.6605	HPLCB\8310\073097\07309701.d12	8310\073097.MET			
KA / GF	7/30/97 22:25	L9848-2 1:3		0.5	HPLCB\8310\073097\07309701.d13	8310\073097.MET			
KA / GF	7/30/97 22:59	L9848-2 1:10		1.666	HPLCB\8310\073097\07309701.d14	8310\073097.MET			
KA / GF	7/30/97 23:32	L9754-1 1:4		0.6645	HPLCB\8310\073097\07309701.d15	8310\073097.MET			
KA / GF	7/31/97 0:05	L9984-13 1:10		0.05	HPLCB\8310\073097\07309701.d16	8310\073097.MET			
KA / GF	7/31/97 0:38	L9984-13 1:20		0.1	HPLCB\8310\073097\07309701.d17	8310\073097.MET			
KA / GF	7/31/97 1:11	IB		1	HPLCB\8310\073097\07309701.d18	8310\073097.MET			
KA / GF	7/31/97 1:45	CCV4	0605-67-4	1	HPLCB\8310\073097\07309701.d19	8310\073097.MET			
KA / GF	7/31/97 2:18	IB		1	HPLCB\8310\073097\07309701.d20	8310\073097.MET			
KA / GF	7/31/97 2:51	L9984-14 1:10		0.05	HPLCB\8310\073097\07309701.d21	8310\073097.MET			
KA / GF	7/31/97 3:24	L9984-14 1:20		0.1	HPLCB\8310\073097\07309701.d22	8310\073097.MET			
KA / GF	7/31/97 3:57	IB		1	HPLCB\8310\073097\07309701.d23	8310\073097.MET			
KA / GF	7/31/97 4:31	51108MB		0.005	HPLCB\8310\073097\07309701.d24	8310\073097.MET			
KA / GF	7/31/97 5:04	511108LCS		0.005	HPLCB\8310\073097\07309701.d25	8310\073097.MET			
KA / GF	7/31/97 5:37	51108LCSDUP		0.005	HPLCB\8310\073097\07309701.d26	8310\073097.MET			
KA / GF	7/31/97 6:10	L9984-12		0.005	HPLCB\8310\073097\07309701.d27	8310\073097.MET			
KA / GF	7/31/97 6:43	L9984-9		0.005	HPLCB\8310\073097\07309701.d28	8310\073097.MET			
KA / GF	7/31/97 7:16	L9984-10		0.005	HPLCB\8310\073097\07309701.d29	8310\073097.MET			
KA / GF	7/31/97 12:43	CCV4	0605-67-4	1	HPLCB\8310\073097\07309711.d30	8310\073097.MET			
KA / GF	7/31/97 13:17	L9984-11		0.005	HPLCB\8310\073097\07309711.d31	8310\073097.MET			
KA / GF	7/31/97 13:50	L9984-8		0.005	HPLCB\8310\073097\07309701.d32	8310\073097.MET			
KA / GF	7/31/97 14:23	L9972-37		0.0053	HPLCB\8310\073097\07309701.d33	8310\073097.MET			
KA / GF	7/31/97 14:56	IB		1	HPLCB\8310\073097\07309701.d34	8310\073097.MET			
KA / GF	7/31/97 16:08	51063MB		0.1666	HPLCB\8310\073097\07309701.d35	8310\073097.MET			
KA / GF	7/31/97 16:43	51063LCS		0.1666	HPLCB\8310\073097\07309711.d36	8310\073097.MET			
KA / GF	7/31/97 17:14	51063MS		0.227	HPLCB\8310\073097\07309701.d37	8310\073097.MET			
KA / GF	7/31/97 17:48	51063MSD		0.225	HPLCB\8310\073097\07309701.d38	8310\073097.MET			
KA / GF	7/31/97 18:21	51209MB		0.1666	HPLCB\8310\073097\07309701.d39	8310\073097.MET			
KA / GF	7/31/97 18:54	51209LCS		0.1666	HPLCB\8310\073097\07309701.d40	8310\073097.MET			
KA / GF	7/31/97 19:27	51209MS		0.1666	HPLCB\8310\073097\07309701.d41	8310\073097.MET			
KA / GF	7/31/97 20:00	51209MSD		0.1666	HPLCB\8310\073097\07309701.d42	8310\073097.MET			
KA / GF	7/31/97 20:34	9771-9 1:1000		165.618	HPLCB\8310\073097\07309701.d43	8310\073097.MET			
KA / GF	7/31/97 21:07	L9944-20 1:10		1.739	HPLCB\8310\073097\07309701.d44	8310\073097.MET			
KA / GF	7/31/97 21:40	L9944-1		0.2105	HPLCB\8310\073097\07309701.d45	8310\073097.MET			
KA / GF	7/31/97 22:13	L9944-3		0.221	HPLCB\8310\073097\07309701.d46	8310\073097.MET			
KA / GF	7/31/97 22:46	L9944-5		0.227	HPLCB\8310\073097\07309701.d47	8310\073097.MET			
KA / GF	7/31/97 23:19	L9944-7		0.223	HPLCB\8310\073097\07309701.d48	8310\073097.MET			
KA / GF	7/31/97 23:53	L9944-9		0.181	HPLCB\8310\073097\07309701.d49	8310\073097.MET			
KA / GF	8/1/97 0:26	L9944-10 1:10		1.8155	HPLCB\8310\073097\07309701.d50	8310\073097.MET			
KA / GF	8/1/97 0:59	IB		1	HPLCB\8310\073097\07309701.d51	8310\073097.MET			

Analyst	Date and Time	Sample Name	Description/ Solution	Matrix/ Dil.	Raw Data File	Method File	Reported	ReAnalyzed	Comments/ ALS No. (VOA Only)
KA / GF	7/31/97 16:44	AUTOCAL1R	0605-67-1	1	HPLCC\8310\073097\07309701.d01	8310\073097.MET			
KA / GF	7/31/97 17:20	AUTOCAL2R	0605-67-2	1	HPLCC\8310\073097\07309701.d02	8310\073097.MET			
KA / GF	7/31/97 17:56	AUTOCAL3R	0605-67-3	1	HPLCC\8310\073097\07309701.d03	8310\073097.MET			
KA / GF	7/31/97 18:32	AUTOCAL4R	0605-67-4	1	HPLCC\8310\073097\07309701.d04	8310\073097.MET			
KA / GF	7/31/97 19:09	AUTOCAL5R	0605-67-5	1	HPLCC\8310\073097\07309701.d05	8310\073097.MET			
KA / GF	7/31/97 19:45	INSTRUMENT BLANK		1	HPLCC\8310\073097\07309701.d06	8310\073097.MET			
KA / GF	8/01/97 10:42	50068MB		0.005	HPLCC\8310\073097\07309701.d07	8310\073097.MET	YES		
KA / GF	8/01/97 11:18	50068LCS		0.005	HPLCC\8310\073097\07309701.d08	8310\073097.MET	YES		
KA / GF	8/01/97 11:54	50068LCSDUP		0.005	HPLCC\8310\073097\07309701.d09	8310\073097.MET	YES		
KA / GF	8/01/97 12:30	L9754-17		0.00505	HPLCC\8310\073097\07309701.d10	8310\073097.MET	YES		
KA / GF	8/01/97 13:07	L9754-23		0.0051	HPLCC\8310\073097\07309701.d11	8310\073097.MET	YES		
KA / GF	8/01/97 13:43	L9771-16		0.0051	HPLCC\8310\073097\07309701.d12	8310\073097.MET	YES		
KA / GF	8/01/97 14:19	L9774-3		0.00505	HPLCC\8310\073097\07309701.d13	8310\073097.MET	YES		
KA / GF	8/01/97 14:55	L9788-4		0.00505	HPLCC\8310\073097\07309701.d14	8310\073097.MET	YES		
KA / GF	8/01/97 15:32	IB		1	HPLCC\8310\073097\07309701.d15	8310\073097.MET			
KA / GF	8/01/97 16:08	CCV4	0605-67-4	1	HPLCC\8310\073097\07309701.d16	8310\073097.MET	YES		
KA / GF	8/01/97 16:44	IB		1	HPLCC\8310\073097\07309701.d17	8310\073097.MET			
KA / GF	8/01/97 17:20	L9972-38		0.00538	HPLCC\8310\073097\07309701.d18	8310\073097.MET	YES		
KA / GF	8/01/97 17:56	L9985-25		0.00505	HPLCC\8310\073097\07309701.d19	8310\073097.MET	YES		
KA / GF	8/01/97 18:32	L9985-27		0.0051	HPLCC\8310\073097\07309701.d20	8310\073097.MET	YES		
KA / GF	8/01/97 19:10	L9985-29		0.00515	HPLCC\8310\073097\07309701.d21	8310\073097.MET	YES		
KA / GF	8/01/97 19:45	L9993-3		0.005	HPLCC\8310\073097\07309701.d22	8310\073097.MET	YES		
KA / GF	8/01/97 20:22	L9993-4		0.005	HPLCC\8310\073097\07309701.d23	8310\073097.MET	YES		
KA / GF	8/01/97 20:58	L9999-5		0.005	HPLCC\8310\073097\07309701.d24	8310\073097.MET	YES		
KA / GF	8/01/97 21:34	IB		1	HPLCC\8310\073097\07309701.d25	8310\073097.MET			
KA / GF	8/01/97 22:10	CCV4	0605-67-4	1	HPLCC\8310\073097\07309701.d26	8310\073097.MET	YES		
KA / GF	8/01/97 22:50	IB		1	HPLCC\8310\073097\07309701.d27	8310\073097.MET			
KA / GF	8/01/97 23:24	50553MB		0.1664	HPLCC\8310\073097\07309701.d28	8310\073097.MET	YES		
KA / GF	8/02/97 00:00	50553LCS		0.1662	HPLCC\8310\073097\07309701.d29	8310\073097.MET	YES		
KA / GF	8/02/97 00:36	L9774-8		0.189	HPLCC\8310\073097\07309701.d30	8310\073097.MET	YES		
KA / GF	8/02/97 01:12	L9774-10		0.2205	HPLCC\8310\073097\07309701.d31	8310\073097.MET	YES		
KA / GF	8/02/97 01:49	L9774-12		0.191	HPLCC\8310\073097\07309701.d32	8310\073097.MET	YES		
KA / GF	8/02/97 02:25	L9774-14		0.208	HPLCC\8310\073097\07309701.d33	8310\073097.MET	YES		
KA / GF	8/02/97 03:01	L9774-16 1:5		1.075	HPLCC\8310\073097\07309701.d34	8310\073097.MET	YES		
KA / GF	8/02/97 03:37	L9774-18		0.183	HPLCC\8310\073097\07309701.d35	8310\073097.MET	YES		
KA / GF	8/02/97 04:14	L9788-9		0.198	HPLCC\8310\073097\07309701.d36	8310\073097.MET	YES		
KA / GF	8/02/97 04:50	50553MS		0.1991	HPLCC\8310\073097\07309701.d37	8310\073097.MET	YES		
KA / GF	8/02/97 05:25	50553MSD		0.197	HPLCC\8310\073097\07309701.d38	8310\073097.MET	YES		
KA / GF	8/02/97 06:02	L9774-27		0.2	HPLCC\8310\073097\07309701.d39	8310\073097.MET	YES		
KA / GF	8/02/97 06:38	L9774-20		0.184	HPLCC\8310\073097\07309701.d40	8310\073097.MET	YES		
KA / GF	8/02/97 07:14	L9774-22		0.2196	HPLCC\8310\073097\07309701.d41	8310\073097.MET	YES		
KA / GF	8/02/97 07:50	IB		1	HPLCC\8310\073097\07309701.d42	8310\073097.MET			
KA / GF	8/02/97 08:27	CCV4	0605-67-4	1	HPLCC\8310\073097\07309701.d43	8310\073097.MET	YES		
KA / GF	8/02/97 09:03	IB		1	HPLCC\8310\073097\07309701.d44	8310\073097.MET			
KA / GF	8/02/97 09:39	L9774-24		0.2386	HPLCC\8310\073097\07309701.d45	8310\073097.MET	YES		
KA / GF	8/02/97 10:15	L9774-25		0.2419	HPLCC\8310\073097\07309701.d46	8310\073097.MET	YES		
KA / GF	8/02/97 10:52	L9774-29		0.2182	HPLCC\8310\073097\07309701.d47	8310\073097.MET	YES		
KA / GF	8/02/97 11:28	L9788-11		0.2163	HPLCC\8310\073097\07309701.d48	8310\073097.MET	YES		
KA / GF	8/02/97 12:04	L9788-22 1:5		0.9985	HPLCC\8310\073097\07309701.d49	8310\073097.MET	YES		
KA / GF	8/02/97 12:40	L9788-22 1:10		1.997	HPLCC\8310\073097\07309701.d50	8310\073097.MET	YES		
KA / GF	8/02/97 13:17	L9788-15		0.2201	HPLCC\8310\073097\07309701.d51	8310\073097.MET	YES		

Analyst	Date and Time	Sample Name	Description/ Solution	Matrix/ Dil.	Raw Data File	Method File	Reported	ReAnalyzed	Comments/ ALS No. (VOA Only)
KA	8/07/97 06:20	L9900-30		0.0051	HPLCC\8310\073197\07319701.d52	8310\073097.MET			
KA	8/07/97 06:57	IB		1	HPLCC\8310\073197\07319701.d53	8310\073097.MET			
KA	8/07/97 07:32	CCV4	0605-67-4	1	HPLCC\8310\073197\07319701.d54	8310\073097.MET			
KA	8/07/97 08:09	L9905-17		0.00505	HPLCC\8310\073197\07319701.d55	8310\073097.MET			
KA	8/07/97 08:45	L9905-16		0.00505	HPLCC\8310\073197\07319701.d56	8310\073097.MET			
KA	8/07/97 09:21	L9905-18		0.00505	HPLCC\8310\073197\07319701.d57	8310\073097.MET			
KA	8/07/97 09:57	L9890-19 1:100		0.505	HPLCC\8310\073197\07319701.d58	8310\073097.MET			
KA	8/07/97 10:33	IB		1	HPLCC\8310\073197\07319701.d59	8310\073097.MET			
KA	8/07/97 11:10	CCV4	0605-67-4	1	HPLCC\8310\073197\07319701.d60	8310\073097.MET			
KA	8/08/97 09:52	L9993-4 1:5		0.025	HPLCC\8310\073197\07319701.d61	8310\073097.MET			
KA	8/08/97 10:29	L9774-16 1:5		1.075	HPLCC\8310\073197\07319701.d62	8310\073097.MET			
KA	8/08/97 11:05	L9839-26 1:10		2.07	HPLCC\8310\073197\07319701.d63	8310\073097.MET			
KA	8/08/97 11:42	L9821-26 1:50		10	HPLCC\8310\073197\07319701.d64	8310\073097.MET			
KA	8/08/97 12:17	L9821-14 1:100		131.6	HPLCC\8310\073197\07319701.d65	8310\073097.MET			
KA	8/08/97 12:54	L9821-18 1:25		5.188	HPLCC\8310\073197\07319701.d66	8310\073097.MET			
KA	8/08/97 13:30	L9821-20 1:250		51.88	HPLCC\8310\073197\07319701.d67	8310\073097.MET			
KA	8/08/97 14:06	L9839-10 1:5		1.242	HPLCC\8310\073197\07319701.d68	8310\073097.MET			
KA	8/08/97 14:42	L9952-14 1:5		0.983	HPLCC\8310\073197\07319701.d69	8310\073097.MET			
KA	8/08/97 15:19	L9890-5		0.216	HPLCC\8310\073197\07319701.d70	8310\073097.MET			
KA	8/08/97 15:55	IB		1	HPLCC\8310\073197\07319701.d71	8310\073097.MET			
KA	8/08/97 18:39	CCV4	0605-67-4	1	HPLCC\8310\073197\07319701.d72	8310\073097.MET			
KA	8/08/97 19:15	L9900-3 1:25		5.175	HPLCC\8310\073197\07319701.d73	8310\073097.MET			
KA	8/08/97 19:52	51438MB		0.005	HPLCC\8310\073197\07319701.d74	8310\073097.MET			
KA	8/08/97 20:28	51438LCS		0.005	HPLCC\8310\073197\07319701.d75	8310\073097.MET			
KA	8/08/97 21:04	51438LCSD		0.005	HPLCC\8310\073197\07319701.d76	8310\073097.MET			
KA	8/08/97 21:41	10039-9		0.00526	HPLCC\8310\073197\07319701.d77	8310\073097.MET			
KA	8/08/97 22:17	10039-10		0.0052	HPLCC\8310\073197\07319701.d78	8310\073097.MET			
KA	8/08/97 22:53	10059-7		0.005	HPLCC\8310\073197\07319701.d79	8310\073097.MET			
KA	8/08/97 23:30	10073-11		0.005	HPLCC\8310\073197\07319701.d80	8310\073097.MET			
KA	8/09/97 00:06	10073-13		0.005	HPLCC\8310\073197\07319701.d81	8310\073097.MET			
KA	8/09/97 00:42	IB		1	HPLCC\8310\073197\07319701.d82	8310\073097.MET			
KA	8/09/97 01:18	CCV4	0605-67-4	1	HPLCC\8310\073197\07319701.d83	8310\073097.MET			
KA	8/09/97 01:55	L9901-36 1:2		5	HPLCC\8310\073197\07319701.d84	8310\073097.MET			
KA	8/09/97 02:31	L9890-19 1:1000		5.05	HPLCC\8310\073197\07319701.d85	8310\073097.MET			
KA	8/09/97 03:07	L9905-16 1:5		0.025	HPLCC\8310\073197\07319701.d86	8310\073097.MET			
KA	8/09/97 03:43	51917MB		0.005	HPLCC\8310\073197\07319701.d87	8310\073097.MET			
KA	8/09/97 04:19	51917LCS		0.005	HPLCC\8310\073197\07319701.d88	8310\073097.MET			
KA	8/09/97 04:55	51917LCSD		0.005	HPLCC\8310\073197\07319701.d89	8310\073097.MET			
KA	8/09/97 05:31	L10136-27		0.0052	HPLCC\8310\073197\07319701.d90	8310\073097.MET			
KA	8/09/97 06:07	L10136-29		0.0053	HPLCC\8310\073197\07319701.d91	8310\073097.MET			
KA	8/09/97 06:43	L10146-7		0.0053	HPLCC\8310\073197\07319701.d92	8310\073097.MET			
KA	8/09/97 07:20	L10146-13		0.0052	HPLCC\8310\073197\07319701.d93	8310\073097.MET			
KA	8/09/97 07:57	50826MB		0.005	HPLCC\8310\073197\07319701.d94	8310\073097.MET			
KA	8/09/97 08:32	50826LCS		0.005	HPLCC\8310\073197\07319701.d95	8310\073097.MET			
KA	8/09/97 09:08	50826LCSD		0.005	HPLCC\8310\073197\07319701.d96	8310\073097.MET			
KA	8/09/97 09:45	L9930-26		0.00505	HPLCC\8310\073197\07319701.d97	8310\073097.MET			
KA	8/09/97 10:21	IB		1	HPLCC\8310\073197\07319701.d98	8310\073097.MET			
KA	8/09/97 10:57	CCV4	0605-67-4	1	HPLCC\8310\073197\07319701.d99	8310\073097.MET			

LAS LABORATORIES

TRACKING SHEET DATA REPORT (bs16 PAH)

EXTRACTION SHEET FOR: 8310 PAH Extraction

WORKSHEET NUMBER: 8310 PAH_51108

FB

HT- 07/21
DIE 07/22

LAL #	QC TYPE	CLIENT ID	DATE COLLECTED	DATE RECEIVED / CREATED	VOL/WT EXTR	WATER SAMPLE pH	SURR ML	MS ML	BROUGHT TO FINAL VOLUME OF	AMT GIVEN TO ANALYST
					7-18-97				7-20-97	→
L9972-38 –		BA 243	14-JUL-97	15-JUL-97	930 ml	7	1.0		5.0 ml	≈ 4 ml
L9972-37 ✓		BA 233	14-JUL-97	15-JUL-97	940 ml					
L9985-25 –		BA 250	15-JUL-97	16-JUL-97	990 ml					
L9985-27 –		BA 261	15-JUL-97	16-JUL-97	980 ml					
L9985-29 –		BA 260	15-JUL-97	16-JUL-97	970 ml					
L9993-3 –		ES-1	16-JUL-97	16-JUL-97	1000 ml					
L9993-4 –		ES-5	16-JUL-97	16-JUL-97	1000 ml					
L9984-8 – ✓		ES-6	15-JUL-97	15-JUL-97	1000 ml					
L9984-9 – ✓		BC-2	15-JUL-97	15-JUL-97	1000 ml					
L9984-10 – ✓		BC-3	15-JUL-97	15-JUL-97	1000 ml					
L9984-11 – ✓		ES-3	15-JUL-97	15-JUL-97	1000 ml					
L9984-12 – ✓		ES-4	15-JUL-97	15-JUL-97	1000 ml					
L9984-13 – ✓ @ 5X		ES-2	15-JUL-97	15-JUL-97	1000 ml					

EXTRACTION METHOD: Continuous - 3520B

DATE STARTED: 7-18-97 DATE COMPLETED: 7-20-97 1:55 PM

CONTINUOUS DATE & TIME STARTED: 7-18-97 @ 10:00 pm DATE & TIME COMPLETED: 7-19-97 @ 2305

QC BATCH# : 8310 PAH_51108

LOT #'S

SURR ID # : 1037-14-1 CONC: 5 ug/ml MECL2: 37156 NA2SO4 : N/A

MS ID # : 0359-89-1 CONC: 0.25-5.00 ug/ml AGN : BN599 ACETONE: N/A

SIGNED:

SIGNED:

SPIKE WITNESS: none available

REVIEWED BY: Judith Bruno 07-20-97

NARRATIVE

EXTRACT COC: RECIEVED BY: 8 30 AM DATE: 7-20-9

R19097

LAS LABORATORIES

TRACKING SHEET DATA REPORT (bs16 PAH)

EXTRACTION SHEET FOR: 8310 PAH Extraction

WORKSHEET NUMBER: 8310 PAH_51108

LAL #	QC TYPE	CLIENT ID	DATE COLLECTED	DATE RECEIVED/ CREATED	VOL/WT EXTR	WATER SAMPLE pH	SURR ML	MS ML	BROUGHT TO FINAL VOLUME OF	AMT GIVEN TO ANALYST
L9984-14 ✓ @ 3X		BC-1	15-JUL-97	15-JUL-97	1000 ml	7	1.0		5.0 ml	≈ 4 ml
L9999-5 —		BA 264	16-JUL-97	17-JUL-97	1000 ml	↓	↓		↓	↓
51108MB — ✓	MB	PBLK51108		18-JUL-97	1000 ml					
51108LCS — ✓	LCS	PMBS51108		18-JUL-97	1000 ml			1.0		
51108LCSDUP — ✓	LCSD	PMBSD51108		18-JUL-97	1000 ml	↓	↓	1.0	↓	↓
~~SPIKELOT51108~~	~~SPIKELOT~~	~~Spike Lot Sample~~		~~18-JUL-97~~						VLB 07-18-97

EXTRACTION METHOD: _____

DATE STARTED: _____ DATE COMPLETED: _____ SIGNED: _____

CONTINUOUS DATE & TIME STARTED: _____ DATE & TIME COMPLETED: _____ SIGNED: _____

QC BATCH# : 8310 PAH_51108 LOT #'S SPIKE WITNESS: _____

SURR ID # : _____ CONC: _____ MECL2: _____ NA2SO4 : _____

MS ID # : _____ CONC: _____ ACN : _____ ACETONE: _____

REVIEWED BY: _____

NARRATIVE EXTRACT COC: RECIEVED BY: _____ DATE: _____

ATTACHMENT B

PRIOR MONITORING WELL DATA

8934
OAKLAND, CA
TERMINAL

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
ES-001	6/16/92	20.18	23.78	3.60
ES-002	6/16/92	18.63	18.64	.01
ES-003	6/16/92	19.41	19.41	0.00
ES-004	6/16/92	18.63	18.98	.35
ES-005	6/16/92	18.40	20.40	2.00
BC-001	7/07/92	19.55	20.66	1.11
BC-002	7/07/92	16.89	16.89	0.00
BC-003	7/07/92	16.68	16.68	0.00
ES-001	7/07/92	18.60	18.60	0.00
ES-002	7/07/92	19.62	19.62	0.00
ES-003	7/07/92	19.52	19.52	0.00
ES-004	7/07/92	18.51	18.51	0.00
ES-005	7/07/92	20.23	20.23	0.00
BC-001	8/04/92	18.47	20.90	2.43
BC-002	8/04/92	18.46	18.46	0.00
BC-003	8/04/92	19.24	19.24	0.00
ES-001	8/04/92	18.80	18.81	.01
ES-002	8/04/92	19.17	19.76	.59
ES-003	8/04/92	19.68	19.68	0.00
ES-004	8/04/92	18.66	18.66	0.00
ES-005	8/04/92	18.16	20.43	2.27
BC-001	8/31/92	18.68	21.02	2.34
BC-002	8/31/92	18.89	18.89	0.00
BC-003	8/31/92	19.10	19.10	0.00
ES-001	8/31/92	18.96	18.97	.01
ES-002	8/31/92	19.29	19.90	.61
ES-003	8/31/92	19.80	19.80	0.00
ES-004	8/31/92	18.79	18.79	0.00
ES-005	8/31/92	18.24	20.80	2.56
BC-001	10/06/92	18.82	21.14	2.32
BC-002	10/06/92	18.50	18.50	0.00
BC-003	10/06/92	18.93	18.93	0.00
ES-001	10/06/92	19.08	19.10	.02
ES-002	10/06/92	19.41	20.00	.59
ES-003	10/06/92	19.96	19.96	0.00
ES-004	10/06/92	18.92	18.92	0.00
ES-005	10/06/92	18.24	21.37	3.13
BC-001	11/06/92	18.24	20.69	2.45
BC-002	11/06/92	15.98	15.98	0.00
BC-003	11/06/92	16.81	16.81	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
ES-001	11/06/92	18.52	18.53	.01
ES-002	11/06/92	18.84	19.44	.60
ES-003	11/06/92	18.84	19.84	1.00
ES-004	11/06/92	18.94	18.94	0.00
ES-005	11/06/92	17.60	20.92	3.32
ES-005	1/05/93	18.42	19.75	1.33
ES-006	1/05/93	21.76	21.76	0.00
ES-007	1/05/93	19.90	19.90	0.00
BC-001	1/07/93	19.60	21.76	2.16
BC-002	1/07/93	13.50	13.50	0.00
BC-003	1/07/93	16.55	16.55	0.00
ES-001	1/07/93	20.25	20.26	.01
ES-002	1/07/93	20.05	20.40	.35
ES-003	1/07/93	19.20	19.20	0.00
ES-004	1/07/93	18.76	18.76	0.00
ES-005	1/07/93	19.35	22.00	2.65
BC-001	4/06/93	18.26	18.26	0.00
BC-002	4/06/93	15.20	15.20	0.00
BC-003	4/06/93	15.44	15.44	0.00
ES-001	4/06/93	17.08	17.88	.80
ES-002	4/06/93	18.20	18.31	.11
ES-003	4/06/93	15.92	15.92	0.00
ES-004	4/06/93	17.26	17.26	0.00
ES-005	4/06/93	17.28	17.28	0.00
BC-001	7/03/93	19.05	19.15	.10
BC-002	7/03/93	17.75	17.75	0.00
BC-003	7/03/93	16.81	16.81	0.00
ES-001	7/03/93	18.68	18.68	0.00
ES-002	7/03/93	19.31	19.32	.01
ES-003	7/03/93	18.12	18.12	0.00
ES-004	7/03/93	18.08	18.08	0.00
ES-005	7/03/93	19.50	19.50	0.00
BC-001	8/04/93	19.30	19.40	.10
BC-002	8/04/93	18.10	18.10	0.00
BC-003	8/04/93	18.82	18.82	0.00
ES-001	8/04/93	18.85	18.85	0.00
ES-002	8/04/93	19.15	19.18	.03
ES-003	8/04/93	19.18	19.18	0.00
ES-004	8/04/93	18.16	18.16	0.00
ES-005	8/04/93	18.61	18.61	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
BC-001	9/01/93	19.23	19.32	.09
BC-002	9/01/93	18.48	18.48	0.00
BC-003	9/01/93	18.40	18.40	0.00
ES-001	9/01/93	18.90	18.90	0.00
ES-002	9/01/93	19.50	19.59	.09
ES-003	9/01/93	19.36	19.36	0.00
ES-004	9/01/93	18.46	18.46	0.00
ES-005	9/01/93	18.79	18.80	.01
ES-006	9/01/93	21.94	21.94	0.00
ES-007	9/01/93	19.71	19.71	0.00
ES-008	9/01/93	18.88	18.88	0.00
ES-009	9/01/93	19.74	19.74	0.00
ES-010	9/01/93	18.04	18.04	0.00
ES-011	9/01/93	18.74	18.74	0.00
BC-001	10/07/93	19.25	19.43	.18
BC-002	10/07/93	19.02	19.02	0.00
BC-003	10/07/93	18.58	18.58	0.00
ES-001	10/07/93	19.02	19.03	.01
ES-002	10/07/93	19.57	19.60	.03
ES-003	10/07/93	19.62	19.62	0.00
ES-004	10/07/93	18.62	18.62	0.00
ES-005	10/07/93	18.65	19.33	.68
ES-006	10/07/93	21.81	21.81	0.00
ES-007	10/07/93	19.99	19.99	0.00
ES-008	10/07/93	19.13	19.13	0.00
ES-009	10/07/93	17.90	17.90	0.00
ES-010	10/07/93	17.40	17.40	0.00
ES-011	10/07/93	18.90	18.90	0.00
BC-001	11/02/93	19.42	19.61	.19
BC-002	11/02/93	18.76	18.76	0.00
BC-003	11/02/93	18.53	18.53	0.00
ES-001	11/02/93	19.20	19.20	0.00
ES-002	11/02/93	19.60	19.61	.01
ES-003	11/02/93	19.70	19.70	0.00
ES-004	11/02/93	18.74	18.74	0.00
ES-005	11/02/93	18.91	19.45	.54
ES-006	11/02/93	21.91	21.91	0.00
ES-007	11/02/93	20.12	20.12	0.00
ES-008	11/02/93	19.26	19.26	0.00
ES-010	11/02/93	17.46	17.46	0.00
ES-011	11/02/93	19.00	19.00	0.00
BC-001	12/06/93	19.31	19.53	.22
BC-002	12/06/93	18.87	18.87	0.00
BC-003	12/06/93	18.67	18.67	0.00
ES-001	12/06/93	19.15	19.15	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
ES-002	12/06/93	19.71	19.74	.03
ES-003	12/06/93	19.68	19.68	0.00
ES-004	12/06/93	18.72	18.72	0.00
ES-005	12/06/93	18.78	19.25	.47
ES-006	12/06/93	21.90	21.90	0.00
ES-007	12/06/93	20.15	20.15	0.00
ES-008	12/06/93	19.24	19.24	0.00
ES-009	12/06/93	18.00	18.00	0.00
ES-010	12/06/93	17.44	17.44	0.00
ES-011	12/06/93	19.02	19.02	0.00
BC-001	1/05/94	19.25	19.42	.17
BC-002	1/05/94	16.76	16.76	0.00
BC-003	1/05/94	17.51	17.51	0.00
ES-001	1/05/94	18.96	18.96	0.00
ES-002	1/05/94	19.57	19.61	.04
ES-003	1/05/94	19.52	19.52	0.00
ES-004	1/05/94	18.55	18.55	0.00
ES-008	1/05/94	19.10	19.10	0.00
ES-009	1/05/94	17.80	17.80	0.00
ES-010	1/05/94	17.27	17.27	0.00
ES-011	1/05/94	18.86	18.86	0.00
BC-001	2/02/94	19.30	19.50	.20
BC-002	2/02/94	16.42	16.42	0.00
BC-003	2/02/94	16.40	16.40	0.00
ES-001	2/02/94	18.92	18.92	0.00
ES-002	2/02/94	19.20	19.25	.05
ES-003	2/02/94	19.30	19.30	0.00
ES-004	2/02/94	18.42	18.42	0.00
ES-005	2/02/94	18.18	19.98	1.80
ES-006	2/02/94	21.74	21.74	0.00
ES-007	2/02/94	19.79	19.79	0.00
ES-008	2/02/94	19.08	19.08	0.00
ES-009	2/02/94	17.02	17.02	0.00
ES-010	2/02/94	17.25	17.25	0.00
ES-011	2/02/94	18.74	18.74	0.00
BC-001	3/02/94	18.40	18.60	.20
BC-003	3/02/94	15.00	15.00	0.00
ES-001	3/02/94	17.91	18.08	.17
ES-002	3/02/94	19.00	19.50	.50
ES-003	3/02/94	18.68	18.68	0.00
ES-004	3/02/94	17.86	17.86	0.00
ES-005	3/02/94	18.07	18.30	.23
ES-006	3/02/94	21.10	21.10	0.00
ES-007	3/02/94	19.14	19.14	0.00
ES-008	3/02/94	18.28	18.28	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
ES-009	3/02/94	17.12	17.12	0.00
ES-010	3/02/94	16.61	16.61	0.00
ES-011	3/02/94	18.14	18.14	0.00
BC-001	4/07/94	18.10	18.20	.10
BC-003	4/07/94	17.70	17.70	0.00
ES-001	4/07/94	18.50	18.68	.18
ES-002	4/07/94	19.10	19.19	.09
ES-003	4/07/94	19.00	19.00	0.00
ES-004	4/07/94	18.80	18.80	0.00
ES-005	4/07/94	18.37	18.38	.01
ES-006	4/07/94	21.30	21.30	0.00
ES-007	4/07/94	19.44	19.44	0.00
ES-008	4/07/94	18.44	18.44	0.00
ES-009	4/07/94	17.24	17.24	0.00
ES-010	4/07/94	16.74	16.74	0.00
ES-011	4/07/94	18.38	18.38	0.00
BC-001	5/05/94	18.65	18.84	.19
BC-002	5/05/94	17.30	17.30	0.00
BC-003	5/05/94	17.90	17.90	0.00
ES-001	5/05/94	17.88	18.02	.14
ES-002	5/05/94	18.77	18.79	.02
ES-003	5/05/94	18.78	18.78	0.00
ES-004	5/05/94	17.86	17.86	0.00
ES-005	5/05/94	18.24	18.26	.02
ES-006	5/05/94	21.16	21.16	0.00
ES-007	5/05/94	19.30	19.30	0.00
ES-008	5/05/94	18.26	18.26	0.00
ES-009	5/05/94	17.04	17.04	0.00
ES-010	5/05/94	16.55	16.55	0.00
ES-011	5/05/94	18.15	18.15	0.00
BC-001	6/07/94	18.25	18.52	.27
BC-002	6/07/94	17.70	17.70	0.00
BC-003	6/07/94	17.34	17.34	0.00
ES-001	6/07/94	18.04	18.21	.17
ES-002	6/07/94	18.61	18.61	0.00
ES-003	6/07/94	18.90	18.90	0.00
ES-004	6/07/94	17.94	17.94	0.00
ES-005	6/07/94	18.26	18.27	.01
ES-006	6/07/94	21.02	21.02	0.00
ES-007	6/07/94	19.33	19.33	0.00
ES-008	6/07/94	18.32	18.32	0.00
ES-009	6/07/94	17.06	17.06	0.00
ES-010	6/07/94	17.50	17.50	0.00
ES-011	6/07/94	18.28	18.28	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
BC-001	7/13/94	18.70	18.70	0.00
BC-002	7/13/94	17.10	17.10	0.00
BC-003	7/13/94	18.10	18.10	0.00
ES-001	7/13/94	18.08	18.08	0.00
ES-002	7/13/94	18.78	18.78	0.00
ES-003	7/13/94	18.71	18.71	0.00
ES-004	7/13/94	18.13	18.13	0.00
ES-005	7/13/94	18.30	18.30	0.00
ES-006	7/13/94	21.40	21.40	0.00
ES-007	7/13/94	19.11	19.11	0.00
ES-008	7/13/94	18.50	18.50	0.00
ES-009	7/13/94	17.40	17.40	0.00
ES-010	7/13/94	16.10	16.10	0.00
ES-011	7/13/94	18.60	18.60	0.00
BC-001	8/03/94	18.40	18.40	0.00
BC-002	8/03/94	18.36	18.36	0.00
BC-003	8/03/94	18.36	18.36	0.00
ES-001	8/03/94	18.48	18.48	0.00
ES-002	8/03/94	18.72	18.72	0.00
ES-003	8/03/94	19.03	19.03	0.00
ES-004	8/03/94	17.94	17.94	0.00
ES-005	8/03/94	17.90	17.90	0.00
ES-006	8/03/94	21.58	21.58	0.00
ES-007	8/03/94	19.40	19.40	0.00
ES-008	8/03/94	18.42	18.42	0.00
ES-009	8/03/94	17.10	17.10	0.00
ES-010	8/03/94	16.20	16.20	0.00
ES-011	8/03/94	18.18	18.18	0.00
BC-001	9/14/94	18.72	18.73	.01
BC-002	9/14/94	17.04	17.04	0.00
BC-003	9/14/94	18.31	18.31	0.00
ES-001	9/14/94	18.62	18.64	.02
ES-002	9/14/94	19.10	19.14	.04
ES-003	9/14/94	19.84	19.84	0.00
ES-004	9/14/94	18.18	18.18	0.00
ES-005	9/14/94	18.41	18.42	.01
ES-006	9/14/94	21.52	21.52	0.00
ES-007	9/14/94	19.64	19.64	0.00
ES-008	9/14/94	18.50	18.50	0.00
ES-009	9/14/94	17.09	17.09	0.00
ES-010	9/14/94	16.48	16.48	0.00
ES-011	9/14/94	18.47	18.47	0.00
BC-001	10/06/94	18.58	18.58	0.00
BC-003	10/06/94	18.58	18.58	0.00
ES-001	10/06/94	18.39	18.43	.04

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
ES-002	10/06/94	18.86	18.86	0.00
ES-003	10/06/94	19.24	19.24	0.00
ES-004	10/06/94	18.25	18.25	0.00
ES-005	10/06/94	18.23	18.23	0.00
ES-006	10/06/94	21.58	21.58	0.00
ES-007	10/06/94	19.73	19.73	0.00
ES-008	10/06/94	18.76	18.76	0.00
ES-009	10/06/94	17.46	17.46	0.00
ES-010	10/06/94	16.96	16.96	0.00
ES-011	10/06/94	18.55	18.55	0.00
BC-001	11/02/94	18.81	18.82	.01
BC-003	11/02/94	18.61	18.61	0.00
ES-001	11/02/94	18.39	18.39	0.00
ES-002	11/02/94	18.97	19.91	.94
ES-003	11/02/94	19.37	19.37	0.00
ES-004	11/02/94	18.35	18.35	0.00
ES-005	11/02/94	18.47	18.47	0.00
ES-006	11/02/94	21.64	21.64	0.00
ES-007	11/02/94	19.79	19.79	0.00
ES-008	11/02/94	18.76	18.76	0.00
ES-009	11/02/94	17.55	17.55	0.00
ES-010	11/02/94	17.05	17.05	0.00
ES-011	11/02/94	18.64	18.64	0.00
BC-001	12/07/94	17.93	17.94	.01
BC-003	12/07/94	16.29	16.29	0.00
ES-001	12/07/94	17.70	17.70	0.00
ES-002	12/07/94	18.14	18.14	0.00
ES-003	12/07/94	18.44	18.44	0.00
ES-004	12/07/94	17.56	17.56	0.00
ES-005	12/07/94	17.45	17.45	0.00
ES-006	12/07/94	20.94	20.94	0.00
ES-007	12/07/94	19.89	19.89	0.00
ES-008	12/07/94	18.00	18.00	0.00
ES-009	12/07/94	16.79	16.79	0.00
ES-010	12/07/94	16.29	16.29	0.00
ES-011	12/07/94	17.49	17.49	0.00
BC-001	1/13/95	18.58	18.58	0.00
BC-002	1/13/95	12.80	12.80	0.00
BC-003	1/13/95	15.40	15.40	0.00
ES-001	1/13/95	18.39	18.43	.04
ES-002	1/13/95	18.86	18.86	0.00
ES-003	1/13/95	17.35	17.35	0.00
ES-004	1/13/95	16.77	16.77	0.00
ES-005	1/13/95	18.23	18.23	0.00
ES-006	1/13/95	20.25	20.25	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
ES-007	1/13/95	18.11	18.11	0.00
ES-008	1/13/95	16.83	16.83	0.00
ES-009	1/13/95	15.80	15.80	0.00
ES-010	1/13/95	15.42	15.42	0.00
ES-011	1/13/95	17.16	17.16	0.00
BC-001	2/14/95	16.76	16.80	.04
BC-002	2/14/95	15.11	15.11	0.00
BC-003	2/14/95	15.86	15.86	0.00
ES-001	2/14/95	16.44	16.45	.01
ES-002	2/14/95	16.92	16.92	0.00
ES-003	2/14/95	17.22	17.22	0.00
ES-004	2/14/95	16.37	16.37	0.00
ES-005	2/14/95	16.45	16.45	0.00
ES-006	2/14/95	19.82	19.82	0.00
ES-007	2/14/95	17.63	17.63	0.00
ES-008	2/14/95	16.67	16.67	0.00
ES-009	2/14/95	15.49	15.49	0.00
ES-010	2/14/95	15.05	15.05	0.00
ES-011	2/14/95	16.76	16.76	0.00
BC-001	3/07/95	17.08	17.08	0.00
BC-002	3/07/95	16.21	16.21	0.00
BC-003	3/07/95	16.21	16.21	0.00
ES-001	3/07/95	16.74	16.74	0.00
ES-002	3/07/95	17.25	17.25	0.00
ES-003	3/07/95	17.52	17.52	0.00
ES-004	3/07/95	16.66	16.66	0.00
ES-005	3/07/95	16.53	16.53	0.00
ES-006	3/07/95	20.06	20.06	0.00
ES-007	3/07/95	17.92	17.92	0.00
ES-008	3/07/95	16.99	16.99	0.00
ES-009	3/07/95	15.79	15.79	0.00
ES-010	3/07/95	15.34	15.34	0.00
ES-011	3/07/95	17.04	17.04	0.00
BC-001	4/11/95	16.55	16.55	0.00
BC-002	4/11/95	15.56	15.56	0.00
BC-003	4/11/95	15.08	15.08	0.00
ES-001	4/11/95	16.25	16.25	0.00
ES-002	4/11/95	16.71	16.71	0.00
ES-003	4/11/95	16.95	16.95	0.00
ES-004	4/11/95	16.14	16.14	0.00
ES-005	4/11/95	16.00	16.00	0.00
ES-006	4/11/95	19.56	19.56	0.00
ES-007	4/11/95	17.35	17.35	0.00
ES-008	4/11/95	16.41	16.41	0.00
ES-009	4/11/95	15.23	15.23	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
ES-010	4/11/95	14.82	14.82	0.00
ES-011	4/11/95	16.54	16.54	0.00
BC-001	5/09/95	16.99	17.00	.01
BC-002	5/09/95	15.81	15.81	0.00
BC-003	5/09/95	16.92	16.92	0.00
ES-001	5/09/95	16.66	16.66	0.00
ES-002	5/09/95	17.15	17.15	0.00
ES-003	5/09/95	17.34	17.39	.05
ES-004	5/09/95	16.57	16.57	0.00
ES-005	5/09/95	16.45	16.45	0.00
ES-006	5/09/95	97.84	97.84	0.00
ES-007	5/09/95	17.79	17.79	0.00
ES-008	5/09/95	16.92	16.92	0.00
ES-009	5/09/95	15.72	15.72	0.00
ES-010	5/09/95	15.26	15.26	0.00
ES-011	5/09/95	16.95	16.95	0.00
BC-001	6/09/95	17.38	17.39	.01
BC-002	6/09/95	16.88	16.88	0.00
BC-003	6/09/95	16.90	16.90	0.00
ES-001	6/09/95	17.15	17.16	.01
ES-002	6/09/95	17.60	17.61	.01
ES-003	6/09/95	17.87	17.87	0.00
ES-004	6/09/95	17.02	17.02	0.00
ES-005	6/09/95	16.90	16.90	0.00
ES-006	6/09/95	20.37	20.37	0.00
ES-007	6/09/95	18.29	18.29	0.00
ES-008	6/09/95	17.35	17.35	0.00
ES-009	6/09/95	16.13	16.13	0.00
ES-010	6/09/95	15.70	15.70	0.00
ES-011	6/09/95	17.34	17.34	0.00
BC-001	7/06/95	17.64	17.64	0.00
BC-002	7/06/95	16.88	16.88	0.00
BC-003	7/06/95	16.87	16.87	0.00
ES-001	7/06/95	17.28	17.28	0.00
ES-002	7/06/95	17.78	17.79	.01
ES-003	7/06/95	18.07	18.07	0.00
ES-004	7/06/95	17.19	17.19	0.00
ES-005	7/06/95	17.09	17.09	0.00
ES-006	7/06/95	20.55	20.55	0.00
ES-007	7/06/95	18.46	18.46	0.00
ES-008	7/06/95	17.56	17.56	0.00
ES-009	7/06/95	16.34	16.34	0.00
ES-010	7/06/95	15.89	15.89	0.00
ES-011	7/06/95	17.54	17.54	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
BC-001	8/10/95	17.89	17.89	0.00
BC-002	8/10/95	17.55	17.55	0.00
BC-003	8/10/95	17.54	17.54	0.00
ES-001	8/10/95	17.60	17.61	.01
ES-002	8/10/95	18.09	18.10	.01
ES-003	8/10/95	18.40	18.40	0.00
ES-004	8/10/95	17.84	17.84	0.00
ES-005	8/10/95	17.44	17.44	0.00
ES-006	8/10/95	20.81	20.81	0.00
ES-007	8/10/95	18.77	18.77	0.00
ES-008	8/10/95	17.89	17.89	0.00
ES-009	8/10/95	16.67	16.67	0.00
ES-010	8/10/95	16.21	16.21	0.00
ES-011	8/10/95	17.85	17.85	0.00
BC-001	9/07/95	17.96	17.96	0.00
BC-002	9/07/95	18.03	18.03	0.00
BC-003	9/07/95	17.80	17.80	0.00
ES-001	9/07/95	17.79	17.79	0.00
ES-002	9/07/95	18.29	18.29	0.00
ES-003	9/07/95	18.59	18.59	0.00
ES-004	9/07/95	17.68	17.68	0.00
ES-005	9/07/95	17.61	17.61	0.00
ES-006	9/07/95	20.94	20.94	0.00
ES-007	9/07/95	18.98	18.98	0.00
ES-008	9/07/95	18.09	18.09	0.00
ES-009	9/07/95	16.87	16.87	0.00
ES-010	9/07/95	16.42	16.42	0.00
ES-011	9/07/95	18.03	18.03	0.00
BC-001	10/03/95	18.23	18.23	0.00
BC-002	10/03/95	18.24	18.24	0.00
BC-003	10/03/95	17.95	17.95	0.00
ES-001	10/03/95	18.01	18.01	0.00
ES-002	10/03/95	18.45	18.48	.03
ES-003	10/03/95	18.76	18.76	0.00
ES-004	10/03/95	17.84	17.84	0.00
ES-005	10/03/95	18.74	18.74	0.00
ES-006	10/03/95	21.14	21.14	0.00
ES-007	10/03/95	19.15	19.15	0.00
ES-008	10/03/95	18.27	18.27	0.00
ES-009	10/03/95	17.09	17.09	0.00
ES-010	10/03/95	16.59	16.59	0.00
ES-011	10/03/95	18.20	18.20	0.00
BC-001	10/05/95	18.23	18.23	0.00
BC-002	10/05/95	18.24	18.24	0.00
BC-003	10/05/95	17.95	17.95	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
ES-001	10/05/95	18.01	18.01	0.00
ES-002	10/05/95	18.45	18.48	.03
ES-003	10/05/95	18.76	18.76	0.00
ES-004	10/05/95	17.84	17.84	0.00
ES-005	10/05/95	18.74	18.74	0.00
ES-006	10/05/95	21.14	21.14	0.00
ES-007	10/05/95	19.15	19.15	0.00
ES-008	10/05/95	18.27	18.27	0.00
ES-009	10/05/95	17.09	17.09	0.00
ES-010	10/05/95	16.59	16.59	0.00
ES-011	10/05/95	18.20	18.20	0.00
BC-001	11/02/95	18.02	18.02	0.00
BC-002	11/02/95	18.36	18.36	0.00
BC-003	11/02/95	18.33	18.33	0.00
ES-001	11/02/95	18.00	18.00	0.00
ES-002	11/02/95	18.62	18.65	.03
ES-003	11/02/95	18.96	18.96	0.00
ES-004	11/02/95	18.02	18.02	0.00
ES-005	11/02/95	17.98	17.98	0.00
ES-006	11/02/95	21.31	21.31	0.00
ES-007	11/02/95	19.36	19.36	0.00
ES-008	11/02/95	18.51	18.51	0.00
ES-009	11/02/95	17.30	17.30	0.00
ES-010	11/02/95	16.77	16.77	0.00
ES-011	11/02/95	18.38	18.38	0.00
BC-001	12/07/95	18.64	18.64	0.00
ES-001	12/07/95	18.39	18.40	.01
ES-002	12/07/95	18.85	18.90	.05
ES-003	12/07/95	19.19	19.19	0.00
ES-004	12/07/95	18.23	18.23	0.00
ES-005	12/07/95	18.21	18.22	.01
ES-006	12/07/95	21.48	21.48	0.00
ES-007	12/07/95	19.57	19.57	0.00
ES-008	12/07/95	18.72	18.72	0.00
ES-009	12/07/95	17.48	17.48	0.00
ES-010	12/07/95	16.97	16.97	0.00
ES-011	12/07/95	18.59	18.59	0.00
BC-001	1/03/96	18.36	18.36	0.00
BC-002	1/03/96	17.86	17.86	0.00
BC-003	1/03/96	17.55	17.55	0.00
ES-001	1/03/96	18.04	18.04	0.00
ES-002	1/03/96	18.54	18.55	.01
ES-003	1/03/96	17.55	17.55	0.00
ES-004	1/03/96	17.87	17.87	0.00
ES-005	1/03/96	17.89	17.89	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
ES-006	1/03/96	21.24	21.24	0.00
ES-007	1/03/96	19.29	19.29	0.00
ES-008	1/03/96	18.36	18.36	0.00
ES-009	1/03/96	17.12	17.12	0.00
ES-010	1/03/96	16.61	16.61	0.00
ES-011	1/03/96	18.21	18.21	0.00
BC-001	2/06/96	17.43	17.43	0.00
BC-002	2/06/96	16.31	16.31	0.00
BC-003	2/06/96	17.15	17.15	0.00
ES-001	2/06/96	17.00	17.00	0.00
ES-002	2/06/96	17.60	17.60	0.00
ES-003	2/06/96	17.86	17.86	0.00
ES-004	2/06/96	17.02	17.02	0.00
ES-005	2/06/96	16.76	16.76	0.00
ES-006	2/06/96	20.52	20.52	0.00
ES-007	2/06/96	18.41	18.41	0.00
ES-008	2/06/96	17.07	17.07	0.00
ES-009	2/06/96	16.00	16.00	0.00
ES-010	2/06/96	15.71	15.71	0.00
ES-011	2/06/96	17.45	17.45	0.00
BC-001	3/12/96	16.85	16.85	0.00
BC-002	3/12/96	16.50	16.50	0.00
BC-003	3/12/96	16.50	16.50	0.00
ES-001	3/12/96	16.51	16.51	0.00
ES-002	3/12/96	17.08	17.08	0.00
ES-003	3/12/96	17.35	17.35	0.00
ES-004	3/12/96	16.54	16.54	0.00
ES-005	3/12/96	16.36	16.36	0.00
ES-006	3/12/96	19.85	19.85	0.00
ES-007	3/12/96	17.76	17.76	0.00
ES-008	3/12/96	16.79	16.79	0.00
ES-009	3/12/96	15.63	15.63	0.00
ES-010	3/12/96	17.35	17.35	0.00
ES-011	3/12/96	16.83	16.83	0.00
BC-002	4/09/96	16.90	16.90	0.00
BC-003	4/09/96	16.60	16.60	0.00
ES-001	4/09/96	17.40	17.40	0.00
ES-002	4/09/96	17.18	17.18	0.00
ES-003	4/09/96	17.65	17.65	0.00
ES-004	4/09/96	16.76	16.76	0.00
ES-005	4/09/96	16.70	16.70	0.00
ES-006	4/09/96	20.14	20.14	0.00
ES-007	4/09/96	18.05	18.05	0.00
ES-008	4/09/96	17.10	17.10	0.00
ES-009	4/09/96	15.92	15.92	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
ES-010	4/09/96	15.44	15.44	0.00
ES-011	4/09/96	17.13	17.13	0.00
BC-001	5/07/96	17.45	17.45	0.00
BC-002	5/07/96	17.20	17.20	0.00
BC-003	5/07/96	16.90	16.90	0.00
ES-002	5/07/96	17.66	17.66	0.00
ES-003	5/07/96	17.94	17.94	0.00
ES-004	5/07/96	16.17	16.17	0.00
ES-005	5/07/96	16.95	16.95	0.00
ES-006	5/07/96	20.42	20.42	0.00
ES-007	5/07/96	18.36	18.36	0.00
ES-008	5/07/96	17.34	17.34	0.00
ES-009	5/07/96	16.17	16.17	0.00
ES-010	5/07/96	15.75	15.75	0.00
ES-011	5/07/96	17.42	17.42	0.00
BC-001	6/05/96	17.46	17.46	0.00
BC-002	6/05/96	17.10	17.10	0.00
BC-003	6/05/96	17.00	17.00	0.00
ES-002	6/05/96	17.66	17.66	0.00
ES-003	6/05/96	17.94	17.94	0.00
ES-004	6/05/96	17.05	17.05	0.00
ES-005	6/05/96	16.95	16.95	0.00
ES-006	6/05/96	20.41	20.41	0.00
ES-007	6/05/96	18.36	18.36	0.00
ES-008	6/05/96	17.36	17.36	0.00
ES-009	6/05/96	16.19	16.19	0.00
ES-010	6/05/96	17.75	17.75	0.00
ES-011	6/05/96	17.42	17.42	0.00
BC-002	7/09/96	17.70	17.70	0.00
BC-003	7/09/96	17.40	17.40	0.00
ES-002	7/09/96	18.02	18.02	0.00
ES-003	7/09/96	18.33	18.33	0.00
ES-004	7/09/96	17.37	17.37	0.00
ES-005	7/09/96	17.34	17.34	0.00
ES-006	7/09/96	20.74	20.74	0.00
ES-007	7/09/96	18.72	18.72	0.00
ES-008	7/09/96	17.71	17.71	0.00
ES-009	7/09/96	16.52	16.52	0.00
ES-010	7/09/96	18.04	18.04	0.00
ES-011	7/09/96	17.71	17.71	0.00
BC-001	9/05/96	18.16	18.16	0.00
ES-002	9/05/96	18.39	18.39	0.00
ES-003	9/05/96	18.63	18.63	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
ES-004	9/05/96	17.74	17.74	0.00
ES-007	9/05/96	19.12	19.12	0.00
ES-008	9/05/96	18.13	18.13	0.00
ES-009	9/05/96	16.92	16.92	0.00
ES-010	9/05/96	16.45	16.45	0.00
ES-011	9/05/96	18.07	18.07	0.00
BC-001	10/08/96	18.40	18.40	0.00
BC-002	10/08/96	18.40	18.40	0.00
BC-003	10/08/96	18.10	18.10	0.00
ES-002	10/08/96	18.61	18.61	0.00
ES-003	10/08/96	18.98	18.98	0.00
ES-004	10/08/96	17.97	17.97	0.00
ES-006	10/08/96	21.23	21.23	0.00
ES-007	10/08/96	19.37	19.37	0.00
ES-008	10/08/96	18.44	18.44	0.00
ES-009	10/08/96	17.19	17.19	0.00
ES-010	10/08/96	16.70	16.70	0.00
ES-011	10/08/96	18.29	18.29	0.00
BC-001	11/08/96	18.57	18.57	0.00
BC-002	11/08/96	18.30	18.30	0.00
BC-003	11/08/96	18.20	18.20	0.00
ES-002	11/08/96	18.78	18.78	0.00
ES-003	11/08/96	19.16	19.16	0.00
ES-004	11/08/96	18.13	18.13	0.00
ES-006	11/08/96	21.44	21.44	0.00
ES-007	11/08/96	19.56	19.56	0.00
ES-008	11/08/96	18.61	18.61	0.00
ES-009	11/08/96	17.37	17.37	0.00
ES-010	11/08/96	16.87	16.87	0.00
ES-011	11/08/96	18.45	18.45	0.00
BC-001	12/13/96	18.24	18.24	0.00
BC-002	12/13/96	16.80	16.80	0.00
BC-003	12/13/96	17.60	17.60	0.00
ES-002	12/13/96	18.43	18.43	0.00
ES-003	12/13/96	18.81	18.81	0.00
ES-004	12/13/96	17.83	17.83	0.00
ES-006	12/13/96	21.19	21.19	0.00
ES-007	12/13/96	19.28	19.28	0.00
ES-008	12/13/96	18.32	18.32	0.00
ES-009	12/13/96	17.09	17.09	0.00
ES-010	12/13/96	16.55	16.55	0.00
ES-011	12/13/96	18.09	18.09	0.00
BC-001	1/16/97	17.19	17.19	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
BC-002	1/16/97	16.40	16.40	0.00
BC-003	1/16/97	16.40	16.40	0.00
ES-001	1/16/97	16.79	16.79	0.00
ES-002	1/16/97	17.57	17.57	0.00
ES-003	1/16/97	17.72	17.72	0.00
ES-004	1/16/97	16.92	16.92	0.00
ES-005	1/16/97	16.68	16.68	0.00
ES-006	1/16/97	20.15	20.15	0.00
ES-007	1/16/97	18.19	18.19	0.00
ES-008	1/16/97	17.22	17.22	0.00
ES-009	1/16/97	15.99	15.99	0.00
ES-010	1/16/97	15.49	15.49	0.00
ES-011	1/16/97	17.10	17.10	0.00
BC-001	2/14/97	16.88	16.88	0.00
BC-002	2/14/97	16.30	16.30	0.00
BC-003	2/14/97	16.20	16.20	0.00
ES-001	2/14/97	16.53	16.53	0.00
ES-002	2/14/97	17.08	17.08	0.00
ES-003	2/14/97	17.47	17.47	0.00
ES-004	2/14/97	16.56	16.56	0.00
ES-005	2/14/97	16.43	16.43	0.00
ES-006	2/14/97	19.92	19.92	0.00
ES-007	2/14/97	17.88	17.88	0.00
ES-008	2/14/97	16.94	16.94	0.00
ES-009	2/14/97	15.71	15.71	0.00
ES-010	2/14/97	15.23	15.23	0.00
ES-011	2/14/97	16.90	16.90	0.00
BC-001	3/07/97	17.31	17.31	0.00
BC-002	3/07/97	17.00	17.00	0.00
BC-003	3/07/97	16.80	16.80	0.00
ES-001	3/07/97	17.01	17.01	0.00
ES-002	3/07/97	17.56	17.56	0.00
ES-003	3/07/97	17.90	17.90	0.00
ES-004	3/07/97	16.95	16.95	0.00
ES-005	3/07/97	16.90	16.90	0.00
ES-006	3/07/97	20.31	20.31	0.00
ES-007	3/07/97	18.30	18.30	0.00
ES-008	3/07/97	17.36	17.36	0.00
ES-009	3/07/97	16.12	16.12	0.00
ES-010	3/07/97	15.67	15.67	0.00
ES-011	3/07/97	17.30	17.30	0.00
BC-001	4/17/97	17.92	17.92	0.00
BC-002	4/17/97	17.70	17.70	0.00
BC-003	4/17/97	17.50	17.50	0.00
ES-001	4/17/97	18.13	18.13	0.00

Well ID	Date	Depth to liquid	Depth to water	Product Thickness
ES-002	4/17/97	18.11	18.11	0.00
ES-003	4/17/97	18.42	18.42	0.00
ES-004	4/17/97	17.45	17.45	0.00
ES-005	4/17/97	17.41	17.41	0.00
ES-006	4/17/97	20.78	20.78	0.00
ES-007	4/17/97	18.81	18.81	0.00
ES-008	4/17/97	17.90	17.90	0.00
ES-009	4/17/97	16.66	16.66	0.00
ES-010	4/17/97	16.18	16.18	0.00
ES-011	4/17/97	17.80	17.80	0.00
BC-001	7/15/97	18.61	18.61	0.00
BC-002	7/15/97	18.50	18.50	0.00
BC-003	7/15/97	18.20	18.20	0.00
ES-001	7/15/97	18.44	18.44	0.00
ES-002	7/15/97	18.97	18.97	0.00
ES-003	7/15/97	19.01	19.01	0.00
ES-004	7/15/97	18.05	18.05	0.00
ES-005	7/15/97	18.29	18.29	0.00
ES-006	7/15/97	21.32	21.32	0.00

ATTACHMENT C

PREVIOUS ANALYTICAL DATA SUMMARY

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
7/08/92	BC-02	WATER	NA	ND	ND	ND	8.4	8.4	2.1	NA	NA
7/08/92	BC-03	WATER	NA	ND	2.5	ND	6.1	8.6	3.9	NA	NA
7/08/92	ES-03	WATER	NA	54	21	48	34	157	1.3	NA	NA
7/08/92	ES-04	WATER	NA	31	5.6	ND	2.8	39.4	ND	NA	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
10/06/92	BC-02	WATER	NA	ND	1.1	0.9	7.2	9.2	ND	NA	NA
10/06/92	BC-03	WATER	NA	ND	1.9	0.5	1.8	4.2	0.8	NA	NA
10/06/92	ES-03	WATER	NA	93	18	ND	11	122	ND	NA	NA
10/06/92	ES-04	WATER	NA	100	8.2	ND	7.6	115.8	ND	NA	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
1/07/93	BC-02	WATER	NA	ND	1.1	1.5	9.5	12.1	ND	NA	NA
1/07/93	BC-03	WATER	NA	ND	ND	ND	ND	ND	ND	NA	NA
1/07/93	ES-03	WATER	NA	52	49	100	250	451	ND	NA	NA
1/07/93	ES-04	WATER	NA	30	6.7	7.7	16	60.4	ND	NA	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
4/06/93	BC-02	WATER	NA	ND	ND	ND	ND	ND	0.13	ND	NA
4/06/93	BC-03	WATER	NA	ND	ND	ND	ND	ND	0.12	ND	NA
4/06/93	ES-03	WATER	NA	53	ND	67	78	198	0.51	4.5	NA
4/06/93	ES-04	WATER	NA	33	2.3	1.9	4.7	41.9	ND	0.36	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
7/23/93	ES-03	WATER	NA	28	5.9	4.6	4.6	43.1	0.06	1500	NA
7/23/93	ES-04	WATER	NA	24	1.1	0.07	8.3	33.47	ND	ND	NA
7/23/93	ES-06	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/23/93	ES-07	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/23/93	ES-08	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/23/93	ES-09	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/23/93	ES-10	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/23/93	ES-11	WATER	NA	ND	0.7	ND	1.2	1.9	ND	ND	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
10/07/93	BC-02	WATER	NA	ND	ND	ND	ND	ND	1.4	NA	NA
10/07/93	BC-03	WATER	NA	ND	ND	1.0	2.0	3.0	1.4	NA	NA
10/07/93	ES-03	WATER	NA	2.0	1.0	ND	2.0	5.0	ND	NA	NA
10/07/93	ES-04	WATER	NA	8.0	ND	ND	2.0	10.0	ND	NA	NA
10/07/93	ES-06	WATER	NA	1.0	ND	ND	ND	ND	ND	NA	NA
10/07/93	ES-07	WATER	NA	ND	ND	ND	ND	ND	ND	NA	NA
10/07/93	ES-08	WATER	NA	ND	ND	ND	ND	ND	ND	NA	NA
10/07/93	ES-09	WATER	NA	ND	ND	ND	ND	ND	ND	NA	NA
10/07/93	ES-10	WATER	NA	ND	ND	ND	ND	ND	ND	NA	NA
10/07/93	ES-11	WATER	NA	ND	ND	ND	ND	ND	ND	NA	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
1/05/94	BC-02	WATER	NA	NA	NA	NA	NA	NA	NA	NA	NA
1/05/94	BC-03	WATER	NA	ND	ND	ND	1.6	1.6	1.8	ND	NA
1/05/94	ES-03	WATER	NA	13	2.0	7.0	5.0	27	NA	0.53	NA
1/05/94	ES-04	WATER	NA	15	0.6	0.4	3.0	19	ND	0.13	NA
1/05/94	ES-06	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
1/05/94	ES-07	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
1/05/94	ES-08	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
1/05/94	ES-09	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
1/05/94	ES-10	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
1/05/94	ES-11	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
4/07/94	BC-02	WATER	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/07/94	BC-03	WATER	NA	ND	ND	ND	ND	ND	0.85	ND	NA
4/07/94	ES-03	WATER	NA	10	9	26	34	79	0.91	0.85	NA
4/07/94	ES-04	WATER	NA	11	ND	ND	ND	11	ND	0.17	NA
4/07/94	ES-06	WATER	NA	ND	ND	ND	ND	ND	ND	0.16	NA
4/07/94	ES-07	WATER	NA	ND	ND	ND	ND	ND	0.10	0.11	NA
4/07/94	ES-08	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
4/07/94	ES-09	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
4/07/94	ES-10	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
4/07/94	ES-11	WATER	NA	ND	ND	ND	ND	ND	0.35	ND	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
7/13/94	BC-02	WATER	NA	NA	NA	NA	NA	NA	NA	NA	NA
7/13/94	BC-03	WATER	NA	ND	ND	ND	ND	ND	0.20	ND	NA
7/13/94	ES-03	WATER	NA	2.0	0.9	0.8	3.0	6.7	0.28	0.37	NA
7/13/94	ES-04	WATER	NA	9.0	ND	ND	0.7	9.7	ND	0.13	NA
7/13/94	ES-06	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/13/94	ES-07	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/13/94	ES-08	WATER	NA	ND	ND	ND	ND	ND	NA	ND	NA
7/13/94	ES-09	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/13/94	ES-10	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/13/94	ES-11	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
10/06/94	BC-02	WATER	NA	NA	NA	NA	NA	NA	NA	NA	NA
10/06/94	BC-03	WATER	NA	ND	ND	ND	ND	ND	0.82	ND	NA
10/06/94	ES-03	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/06/94	ES-04	WATER	NA	18.0	ND	2.0	3.0	23.0	ND	0.10	NA
10/06/94	ES-06	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/06/94	ES-07	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/06/94	ES-08	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/06/94	ES-09	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/06/94	ES-10	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/06/94	ES-11	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
1/13/95	BC-02	WATER	NA	ND	ND	ND	ND	ND	1.1	ND	NA
1/13/95	BC-03	WATER	NA	ND	ND	ND	ND	ND	0.89	ND	NA
1/13/95	ES-03	WATER	NA	19	15	72	88	194	1.1	1.6	NA
1/13/95	ES-04	WATER	NA	12	ND	ND	2	14	ND	0.15	NA
1/13/95	ES-06	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
1/13/95	ES-07	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
1/13/95	ES-08	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
1/13/95	ES-09	WATER	NA	ND	ND	ND	ND	ND	1.1	ND	NA
1/13/95	ES-10	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
1/13/95	ES-11	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
4/11/95	BC-02	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
4/11/95	BC-03	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
4/11/95	ES-03	WATER	NA	20	7	36	22	85	0.39	0.94	NA
4/11/95	ES-04	WATER	NA	39	4	12	24	79	ND	0.18	NA
4/11/95	ES-06	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
4/11/95	ES-07	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
4/11/95	ES-08	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
4/11/95	ES-09	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
4/11/95	ES-10	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
4/11/95	ES-11	WATER	NA	ND	ND	ND	ND	ND	ND	0.17	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
7/06/95	BC-02	WATER	NA	ND	ND	ND	ND	ND	0.29	ND	NA
7/06/95	BC-03	WATER	NA	ND	ND	ND	ND	ND	0.38	ND	NA
7/06/95	ES-03	WATER	NA	6	ND	7	ND	13	1.2	0.24	NA
7/06/95	ES-04	WATER	NA	100	10	26	61	197	0.16	0.60	NA
7/06/95	ES-06	WATER	NA	ND	ND	ND	2	2	ND	ND	NA
7/06/95	ES-07	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/06/95	ES-08	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/06/95	ES-09	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/06/95	ES-10	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/06/95	ES-11	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
10/05/95	BC-02	WATER	NA	1	ND	ND	1	2	1.5	ND	NA
10/05/95	BC-03	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/05/95	ES-03	WATER	NA	2	2	ND	ND	4	0.11	ND	NA
10/05/95	ES-04	WATER	NA	210	16	71	84	381	0.17	1.2	NA
10/05/95	ES-06	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/05/95	ES-07	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/05/95	ES-08	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/05/95	ES-09	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/05/95	ES-10	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/05/95	ES-11	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
1/05/96	ES-03	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
1/05/96	ES-04	WATER	NA	34	ND	5	4	ND	ND	0.12	NA
1/05/96	ES-06	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
4/09/96	ES-03	WATER	NA	ND	ND	ND	ND	ND	0.12	NA	NA
4/09/96	ES-04	WATER	NA	57	3	17	19	96	ND	NA	NA
4/09/96	ES-06	WATER	NA	ND	ND	ND	ND	ND	0.22	NA	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
7/09/96	ES-03	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/09/96	ES-04	WATER	NA	43	4.6	21	17	85.6	ND	0.22	NA
7/09/96	ES-06	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/09/96	ES-07	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/09/96	ES-08	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
7/09/96	ES-11	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
10/08/96	ES-03	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA
10/08/96	ES-04	WATER	NA	110	4.4	42	39	195.4	ND	0.86	NA
10/08/96	ES-06	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
1/16/97	ES-3	WATER	NA	ND	ND	ND	ND	ND	ND	0.051	NA
1/16/97	ES-4	WATER	NA	4.6	ND	ND	0.56	ND	ND	0.059	NA
1/16/97	ES-6	WATER	NA	ND	ND	ND	ND	ND	ND	ND	NA

Date	Location	Matrix	MTBE	Benzene	Toulene	Ethyl-benzene	Total Xylenes	Total Btex	TPH diesel	TPH gasoline	Total PAHs
4/17/97	BC-1	WATER	ND	160	72	35	93	360	0.64	2000	NA
4/17/97	BC-2	WATER	ND	ND	ND	ND	ND	ND	0.05	ND	NA
4/17/97	BC-3	WATER	ND	ND	ND	ND	ND	ND	ND	ND	NA
4/17/97	ES-1	WATER	ND	110	18	7.3	45	180.3	ND	1000	NA
4/17/97	ES-11	WATER	ND	ND	ND	ND	ND	ND	ND	ND	NA
4/17/97	ES-2	WATER	ND	340	110	110	240	800	1.8	3800	NA
4/17/97	ES-3	WATER	ND	ND	ND	ND	ND	ND	0.12	ND	NA
4/17/97	ES-4	WATER	ND	87	11	49	24	171	0.10	ND	NA
4/17/97	ES-5	WATER	ND	590	1200	180	1000	2970	1.6	2400	NA
4/17/97	ES-6	WATER	ND	ND	ND	ND	ND	ND	0.12	ND	NA
4/17/97	ES-7	WATER	ND	ND	ND	ND	ND	ND	0.06	ND	NA
4/17/97	ES-8	WATER	ND	ND	ND	ND	ND	ND	ND	ND	NA